AUTO REPAIR SHOP
223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NEW YORK 11428
BLOCK 10757, LOT 32

SUPPLEMENTAL SUBSURFACE INVESTIGATION WORK PLAN

SUBMITTED TO:

New York State Department of Environmental Conservation
Region 2
47-40 21st Street
Long Island City, New York 11101

PREPARED FOR:

223-20 Braddock Avenue Corp.
c/o Robert R. Dooley, Esq.
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PWGC Project Number: MHD1801

NOVEMBER 2022

SUPPLEMENTAL SUBSURFACE INVESTIGATION WORK PLAN
223-20 BRADDOCK AVENUE, QUEENS VILLAGE, NY

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Appendix B	Building Inspection and Product Inventory Form
Appendix C	QAPP
Appendix D	HASP
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CERTIFICATION

I, Jennifer Lewis, PG, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

Signature _____ 12/5/22 Date

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

1.0 INTRODUCTION

P.W. Grosser Consulting, Inc. (PWGC) has prepared the following Supplemental Subsurface Investigation Work Plan (SSIWP) on behalf of 223-20 Braddock Avenue Corp. to outline procedures and a scope of work intended to investigate the presence of off-site soil vapor contamination and on-site groundwater contamination.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

The Site is located at 223-20 Braddock Avenue in the Queens Village section of Queens, New York and is identified as Block 10757 and Lot 32 on the New York City Tax Map. The Site is approximately 2,400-square feet and is bounded by Braddock Avenue to the north, 91st Road to the south, Moline Street to the east, and residential properties to the west. Currently, the Site is an auto body repair shop improved with a 1,204 square foot slab on grade building and an asphalt parking lot with a sheet metal awning extending from the building over the parking lot.

A Vicinity Map is included as **Figure 1**. A Site Plan is included as **Figure 2**.

2.2 Site History

The following is a recent history of events and activities associated with the Site:

- On August 5, 2016, Island Pump and Tank (IPT) personnel were on-site to remove an underground storage tank (UST). The UST system closure activities included the removal of one 285-gallon fiberglass waste oil UST. Following the removal of the former UST, observed petroleum impacts were present within the soil at the bottom of the excavation. Elevated PID readings, greater than 500 parts per million (ppm), were also encountered within the base of the excavation. At this time, IPT notified the New York State Department of Environmental Conservation (NYSDEC) Spills Hotline; Spill Number 16-04577 and Spill Case Manager, Mr. Hiralkumar Patel, were assigned to the site. Due to the observed petroleum impacts and elevated PID readings, soils were excavated from the base of the former UST excavation to the extent feasible. Excavation activities ensued until the structural integrity of the surrounding building and sidewalk were threatened and deemed unsafe to continue. IPT collected a total of five soil samples ranging from 5.5-6 feet below ground surface (bgs) on the sidewalls and to 10 feet bgs on the bottom of the excavation. Several volatile organic compounds (VOCs) were detected which included petroleum related compounds and tetrachloroethylene (PCE) which contained the highest detection at 360,000 µg/kg in the eastern sidewall sample. Elevated concentrations of PCE were also detected in the north sidewall and bottom samples. The western sidewall sample contained a concentration of PCE of only 2.6 µg/kg.
- In March 2018, IPT conducted a subsurface investigation at the Site which included the collection of eight soil samples from four soil borings along the eastern portion of the site, around the former UST

location, and within the former UST excavation. The 15 to 20 feet bgs sample collected from within the excavation contained the highest concentration of VOCs, including PCE at 72,000 µg/kg. The deeper sample collected from 35 to 40 feet bgs was non-detect.

- In March 2020, PWGC conducted a subsurface investigation at the Site which included the collection of four subsurface soil vapor samples, an indoor air sample, and an outdoor air sample. Elevated concentrations of chlorinated compounds were detected in the soil vapor sample collected closest to the former tank location; PCE was the highest compound detected at a concentration of 2,170 µg/m^3. TCE was also detected at 72.6 µg/m^3.

Historic environmental reports are included as **Appendix A**.

2.3 Site Geology/Hydrogeology

Regionally, groundwater flows north-northwest toward Little Neck Bay. The depth to groundwater beneath the site is estimated at 48 feet bgs. The approximate ground surface elevation is about 90 feet above mean sea level.

3.0 OBJECTIVES, SCOPE AND RATIONALE

The primary objectives of the work detailed in this plan will be to collect the information and field data necessary to address data gaps pertaining to on-site issues or the potential migration of off-site soil vapor. The Scope of Work includes the following tasks:

1. Off-Site soil vapor, sub-slab soil vapor, and indoor air sampling
2. On-site sub-slab soil vapor and indoor air sampling
3. Installation and sampling of monitoring wells

3.1 Soil Vapor Sampling

Soil vapor samples will be collected from the proposed locations on the Sampling Location Map (**Figure 3**). Samples will be collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH, October 2006). Conditions in the field may require adjustment of sampling locations.

One of the soil vapor samples will be collected within the on-site building and will be installed as a sub-slab soil vapor sample in the vicinity of the former tank area. Sub-slab soil vapor sample(s) will be installed in the basement (or lowest level) of the two residences to the west, assuming that access to the space is granted by the homeowners. A sub-slab soil vapor sample will be installed for each tenant space that is in contact with the soil (to be determined during the solicitation to sample notice). For the purposes of this workplan, it is assumed that there are four tenant spaces in contact with the soil. The sub-slab vapor samples will be installed within 2 inches of the bottom of the concrete slab and will be installed with a hammer drill or equivalent. An additional soil vapor sample will be set at a depth of approximately 5 feet bgs in the sidewalk adjacent to the school on the opposite side of 91st Road. The soil vapor implant will be installed using a Geoprobe® direct-push drill rig (or equivalent). Sample points will be constructed with a stainless-steel screen implant in the sampling zone with dedicated polyethylene tubing to grade. The annulus around the vapor implant will be filled with inert material (clean sand or equivalent) and sealed with bentonite grout.

Indoor air samples will be co-located with each sub-slab soil vapor sample collected. One outdoor air sample will also be collected up-wind. Indoor/outdoor air samples will be placed a minimum of 3 feet off of the floor.

Following installation, samples will be collected in 6-liter sized Summa canisters that have been batch certified clean by the laboratory and samples will be analyzed for VOCs by using USEPA Method TO-15. The samples from the residences will be collected over a 24-hour time period; the remaining samples, including the outdoor air

sample, will be collected over an 8-hour time period. Flow rate for both purging and sampling will not exceed 0.2 L/min. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, and chain of custody protocols.

As part of the vapor intrusion evaluation, a tracer gas will be used in accordance with NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) device to verify the integrity of the soil vapor probe seal. A container (box, plastic pail, etc.) will serve to keep the tracer gas in contact with the probe during testing. A portable monitoring device will be used to analyze a sample of soil vapor for the tracer gas prior to sampling. If the tracer sample results show a significant presence of the tracer, the probe seals will be adjusted to prevent infiltration. Summa canisters will be connected to the sampling ports and run continuously for a duration of 8 hours. At the conclusion of the sampling round, tracer monitoring will be performed a second time to confirm the integrity of the probe seals.

A building inspection and product inventory form will be completed for the residence and for the on-site building. A copy of the form is included as **Appendix B**.

3.2 Monitoring Well Installation and Sampling

To characterize groundwater, three monitoring wells will be installed as shown on **Figure 3**. The monitoring wells will be constructed of 2-inch diameter, schedule 40 polyvinyl chloride (PVC) casing and pre-pack screen with 0.010-inch slot. The wells will be constructed with a minimum 10-foot screen section and riser to grade unless precluded by hydrogeologic conditions. The screen will be set with approximately 7 feet into and 3 feet above the water table at the time of installation. The remainder of the well annulus will be filled with #2 morie sand (or equivalent), to two feet above the well screen followed by a two-foot bentonite seal. Above the bentonite layer, the annulus around the well will be filled with a cement/bentonite grout. A concrete surface pad (approximately 2 feet by 2 feet by 6-inch) will be installed. The wells will be finished with flush mount curb boxes. Monitoring well construction logs will be prepared for each monitoring well.

Following installation, monitoring wells will be developed by over-pumping to restore the hydraulic properties of the aquifer. Well development will continue until the turbidity of the groundwater is less than or equal to 50 Nephelometric Turbidity Units (NTUs), or when pH, temperature, and conductivity measurements stabilize.

Stabilization is considered achieved when three consecutive readings of these field parameters are within five percent of each other over a period of 15 minutes. Monitoring well development water will be containerized for offsite disposal. Monitoring wells will be surveyed relative to an arbitrary onsite datum.

Groundwater samples will be collected 1 week following well development and in compliance with the USEPA Low Stress (Low Flow) Purging and Sampling Procedure for The Collection of Groundwater Samples From Monitoring Wells (September 2017) utilizing a Waterra Hydrolift Pump. Groundwater samples will be placed directly into laboratory supplied bottleware and placed on ice in a cooler for transport to a NYSDOH ELAP certified laboratory. Samples will be analyzed for VOCs by USEPA Method 8260 (Full List).

3.3 Laboratory Analysis

Requirements for sample analysis are described below. Samples will be submitted to a NYSDOH ELAP certified laboratory for analysis. Analytical methods, preservation, container requirements, and holding times are summarized below:

ANALYTICAL METHODS

Analyte/ Analyte Group	Matrix	Method/ SOP	Container(s) (number, size & type per sample)	Preservation	Holding Time	Estimated Number of Samples to be Collected
VOCs	Air	TO-15	2.7 L Summa Can	None	28 Days	10
VOCs	Groundwater	8260	3 40-mL vials	HCl	2 weeks	3

3.4 Field Equipment Calibration

Equipment will be inspected and approved by the field hydrogeologist before being used. Equipment will be calibrated to factory specifications, if required. Monitoring equipment will be calibrated following manufacturers' recommended schedules. Daily field response checks and calibrations will be performed as necessary (i.e. PID calibrations) following manufacturers' standard operating procedures. Equipment calibrations will be documented in a designated field logbook.

3.5 Equipment Decontamination

In order to minimize the potential for cross-contamination, non-dedicated drilling and sampling equipment shall be properly decontaminated prior to and between sampling/drilling locations.

3.5.1 Drilling Equipment

Drilling equipment shall be decontaminated prior to performance of the first boring/excavation and between all subsequent borings/excavations. This shall include hand tools, casing, augers, drill rods, temporary well material and other related tools and equipment. Water used during drilling and/or steam cleaning operations shall be from a potable source.

3.5.2 Sampling Equipment

Sampling equipment (i.e., trowels, knives, split-spoons, bowls, hand augers, etc.) will be decontaminated prior to each use as follows:

- Laboratory-grade glassware detergent and tap water scrub to remove visual contamination
- Generous tap water rinse
- Distilled water rinse

3.5.3 Meters and Probes

All meters and probes that are used in the field (other than those used solely for air monitoring purposes, e.g., PID meters) will be decontaminated between uses as follows:

- Laboratory-grade detergent and tap water solution wash
- Tap water rinse
- Distilled water rinse (triple rinse).

4.0 QUALITY ASSURANCE PROJECT PLAN

The Quality Assurance Project Plan (QAPP) presents the objectives, functional activities, methods, and QA/QC requirements associated with sample collection and laboratory analysis for characterization activities. The QAPP follows requirements detailed in DER-10, Section 2. The QAPP has been included as **Appendix C**.

5.0 REPORT PREPARATION

5.1 Subsurface Investigation Report

The Subsurface Investigation Report (SIR) that was previously prepared (dated May 2020) will be updated to incorporate the methods and findings of the investigation activities performed as outlined in this work plan and to address additional comments provided by the NYSDEC in a July 13, 2020 letter. The report will identify specific contamination concentrations, delineate the extent of contamination in soil vapor, evaluate potential exposure pathways, and provide conclusions and recommendations for additional investigation and/or remedial action. Electronic copies of the Investigation Report will be submitted to the NYSDEC.

5.2 Daily Reports

Daily reports will be submitted to NYSDEC and NYSDOH Project Managers by the end of each day following the reporting period and will include:

- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the Site;
- References to alpha-numeric map for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP finding, including excursions;
- An explanation of notable Site conditions.

Daily reports are not intended to be the mode of communication for notification to the NYSDEC of emergencies (accident, spill), requests for changes to the RAWP or other sensitive or time critical information. However, such conditions must also be included in the daily reports. Emergency conditions and changes to the RAWP will be addressed directly to NYSDEC Project Manager via personal communication.

Daily Reports will include a description of daily activities that identifies work areas. These reports will include a summary of air sampling results, odor and dust problems and corrective actions, and all complaints received from the public.

The NYSDEC assigned project number will appear on all reports.

6.0 HEALTH AND SAFETY

Field operations will be performed in accordance with the health and safety requirements to be provided in the site-specific Health and Safety Plan (HASP). The HASP is included as **Appendix D**. The HASP outlines the requirements for training, medical surveillance, daily tailgate meetings, emergency response, and accident and injury reporting.

Activity hazard analyses (AHAs) have been completed for identified work activities planned for the investigation.

The PWGC Field Team Leader will be responsible for implementing the HASP, completing the daily tailgate safety meetings and performing necessary Industrial Hygiene (IH) monitoring as specified in the HASP.

7.0 COMMUNITY AIR MONITORING PLAN

A site-specific Community Air Monitoring Plan (CAMP) has been prepared to provide measures for protection for the downwind community from potential airborne contaminants as a direct result of the subsurface investigation. The CAMP is included as **Appendix E**.

The Community Air Monitoring Plan will be implemented and executed in accordance with the New York State Department of Health's (NYSDOH) Generic Community Air Monitoring Plan.

8.0 REFERENCES

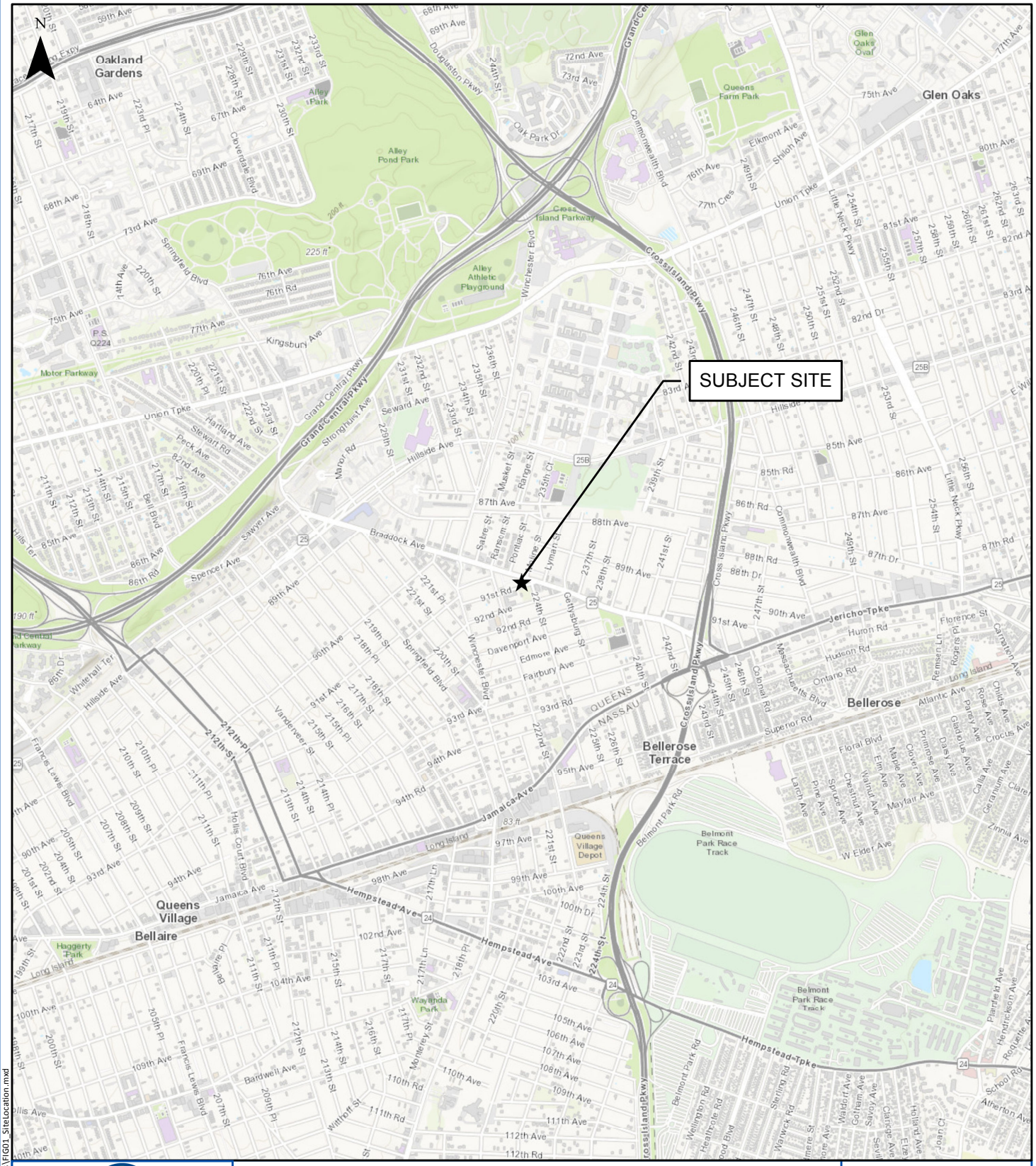
NYSDEC, Division of Environmental Restoration, 6 NYCRR Part 375 Subpart 6, Remedial Program Soil Cleanup Objectives.

NYSDEC, Division of Environmental Remediation, May 2012, Draft DER-10, Technical Guidance for Site Investigation and Remediation.

NYSDOH, October 2006, Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

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FIGURES



SITE LOCATION

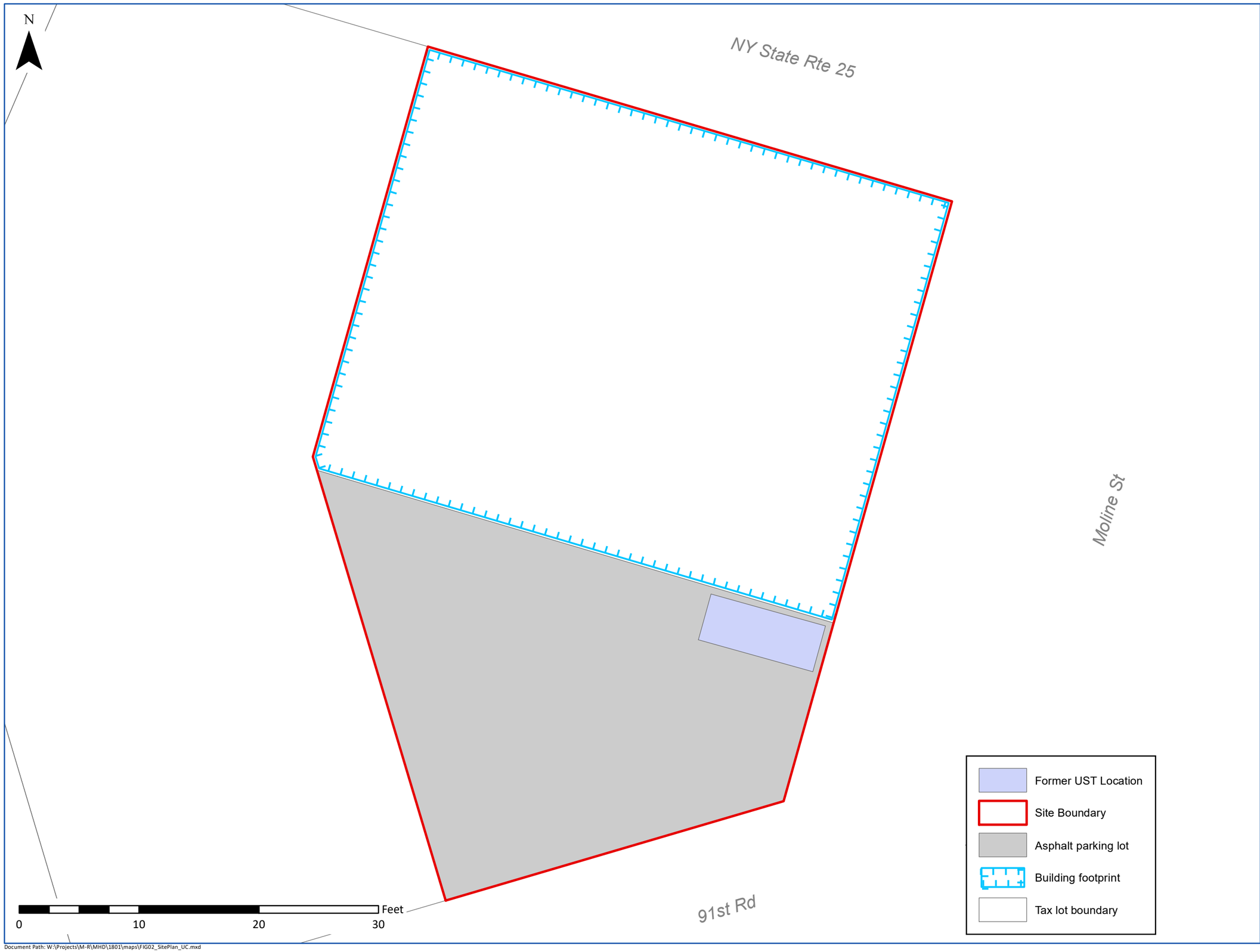
223-20 Braddock Ave
Queens Village, NY

0 ¼ ½ ¾ 1 Miles

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Project:	MHD1801
Date:	4/12/2019
Designed by:	JL
Drawn by:	TS
Approved by:	JL
Figure No:	1

Document Path: W:\Projects\M-R\MHD\1801\maps\FIG01_SiteLocation.mxd



Document Path: W:\Projects\M-R\MHD\1801\maps\FIG02_SitePlan_UC.mxd

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Date:	12/8/2021	Drawn by:	UC
Scale:	AS SHOWN	Approved by:	JL

SITE PLAN

223-20 Braddock Ave
Jamaica, NY

FIGURE NO:

2



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Project:	MHD1801	Designed by:	JL
Date:	12/15/2022	Drawn by:	OA
Scale:	AS SHOWN	Approved by:	JL

PROPOSED SAMPLING LOCATIONS

223-20 Braddock Ave
Jamaica, NY

FIGURE NO:

3

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APPENDIX A

AUTO REPAIR SHOP
223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NEW YORK 11428
BLOCK 10757, LOT 32

SUBSURFACE INVESITGATION REPORT

SUBMITTED TO:

New York State Department of Environmental Conservation
Region 2
47-70 21st Street
Long Island City, NY 11101

PREPARED FOR:

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PREPARED BY:

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Jennifer Lewis, PG, Sr. Project Manager jenniferl@pwgrosser.com

PWGC Project Number: MHD1801

MAY 2020

SUBSURFACE INVESTIGATION REPORT
223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NEW YORK 11428

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APPENDICES

Appendix A	Soil Vapor, Indoor Air, and Ambient Air Sampling Log
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Appendix D	Data Usability Summary Report

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CERTIFICATION

I, Jennifer Lewis, PG, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

Signature _____

Date

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

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1.0 INTRODUCTION

P.W. Grosser Consulting, Inc. (PWGC) has prepared the following Subsurface Investigation Report (SIR) on behalf of 223-20 Braddock Avenue Corp. to document the results of the Subsurface Investigation conducted in March 2020 at 223-20 Braddock Avenue in Queens Village, NY. This work was conducted in accordance with a Subsurface Investigation Work Plan (SIWP) submitted to the New York State Department of Environmental Conservation (NYSDEC) in June 2019 and approved by the NYSDEC on July 31, 2019. The scope of the workplan included an evaluation of soil vapor, sub-slab vapor, and indoor air and an evaluation of soil particle sizes in the event that a soil vapor mitigation system would be necessary.

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2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

The Site is located at 223-20 Braddock Avenue in the Queens Village section of Queens, New York and is identified as Block 10757 and Lot 32 on the New York City Tax Map. The Site is approximately 2,400-square feet and is bounded by Braddock Avenue to the north, 91st Road to the south, Moline Street to the east, and residential properties to the west. Currently, the Site is an auto body repair shop improved with a 1,204 square foot slab on grade building and an asphalt parking lot with a sheet metal awning extending from the building over the parking lot.

A Vicinity Map is included as **Figure 1**. A Site Plan is included as **Figure 2**.

2.2 Site History

The following is a recent history of events and activities associated with the Site:

- On August 5, 2016, Island Pump and Tank (IPT) personnel were on-site to remove an underground storage tank (UST). The UST system closure activities included the removal of one 285-gallon fiberglass waste oil UST. Following the removal of the former UST, observed petroleum impacts were present within the soil at the bottom of the excavation. Elevated PID readings, greater than 500 parts per million (ppm), were also encountered within the base of the excavation. At this time, IPT notified the New York State Department of Environmental Conservation (NYSDEC) Spills Hotline; Spill Number 16-04577 and Spill Case Manager, Mr. Hiralkumar Patel, were assigned to the site. Due to the observed petroleum impacts and elevated PID readings, soils were excavated from the base of the former UST excavation to the extent feasible. Excavation activities ensued until the structural integrity of the surrounding building and sidewalk were threatened and deemed unsafe to continue. IPT collected a total of five soil samples ranging from 5.5-6 feet below ground surface (bgs) on the sidewalls and to 10 feet bgs on the bottom of the excavation. Several volatile organic compounds (VOCs) were detected which included petroleum related compounds and tetrachloroethylene (PCE) which contained the highest detection at 360,000 µg/kg in the eastern sidewall sample. Elevated concentrations of PCE were also detected in the north sidewall and bottom samples. The western sidewall sample contained a concentration of PCE of only 2.6 µg/kg.
- In March 2018, IPT conducted a subsurface investigation at the Site which included the collection of eight soil samples from four soil borings along the eastern portion of the site, around the former UST location, and within the former UST excavation. The 15 to 20 feet bgs sample collected from within the excavation contained the highest concentration of VOCs, including PCE at 72,000 µg/kg. The deeper sample collected from 35 to 40 feet bgs was non-detect.

2.3 Site Geology/Hydrogeology

Regionally, groundwater flows north-northwest toward Little Neck Bay. The depth to groundwater beneath the site is estimated at 48 feet bgs. The approximate ground surface elevation is about 90 feet above mean sea level.

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3.0 OBJECTIVES, SCOPE AND RATIONALE

3.1 Subsurface Investigation Procedure

The primary objectives of the work detailed in this report was to collect the information and field data necessary to address data gaps pertaining to on-site issues. The Scope of Work included the following tasks:

1. Soil vapor sampling
2. Soil characterization for sieve analysis

3.2 Soil Vapor Sampling

A total of four soil vapor samples were collected from the proposed locations on the Sampling Location Map (**Figure 3**). Samples were collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH, October 2006). The subsurface sampling locations were installed on March 12, 2020 and air samples were collected on March 13, 2020.

Installation of the subsurface vapor samples was conducted by IPT. One of the samples was collected beneath the building and was installed as a sub-slab soil vapor sample (SS001). The sub-slab vapor sample was installed within 2 inches of the bottom of the concrete slab and was installed with a core drill. The remaining soil vapor samples were set at a depth of approximately 6 feet bgs to correspond to the estimated depth of the basement at the neighboring residential property to the west (SV001, SV002, SV003). The vapor implants were installed using a Geoprobe® direct-push drill rig. Sample points were constructed with a stainless-steel screen implant in the sampling zone with dedicated polyethylene tubing to grade. The annulus around the vapor implant was filled with inert material (clean sand) and sealed with bentonite grout.

One indoor air sample (IA001) and one ambient air sample (OA001) were also collected. The ambient air sample was placed on the property within the paved parking area on the up-wind side. The indoor air sample was placed in the office of the auto repair shop. Both samples were placed a minimum of 3 feet off the ground.

Approximately 24 hours following soil vapor probe installation, a tracer gas (helium) was used in accordance with NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) device to verify the integrity of the soil vapor probe seals. One to three implant volumes were then purged prior to the collection of the soil-gas samples. Flow rate for both purging and sampling did not exceed 0.2 L/min. Samples were collected in 2.7 L Summa canisters that were certified clean by the laboratory. Summa canisters were connected to the sampling ports and run continuously for a duration of approximately 8 hours. The soil vapor, indoor air, and ambient air sampling log is located in **Appendix A**.

3.3 Soil Sampling

A potential remedial option for the soil vapor, if warranted, is the installation of a soil vapor extraction system. For design purposes, soil samples were collected for sieve analysis to determine the permeability of the subsurface soils.

PWGC oversaw installation of three soil borings (SB001, SB002, SB003) at the Site, as shown on **Figure 4**. Soil borings were advanced to a depth of 9 feet below grade at SB001 and SB003 and to a depth of 10 feet

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below grade at SB002 using direct-push drilling methods. Soil was collected continuously to the boring termination depth with a macro-core sampler in 3- or 5-foot increments using disposable acetate sleeves. Each sample was screened for organic vapors with a photo-ionization detector (PID) and evaluated for visual and olfactory indications of environmental impacts. Prior to using the PID for soil screening, the equipment was calibrated following the manufacturer standard operating procedure, including a zeroing of the instrument and a span calibration with 100 parts per million (ppm) isobutylene. The maximum PID reading was 0.5 ppm in SB001. Soil descriptions are recorded in boring logs included as **Appendix B**. One soil sample was collected from the deepest 2-foot interval from each boring and submitted to the laboratory for sieve analysis.

3.4 Laboratory Analysis

Samples were submitted under proper chain-of-custody procedures to Alpha Analytical Laboratories (a New York State Department of Health Environmental Laboratory Approval Program certified laboratory) for analysis. Soil vapor, indoor air, and ambient air samples were analyzed for VOCs by United States Environmental Protection Agency (USEPA) method TO-15 and the sieve analyses for the soil samples was conducted using the American Society for Testing and Materials (ASTM) D-422 method.

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4.0 ANALYTICAL RESULTS

4.1 Soil Vapor, Indoor Air, and Ambient Air Sampling Results

The primary method for the evaluation of soil vapor and indoor air data in New York is the use of Soil Vapor / Indoor Air Matrices provided in the NYSDOH Guidance document. The matrices incorporate both soil vapor concentrations and their corresponding indoor air concentrations in a table to formulate an appropriate action for a sampling site. Matrices have been developed for 1,1-dichlorothene, cis-1,2-dichloroethene (DCE), vinyl chloride (VC), tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-Trichloroethane, and carbon tetrachloride. Although matrices have not yet been developed for other compounds, consideration is given to the comparisons between the soil vapor and indoor air concentrations to determine if vapor intrusion is occurring.

A comparison of PCE concentrations between the one sub-slab vapor sample (SS001 at 307 µg/m^3) and the indoor air sample (IA001 at 1.62 µg/m^3) indicates that no further action is necessary. The remainder of the compounds on the matrices were not detected in both the sub-slab or indoor air sample. Of the remaining compounds from the NYSDOH matrices, IA001 contained a detectable concentration of carbon tetrachloride (0.384 µg/m^3). The outdoor air sample (OA001) contains a similar concentration of 0.39 µg/m^3. The detection of carbon tetrachloride is likely indicative of background concentrations.

SV002 contained the highest concentration of chlorinated compounds and is located near the former UST location on the eastern side of the property. Concentrations of PCE and its breakdown products are as follows: PCE at 2,170 µg/m^3, TCE at 72.6 µg/m^3, DCE at 238 µg/m^3, and less than the detection limit for VC. This sample is the only sample that contained detectable concentrations of TCE and DCE. The compounds 1,1,1-trichloroethane, 1,1-dichloroethene, methylene chloride, and vinyl chloride were not detected at concentrations greater than detection limits in any of the samples.

SV001 is located closest to the residential properties on the western side of the property and contained a PCE concentration of 78.7 µg/m^3, indicating that soil vapor is not significantly migrating towards the residential property.

Analytical results are detailed in **Table 1** and the complete laboratory analytical report is included as **Appendix C**.

4.2 Soil Sieve Analysis Report

A sieve analysis was conducted by the ASTM D-422 procedure. The samples were collected from the deepest 2-foot interval of each boring. SB001 consisted mostly of larger grain materials (gravel and medium- to coarse-grained sand), SB002 consisted of approximately half fine-grained materials and half larger-grained materials, and SB003 consisted mostly of smaller grained materials (fine-grained sands and fines). Analytical results are detailed in **Table 2** and the complete laboratory analytical report is included in **Appendix C**.

4.3 Data Usability Summary Report

Analytical data packages obtained from Alpha for each sampling event were sent to Laboratory Data Consultants, Inc (LDC) of Carlsbad, CA to undergo a systematic data validation to provide assurance that the data was adequate for its intended use. All data was deemed acceptable by the data validator,

incorporating data qualifiers as appropriate. Validation consisted of an evaluation of the following criteria:

- Data Completeness
- Holding Times and Sample Preservation
- Gas Chromatography/Mass Spectrometry (CG/MS) Tunes
- Initial and counting Calibrations
- Blanks
- Laboratory Duplicate Results
- Laboratory Control Sample (LCS) Results
- Internal Standards
- Field Duplicate Results
- Quantization Limits and Data Assessment
- Sample Quantization and Compound Identification

A copy of LDC's data usability summary reports during this reporting period is included as **Appendix D**. **Table 1** was updated, as appropriate, based upon the data validator's review.

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5.0 CONCLUSIONS AND RECOMMENDATIONS

A subsurface investigation was conducted at the site in March 2020. Four subsurface vapor samples, an indoor air sample, and an outdoor air sample were collected. Analytical results from this investigation indicated that there does not appear to be significant vapor migration off-site and a comparison of the indoor air sample to the sub-slab sample indicated that no further action is warranted. Elevated concentrations of chlorinated compounds were detected in the soil vapor sample collected closest to the former tank location; PCE was the highest compound detected at a concentration of 2,170 µg/m^3.

Although the sub-slab and indoor air sample indicate that no further action is necessary, PWGC does recommend the installation of a passive soil vapor mitigation system, consisting of a vertical screened well installed in the former location of the UST, to reduce the potential for future intrusion into the on-site building.

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6.0 REFERENCES

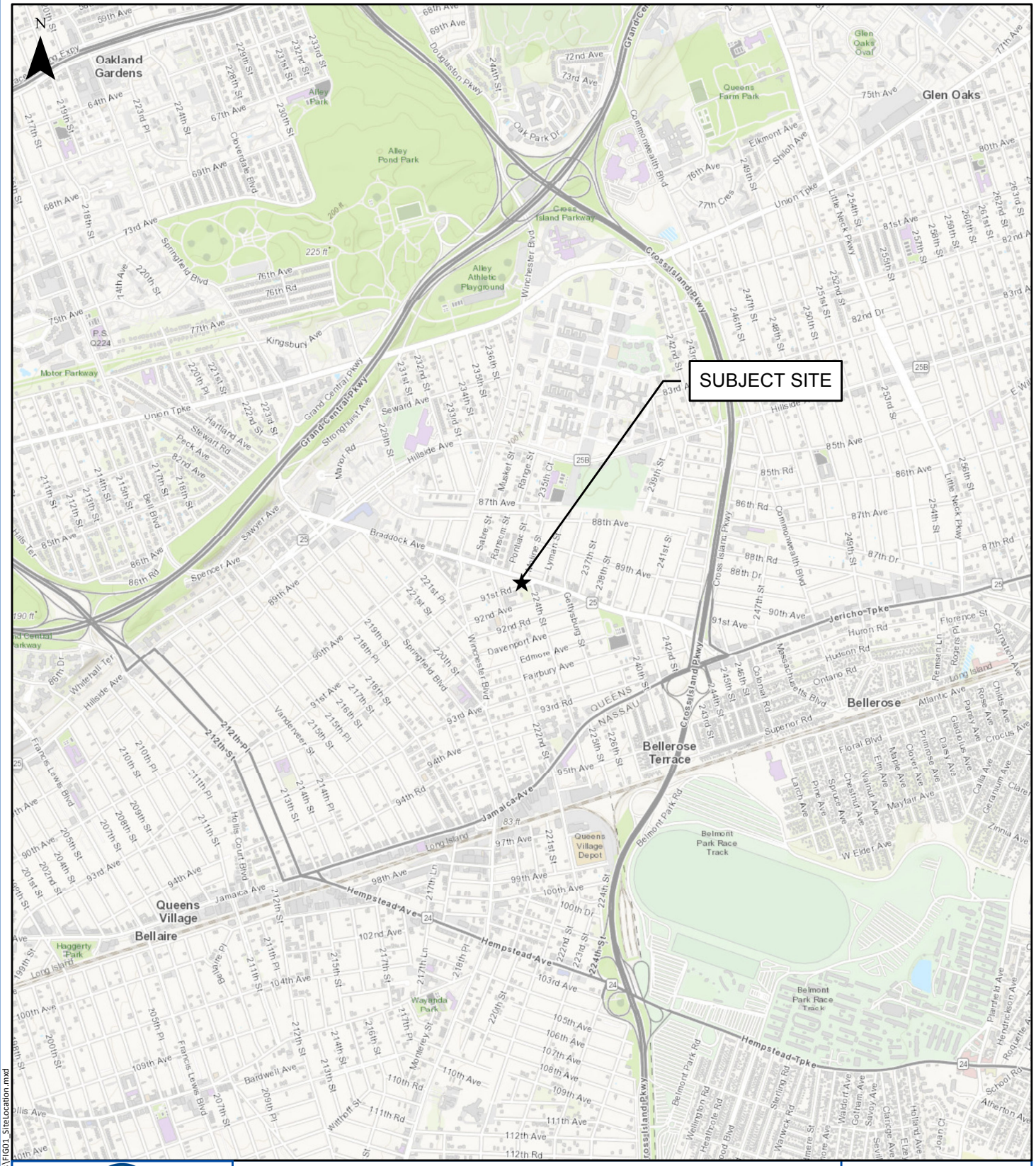
NYSDEC, Division of Environmental Restoration, 6 NYCRR Part 375 Subpart 6, Remedial Program Soil Cleanup Objectives.

NYSDEC, Division of Environmental Remediation, May 2012, Draft DER-10, Technical Guidance for Site Investigation and Remediation.

NYSDOH, October 2006, Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

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FIGURES



SITE LOCATION

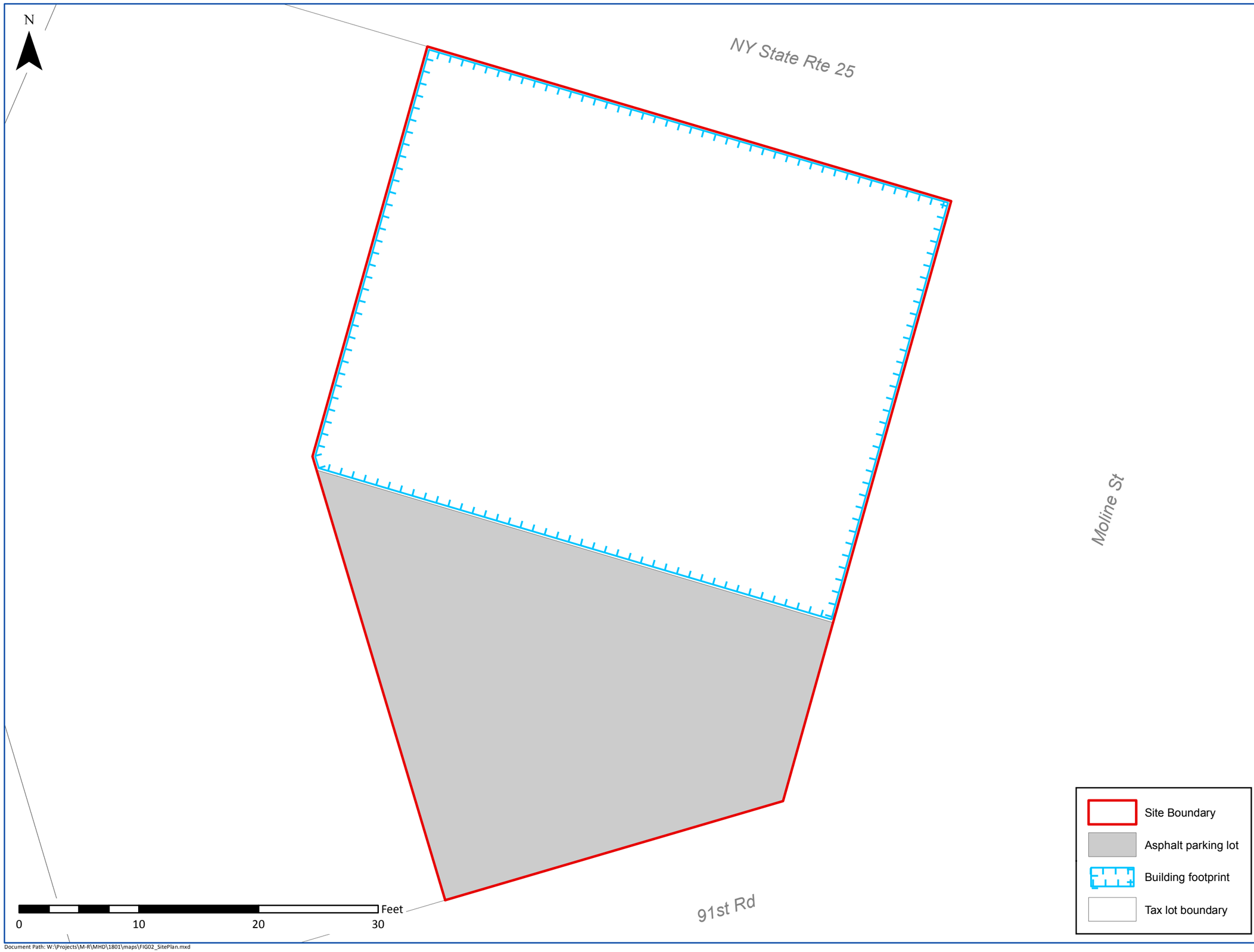
223-20 Braddock Ave
Queens Village, NY

0 ¼ ½ ¾ 1 Miles

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Date:	4/12/2019
Designed by:	JL
Drawn by:	TS
Approved by:	JL
Figure No:	1

Document Path: W:\Projects\M-R\MHD\1801\maps\FIG01_SiteLocation.mxd



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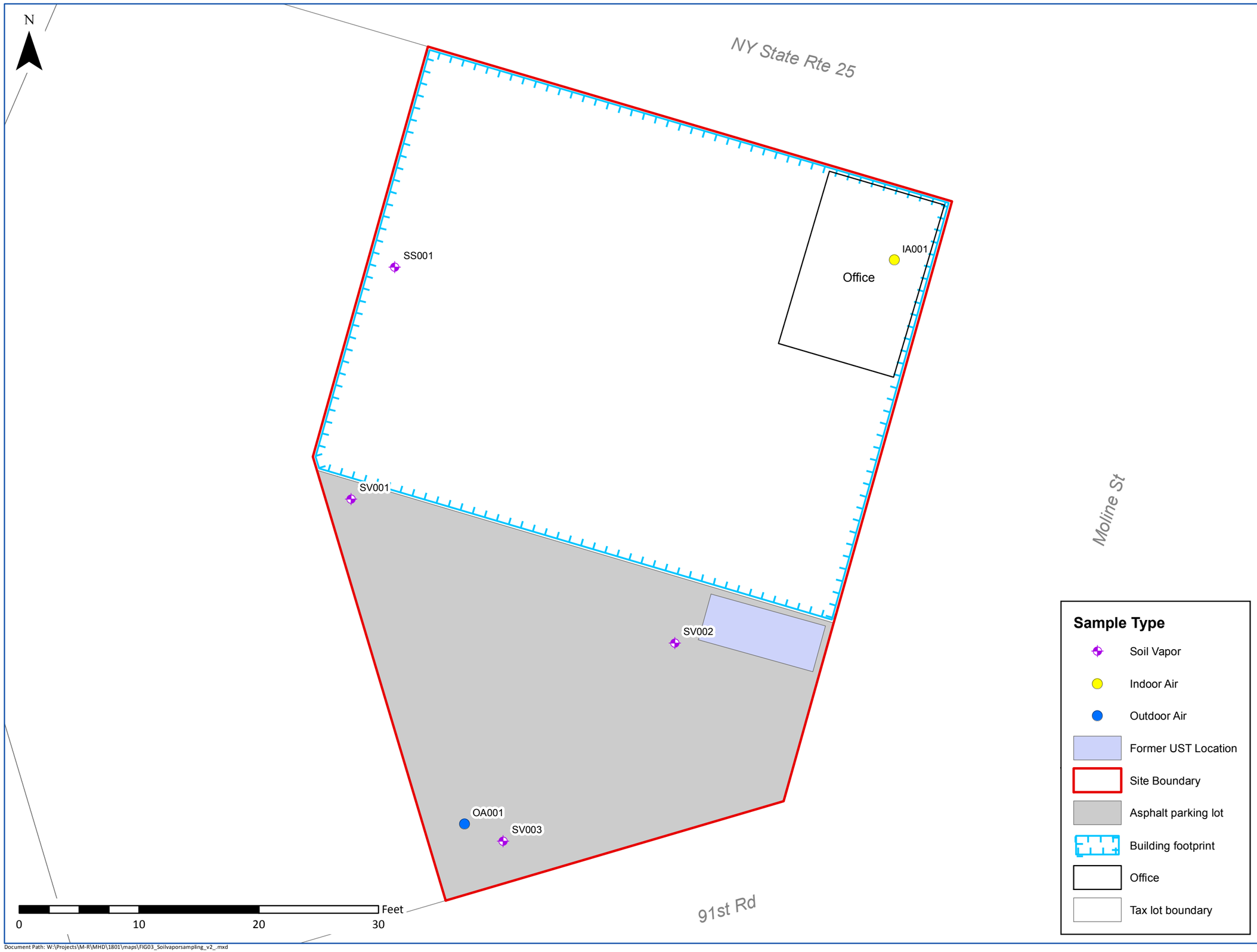
SITE PLAN

223-20 Braddock Ave
Queens Village, NY

FIGURE NO:

2

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Sample Type

- Soil Vapor
- Indoor Air
- Outdoor Air
- Former UST Location
- Site Boundary
- Asphalt parking lot
- Building footprint
- Office
- Tax lot boundary

Document Path: W:\Projects\M-R\MHD\1801\maps\FIG03_Soilvaporsampling_v2_.mxd

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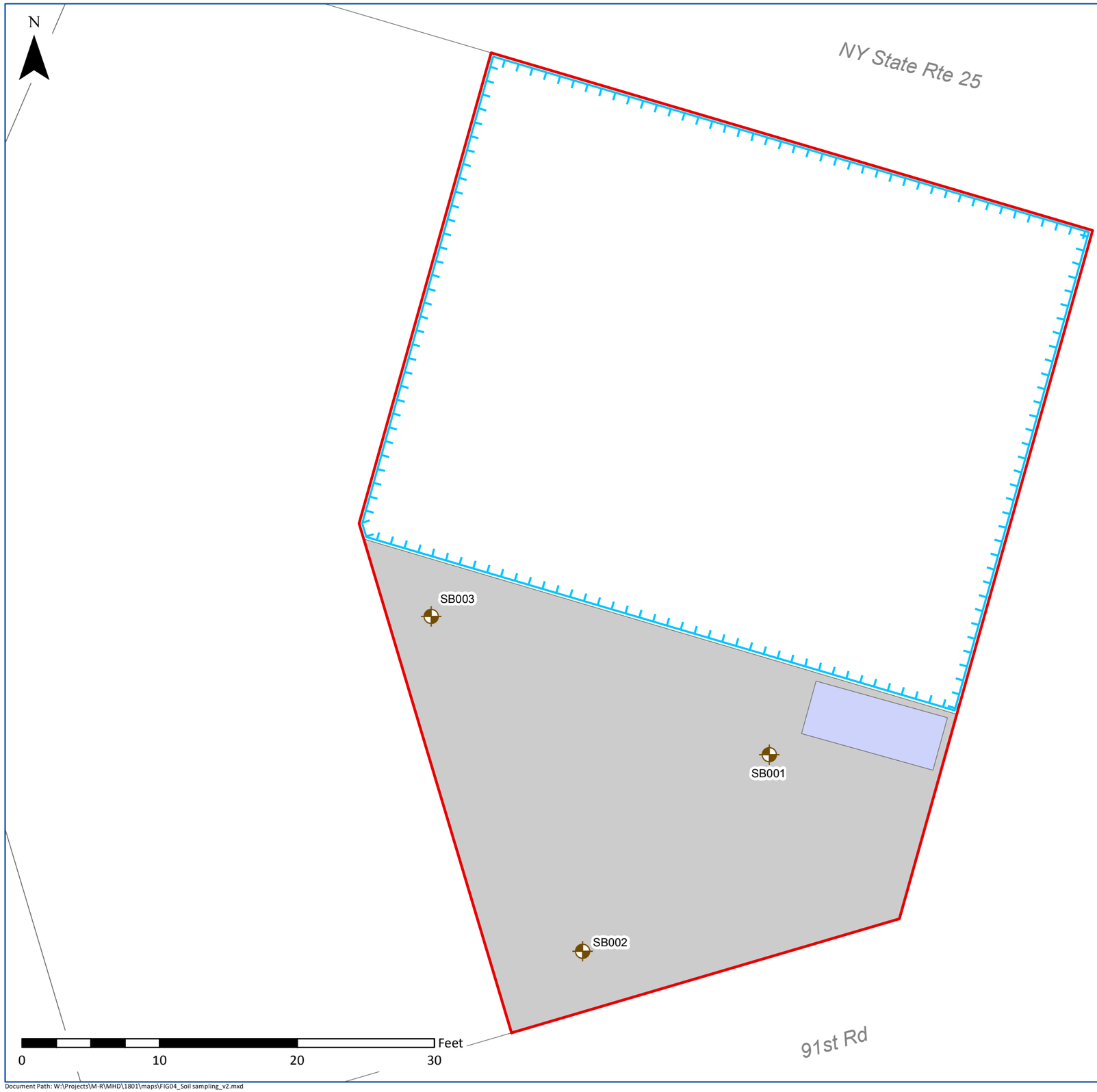
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SOIL VAPOR SAMPLING LOCATIONS

223-20 Braddock Ave
Jamaica, NY

FIGURE NO:

3



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SOIL SAMPLING LOCATIONS

223-20 Braddock Ave
Jamaica, NY

FIGURE NO:

4

Document Path: W:\Projects\M-R\MHD\1801\maps\FIG04_Soil sampling_v2.mxd

TABLES

Table 1
Soil Vapor Results Summary
223-20 Braddock Avenue, Queens Village, NY

Client Sample ID:	SS001		SV001		SV002		SV003		OA001		IA001	
Laboratory ID:	L2011723-01		L2011723-02		L2011723-03		L2011723-04		L2011723-05		L2011723-06	
Sampling Date:	3/13/2020		3/13/2020		3/13/2020		3/13/2020		3/13/2020		3/13/2020	
Volatile Organics in Air by USEPA method TO-15 in µg/m3												
1,1,1-Trichloroethane	1.09	U	3.64	U	6.82	U	2.73	U	0.109	U	0.109	U
1,1,2,2-Tetrachloroethane	1.37	U	4.58	U	8.58	U	3.43	U	1.37	U	1.37	U
1,1,2-Trichloroethane	1.09	U	3.64	U	6.82	U	2.73	U	1.09	U	1.09	U
1,1-Dichloroethane	0.809	U	2.7	U	5.06	U	2.02	U	0.809	U	0.809	U
1,1-Dichloroethene	0.793	U	2.64	U	4.96	U	1.98	U	0.079	U	0.079	U
1,2,4-Trichlorobenzene	1.48	U	4.95	U	9.28	U	3.71	U	1.48	UJ	1.48	UJ
1,2,4-Trimethylbenzene	11		14.6		8.9		3.78		1.22		26.3	
1,2-Dibromoethane	1.54	U	5.13	U	9.61	U	3.84	U	1.54	U	1.54	U
1,2-Dichlorobenzene	1.2	U	4.01	U	7.52	U	3.01	U	1.2	U	1.2	U
1,2-Dichloroethane	0.809	U	2.7	U	5.06	U	2.02	U	0.809	U	0.809	U
1,2-Dichloropropane	0.924	U	3.08	U	5.78	U	2.31	U	0.924	U	0.924	U
1,3,5-Trimethylbenzene	3.79		3.85		6.15	U	2.46	U	0.983	U	6.88	
1,3-Butadiene	1.84		1.48	U	2.77	U	9.98		0.442	U	3.27	
1,3-Dichlorobenzene	1.2	U	4.01	U	7.52	U	3.01	U	1.2	U	1.2	U
1,4-Dichlorobenzene	1.2	U	4.01	U	7.52	U	3.01	U	1.2	U	1.2	U
1,4-Dioxane	0.721	U	2.4	U	4.5	U	1.8	U	0.721	U	0.721	U
2,2,4-Trimethylpentane	24.5		3.12	U	5.84	U	2.34	U	1.72		24.9	
2-Butanone	15.1		139		82.6		188		1.47	U	3.3	
2-Hexanone	11.8		33.1		36.6		58.6		0.82	UJ	0.82	UJ
3-Chloropropene	0.626	U	2.09	U	3.91	U	1.57	U	0.626	U	0.626	U
4-Ethyltoluene	3.62		3.28	U	6.15	U	2.46	U	0.983	U	5.21	
4-Methyl-2-pentanone	2.42		9.26		12.8	U	5.12	U	2.05	U	2.81	
Acetone	94.8		1880		1020		1770		12.1		37.5	
Benzene	10.7		4.03		3.99	U	3.39		1.34		21.5	
Benzyl chloride	1.04	U	3.45	U	6.47	U	2.59	U	1.04	U	1.04	U
Bromodichloromethane	35.1		4.47	U	8.37	U	3.35	U	1.34	U	1.34	U
Bromoform	2.07	U	6.9	U	12.9	U	5.17	U	2.07	U	2.07	U
Bromomethane	0.777	U	2.59	U	4.85	U	1.94	U	0.777	U	0.777	U
Carbon disulfide	4.48		2.55		3.89	U	1.56	U	0.623	U	0.623	U
Carbon tetrachloride	1.26	U	4.2	U	7.86	U	3.15	U	0.39		0.384	
Chlorobenzene	0.921	U	3.07	U	5.76	U	2.3	U	0.921	U	0.921	U
Chloroethane	0.528	U	1.76	U	3.3	U	1.32	U	0.528	U	0.528	U
Chloroform	338		3.26	U	50.8		2.5		0.977	U	0.977	U
Chloromethane	0.535		1.38	U	2.58	U	1.03	U	1.34		1.67	
cis-1,2-Dichloroethene	0.793	U	2.64	U	238		1.98	U	0.079	U	0.079	U
cis-1,3-Dichloropropene	0.908	U	3.03	U	5.67	U	2.27	U	0.908	U	0.908	U
Cyclohexane	49.9		5.89		4.3	U	1.72	U	4.27		85.4	
Dibromochloromethane	1.7	U	5.68	U	10.6	U	4.26	U	1.7	U	1.7	U
Dichlorodifluoromethane	2.02		3.3	U	6.18	U	2.47	U	2.31		2.32	
Ethanol	20.3		31.5	U	58.8	U	28.8		31.1		228	
Ethyl Acetate	1.8	U	6.02	U	11.2	U	4.5	U	1.8	U	1.8	U
Ethylbenzene	16.6		7.21		12.5		3.93		1.17		18.9	
Freon-113	1.53	U	5.11	U	9.58	U	3.83	U	1.53	U	1.53	U
Freon-114	1.4	U	4.66	U	8.74	U	3.49	U	1.4	U	1.4	U
Heptane	21.7		45.1		10.3		9.67		2.54		32.7	
Hexachlorobutadiene	2.13	U	7.11	U	13.3	U	5.33	U	2.13	U	2.13	U
Isopropanol	4.03		32.9		16		22.1		8.06		42.5	
Methyl tert butyl ether	0.721	U	2.4	U	4.51	U	1.8	U	0.721	U	0.721	U
Methylene chloride	1.74	U	5.8	U	10.8	U	4.34	U	1.74	U	1.74	U
n-Hexane	114		11.3		4.41	U	5.25		10.2		203	
o-Xylene	19.2		10.6		14.1		3.91		1.5		26.5	
p/m-Xylene	44.3		29.2		41.3		12.1		4.23		68.2	
Styrene	0.864		2.84	U	5.32	U	2.13	U	0.852	U	1.34	
Tertiary butyl Alcohol	6.18		27.2		14.6		25.8		1.52	U	1.52	U
Tetrachloroethene	307		78.7		2170		231		0.278		1.62	
Tetrahydrofuran	9.02		23.1		13.7		21		1.47	U	1.47	U
Toluene	70.5		51.3		37		26.2		8.14		98.4	
trans-1,2-Dichloroethene	0.793	U	2.64	U	4.96	U	1.98	U	0.793	U	0.793	U
trans-1,3-Dichloropropene	0.908	U	3.03	U	5.67	U	2.27	U	0.908	U	0.908	U
Trichloroethene	1.07	U	3.58	U	72.6		2.69	U	0.107	U	0.107	U
Trichlorofluoromethane	1.17		3.75	U	7.02	U	2.81	U	1.34		1.33	
Vinyl bromide	0.874	U	2.92	U	5.47	U	2.19	U	0.874	U	0.874	U
Vinyl chloride	0.511	U	1.71	U	3.2	U	1.28	U	0.051	U	0.051	U
Total CVOCs	307.0		78.7		2,481		231.0		0.3		1.6	
Total VOCs	1,244		2,409		3,839		2,426		93.2		943.9	

Notes:
U Indicates that the analyte was not detected above the laboratory MDL
J Indicates an estimated value
Total CVOCs consists of the sum of PCE, TCE, DCE, and VC
Highlighted values indicate detectable concentration of compound

Table 2
Soil Sieve Analysis Summary
223-20 Braddock Avenue, Queens Village, NY

Client Sample ID:	SB001	SB002	SB003
Sample Depth:	7-9'	8-10'	7-9'
Laboratory ID:	L2011250-01	L2011250-02	L2011250-03
Sampling Date:	3/12/2020	3/12/2020	3/12/2020
Sieve Analysis by %			
Cobbles	ND	ND	ND
% Coarse Gravel	ND	14	ND
% Fine Gravel	31.3	16.3	6.6
% Total Gravel	31.3	29.9	6.6
% Coarse Sand	9.3	4.6	7
% Medium Sand	22.9	15	22.3
% Fine Sand	30.6	15.4	16.8
% Total Sand	62.8	35	46.1
% Total Fines	5.9	35.1	47.3

Notes:

ND - No detection of particle size.

APPENDIX A
Air Sampling Logs

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223-20 Braddock Avenue, Queens Village, NY

Soil Vapor Sampling Log

Sample ID	Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Canister ID	Regulator ID
SS001	3/13/2020	9:20	16:25	-30.12	-7.35	2181	01286
SV001	3/13/2020	9:35	16:26	-29.92	-7.86	3097	01395
SV002	3/13/2020	9:47	16:27	-29.93	-8.48	3169	01151
SV003	3/13/2020	10:05	16:28	-29.92	-8.52	3196	0340
OA001	3/13/2020	10:15	16:29	-29.94	-9.20	2951	01803
IA001	3/13/2020	10:20	16:30	-30.35	-11.59	3184	0774

APPENDIX B
Soil Boring Logs

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PROJECT #:	MHD1801		
SITE ADDRESS:	223-20 Braddock Ave, Jamaica, NY		
BORING ID:	SB001	BORING DEPTH (FT): 9	CORE LENGTH (FT): 3
WELL ID:	N/A	BORING DIAMETER (IN): 2	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Island Pump and Tank, Corp.	DATE STARTED: 03/12/2020	DATE FINISHED: 03/12/2020
DRILLING METHOD:	Direct Push	TIME STARTED: 11:15	TIME FINISHED: 11:31
DRILLING EQUIPMENT:	Geoprobe 7720DT	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Macrocore	PROJECT MANAGER: Jennifer Lewis	LOGGED BY: C. Precht

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	RECOVERY (feet)	DESCRIPTION NAME (USCS): color, moist, plasticity, gravel, odor	PID Reading (ppm)	DEPTH (feet)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				Concrete, dry, no odor	0	0	
1				Asphalt, brick, gravel, dry, no odor	0	1	
2			2	WELL GRADED SAND (SW): dark brown, dry, fine sand, some gravel, no odor	0.5	2	
3				Concrete, dry, no odor	0	3	
4			2	WELL GRADED SAND (SW): medium brown, moist, fine to medium sand, gravel/pebbles, no odor	0.3	4	
5						5	
6					0.3	6	
7			2.5	WELL GRADED SAND (SW): light brown, dry, fine to medium sand, some rock fragments, no odor	0.4	7	
8				WELL GRADED SAND (SW): medium brown, moist, fine to medium sand, gravel/pebbles, no odor	0.5	8	
9						9	

PROJECT #:	MHD1801
SITE ADDRESS:	223-20 Braddock Ave, Jamaica, NY
BORING ID:	SB002
WELL ID:	N/A
DRILLING CONTRACTOR:	Island Pump and Tank, Corp.
DRILLING METHOD:	Direct Push
DRILLING EQUIPMENT:	Geoprobe 7720DT
SAMPLING METHOD:	Macrocore

PWGC

BORING DEPTH (FT): 10	CORE LENGTH (FT): 5
BORING DIAMETER (IN): 2	WELL DIAMETER (IN): N/A
DATE STARTED: 03/12/2020	DATE FINISHED: 03/12/2020
TIME STARTED: 11:40	TIME FINISHED: 12:00
LATITUDE: N/A	LONGITUDE: N/A
PROJECT MANAGER: Jennifer Lewis	LOGGED BY: C. Precht

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	RECOVERY (feet)	DESCRIPTION NAME (USCS): color, moist, plasticity, gravel, odor	PID Reading (ppm)
0				Concrete, dry, no odor	0
1				Asphalt, brick, rock fragments, dry, no odor	0
2			2.5	POORLY GRADED SAND (SP): dark brown, moist, fine sand, no odor	0
3					
4					0.1
5				WELL GRADED SAND (SW): medium brown, moist, fine to medium sand, gravel/pebbles, no odor	
6					0
7			3		
8				LEAN CLAY (CL): light brown, moist, clay, no odor	0.1
9				WELL GRADED SAND (SW): medium brown, moist, fine to medium sand, gravel/pebbles, no odor	0
10					

DEPTH (feet)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

PROJECT #:	MHD1801
SITE ADDRESS:	223-20 Braddock Ave, Jamaica, NY
BORING ID:	SB003
WELL ID:	N/A
DRILLING CONTRACTOR:	Island Pump and Tank, Corp.
DRILLING METHOD:	Direct Push
DRILLING EQUIPMENT:	Geoprobe 7720DT
SAMPLING METHOD:	Macrocore

PWGC

BORING DEPTH (FT): 9	CORE LENGTH (FT): 3
BORING DIAMETER (IN): 2	WELL DIAMETER (IN): N/A
DATE STARTED: 03/12/2020	DATE FINISHED: 03/12/2020
TIME STARTED: 14:15	TIME FINISHED: 14:35
LATITUDE: N/A	LONGITUDE: N/A
PROJECT MANAGER: Jennifer Lewis	LOGGED BY: C. Precht

DEPTH (feet)	SAMPLE INTERVAL	USCS KEY	RECOVERY (feet)	DESCRIPTION NAME (USCS): color, moist, plasticity, gravel, odor	PID Reading (ppm)	DEPTH (feet)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				Concrete, dry, no odor	0	0	
1			2	WELL GRADED SAND (SW): dark brown, moist, fine sand, some gravel/pebbles, no odor	0	1	
2						2	
3			2	WELL GRADED SAND (SW): medium brown, moist, fine to medium sand, trace gravel, no odor	0.2	3	
4						4	
5						5	
6			2.5	LEAN CLAY (CL): light brown/gray, moist, clay, no odor	0.1	6	
7						7	
8				WELL GRADED SAND (SW): medium brown, moist, fine to medium sand, trace gravel, no odor	0	8	
9						9	

P.W. Grosser Consulting	**End of Boring Depth (feet):** 9	**Water Table Symbol:** ▼	Page 1 of 1

APPENDIX C
Laboratory Data Reports

P.W. GROSSER CONSULTING, INC.
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630 JOHNSON AVENUE, STE 7
BOHEMIA, NY 11716
LONG ISLAND • MANHATTAN • SARATOGA SPRINGS • SYRACUSE • SEATTLE • SHELTON

ANALYTICAL REPORT

Lab Number:	L2011250
Client:	P. W. Grosser 630 Johnson Avenue Suite 7 Bohemia, NY 11716
ATTN:	Jennifer Lewis
Phone:	(631) 589-6353
Project Name:	MHD1801
Project Number:	MHD1801
Report Date:	03/18/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: MHD1801
Project Number: MHD1801

Lab Number: L2011250
Report Date: 03/18/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2011250-01	SB001	SOIL	223-20 BRADDOCK AVE	03/12/20 11:45	03/12/20
L2011250-02	SB002	SOIL	223-20 BRADDOCK AVE	03/12/20 12:30	03/12/20
L2011250-03	SB003	SOIL	223-20 BRADDOCK AVE	03/12/20 14:45	03/12/20

Project Name:	MHD1801	**Lab Number:**	L2011250
Project Number:	MHD1801	**Report Date:**	03/18/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: MHD1801 **Lab Number:** L2011250
Project Number: MHD1801 **Report Date:** 03/18/20

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Grain Size Analysis

The WG1351138-1 Laboratory Duplicate RPDs for % fine gravel (32%), % total gravel (32%) and % total fines (70%), performed on L2011250-01, are outside the acceptance criteria. The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 03/18/20

INORGANICS
&
MISCELLANEOUS

Project Name: MHD1801
Project Number: MHD1801

Lab Number: L2011250
Report Date: 03/18/20

SAMPLE RESULTS

Lab ID: L2011250-01
Client ID: SB001
Sample Location: 223-20 BRADDOCK AVE

Date Collected: 03/12/20 11:45
Date Received: 03/12/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Coarse Gravel	ND		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Fine Gravel	31.3		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Total Gravel	31.3		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Coarse Sand	9.30		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Medium Sand	22.9		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Fine Sand	30.6		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Total Sand	62.8		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Total Fines	5.90		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP

Project Name: MHD1801
Project Number: MHD1801

Lab Number: L2011250
Report Date: 03/18/20

SAMPLE RESULTS

Lab ID: L2011250-02
Client ID: SB002
Sample Location: 223-20 BRADDOCK AVE

Date Collected: 03/12/20 12:30
Date Received: 03/12/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Coarse Gravel	13.6		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Fine Gravel	16.3		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Total Gravel	29.9		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Coarse Sand	4.60		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Medium Sand	15.0		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Fine Sand	15.4		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Total Sand	35.0		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Total Fines	35.1		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP

Project Name: MHD1801
Project Number: MHD1801

Lab Number: L2011250
Report Date: 03/18/20

SAMPLE RESULTS

Lab ID: L2011250-03
Client ID: SB003
Sample Location: 223-20 BRADDOCK AVE

Date Collected: 03/12/20 14:45
Date Received: 03/12/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Coarse Gravel	ND		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Fine Gravel	6.60		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Total Gravel	6.60		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Coarse Sand	7.00		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Medium Sand	22.3		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Fine Sand	16.8		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Total Sand	46.1		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP
% Total Fines	47.3		%	0.100	NA	1	-	03/14/20 18:54	12,D6913/D7928	SP

Lab Duplicate Analysis

Batch Quality Control

Project Name: MHD1801
Project Number: MHD1801

Lab Number: L2011250
Report Date: 03/18/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Grain Size Analysis - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1351138-1 QC Sample: L2011250-01 Client ID: SB001						
Cobbles	ND	ND	%	NC		20
% Coarse Gravel	ND	ND	%	NC		20
% Fine Gravel	31.3	22.7	%	**32**	Q	20
% Total Gravel	31.3	22.7	%	**32**	Q	20
% Coarse Sand	9.30	9.20	%	1		20
% Medium Sand	22.9	25.6	%	11		20
% Fine Sand	30.6	30.2	%	1		20
% Total Sand	62.8	65.0	%	3		20
% Total Fines	5.90	12.3	%	**70**	Q	20

Project Name: MHD1801
Project Number: MHD1801

Lab Number: L2011250
Report Date: 03/18/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2011250-01A	Plastic 8oz unpreserved for Grain Size	A	NA		2.6	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2011250-02A	Plastic 8oz unpreserved for Grain Size	A	NA		2.6	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()
L2011250-03A	Plastic 8oz unpreserved for Grain Size	A	NA		2.6	Y	Absent		A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-TGRAVEL(),A2-HYDRO-CSAND(),A2-HYDRO-TSAND(),A2-HYDRO-COBBLES(),A2-HYDRO-FGRAVEL()

*Values in parentheses indicate holding time in days

Project Name:	MHD1801	**Lab Number:**	L2011250
Project Number:	MHD1801	**Report Date:**	03/18/20

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	MHD1801	**Lab Number:**	L2011250
Project Number:	MHD1801	**Report Date:**	03/18/20

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration

Report Format: DU Report with 'J' Qualifiers

Project Name:	MHD1801	**Lab Number:**	L2011250
Project Number:	MHD1801	**Report Date:**	03/18/20

Data Qualifiers

Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	MHD1801	**Lab Number:**	L2011250
Project Number:	MHD1801	**Report Date:**	03/18/20

REFERENCES

12 Annual Book of ASTM Standards. (American Society for Testing and Materials) ASTM International.

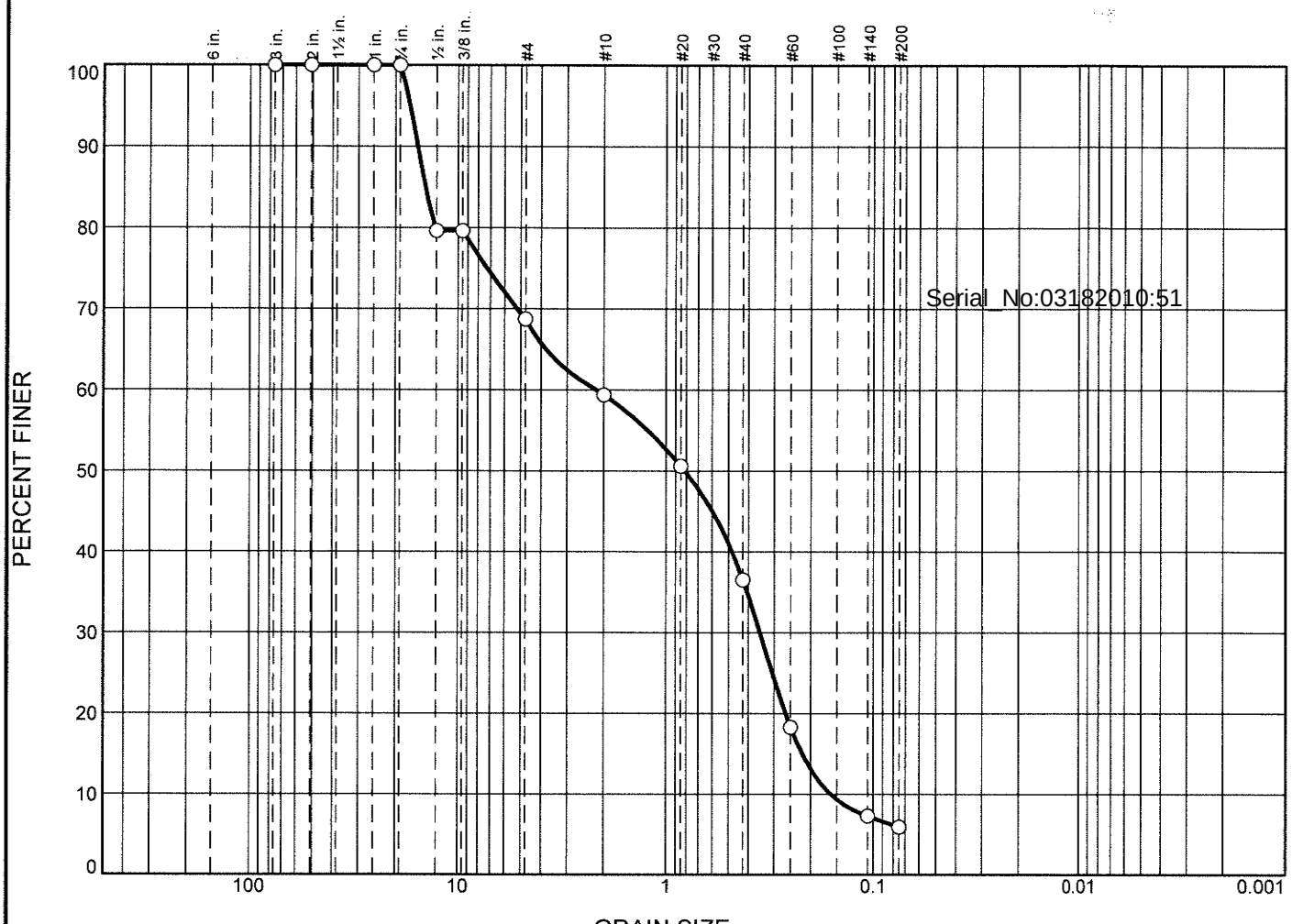
LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

ASTM D6913/D7928
GRAIN SIZE ANALYSIS

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	31.3	9.3	22.9	30.6	5.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			14.3695	2.1769	0.8130	0.3516	0.2195	0.1602	0.35	13.59

	Material Description	USCS	AASHTO
○			

Project No. **Client:**

Project:

○ **Source of Sample:** SB001 **Sample Number:** L2011250-01

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/17/2020

Location: SB001

Sample Number: L2011250-01

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 119.00
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
119.00	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75	0.00	0.00	100.0
		0.50	24.25	0.00	79.6
		0.375	0.00	0.00	79.6
		#4	12.95	0.00	68.7
		#10	11.13	0.00	59.4
		#20	10.45	0.00	50.6
		#40	16.75	0.00	36.5
		#60	21.69	0.00	18.3
		#140	13.11	0.00	7.3
		#200	1.62	0.00	5.9

Serial_No:03182010:51

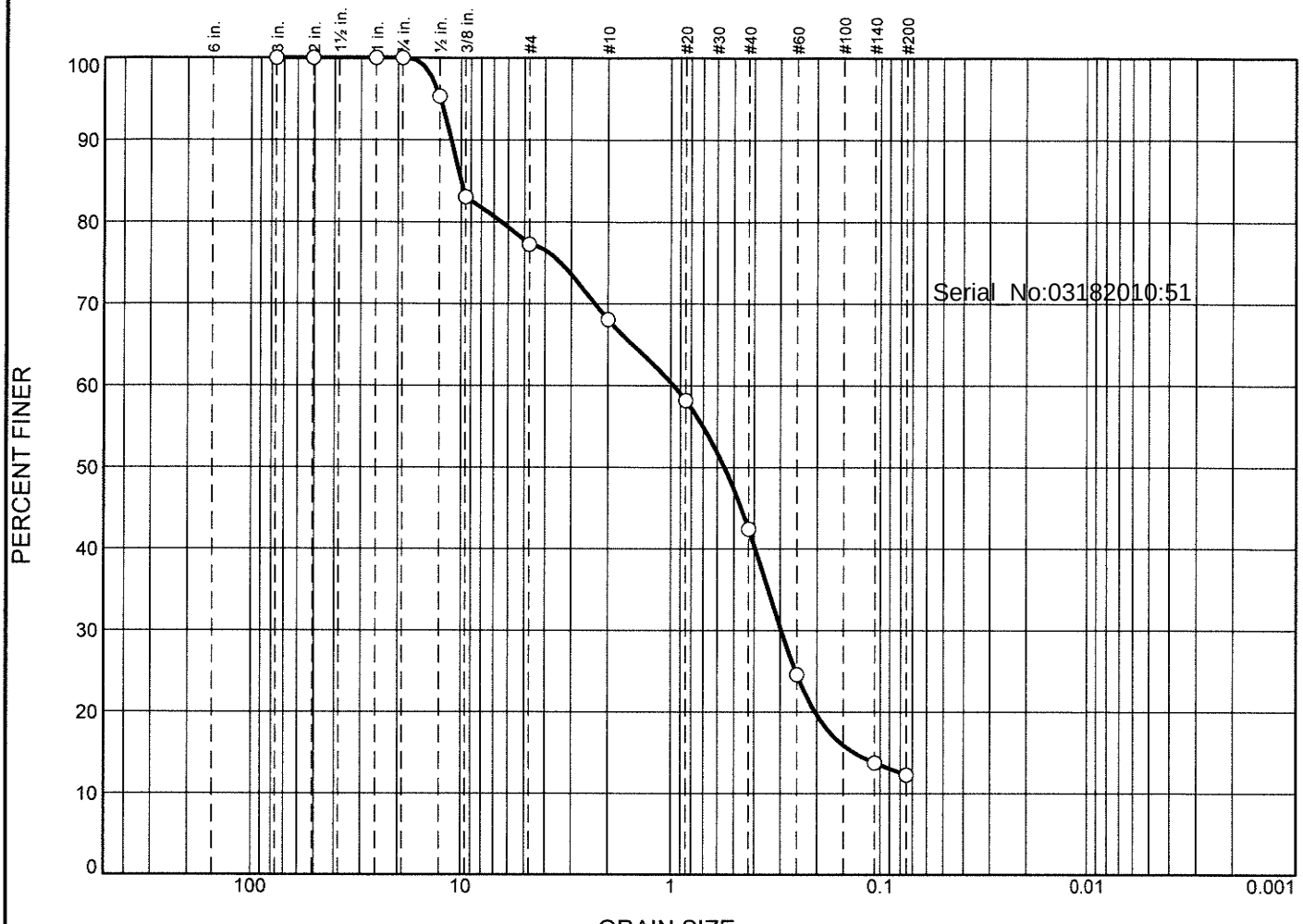
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	31.3	31.3	9.3	22.9	30.6	62.8			5.9

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.1602	0.2195	0.2645	0.3516	0.4793	0.8130	2.1769	12.8661	14.3695	15.6254	16.9975

Fineness Modulus	C_u	C_c
3.58	13.59	0.35

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	22.7	9.2	25.6	30.2	12.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			9.9972	0.9695	0.5553	0.2973	0.1334			

	Material Description	USCS	AASHTO
○			

Project No. **Client:**
Project:

○ **Source of Sample:** SB001 **Sample Number:** WG1351138-1

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/17/2020

Location: SB001

Sample Number: WG1351138-1

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 119.17
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
119.17	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75	0.00	0.00	100.0
		0.50	5.57	0.00	95.3
		0.375	14.60	0.00	83.1
		#4	6.91	0.00	77.3
		#10	10.97	0.00	68.1
		#20	11.77	0.00	58.2
		#40	18.76	0.00	42.5
		#60	21.28	0.00	24.6
		#140	12.92	0.00	13.8
		#200	1.79	0.00	12.3

Serial_No:03182010:51

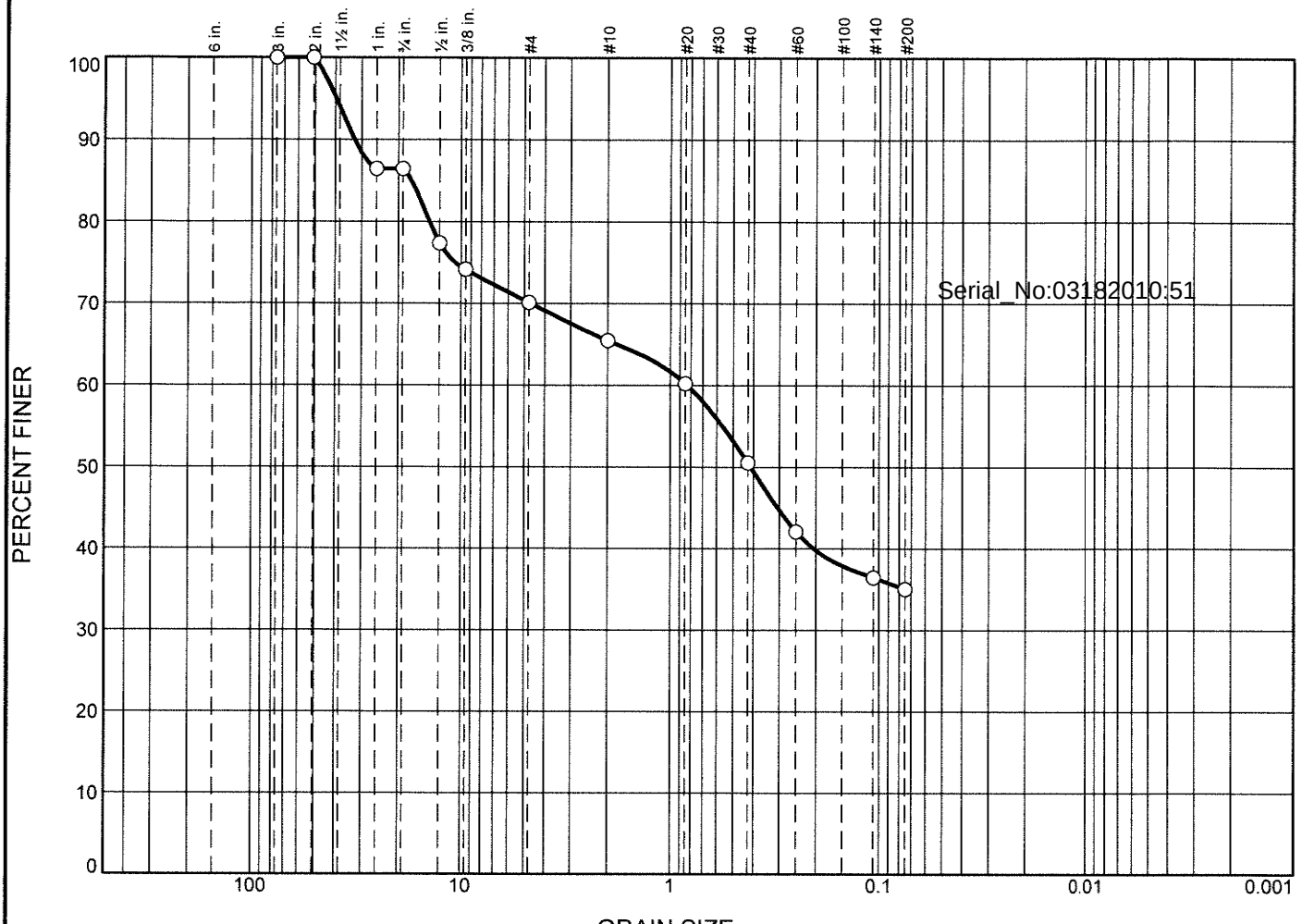
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	22.7	22.7	9.2	25.6	30.2	65.0			12.3

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.1334	0.2044	0.2973	0.3949	0.5553	0.9695	6.4484	9.9972	11.1646	12.5806

Fineness Modulus
3.09

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	13.6	16.3	4.6	15.0	15.4	35.1	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			17.3031	0.8313	0.4122					

	Material Description	USCS	AASHTO
○			

Project No. **Client:**

Project:

○ **Source of Sample:** SB002 **Sample Number:** L2011250-02

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/17/2020

Location: SB002

Sample Number: L2011250-02

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 248.20
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
248.20	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	33.69	0.00	86.4
		0.75	0.00	0.00	86.4
		0.50	22.51	0.00	77.4
		0.375	7.93	0.00	74.2
		#4	10.04	0.00	70.1
		#10	11.54	0.00	65.5
		#20	13.01	0.00	60.2
		#40	24.09	0.00	50.5
		#60	20.91	0.00	42.1
		#140	13.95	0.00	36.5
		#200	3.51	0.00	35.1

Serial_No:03182010:51

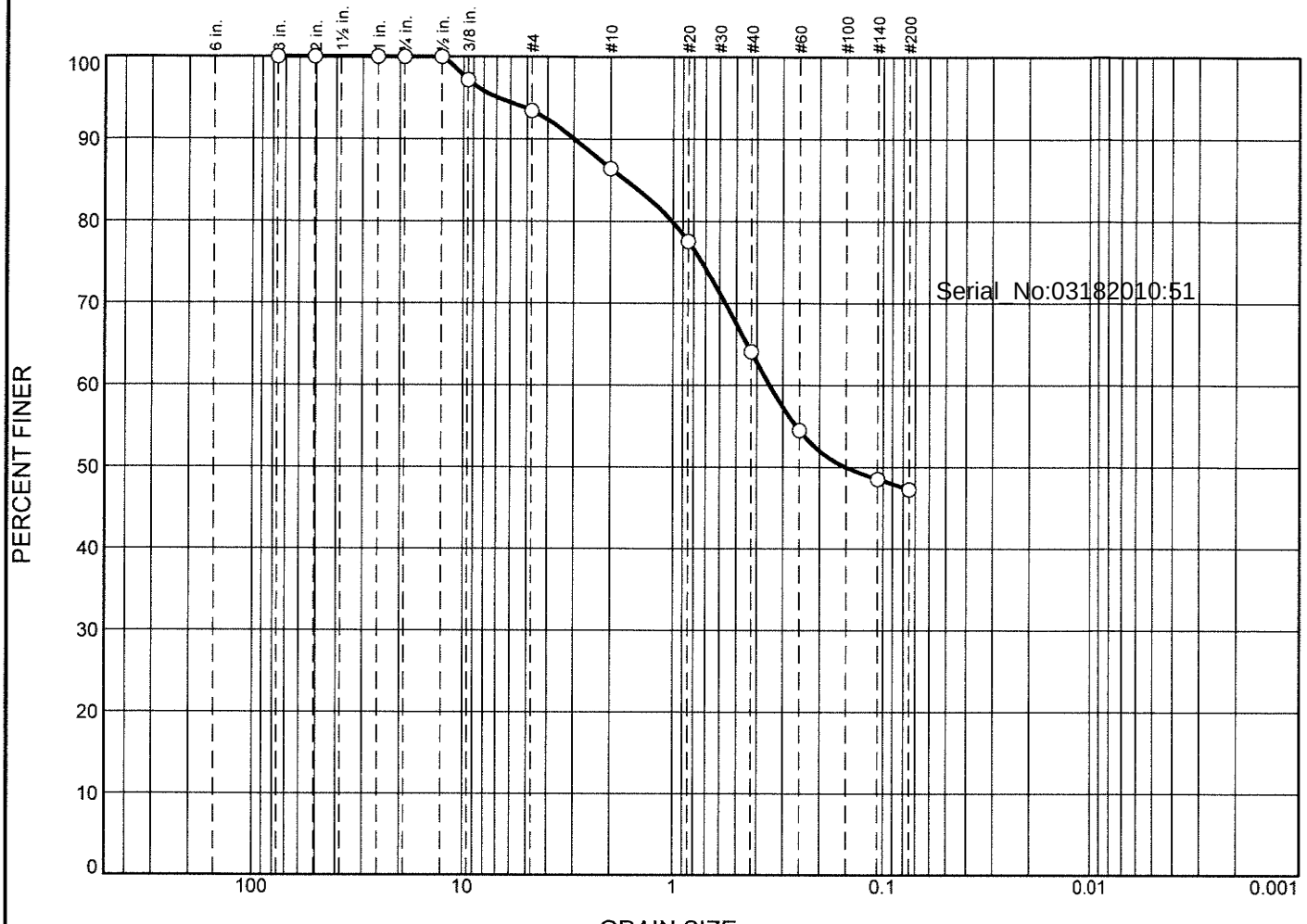
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	13.6	16.3	29.9	4.6	15.0	15.4	35.0			35.1

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
					0.2049	0.4122	0.8313	14.1896	17.3031	32.4109	39.6193

Fineness Modulus
3.08

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	6.6	7.0	22.3	16.8	47.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.6938	0.3473	0.1503					

	Material Description	USCS	AASHTO
○			

Project No. **Client:**

Project:

○ **Source of Sample:** SB003 **Sample Number:** L2011250-03

Remarks:

Alpha Analytical

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

3/17/2020

Location: SB003

Sample Number: L2011250-03

Sieve Test Data

Post #200 Wash Test Weights (grams): **Dry Sample and Tare =** 169.55
Tare Wt. = 0.00
Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
169.55	0.00	3"	0.00	0.00	100.0
		2"	0.00	0.00	100.0
		1"	0.00	0.00	100.0
		0.75	0.00	0.00	100.0
		0.50	0.00	0.00	100.0
		0.375	4.79	0.00	97.2
		#4	6.33	0.00	93.4
		#10	11.92	0.00	86.4
		#20	15.00	0.00	77.6
		#40	22.86	0.00	64.1
		#60	16.29	0.00	54.5
		#140	10.04	0.00	48.6
		#200	2.18	0.00	47.3

Serial_No:03182010:51

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	6.6	6.6	7.0	22.3	16.8	46.1			47.3

D_5	D_{10}	D_{15}	D_{20}	D_{30}	D_{40}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.1503	0.3473	1.0146	1.6938	2.9775	6.8793

Fineness Modulus
1.61

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

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FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab 3/13/20

ALPHA Job # L2011250

Client Information
Client: AWG
Address: (Chelsea CO) 630 Division Ave, Bronx, NY
Phone: (631-584-6353
Fax:
Email: jennifer.l@awgwater.com
These samples have been previously analyzed by Alpha ☐
Other project specific requirements/comments:

Please specify Metals or TAL.

Project Information
Project Name: MHD1801
Project Location: 223-20 Braddock Ave
Project #
(Use Project name as Project #) X
Project Manager: Jennifer Lewis
ALPHAQuote #:

Turn-Around Time
Standard X
(Rush only if pre approved) ☐
Due Date:
of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
X Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

ANALYSIS
Grave analysis

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Grave analysis	Sample Specific Comments	Total Bottle
2011250-01	SB001	3/12/20	1145	S	CP	X		1
-02	SB002	↓	1230	S	CP	X		1
-03	SB003		1445	S	CP	X		1

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
AWG RS, AMC	03/12/20 15:20	RS, AMC	3/12/20 15:20
RS, AMC	3/12/20 19:40		3/12/20 2000
	3/13/20 0004		3/13/20 00:40
	3/13/20 0530		3/13/20 05:30

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

www.alphalab.com



Alpha Analytical

Laboratory Code: 11148

SDG Number: L2011723

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Project Name: MHD1801
Project Number: MHD1801

Lab Number: L2011723
Report Date: 03/23/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2011723-01	SS001	SOIL_VAPOR	223-20 BRADDOCK AVE, JAMAICA, NY	03/13/20 16:25	03/16/20
L2011723-02	SV001	SOIL_VAPOR	223-20 BRADDOCK AVE, JAMAICA, NY	03/13/20 16:26	03/16/20
L2011723-03	SV002	SOIL_VAPOR	223-20 BRADDOCK AVE, JAMAICA, NY	03/13/20 16:27	03/16/20
L2011723-04	SV003	SOIL_VAPOR	223-20 BRADDOCK AVE, JAMAICA, NY	03/13/20 16:28	03/16/20
L2011723-05	OA001	AIR	223-20 BRADDOCK AVE, JAMAICA, NY	03/13/20 16:29	03/16/20
L2011723-06	IA001	AIR	223-20 BRADDOCK AVE, JAMAICA, NY	03/13/20 16:30	03/16/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on March 12, 2020. The canister certification results are provided as an addendum.

L2011723-02 through -04: The samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the samples.

The WG1353541-3 LCS recovery for pentane (139%), 2-hexanone (140%), 1,2,4-trichlorobenzene (138%) and hexachlorobutadiene (146%) is above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of these analytes.

Sample Receipt

The canister ID number for the sample designated SV003 (L2011723-04) is listed on the CoC as 3196 but should be 3176. The flow controller ID number for the sample designated OA001 (L2011723-05) is listed on the CoC as 01803 but should be 01808.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J Anderson Report Date: 03/23/20

Title: Technical Director/Representative

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

Report Format: Data Usability Report

Data Qualifiers

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 7890 GC/5975C MSD	Columns (length x ID x df):
Trap: Supelco K Trap (VOACARB 3000)	RTX-VMS 20m x 0.18mm x 1um
Concentrator: EST Encon (or equivalent)	RTX-VMS 30m x 0.25mm x 1.4um
Autosampler: EST Centurion (or equivalent)	RTX-502.2 40m x 0.18mm x 1um
Purge time: 11 min	

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)	Column Type: Restek RTX 502.2
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 105 Meters
Concentrator: EST Encon (or equivalent)	df: 3.00 um
Autosampler: EST Centurion (or equivalent)	ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD	Column Type: DB-VRX
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 60 Meters
Concentrator: Tekmar Velocity / EST Encon	df: 1.40 um
Autosampler: Varian Archon / EST Centurion	ID: 0.25 mm
Purge time: 11 min	Desorb: 1 min

Volatile Organics: Dissolved Gas

Instrument: Agilent 7890 (or equivalent) with FID/TCD

	Column Type: Haysep S Column
	Column Length: 2 Meters packed (100/200 mesh)
Autosampler: LEAP Headspace	Purge time: 0.6 min

Volatile Organics in Air Instruments

Volatile Organics in Air:

Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE / QP2020

Concentrator: Entech 7100A or 7200	Column Type: Restek RTX-1
Autosampler: Entech 7016CA or 7016D	Column Length: 60 Meters
	df: 1.00 um
	ID: 0.25 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material
Trap 2: Tenax: manufacturer-Entech: 20 cm packing material

Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.32 um
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB/Herbicides:

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum/EPH:

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5	df: 0.25um, 0.18 um
Column Length: 30 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (8081):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8082):

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Sample Delivery Group Summary

Alpha Job Number : L2011723

Account Name : P. W. Grosser
Project Number : MHD1801
Project Name : MHD1801

Received : 16-MAR-2020
Reviewer : Dylan Snook

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
NA	Present/Intact/NA			

Condition Information

1) All samples on COC received? **YES**

2) Extra samples received? **NO**

3) Are there any sample container discrepancies? **NO**

4) Are there any discrepancies between sample labels & COC? **YES**
L2011723-04: Can ID #3196 vs. Can ID #3176
L2011723-05: FC ID #01803 vs. FC ID #01808

5) Are samples in appropriate containers for requested analysis? **YES**

6) Are samples properly preserved for requested analysis? **YES**

7) Are samples within holding time for requested analysis? **YES**

8) All sampling equipment returned? **YES**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client? **NA**

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Mar 27 2020, 05:02 pm

Login Number: L2011723
Account: PWGROSSER P. W. GrosserProject: MHD1801
Received: 16MAR20 Due Date: 23MAR20

Sample #	Client ID	Mat	PR	Collected
L2011723-01	SS001	11	S0	13MAR20 16:25
| ASP-B Package Due Date: 03/30/20				
ASP-B,CAN-RENT,FLOW-RENT,TO15-LL				
L2011723-02	SV001	11	S0	13MAR20 16:26
| Package Due Date: 03/30/20				
CAN-RENT,FLOW-RENT,TO15-LL				
L2011723-03	SV002	11	S0	13MAR20 16:27
| Package Due Date: 03/30/20				
CAN-RENT,FLOW-RENT,TO15-LL				
L2011723-04	SV003	11	S0	13MAR20 16:28
| Package Due Date: 03/30/20				
CAN-RENT,FLOW-RENT,TO15-LL				
L2011723-05	OA001	10	S0	13MAR20 16:29
Need SIM for 7 NYS DMCs Package Due Date: 03/30/20				
CAN-RENT,FLOW-RENT,TO15-LL,TO15-SIM				
L2011723-06	IA001	10	S0	13MAR20 16:30
Need SIM for 7 NYS DMCs Package Due Date: 03/30/20				
CAN-RENT,FLOW-RENT,TO15-LL,TO15-SIM				

Logged By: Ethan Leighton

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/17/20

ALPHA Job #: L2011723 ~~L2011815~~ (KB)

Client Information

Client: PWGC
Address: 630 Johnson Ave
Bohemia, NY 11716
Phone: 631-589-6353
Fax:
Email: jennifer1@pwgrosser.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: MHD1801
Project Location: 223-20 Braddock Ave, Jamaica, NY
Project #: MHD1801
Project Manager: Jennifer Lewis
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH Subject Non-petroleum HCs	Fixed Gases	Sulfides & Mercaptans by TO-15	☐	Sample Comments (i.e. PID)
~~4875~~ -01	SS001	3/13/20	0930	1625	-30.12" Hg	-7.55" Hg	SV	MPP	6L 2.7	2181	01286	X						
11723 -02	SV001		0935	1636	-29.92" Hg	-7.86" Hg			2.7L	5097	01595	X						
-03	SV002		0947	1627	-29.93" Hg	-8.48" Hg				3169	01151	X						
-04	SV003		1005	1628	-29.92" Hg	-8.52" Hg				3196	03410	X						
-05	OA001		1015	1629	-29.84" Hg	-9.20" Hg	AA			2591	01405	X						
-06	EA001		1020	1630	-30.35" Hg	-11.59" Hg	AA			3184	0774	X						

(MR)

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
Michael Tavarez	3/16/20 0930	D. Santos AAL	3/16/20 936
D. Santos AAL	3/16/20 1300	Ken Bailey	3/16 2000
3/17 05			3/17/20 030

Form No: 101-02 Rev: (25-Sep-15)

Supporting Documentation

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2011723-01	SS001	01286	Flow 5	03/12/20	316616		-	-	-	Pass	4.5	4.8	6
L2011723-01	SS001	2181	2.7L Can	03/12/20	316616	L2009139-04	Pass	-29.1	-7.3	-	-	-	-
L2011723-02	SV001	01395	Flow 5	03/12/20	316616		-	-	-	Pass	4.5	5.0	11
L2011723-02	SV001	3097	2.7L Can	03/12/20	316616	L2009139-04	Pass	-29.1	-7.7	-	-	-	-
L2011723-03	SV002	01131	Flow 5	03/12/20	316616		-	-	-	Pass	4.5	4.8	6
L2011723-03	SV002	3169	2.7L Can	03/12/20	316616	L2009139-04	Pass	-29.1	-8.7	-	-	-	-
L2011723-04	SV003	0340	Flow 5	03/12/20	316616		-	-	-	Pass	4.5	4.8	6
L2011723-04	SV003	3176	2.7L Can	03/12/20	316616	L2009139-04	Pass	-29.4	-9.0	-	-	-	-
L2011723-05	OA001	01808	Flow 4	03/13/20	316773		-	-	-	Pass	4.5	4.5	0
L2011723-05	OA001	2591	2.7L Can	03/13/20	316773	L2009139-05	Pass	-29.1	-9.1	-	-	-	-
L2011723-06	IA001	0774	Flow 5	03/12/20	316616		-	-	-	Pass	4.5	4.7	4
L2011723-06	IA001	3184	2.7L Can	03/12/20	316616	L2009139-04	Pass	-29.1	-10.9	-	-	-	-

Air Canister Certification Results

Lab ID: L2009139-04
Client ID: CAN 528 SHELF 3
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/07/20 18:51
Analyst: GP

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Air Canister Certification Results

Lab ID: L2009139-04
Client ID: CAN 528 SHELF 3
Sample Location:

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1

Air Canister Certification Results

Lab ID: L2009139-04
Client ID: CAN 528 SHELF 3
Sample Location:

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1

Air Canister Certification Results

Lab ID: L2009139-04 Date Collected: 03/05/20 16:00
Client ID: CAN 528 SHELF 3 Date Received: 03/06/20
Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air								
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Air Canister Certification Results

Lab ID: L2009139-04 Date Collected: 03/05/20 16:00
Client ID: CAN 528 SHELF 3 Date Received: 03/06/20
Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	111		60-140
Bromochloromethane	112		60-140
chlorobenzene-d5	116		60-140

Air Canister Certification Results

Lab ID: L2009139-04
Client ID: CAN 528 SHELF 3
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/07/20 18:51
Analyst: GP

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Air Canister Certification Results

Lab ID: L2009139-04 Date Collected: 03/05/20 16:00
Client ID: CAN 528 SHELF 3 Date Received: 03/06/20
Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1

Air Canister Certification Results

Lab ID: L2009139-04 Date Collected: 03/05/20 16:00
Client ID: CAN 528 SHELF 3 Date Received: 03/06/20
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM								
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	108		60-140
bromochloromethane	109		60-140
chlorobenzene-d5	115		60-140

Air Canister Certification Results

Lab ID: L2009139-05
Client ID: CAN 2341 SHELF 4
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/07/20 19:30
Analyst: GP

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Air Canister Certification Results

Lab ID: L2009139-05
Client ID: CAN 2341 SHELF 4
Sample Location:

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1

Air Canister Certification Results

Lab ID: L2009139-05
Client ID: CAN 2341 SHELF 4
Sample Location:

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1

Air Canister Certification Results

Lab ID: L2009139-05
Client ID: CAN 2341 SHELF 4
Sample Location:

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	**Qualifier**	**Units**	**RDL**	**Dilution Factor**
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Air Canister Certification Results

Lab ID: L2009139-05
Client ID: CAN 2341 SHELF 4
Sample Location:

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	113		60-140
Bromochloromethane	114		60-140
chlorobenzene-d5	121		60-140

Air Canister Certification Results

Lab ID: L2009139-05
Client ID: CAN 2341 SHELF 4
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/07/20 19:30
Analyst: GP

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Air Canister Certification Results

Lab ID: L2009139-05
Client ID: CAN 2341 SHELF 4
Sample Location:

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1

Air Canister Certification Results

Lab ID: L2009139-05
Client ID: CAN 2341 SHELF 4
Sample Location:

Date Collected: 03/05/20 16:00
Date Received: 03/06/20
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM								
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	109		60-140
bromochloromethane	112		60-140
chlorobenzene-d5	119		60-140

Organics

Volatile Organics in Air
TO-15 Low Level

Volatiles QC Summary

Lab Duplicate Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Client Sample ID	: IA001	**Matrix**	: AIR
Lab Sample ID	: L2011723-06	**Analysis Date**	: 03/20/20 18:16
Lab File ID	: R38759	**DUP File ID**	: r38760
Dup Sample ID	: WG1353541-5	**DUP Analysis Date**	: 03/20/20 19:03

Parameter	Sample Concentration (ppbV)	Duplicate Concentration (ppbV)	RPD	RPD Limit
Dichlorodifluoromethane	0.469	0.440	6	25
Chloromethane	0.808	0.813	1	25
Freon-114	ND	ND	NC	25
1,3-Butadiene	1.48	1.43	3	25
Bromomethane	ND	ND	NC	25
Chloroethane	ND	ND	NC	25
Ethanol	121	112	8	25
Vinyl bromide	ND	ND	NC	25
Acetone	15.8	14.6	8	25
Trichlorofluoromethane	0.237	0.207	14	25
Isopropanol	17.3	15.6	10	25
Tertiary butyl Alcohol	ND	ND	NC	25
Methylene chloride	ND	ND	NC	25
3-Chloropropene	ND	ND	NC	25
Carbon disulfide	ND	ND	NC	25
Freon-113	ND	ND	NC	25
trans-1,2-Dichloroethene	ND	ND	NC	25
1,1-Dichloroethane	ND	ND	NC	25
Methyl tert butyl ether	ND	ND	NC	25
2-Butanone	1.12	1.10	2	25
Ethyl Acetate	ND	ND	NC	25
Chloroform	ND	ND	NC	25
Tetrahydrofuran	ND	ND	NC	25
1,2-Dichloroethane	ND	ND	NC	25
n-Hexane	57.7	55.6	4	25

Lab Duplicate Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Client Sample ID	: IA001	**Matrix**	: AIR
Lab Sample ID	: L2011723-06	**Analysis Date**	: 03/20/20 18:16
Lab File ID	: R38759	**DUP File ID**	: r38760
Dup Sample ID	: WG1353541-5	**DUP Analysis Date**	: 03/20/20 19:03

Parameter	Sample Concentration (ppbV)	Duplicate Concentration (ppbV)	RPD	RPD Limit
Benzene	6.72	6.68	1	25
Cyclohexane	24.8	23.9	4	25
1,2-Dichloropropane	ND	ND	NC	25
Bromodichloromethane	ND	ND	NC	25
1,4-Dioxane	ND	ND	NC	25
2,2,4-Trimethylpentane	5.34	5.14	4	25
Heptane	7.98	7.70	4	25
cis-1,3-Dichloropropene	ND	ND	NC	25
4-Methyl-2-pentanone	0.686	0.666	3	25
trans-1,3-Dichloropropene	ND	ND	NC	25
1,1,2-Trichloroethane	ND	ND	NC	25
Toluene	26.1	25.0	4	25
2-Hexanone	ND	ND	NC	25
Dibromochloromethane	ND	ND	NC	25
1,2-Dibromoethane	ND	ND	NC	25
Chlorobenzene	ND	ND	NC	25
Ethylbenzene	4.35	4.18	4	25
p/m-Xylene	15.7	14.8	6	25
Bromoform	ND	ND	NC	25
Styrene	0.315	0.314	0	25
1,1,2,2-Tetrachloroethane	ND	ND	NC	25
o-Xylene	6.09	5.80	5	25
4-Ethyltoluene	1.06	0.984	7	25
1,3,5-Trimethylbenzene	1.40	1.35	4	25
1,2,4-Trimethylbenzene	5.34	5.21	2	25

Lab Duplicate Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Client Sample ID	: IA001	**Matrix**	: AIR
Lab Sample ID	: L2011723-06	**Analysis Date**	: 03/20/20 18:16
Lab File ID	: R38759	**DUP File ID**	: r38760
Dup Sample ID	: WG1353541-5	**DUP Analysis Date**	: 03/20/20 19:03

Parameter	Sample Concentration (ppbV)	Duplicate Concentration (ppbV)	RPD	RPD Limit
Benzyl chloride	ND	ND	NC	25
1,3-Dichlorobenzene	ND	ND	NC	25
1,4-Dichlorobenzene	ND	ND	NC	25
1,2-Dichlorobenzene	ND	ND	NC	25
1,2,4-Trichlorobenzene	ND	ND	NC	25
Hexachlorobutadiene	ND	ND	NC	25

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Matrix	: AIR		
LCS Sample ID	: WG1353541-3	**Analysis Date** : 03/20/20 13:32	**File ID** : r38754
LCSD Sample ID	:	**Analysis Date** :	**File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
Dichlorodifluoromethane	10	10.6	106				-	70-130	-
Chloromethane	10	11.9	119				-	70-130	-
Freon-114	10	11.8	118				-	70-130	-
Vinyl chloride	10	11.5	115				-	70-130	-
1,3-Butadiene	10	10.7	107				-	70-130	-
Bromomethane	10	12.0	120				-	70-130	-
Chloroethane	10	12.1	121				-	70-130	-
Ethanol	50	50.0	100				-	40-160	-
Vinyl bromide	10	11.8	118				-	70-130	-
Acetone	50	57.9	116				-	40-160	-
Trichlorofluoromethane	10	12.3	123				-	70-130	-
Isopropanol	25	31.3	125				-	40-160	-
1,1-Dichloroethene	10	10.8	108				-	70-130	-
Tertiary butyl Alcohol	10	9.35	94				-	70-130	-
Methylene chloride	10	11.0	110				-	70-130	-
3-Chloropropene	10	12.6	126				-	70-130	-
Carbon disulfide	10	9.59	96				-	70-130	-
Freon-113	10	11.0	110				-	70-130	-
trans-1,2-Dichloroethene	10	10.8	108				-	70-130	-
1,1-Dichloroethane	10	11.6	116				-	70-130	-
Methyl tert butyl ether	10	10.6	106				-	70-130	-
2-Butanone	10	12.0	120				-	70-130	-
cis-1,2-Dichloroethene	10	11.5	115				-	70-130	-
Ethyl Acetate	10	11.7	117				-	70-130	-
Chloroform	10	10.2	102				-	70-130	-
Tetrahydrofuran	10	11.7	117				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Matrix	: AIR		
LCS Sample ID	: WG1353541-3	**Analysis Date** : 03/20/20 13:32	**File ID** : r38754
LCSD Sample ID	:	**Analysis Date** :	**File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
1,2-Dichloroethane	10	11.2	112				-	70-130	-
n-Hexane	10	10.3	103				-	70-130	-
1,1,1-Trichloroethane	10	11.3	113				-	70-130	-
Benzene	10	9.73	97				-	70-130	-
Carbon tetrachloride	10	10.8	108				-	70-130	-
Cyclohexane	10	10.1	101				-	70-130	-
1,2-Dichloropropane	10	12.3	123				-	70-130	-
Bromodichloromethane	10	9.88	99				-	70-130	-
1,4-Dioxane	10	11.0	110				-	70-130	-
Trichloroethene	10	12.0	120				-	70-130	-
2,2,4-Trimethylpentane	10	10.6	106				-	70-130	-
Heptane	10	12.3	123				-	70-130	-
cis-1,3-Dichloropropene	10	11.1	111				-	70-130	-
4-Methyl-2-pentanone	10	12.8	128				-	70-130	-
trans-1,3-Dichloropropene	10	9.58	96				-	70-130	-
1,1,2-Trichloroethane	10	11.5	115				-	70-130	-
Toluene	10	12.0	120				-	70-130	-
2-Hexanone	10	14.0	140 Q				-	70-130	-
Dibromochloromethane	10	12.9	129				-	70-130	-
1,2-Dibromoethane	10	11.2	112				-	70-130	-
Tetrachloroethene	10	11.5	115				-	70-130	-
Chlorobenzene	10	11.4	114				-	70-130	-
Ethylbenzene	10	12.2	122				-	70-130	-
p/m-Xylene	20	24.8	124				-	70-130	-
Bromoform	10	11.9	119				-	70-130	-
Styrene	10	11.5	115				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser			**Lab Number**	: L2011723
Project Name	: MHD1801			**Project Number**	: MHD1801
Matrix	: AIR				
LCS Sample ID	: WG1353541-3	**Analysis Date**	: 03/20/20 13:32	**File ID**	: r38754
LCSD Sample ID	:	**Analysis Date**	:	**File ID**	:

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	**True (ppbV)**	**Found (ppbV)**	**%R**	**True (ppbV)**	**Found (ppbV)**	**%R**	**RPD**	**Recovery Limits**	**RPD Limit**
1,1,2,2-Tetrachloroethane	10	12.4	124				-	70-130	-
o-Xylene	10	12.9	129				-	70-130	-
4-Ethyltoluene	10	11.5	115				-	70-130	-
1,3,5-Trimethylbenzene	10	12.1	121				-	70-130	-
1,2,4-Trimethylbenzene	10	13.0	130				-	70-130	-
Benzyl chloride	10	12.6	126				-	70-130	-
1,3-Dichlorobenzene	10	12.1	121				-	70-130	-
1,4-Dichlorobenzene	10	12.1	121				-	70-130	-
1,2-Dichlorobenzene	10	12.1	121				-	70-130	-
1,2,4-Trichlorobenzene	10	13.8	138 Q				-	70-130	-
Hexachlorobutadiene	10	14.6	146 Q				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Matrix	: AIR		
LCS Sample ID	: WG1353556-3	**Analysis Date** : 03/20/20 12:51	**File ID** : r193191
LCSD Sample ID	:	**Analysis Date** :	**File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
Dichlorodifluoromethane	10	8.90	89				-	70-130	-
Chloromethane	10	9.47	95				-	70-130	-
Freon-114	10	10.3	103				-	70-130	-
Vinyl chloride	10	9.96	100				-	70-130	-
1,3-Butadiene	10	9.94	99				-	70-130	-
Bromomethane	10	9.72	97				-	70-130	-
Chloroethane	10	10.1	101				-	70-130	-
Ethanol	50	37.8	76				-	40-160	-
Vinyl bromide	10	9.12	91				-	70-130	-
Acetone	50	45.6	91				-	40-160	-
Trichlorofluoromethane	10	9.61	96				-	70-130	-
Isopropanol	25	23.2	93				-	40-160	-
1,1-Dichloroethene	10	10.9	109				-	70-130	-
Tertiary butyl Alcohol	10	9.81	98				-	70-130	-
Methylene chloride	10	9.69	97				-	70-130	-
3-Chloropropene	10	13.0	130				-	70-130	-
Carbon disulfide	10	10.3	103				-	70-130	-
Freon-113	10	10.6	106				-	70-130	-
trans-1,2-Dichloroethene	10	10.8	108				-	70-130	-
1,1-Dichloroethane	10	11.0	110				-	70-130	-
Methyl tert butyl ether	10	9.54	95				-	70-130	-
2-Butanone	10	11.2	112				-	70-130	-
cis-1,2-Dichloroethene	10	11.3	113				-	70-130	-
Ethyl Acetate	10	12.4	124				-	70-130	-
Chloroform	10	10.2	102				-	70-130	-
Tetrahydrofuran	10	11.5	115				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Matrix	: AIR		
LCS Sample ID	: WG1353556-3	**Analysis Date** : 03/20/20 12:51	**File ID** : r193191
LCSD Sample ID	:	**Analysis Date** :	**File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
1,2-Dichloroethane	10	9.26	93				-	70-130	-
n-Hexane	10	10.0	100				-	70-130	-
1,1,1-Trichloroethane	10	7.92	79				-	70-130	-
Benzene	10	9.60	96				-	70-130	-
Carbon tetrachloride	10	8.66	87				-	70-130	-
Cyclohexane	10	10.3	103				-	70-130	-
1,2-Dichloropropane	10	10.4	104				-	70-130	-
Bromodichloromethane	10	9.25	92				-	70-130	-
1,4-Dioxane	10	10.7	107				-	70-130	-
Trichloroethene	10	9.60	96				-	70-130	-
2,2,4-Trimethylpentane	10	10.4	104				-	70-130	-
Heptane	10	10.1	101				-	70-130	-
cis-1,3-Dichloropropene	10	9.79	98				-	70-130	-
4-Methyl-2-pentanone	10	10.4	104				-	70-130	-
trans-1,3-Dichloropropene	10	7.91	79				-	70-130	-
1,1,2-Trichloroethane	10	9.74	97				-	70-130	-
Toluene	10	10.8	108				-	70-130	-
2-Hexanone	10	11.9	119				-	70-130	-
Dibromochloromethane	10	10.8	108				-	70-130	-
1,2-Dibromoethane	10	10.8	108				-	70-130	-
Tetrachloroethene	10	11.3	113				-	70-130	-
Chlorobenzene	10	11.8	118				-	70-130	-
Ethylbenzene	10	10.8	108				-	70-130	-
p/m-Xylene	20	21.5	108				-	70-130	-
Bromoform	10	11.0	110				-	70-130	-
Styrene	10	10.8	108				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser			**Lab Number**	: L2011723
Project Name	: MHD1801			**Project Number**	: MHD1801
Matrix	: AIR				
LCS Sample ID	: WG1353556-3	**Analysis Date**	: 03/20/20 12:51	**File ID**	: r193191
LCSD Sample ID	:	**Analysis Date**	:	**File ID**	:

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	**True (ppbV)**	**Found (ppbV)**	**%R**	**True (ppbV)**	**Found (ppbV)**	**%R**	**RPD**	**Recovery Limits**	**RPD Limit**
1,1,2,2-Tetrachloroethane	10	12.0	120				-	70-130	-
o-Xylene	10	10.7	107				-	70-130	-
4-Ethyltoluene	10	10.7	107				-	70-130	-
1,3,5-Trimethylbenzene	10	10.4	104				-	70-130	-
1,2,4-Trimethylbenzene	10	10.6	106				-	70-130	-
Benzyl chloride	10	10.9	109				-	70-130	-
1,3-Dichlorobenzene	10	11.6	116				-	70-130	-
1,4-Dichlorobenzene	10	11.3	113				-	70-130	-
1,2-Dichlorobenzene	10	11.3	113				-	70-130	-
1,2,4-Trichlorobenzene	10	12.5	125				-	70-130	-
Hexachlorobutadiene	10	10.6	106				-	70-130	-

Method Blank Summary
Form 4
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab Sample ID	: WG1353556-4	**Lab File ID**	: r193194
Instrument ID	: AIRLAB19		
Matrix	: AIR	**Analysis Date**	: 03/20/20 15:55

Client Sample No.	Lab Sample ID	Analysis Date
WG1353556-3LCS	WG1353556-3	03/20/20 12:51
25P-IAS-20200312DUP	WG1353556-5	03/20/20 19:17
SS001	L2011723-01	03/21/20 01:52
SV001	L2011723-02D	03/21/20 02:28
SV002	L2011723-03D	03/21/20 03:04
SV003	L2011723-04D	03/21/20 03:40

Method Blank Summary
Form 4
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab Sample ID	: WG1353541-4	**Lab File ID**	: r38757
Instrument ID	: AIRPIANO3		
Matrix	: AIR	**Analysis Date**	: 03/20/20 16:20

Client Sample No.	Lab Sample ID	Analysis Date
WG1353541-3LCS	WG1353541-3	03/20/20 13:32
OA001	L2011723-05	03/20/20 17:35
IA001	L2011723-06	03/20/20 18:16
IA001DUP	WG1353541-5	03/20/20 19:03

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Instrument ID	: AIRLAB19	**Analysis Date**	: 02/25/20 00:05
Tune Standard	: WG1344146-1	**Tune File ID**	: r192618_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	11.8
75	30.0 - 66.0% of mass 95	33
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.4 (.5)1
174	50.0 - 120.0% of mass 95	78
175	4.0 - 9.0% of mass 174	5.4 (7)1
176	93.0 - 101% of mass 174	77.4 (99.3)1
177	5.0 - 9.0% of mass 176	5 (6.5)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
STD0.2	R1287788-1	R192622	02/25/20 02:44
STD0.5	R1287788-2	R192623	02/25/20 03:24
STD1.0	R1287788-3	R192624	02/25/20 04:06
STD5.0	R1287788-4	R192625	02/25/20 04:46
STD010	R1287788-5	R192626	02/25/20 05:28
STD020	R1287788-6	R192627	02/25/20 06:07
STD050	R1287788-7	R192628	02/25/20 06:46
STD100	R1287788-8	R192629	02/25/20 07:28
ICV QUANT	R1287788-9	R192632	02/25/20 10:32

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Instrument ID	: AIRLAB19	**Analysis Date**	: 03/20/20 11:27
Tune Standard	: WG1353556-1	**Tune File ID**	: r193189_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	10
75	30.0 - 66.0% of mass 95	30.2
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.3 (.4)1
174	50.0 - 120.0% of mass 95	78.1
175	4.0 - 9.0% of mass 174	5.4 (6.9)1
176	93.0 - 101% of mass 174	77.8 (99.7)1
177	5.0 - 9.0% of mass 176	5.2 (6.6)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
WG1353556-2CCAL	WG1353556-2	R193190	03/20/20 12:08
WG1353556-3LCS	WG1353556-3	R193191	03/20/20 12:51
WG1353556-4BLANK	WG1353556-4	R193194	03/20/20 15:55
WG1353556-5DUP	WG1353556-5	R193198	03/20/20 19:17
SS001	L2011723-01	R193208	03/21/20 01:52
SV001	L2011723-02D	R193209	03/21/20 02:28
SV002	L2011723-03D	R193210	03/21/20 03:04
SV003	L2011723-04D	R193211	03/21/20 03:40

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Instrument ID	: AIRPIANO3	**Analysis Date**	: 03/12/20 09:50
Tune Standard	: WG1350408-1	**Tune File ID**	: r38588_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	14.5
75	30.0 - 66.0% of mass 95	39.3
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.8 (1.1)1
174	50.0 - 120.0% of mass 95	75.2
175	4.0 - 9.0% of mass 174	5.6 (7.4)1
176	93.0 - 101% of mass 174	71.7 (95.4)1
177	5.0 - 9.0% of mass 176	4.9 (6.8)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
STD0.2	R1293583-1	R38592	03/12/20 12:25
STD0.5	R1293583-2	R38593	03/12/20 13:03
STD1.0	R1293583-3	R38594	03/12/20 13:44
STD5.0	R1293583-4	R38595	03/12/20 14:23
STD010	R1293583-5	R38596	03/12/20 15:04
STD020	R1293583-6	R38597	03/12/20 15:41
STD050	R1293583-7	R38598	03/12/20 16:20
STD100	R1293583-8	R38599	03/12/20 17:00
ICV Quant	R1293583-9	R38602	03/13/20 00:06

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Instrument ID	: AIRPIANO3	**Analysis Date**	: 03/20/20 12:51
Tune Standard	: WG1353541-1	**Tune File ID**	: r38753_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	13.2
75	30.0 - 66.0% of mass 95	36.4
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.6 (.9)1
174	50.0 - 120.0% of mass 95	71.1
175	4.0 - 9.0% of mass 174	5 (7.1)1
176	93.0 - 101% of mass 174	67.3 (94.6)1
177	5.0 - 9.0% of mass 176	4.5 (6.7)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
WG1353541-2CCAL	WG1353541-2	R38754	03/20/20 13:32
WG1353541-3LCS	WG1353541-3	R38754	03/20/20 13:32
WG1353541-4BLANK	WG1353541-4	R38757	03/20/20 16:20
OA001	L2011723-05	R38758	03/20/20 17:35
IA001	L2011723-06	R38759	03/20/20 18:16
WG1353541-5DUP	WG1353541-5	R38760	03/20/20 19:03

Internal Standard Area and RT Summary
Form 8a
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Instrument ID	: AIRLAB19	**Analysis Date**	: 03/20/20 12:08
Sample No	: WG1353556-2	**Lab File ID**	: R193190

	Bromochloromethane		1,4-Difluorobenzene		Chlorobenzene-d5	
	Area	RT	Area	RT	Area	RT
WG1353556-2	288364	8.78	940727	10.75	108860	14.88
Upper Limit	403710	9.11	1317018	11.08	152404	15.21
Lower Limit	173018	8.45	564436	10.42	65316	14.55
Sample ID						
WG1353556-3 LCS	291035	8.78	946102	10.75	108034	14.88
WG1353556-4 BLANK	293906	8.78	909254	10.76	110058	14.88
25P-IAS-20200312 DUP	350711	8.79	1038160	10.75	131953	14.88
SS001	351122	8.78	1066245	10.74	134903	14.88
SV001	320561	8.78	1004362	10.74	120197	14.88
SV002	296033	8.78	913325	10.75	112218	14.88
SV003	324356	8.78	995276	10.74	122231	14.88

Area Upper Limit = +40% of internal standard area
Area Lower Limit = - 40% of internal standard area

RT Upper Limit = +0.33 minutes of internal standard RT
RT Lower Limit = -0.33 minutes of internal standard RT

* Values outside of QC limits

Internal Standard Area and RT Summary
Form 8a
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Instrument ID	: AIRPIANO3	**Analysis Date**	: 03/20/20 13:32
Sample No	: WG1353541-2	**Lab File ID**	: R38754

	Bromochloromethane		1,4-Difluorobenzene		Chlorobenzene-d5	
	Area	RT	Area	RT	Area	RT
WG1353541-2	353543	9.58	970632	11.85	139948	16.57
Upper Limit	494960	9.91	1358885	12.18	195927	16.90
Lower Limit	212126	9.25	582379	11.52	83969	16.24
Sample ID						
WG1353541-3 LCS	353543	9.58	970632	11.85	139948	16.57
WG1353541-4 BLANK	347721	9.58	944639	11.85	123905	16.53
OA001	344464	9.58	937731	11.85	131212	16.57
IA001	357016	9.58	960052	11.85	137219	16.58
IA001 DUP	387385	9.58	1015739	11.85	143702	16.57

Area Upper Limit = +40% of internal standard area
Area Lower Limit = - 40% of internal standard area

RT Upper Limit = +0.33 minutes of internal standard RT
RT Lower Limit = -0.33 minutes of internal standard RT

* Values outside of QC limits

Date Created: 11/22/19
Created By: Jason Hebert
File: PM7756-1
Page: 1

Volatile Organics in Air: TO-15 (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
1,1,1-Trichloroethane	71-55-6	0.2	0.0501	ppbV	70-130			25	25			
1,1,2,2-Tetrachloroethane	79-34-5	0.2	0.0614	ppbV	70-130			25	25			
1,1,2-Trichloroethane	79-00-5	0.2	0.067	ppbV	70-130			25	25			
1,1-Dichloroethane	75-34-3	0.2	0.0628	ppbV	70-130			25	25			
1,1-Dichloroethene	75-35-4	0.2	0.0643	ppbV	70-130			25	25			
1,2,3-Trimethylbenzene	526-73-8	0.2	0.0576	ppbV	70-130			25	25			
1,2,4-Trichlorobenzene	120-82-1	0.2	0.0674	ppbV	70-130			25	25			
1,2,4-Trimethylbenzene	95-63-6	0.2	0.0368	ppbV	70-130			25	25			
1,2,4,5-Tetramethylbenzene	95-93-2	0.2	0.0604	ppbV	70-130			25	25			
1,2-Dibromoethane	106-93-4	0.2	0.0561	ppbV	70-130			25	25			
1,2-Dichlorobenzene	95-50-1	0.2	0.0628	ppbV	70-130			25	25			
1,2-Dichloroethane	107-06-2	0.2	0.0602	ppbV	70-130			25	25			
1,2-Dichloropropane	78-87-5	0.2	0.061	ppbV	70-130			25	25			
1,3,5-Trimethylbenzene	108-67-8	0.2	0.0675	ppbV	70-130			25	25			
1,3-Butadiene	106-99-0	0.2	0.067	ppbV	70-130			25	25			
1,3-Dichlorobenzene	541-73-1	0.2	0.0627	ppbV	70-130			25	25			
1,4-Dichlorobenzene	106-46-7	0.2	0.0636	ppbV	70-130			25	25			
1,4-Dioxane	123-91-1	0.2	0.0805	ppbV	70-130			25	25			
2,2,4-Trimethylpentane	540-84-1	0.2	0.0361	ppbV	70-130			25	25			
2-Butanone	78-93-3	0.5	0.0482	ppbV	70-130			25	25			
2-Hexanone	591-78-6	0.2	0.0648	ppbV	70-130			25	25			
2-Methylthiophene	554-14-3	0.2	0.0524	ppbV	70-130			25	25			
3-Methylthiophene	616-44-4	0.2	0.0393	ppbV	70-130			25	25			
3-Chloropropene	107-05-1	0.2	0.0585	ppbV	70-130			25	25			
2-Ethylthiophene	872-55-9	0.2	0.0407	ppbV	70-130			25	25			
4-Ethyltoluene	622-96-8	0.2	0.037	ppbV	70-130			25	25			
Acetone	67-64-1	1	0.689	ppbV	40-160			25	25			
Benzene	71-43-2	0.2	0.0487	ppbV	70-130			25	25			
Benzyl chloride	100-44-7	0.2	0.0482	ppbV	70-130			25	25			
Benzothiophene	95-15-8	0.5	0.077	ppbV	70-130			25	25			
Bromodichloromethane	75-27-4	0.2	0.0504	ppbV	70-130			25	25			
Bromoform	75-25-2	0.2	0.0641	ppbV	70-130			25	25			
Bromomethane	74-83-9	0.2	0.0773	ppbV	70-130			25	25			
Carbon disulfide	75-15-0	0.2	0.0559	ppbV	70-130			25	25			
Carbon tetrachloride	56-23-5	0.2	0.0499	ppbV	70-130			25	25			
Chlorobenzene	108-90-7	0.2	0.0624	ppbV	70-130			25	25			
Chloroethane	75-00-3	0.2	0.0805	ppbV	70-130			25	25			
Chloroform	67-66-3	0.2	0.0633	ppbV	70-130			25	25			
Chloromethane	74-87-3	0.2	0.0689	ppbV	70-130			25	25			
cis-1,2-Dichloroethene	156-59-2	0.2	0.117	ppbV	70-130			25	25			
cis-1,3-Dichloropropene	10061-01-5	0.2	0.0409	ppbV	70-130			25	25			
Cyclohexane	110-82-7	0.2	0.0368	ppbV	70-130			25	25			

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. ***(Soil/Solids only)***
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

Volatile Organics in Air: TO-15 (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
Dibromochloromethane	124-48-1	0.2	0.0614	ppbV	70-130			25	25			
Dichlorodifluoromethane	75-71-8	0.2	0.0583	ppbV	70-130			25	25			
Ethyl Alcohol	64-17-5	5	0.733	ppbV	40-160			25	25			
Ethyl Acetate	141-78-6	0.5	0.122	ppbV	70-130			25	25			
Ethylbenzene	100-41-4	0.2	0.0432	ppbV	70-130			25	25			
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	0.2	0.0656	ppbV	70-130			25	25			
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	0.2	0.0591	ppbV	70-130			25	25			
Hexachlorobutadiene	87-68-3	0.2	0.0529	ppbV	70-130			25	25			
iso-Propyl Alcohol	67-63-0	0.5	0.478	ppbV	40-160			25	25			
Methylene chloride	75-09-2	0.5	0.134	ppbV	70-130			25	25			
4-Methyl-2-pentanone	108-10-1	0.5	0.0421	ppbV	70-130			25	25			
Methyl tert butyl ether	1634-04-4	0.2	0.0525	ppbV	70-130			25	25			
Methyl Methacrylate	80-62-6	0.5	0.0697	ppbV	40-160			25	25			
p/m-Xylene	179601-23-1	0.4	0.091	ppbV	70-130			25	25			
o-Xylene	95-47-6	0.2	0.0453	ppbV	70-130			25	25			
Xylene (Total)	1330-20-7	0.2	0.0453	ppbV				25	25			
Heptane	142-82-5	0.2	0.047	ppbV	70-130			25	25			
n-Heptane	142-82-5	0.2	0.047	ppbV	70-130			25	25			
n-Hexane	110-54-3	0.2	0.0364	ppbV	70-130			25	25			
Propylene	115-07-1	0.5	0.0599	ppbV	70-130			25	25			
Styrene	100-42-5	0.2	0.0434	ppbV	70-130			25	25			
Tetrachloroethene	127-18-4	0.2	0.0655	ppbV	70-130			25	25			
Thiophene	110-02-1	0.2	0.0389	ppbV	70-130			25	25			
Tetrahydrofuran	109-99-9	0.5	0.0568	ppbV	70-130			25	25			
Toluene	108-88-3	0.2	0.052	ppbV	70-130			25	25			
trans-1,2-Dichloroethene	156-60-5	0.2	0.0643	ppbV	70-130			25	25			
1,2-Dichloroethene (total)	540-59-0	0.2	0.0643	ppbV				25	25			
trans-1,3-Dichloropropene	10061-02-6	0.2	0.0436	ppbV	70-130			25	25			
1,3-Dichloropropene, Total	542-75-6	0.2	0.0409	ppbV				25	25			
Trichloroethene	79-01-6	0.2	0.0505	ppbV	70-130			25	25			
Trichlorofluoromethane	75-69-4	0.2	0.0686	ppbV	70-130			25	25			
Vinyl acetate	108-05-4	1	0.0479	ppbV	70-130			25	25			
Vinyl bromide	593-60-2	0.2	0.0717	ppbV	70-130			25	25			
Vinyl chloride	75-01-4	0.2	0.0627	ppbV	70-130			25	25			
Naphthalene	91-20-3	0.2	0.0885	ppbV	70-130			25	25			
Total HC As Hexane	NONE	10	0.0364	ppbV	70-130			25	25			
Total VOCs As Toluene	NONE	10	0.052	ppbV	70-130			25	25			
Propane	74-98-6	0.5	0.132	ppbV	70-130			25	25			
Acrylonitrile	107-13-1	0.5	0.0555	ppbV	70-130			25	25			
Acrolein	107-02-8	0.5	0.0596	ppbV	70-130			25	25			
1,1,1,2-Tetrachloroethane	630-20-6	0.2	0.0561	ppbV	70-130			25	25			
Isopropylbenzene	98-82-8	0.2	0.0491	ppbV	70-130			25	25			

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. ***(Soil/Solids only)***
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

Volatile Organics in Air: TO-15 (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
1,2,3-Trichloropropane	96-18-4	0.2	0.061	ppbV	70-130			25	25			
Acetonitrile	75-05-8	0.2	0.082	ppbV	70-130			25	25			
Bromobenzene	108-86-1	0.2	0.0613	ppbV	70-130			25	25			
Chlorodifluoromethane	75-45-6	0.2	0.0584	ppbV	70-130			25	25			
Dichlorofluoromethane	75-43-4	0.2	0.0807	ppbV	70-130			25	25			
Dibromomethane	74-95-3	0.2	0.0563	ppbV	70-130			25	25			
Pentane	109-66-0	0.2	0.0659	ppbV	70-130			25	25			
Octane	111-65-9	0.2	0.0445	ppbV	70-130			25	25			
Tertiary-Amyl Methyl Ether	994-05-8	0.2	0.0476	ppbV	70-130			25	25			
o-Chlorotoluene	95-49-8	0.2	0.0486	ppbV	70-130			25	25			
p-Chlorotoluene	106-43-4	0.2	0.056	ppbV	70-130			25	25			
2,2-Dichloropropane	594-20-7	0.2	0.0458	ppbV	70-130			25	25			
1,1-Dichloropropene	563-58-6	0.2	0.0457	ppbV	70-130			25	25			
Isopropyl Ether	108-20-3	0.2	0.0621	ppbV	70-130			25	25			
Ethyl-Tert-Butyl-Ether	637-92-3	0.2	0.0422	ppbV	70-130			25	25			
1,2,3-Trichlorobenzene	87-61-6	0.2	0.0715	ppbV	70-130			25	25			
Ethyl ether	60-29-7	0.2	0.0737	ppbV	70-130			25	25			
n-Butylbenzene	104-51-8	0.2	0.044	ppbV	70-130			25	25			
sec-Butylbenzene	135-98-8	0.2	0.0429	ppbV	70-130			25	25			
tert-Butylbenzene	98-06-6	0.2	0.042	ppbV	70-130			25	25			
1,2-Dibromo-3-chloropropane	96-12-8	0.2	0.0495	ppbV	70-130			25	25			
p-Isopropyltoluene	99-87-6	0.2	0.052	ppbV	70-130			25	25			
n-Propylbenzene	103-65-1	0.2	0.0419	ppbV	70-130			25	25			
1,3-Dichloropropane	142-28-9	0.2	0.106	ppbV	70-130			25	25			
Methanol	67-56-1	5	1.84	ppbV	70-130			25	25			
Acetaldehyde	75-07-0	2.5	0.444	ppbV	70-130			25	25			
Butane	106-97-8	0.2	0.0646	ppbV	70-130			25	25			
Nonane (C9)	111-84-2	0.2	0.0463	ppbV	70-130			25	25			
Decane (C10)	124-18-5	0.2	0.0404	ppbV	70-130			25	25			
Undecane	1120-21-4	0.2	0.0427	ppbV	70-130			25	25			
Indane	496-11-7	0.2	0.0507	ppbV	70-130			25	25			
Indene	95-13-6	0.2	0.0433	ppbV	70-130			25	25			
1-Methylnaphthalene	90-12-0	1	0.466	ppbV	70-130			25	25			
Dodecane (C12)	112-40-3	0.2	0.0658	ppbV	70-130			25	25			
Butyl Acetate	123-86-4	0.5	0.126	ppbV	70-130			25	25			
tert-Butyl Alcohol	75-65-0	0.5	0.0466	ppbV	70-130			25	25			
2-Methylnaphthalene	91-57-6	1	0.393	ppbV	70-130			25	25			
1,2-Dichloroethane-d4	*17060-07-0*									*70-130*		
Toluene-d8	*2037-26-5*									*70-130*		
Bromofluorobenzene	*460-00-4*									*70-130*		

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. ***(Soil/Solids only)***
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

Volatiles Sample Data

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-01	Date Collected	: 03/13/20 16:25
Client ID	: SS001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 01:52
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193208	Instrument ID	: AIRLAB19
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	0.409	0.200	--	2.02	0.989	--	
74-87-3	Chloromethane	0.259	0.200	--	0.535	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
75-01-4	Vinyl chloride	ND	0.200	--	ND	0.511	--	U
106-99-0	1,3-Butadiene	0.830	0.200	--	1.84	0.442	--	
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	10.8	5.00	--	20.3	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	39.9	1.00	--	94.8	2.38	--	
75-69-4	Trichlorofluoromethane	0.208	0.200	--	1.17	1.12	--	
67-63-0	Isopropanol	1.64	0.500	--	4.03	1.23	--	
75-35-4	1,1-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-65-0	Tertiary butyl Alcohol	2.04	0.500	--	6.18	1.52	--	
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	1.44	0.200	--	4.48	0.623	--	
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	5.11	0.500	--	15.1	1.47	--	
156-59-2	cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	69.2	0.200	--	338	0.977	--	
109-99-9	Tetrahydrofuran	3.06	0.500	--	9.02	1.47	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-01	Date Collected	: 03/13/20 16:25
Client ID	: SS001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 01:52
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193208	Instrument ID	: AIRLAB19
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	32.4	0.200	--	114	0.705	--	
71-55-6	1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	U
71-43-2	Benzene	3.34	0.200	--	10.7	0.639	--	
56-23-5	Carbon tetrachloride	ND	0.200	--	ND	1.26	--	U
110-82-7	Cyclohexane	14.5	0.200	--	49.9	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	5.24	0.200	--	35.1	1.34	--	
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
79-01-6	Trichloroethene	ND	0.200	--	ND	1.07	--	U
540-84-1	2,2,4-Trimethylpentane	5.24	0.200	--	24.5	0.934	--	
142-82-5	Heptane	5.29	0.200	--	21.7	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	0.590	0.500	--	2.42	2.05	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	18.7	0.200	--	70.5	0.754	--	
591-78-6	2-Hexanone	2.89	0.200	--	11.8	0.820	--	
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
127-18-4	Tetrachloroethene	45.3	0.200	--	307	1.36	--	
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	3.82	0.200	--	16.6	0.869	--	
179601-23-1	p/m-Xylene	10.2	0.400	--	44.3	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	0.203	0.200	--	0.864	0.852	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: L2011723-01	**Date Collected**	: 03/13/20 16:25
Client ID	: SS001	**Date Received**	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	**Date Analyzed**	: 03/21/20 01:52
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: EW
Lab File ID	: R193208	**Instrument ID**	: AIRLAB19
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	4.43	0.200	--	19.2	0.869	--	
622-96-8	4-Ethyltoluene	0.737	0.200	--	3.62	0.983	--	
108-67-8	1,3,5-Trimethylbenzene	0.770	0.200	--	3.79	0.983	--	
95-63-6	1,2,4-Trimethylbenzene	2.23	0.200	--	11.0	0.983	--	
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-02D	Date Collected	: 03/13/20 16:26
Client ID	: SV001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 02:28
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 3.333
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193209	Instrument ID	: AIRLAB19
Sample Amount	: 75.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	0.667	--	ND	3.30	--	U
74-87-3	Chloromethane	ND	0.667	--	ND	1.38	--	U
76-14-2	Freon-114	ND	0.667	--	ND	4.66	--	U
75-01-4	Vinyl chloride	ND	0.667	--	ND	1.71	--	U
106-99-0	1,3-Butadiene	ND	0.667	--	ND	1.48	--	U
74-83-9	Bromomethane	ND	0.667	--	ND	2.59	--	U
75-00-3	Chloroethane	ND	0.667	--	ND	1.76	--	U
64-17-5	Ethanol	ND	16.7	--	ND	31.5	--	U
593-60-2	Vinyl bromide	ND	0.667	--	ND	2.92	--	U
67-64-1	Acetone	793	3.33	--	1880	7.91	--	
75-69-4	Trichlorofluoromethane	ND	0.667	--	ND	3.75	--	U
67-63-0	Isopropanol	13.4	1.67	--	32.9	4.10	--	
75-35-4	1,1-Dichloroethene	ND	0.667	--	ND	2.64	--	U
75-65-0	Tertiary butyl Alcohol	8.96	1.67	--	27.2	5.06	--	
75-09-2	Methylene chloride	ND	1.67	--	ND	5.80	--	U
107-05-1	3-Chloropropene	ND	0.667	--	ND	2.09	--	U
75-15-0	Carbon disulfide	0.820	0.667	--	2.55	2.08	--	
76-13-1	Freon-113	ND	0.667	--	ND	5.11	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.667	--	ND	2.64	--	U
75-34-3	1,1-Dichloroethane	ND	0.667	--	ND	2.70	--	U
1634-04-4	Methyl tert butyl ether	ND	0.667	--	ND	2.40	--	U
78-93-3	2-Butanone	47.1	1.67	--	139	4.93	--	
156-59-2	cis-1,2-Dichloroethene	ND	0.667	--	ND	2.64	--	U
141-78-6	Ethyl Acetate	ND	1.67	--	ND	6.02	--	U
67-66-3	Chloroform	ND	0.667	--	ND	3.26	--	U
109-99-9	Tetrahydrofuran	7.82	1.67	--	23.1	4.93	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-02D	Date Collected	: 03/13/20 16:26
Client ID	: SV001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 02:28
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 3.333
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193209	Instrument ID	: AIRLAB19
Sample Amount	: 75.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.667	--	ND	2.70	--	U
110-54-3	n-Hexane	3.20	0.667	--	11.3	2.35	--	
71-55-6	1,1,1-Trichloroethane	ND	0.667	--	ND	3.64	--	U
71-43-2	Benzene	1.26	0.667	--	4.03	2.13	--	
56-23-5	Carbon tetrachloride	ND	0.667	--	ND	4.20	--	U
110-82-7	Cyclohexane	1.71	0.667	--	5.89	2.30	--	
78-87-5	1,2-Dichloropropane	ND	0.667	--	ND	3.08	--	U
75-27-4	Bromodichloromethane	ND	0.667	--	ND	4.47	--	U
123-91-1	1,4-Dioxane	ND	0.667	--	ND	2.40	--	U
79-01-6	Trichloroethene	ND	0.667	--	ND	3.58	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.667	--	ND	3.12	--	U
142-82-5	Heptane	11.0	0.667	--	45.1	2.73	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.667	--	ND	3.03	--	U
108-10-1	4-Methyl-2-pentanone	2.26	1.67	--	9.26	6.84	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.667	--	ND	3.03	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.667	--	ND	3.64	--	U
108-88-3	Toluene	13.6	0.667	--	51.3	2.51	--	
591-78-6	2-Hexanone	8.08	0.667	--	33.1	2.73	--	
124-48-1	Dibromochloromethane	ND	0.667	--	ND	5.68	--	U
106-93-4	1,2-Dibromoethane	ND	0.667	--	ND	5.13	--	U
127-18-4	Tetrachloroethene	11.6	0.667	--	78.7	4.52	--	
108-90-7	Chlorobenzene	ND	0.667	--	ND	3.07	--	U
100-41-4	Ethylbenzene	1.66	0.667	--	7.21	2.90	--	
179601-23-1	p/m-Xylene	6.72	1.33	--	29.2	5.78	--	
75-25-2	Bromoform	ND	0.667	--	ND	6.90	--	U
100-42-5	Styrene	ND	0.667	--	ND	2.84	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: L2011723-02D	**Date Collected**	: 03/13/20 16:26
Client ID	: SV001	**Date Received**	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	**Date Analyzed**	: 03/21/20 02:28
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 3.333
Analytical Method	: 48,TO-15	**Analyst**	: EW
Lab File ID	: R193209	**Instrument ID**	: AIRLAB19
Sample Amount	: 75.0 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.667	--	ND	4.58	--	U
95-47-6	o-Xylene	2.44	0.667	--	10.6	2.90	--	
622-96-8	4-Ethyltoluene	ND	0.667	--	ND	3.28	--	U
108-67-8	1,3,5-Trimethylbenzene	0.783	0.667	--	3.85	3.28	--	
95-63-6	1,2,4-Trimethylbenzene	2.97	0.667	--	14.6	3.28	--	
100-44-7	Benzyl chloride	ND	0.667	--	ND	3.45	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.667	--	ND	4.01	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.667	--	ND	4.01	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.667	--	ND	4.01	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.667	--	ND	4.95	--	U
87-68-3	Hexachlorobutadiene	ND	0.667	--	ND	7.11	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-03D	Date Collected	: 03/13/20 16:27
Client ID	: SV002	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 03:04
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 6.25
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193210	Instrument ID	: AIRLAB19
Sample Amount	: 40.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	1.25	--	ND	6.18	--	U
74-87-3	Chloromethane	ND	1.25	--	ND	2.58	--	U
76-14-2	Freon-114	ND	1.25	--	ND	8.74	--	U
75-01-4	Vinyl chloride	ND	1.25	--	ND	3.20	--	U
106-99-0	1,3-Butadiene	ND	1.25	--	ND	2.77	--	U
74-83-9	Bromomethane	ND	1.25	--	ND	4.85	--	U
75-00-3	Chloroethane	ND	1.25	--	ND	3.30	--	U
64-17-5	Ethanol	ND	31.2	--	ND	58.8	--	U
593-60-2	Vinyl bromide	ND	1.25	--	ND	5.47	--	U
67-64-1	Acetone	428	6.25	--	1020	14.8	--	
75-69-4	Trichlorofluoromethane	ND	1.25	--	ND	7.02	--	U
67-63-0	Isopropanol	6.52	3.12	--	16.0	7.67	--	
75-35-4	1,1-Dichloroethene	ND	1.25	--	ND	4.96	--	U
75-65-0	Tertiary butyl Alcohol	4.80	3.12	--	14.6	9.46	--	
75-09-2	Methylene chloride	ND	3.12	--	ND	10.8	--	U
107-05-1	3-Chloropropene	ND	1.25	--	ND	3.91	--	U
75-15-0	Carbon disulfide	ND	1.25	--	ND	3.89	--	U
76-13-1	Freon-113	ND	1.25	--	ND	9.58	--	U
156-60-5	trans-1,2-Dichloroethene	ND	1.25	--	ND	4.96	--	U
75-34-3	1,1-Dichloroethane	ND	1.25	--	ND	5.06	--	U
1634-04-4	Methyl tert butyl ether	ND	1.25	--	ND	4.51	--	U
78-93-3	2-Butanone	28.0	3.12	--	82.6	9.20	--	
156-59-2	cis-1,2-Dichloroethene	60.0	1.25	--	238	4.96	--	
141-78-6	Ethyl Acetate	ND	3.12	--	ND	11.2	--	U
67-66-3	Chloroform	10.4	1.25	--	50.8	6.10	--	
109-99-9	Tetrahydrofuran	4.63	3.12	--	13.7	9.20	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-03D	Date Collected	: 03/13/20 16:27
Client ID	: SV002	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 03:04
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 6.25
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193210	Instrument ID	: AIRLAB19
Sample Amount	: 40.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	1.25	--	ND	5.06	--	U
110-54-3	n-Hexane	ND	1.25	--	ND	4.41	--	U
71-55-6	1,1,1-Trichloroethane	ND	1.25	--	ND	6.82	--	U
71-43-2	Benzene	ND	1.25	--	ND	3.99	--	U
56-23-5	Carbon tetrachloride	ND	1.25	--	ND	7.86	--	U
110-82-7	Cyclohexane	ND	1.25	--	ND	4.30	--	U
78-87-5	1,2-Dichloropropane	ND	1.25	--	ND	5.78	--	U
75-27-4	Bromodichloromethane	ND	1.25	--	ND	8.37	--	U
123-91-1	1,4-Dioxane	ND	1.25	--	ND	4.50	--	U
79-01-6	Trichloroethene	13.5	1.25	--	72.6	6.72	--	
540-84-1	2,2,4-Trimethylpentane	ND	1.25	--	ND	5.84	--	U
142-82-5	Heptane	2.52	1.25	--	10.3	5.12	--	
10061-01-5	cis-1,3-Dichloropropene	ND	1.25	--	ND	5.67	--	U
108-10-1	4-Methyl-2-pentanone	ND	3.12	--	ND	12.8	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	1.25	--	ND	5.67	--	U
79-00-5	1,1,2-Trichloroethane	ND	1.25	--	ND	6.82	--	U
108-88-3	Toluene	9.82	1.25	--	37.0	4.71	--	
591-78-6	2-Hexanone	8.93	1.25	--	36.6	5.12	--	
124-48-1	Dibromochloromethane	ND	1.25	--	ND	10.6	--	U
106-93-4	1,2-Dibromoethane	ND	1.25	--	ND	9.61	--	U
127-18-4	Tetrachloroethene	320	1.25	--	2170	8.48	--	
108-90-7	Chlorobenzene	ND	1.25	--	ND	5.76	--	U
100-41-4	Ethylbenzene	2.88	1.25	--	12.5	5.43	--	
179601-23-1	p/m-Xylene	9.51	2.50	--	41.3	10.9	--	
75-25-2	Bromoform	ND	1.25	--	ND	12.9	--	U
100-42-5	Styrene	ND	1.25	--	ND	5.32	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: L2011723-03D	**Date Collected**	: 03/13/20 16:27
Client ID	: SV002	**Date Received**	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	**Date Analyzed**	: 03/21/20 03:04
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 6.25
Analytical Method	: 48,TO-15	**Analyst**	: EW
Lab File ID	: R193210	**Instrument ID**	: AIRLAB19
Sample Amount	: 40.0 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.25	--	ND	8.58	--	U
95-47-6	o-Xylene	3.24	1.25	--	14.1	5.43	--	
622-96-8	4-Ethyltoluene	ND	1.25	--	ND	6.15	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	1.25	--	ND	6.15	--	U
95-63-6	1,2,4-Trimethylbenzene	1.81	1.25	--	8.90	6.15	--	
100-44-7	Benzyl chloride	ND	1.25	--	ND	6.47	--	U
541-73-1	1,3-Dichlorobenzene	ND	1.25	--	ND	7.52	--	U
106-46-7	1,4-Dichlorobenzene	ND	1.25	--	ND	7.52	--	U
95-50-1	1,2-Dichlorobenzene	ND	1.25	--	ND	7.52	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	1.25	--	ND	9.28	--	U
87-68-3	Hexachlorobutadiene	ND	1.25	--	ND	13.3	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-04D	Date Collected	: 03/13/20 16:28
Client ID	: SV003	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 03:40
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 2.5
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193211	Instrument ID	: AIRLAB19
Sample Amount	: 100 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	0.500	--	ND	2.47	--	U
74-87-3	Chloromethane	ND	0.500	--	ND	1.03	--	U
76-14-2	Freon-114	ND	0.500	--	ND	3.49	--	U
75-01-4	Vinyl chloride	ND	0.500	--	ND	1.28	--	U
106-99-0	1,3-Butadiene	4.51	0.500	--	9.98	1.11	--	
74-83-9	Bromomethane	ND	0.500	--	ND	1.94	--	U
75-00-3	Chloroethane	ND	0.500	--	ND	1.32	--	U
64-17-5	Ethanol	15.3	12.5	--	28.8	23.6	--	
593-60-2	Vinyl bromide	ND	0.500	--	ND	2.19	--	U
67-64-1	Acetone	745	2.50	--	1770	5.94	--	
75-69-4	Trichlorofluoromethane	ND	0.500	--	ND	2.81	--	U
67-63-0	Isopropanol	9.00	1.25	--	22.1	3.07	--	
75-35-4	1,1-Dichloroethene	ND	0.500	--	ND	1.98	--	U
75-65-0	Tertiary butyl Alcohol	8.52	1.25	--	25.8	3.79	--	
75-09-2	Methylene chloride	ND	1.25	--	ND	4.34	--	U
107-05-1	3-Chloropropene	ND	0.500	--	ND	1.57	--	U
75-15-0	Carbon disulfide	ND	0.500	--	ND	1.56	--	U
76-13-1	Freon-113	ND	0.500	--	ND	3.83	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--	U
75-34-3	1,1-Dichloroethane	ND	0.500	--	ND	2.02	--	U
1634-04-4	Methyl tert butyl ether	ND	0.500	--	ND	1.80	--	U
78-93-3	2-Butanone	63.6	1.25	--	188	3.69	--	
156-59-2	cis-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--	U
141-78-6	Ethyl Acetate	ND	1.25	--	ND	4.50	--	U
67-66-3	Chloroform	0.512	0.500	--	2.50	2.44	--	
109-99-9	Tetrahydrofuran	7.13	1.25	--	21.0	3.69	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-04D	Date Collected	: 03/13/20 16:28
Client ID	: SV003	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 03:40
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 2.5
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193211	Instrument ID	: AIRLAB19
Sample Amount	: 100 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.500	--	ND	2.02	--	U
110-54-3	n-Hexane	1.49	0.500	--	5.25	1.76	--	
71-55-6	1,1,1-Trichloroethane	ND	0.500	--	ND	2.73	--	U
71-43-2	Benzene	1.06	0.500	--	3.39	1.60	--	
56-23-5	Carbon tetrachloride	ND	0.500	--	ND	3.15	--	U
110-82-7	Cyclohexane	ND	0.500	--	ND	1.72	--	U
78-87-5	1,2-Dichloropropane	ND	0.500	--	ND	2.31	--	U
75-27-4	Bromodichloromethane	ND	0.500	--	ND	3.35	--	U
123-91-1	1,4-Dioxane	ND	0.500	--	ND	1.80	--	U
79-01-6	Trichloroethene	ND	0.500	--	ND	2.69	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.500	--	ND	2.34	--	U
142-82-5	Heptane	2.36	0.500	--	9.67	2.05	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.500	--	ND	2.27	--	U
108-10-1	4-Methyl-2-pentanone	ND	1.25	--	ND	5.12	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.500	--	ND	2.27	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.500	--	ND	2.73	--	U
108-88-3	Toluene	6.96	0.500	--	26.2	1.88	--	
591-78-6	2-Hexanone	14.3	0.500	--	58.6	2.05	--	
124-48-1	Dibromochloromethane	ND	0.500	--	ND	4.26	--	U
106-93-4	1,2-Dibromoethane	ND	0.500	--	ND	3.84	--	U
127-18-4	Tetrachloroethene	34.0	0.500	--	231	3.39	--	
108-90-7	Chlorobenzene	ND	0.500	--	ND	2.30	--	U
100-41-4	Ethylbenzene	0.905	0.500	--	3.93	2.17	--	
179601-23-1	p/m-Xylene	2.78	1.00	--	12.1	4.34	--	
75-25-2	Bromoform	ND	0.500	--	ND	5.17	--	U
100-42-5	Styrene	ND	0.500	--	ND	2.13	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: L2011723-04D	**Date Collected**	: 03/13/20 16:28
Client ID	: SV003	**Date Received**	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	**Date Analyzed**	: 03/21/20 03:40
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 2.5
Analytical Method	: 48,TO-15	**Analyst**	: EW
Lab File ID	: R193211	**Instrument ID**	: AIRLAB19
Sample Amount	: 100 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.500	--	ND	3.43	--	U
95-47-6	o-Xylene	0.900	0.500	--	3.91	2.17	--	
622-96-8	4-Ethyltoluene	ND	0.500	--	ND	2.46	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.500	--	ND	2.46	--	U
95-63-6	1,2,4-Trimethylbenzene	0.768	0.500	--	3.78	2.46	--	
100-44-7	Benzyl chloride	ND	0.500	--	ND	2.59	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.500	--	ND	3.01	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.500	--	ND	3.01	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.500	--	ND	3.01	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.500	--	ND	3.71	--	U
87-68-3	Hexachlorobutadiene	ND	0.500	--	ND	5.33	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-05	Date Collected	: 03/13/20 16:29
Client ID	: OA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 17:35
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38758	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	0.467	0.200	--	2.31	0.989	--	
74-87-3	Chloromethane	0.648	0.200	--	1.34	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	16.5	5.00	--	31.1	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	5.09	1.00	--	12.1	2.38	--	
75-69-4	Trichlorofluoromethane	0.238	0.200	--	1.34	1.12	--	
67-63-0	Isopropanol	3.28	0.500	--	8.06	1.23	--	
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	ND	0.500	--	ND	1.47	--	U
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	2.89	0.200	--	10.2	0.705	--	
71-43-2	Benzene	0.421	0.200	--	1.34	0.639	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-05	Date Collected	: 03/13/20 16:29
Client ID	: OA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 17:35
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38758	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
110-82-7	Cyclohexane	1.24	0.200	--	4.27	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
540-84-1	2,2,4-Trimethylpentane	0.368	0.200	--	1.72	0.934	--	
142-82-5	Heptane	0.619	0.200	--	2.54	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	2.16	0.200	--	8.14	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	0.269	0.200	--	1.17	0.869	--	
179601-23-1	p/m-Xylene	0.974	0.400	--	4.23	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	0.345	0.200	--	1.50	0.869	--	
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	0.249	0.200	--	1.22	0.983	--	
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: L2011723-05	**Date Collected**	: 03/13/20 16:29
Client ID	: OA001	**Date Received**	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	**Date Analyzed**	: 03/20/20 17:35
Sample Matrix	: AIR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: EW
Lab File ID	: R38758	**Instrument ID**	: AIRPIANO3
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-06	Date Collected	: 03/13/20 16:30
Client ID	: IA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 18:16
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38759	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	0.469	0.200	--	2.32	0.989	--	
74-87-3	Chloromethane	0.808	0.200	--	1.67	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
106-99-0	1,3-Butadiene	1.48	0.200	--	3.27	0.442	--	
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	121	5.00	--	228	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	15.8	1.00	--	37.5	2.38	--	
75-69-4	Trichlorofluoromethane	0.237	0.200	--	1.33	1.12	--	
67-63-0	Isopropanol	17.3	0.500	--	42.5	1.23	--	
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	1.12	0.500	--	3.30	1.47	--	
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	57.7	0.200	--	203	0.705	--	
71-43-2	Benzene	6.72	0.200	--	21.5	0.639	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-06	Date Collected	: 03/13/20 16:30
Client ID	: IA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 18:16
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38759	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
110-82-7	Cyclohexane	24.8	0.200	--	85.4	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
540-84-1	2,2,4-Trimethylpentane	5.34	0.200	--	24.9	0.934	--	
142-82-5	Heptane	7.98	0.200	--	32.7	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	0.686	0.500	--	2.81	2.05	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	26.1	0.200	--	98.4	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	4.35	0.200	--	18.9	0.869	--	
179601-23-1	p/m-Xylene	15.7	0.400	--	68.2	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	0.315	0.200	--	1.34	0.852	--	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	6.09	0.200	--	26.5	0.869	--	
622-96-8	4-Ethyltoluene	1.06	0.200	--	5.21	0.983	--	
108-67-8	1,3,5-Trimethylbenzene	1.40	0.200	--	6.88	0.983	--	
95-63-6	1,2,4-Trimethylbenzene	5.34	0.200	--	26.3	0.983	--	
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: L2011723-06	**Date Collected**	: 03/13/20 16:30
Client ID	: IA001	**Date Received**	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	**Date Analyzed**	: 03/20/20 18:16
Sample Matrix	: AIR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: EW
Lab File ID	: R38759	**Instrument ID**	: AIRPIANO3
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: WG1353541-4	Date Collected	: NA
Client ID	: WG1353541-4BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 03/20/20 16:20
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38757	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--	U
74-87-3	Chloromethane	ND	0.200	--	ND	0.413	--	U
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
75-01-4	Vinyl chloride	ND	0.200	--	ND	0.511	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	ND	5.00	--	ND	9.42	--	U
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	ND	1.00	--	ND	2.38	--	U
75-69-4	Trichlorofluoromethane	ND	0.200	--	ND	1.12	--	U
67-63-0	Isopropanol	ND	0.500	--	ND	1.23	--	U
75-35-4	1,1-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	ND	0.500	--	ND	1.47	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: WG1353541-4	Date Collected	: NA
Client ID	: WG1353541-4BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 03/20/20 16:20
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38757	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	ND	0.200	--	ND	0.705	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	U
71-43-2	Benzene	ND	0.200	--	ND	0.639	--	U
56-23-5	Carbon tetrachloride	ND	0.200	--	ND	1.26	--	U
110-82-7	Cyclohexane	ND	0.200	--	ND	0.688	--	U
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
79-01-6	Trichloroethene	ND	0.200	--	ND	1.07	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--	U
142-82-5	Heptane	ND	0.200	--	ND	0.820	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	ND	0.200	--	ND	0.754	--	U
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
127-18-4	Tetrachloroethene	ND	0.200	--	ND	1.36	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	ND	0.200	--	ND	0.869	--	U
179601-23-1	p/m-Xylene	ND	0.400	--	ND	1.74	--	U
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: WG1353541-4	**Date Collected**	: NA
Client ID	: WG1353541-4BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 03/20/20 16:20
Sample Matrix	: AIR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: EW
Lab File ID	: R38757	**Instrument ID**	: AIRPIANO3
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	ND	0.200	--	ND	0.869	--	U
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: WG1353541-5	Date Collected	: 03/13/20 16:30
Client ID	: IA001DUP	Date Received	: 03/16/20
Sample Location	:	Date Analyzed	: 03/20/20 19:03
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38760	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	0.440	0.200	--	2.18	0.989	--	
74-87-3	Chloromethane	0.813	0.200	--	1.68	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
106-99-0	1,3-Butadiene	1.43	0.200	--	3.16	0.442	--	
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	112	5.00	--	211	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	14.6	1.00	--	34.7	2.38	--	
75-69-4	Trichlorofluoromethane	0.207	0.200	--	1.16	1.12	--	
67-63-0	Isopropanol	15.6	0.500	--	38.3	1.23	--	
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	1.10	0.500	--	3.24	1.47	--	
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	55.6	0.200	--	196	0.705	--	
71-43-2	Benzene	6.68	0.200	--	21.3	0.639	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: WG1353541-5	Date Collected	: 03/13/20 16:30
Client ID	: IA001DUP	Date Received	: 03/16/20
Sample Location	:	Date Analyzed	: 03/20/20 19:03
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38760	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
110-82-7	Cyclohexane	23.9	0.200	--	82.3	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
540-84-1	2,2,4-Trimethylpentane	5.14	0.200	--	24.0	0.934	--	
142-82-5	Heptane	7.70	0.200	--	31.6	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	0.666	0.500	--	2.73	2.05	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	25.0	0.200	--	94.2	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	4.18	0.200	--	18.2	0.869	--	
179601-23-1	p/m-Xylene	14.8	0.400	--	64.3	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	0.314	0.200	--	1.34	0.852	--	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	5.80	0.200	--	25.2	0.869	--	
622-96-8	4-Ethyltoluene	0.984	0.200	--	4.84	0.983	--	
108-67-8	1,3,5-Trimethylbenzene	1.35	0.200	--	6.64	0.983	--	
95-63-6	1,2,4-Trimethylbenzene	5.21	0.200	--	25.6	0.983	--	
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: WG1353541-5	**Date Collected**	: 03/13/20 16:30
Client ID	: IA001DUP	**Date Received**	: 03/16/20
Sample Location	:	**Date Analyzed**	: 03/20/20 19:03
Sample Matrix	: AIR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: EW
Lab File ID	: R38760	**Instrument ID**	: AIRPIANO3
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: WG1353556-4	Date Collected	: NA
Client ID	: WG1353556-4BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 03/20/20 15:55
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193194	Instrument ID	: AIRLAB19
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--	U
74-87-3	Chloromethane	ND	0.200	--	ND	0.413	--	U
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
75-01-4	Vinyl chloride	ND	0.200	--	ND	0.511	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	ND	5.00	--	ND	9.42	--	U
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	ND	1.00	--	ND	2.38	--	U
75-69-4	Trichlorofluoromethane	ND	0.200	--	ND	1.12	--	U
67-63-0	Isopropanol	ND	0.500	--	ND	1.23	--	U
75-35-4	1,1-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	ND	0.500	--	ND	1.47	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: WG1353556-4	Date Collected	: NA
Client ID	: WG1353556-4BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 03/20/20 15:55
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193194	Instrument ID	: AIRLAB19
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	ND	0.200	--	ND	0.705	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	U
71-43-2	Benzene	ND	0.200	--	ND	0.639	--	U
56-23-5	Carbon tetrachloride	ND	0.200	--	ND	1.26	--	U
110-82-7	Cyclohexane	ND	0.200	--	ND	0.688	--	U
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
79-01-6	Trichloroethene	ND	0.200	--	ND	1.07	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--	U
142-82-5	Heptane	ND	0.200	--	ND	0.820	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	ND	0.200	--	ND	0.754	--	U
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
127-18-4	Tetrachloroethene	ND	0.200	--	ND	1.36	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	ND	0.200	--	ND	0.869	--	U
179601-23-1	p/m-Xylene	ND	0.400	--	ND	1.74	--	U
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: WG1353556-4	Date Collected	: NA
Client ID	: WG1353556-4BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 03/20/20 15:55
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193194	Instrument ID	: AIRLAB19
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	ND	0.200	--	ND	0.869	--	U
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38758.D
Acq On : 20 Mar 2020 5:35 PM
Operator : AIRPIANO3:EW
Sample : L2011723-05,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 18:10:57 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : TO15-NY-7-SIM - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.583	49	344464	10.000	ppbV	0.03
Standard Area = 353543			Recovery =	97.43%		
43) 1,4-difluorobenzene	11.847	114	937731	10.000	ppbV	0.03
Standard Area = 970632			Recovery =	96.61%		
67) chlorobenzene-D5	16.567	54	131212	10.000	ppbV	0.02
Standard Area = 139948			Recovery =	93.76%		
System Monitoring Compounds						
Target Compounds						Qvalue
5) dichlorodifluoromethane	4.006	85	14529	0.467	ppbV	100
6) chloromethane	4.186	50	9270	0.648	ppbV	95
7) Freon-114	4.312		0	N.D.		
10) 1,3-butadiene	4.612		0	N.D.		
13) bromomethane	0.000		0	N.D.		
14) chloroethane	0.000		0	N.D.		
15) ethanol	5.326	31	221303	16.493	ppbV #	82
17) vinyl bromide	0.000		0	N.D.		
19) acetone	5.897	43	113709M6	5.089	ppbV	
21) trichlorofluoromethane	6.097	101	5785	0.238	ppbV	100
22) isopropyl alcohol	6.227	45	93823	3.284	ppbV #	96
27) tertiary butyl alcohol	6.972	59	2070	0.060	ppbV #	47
28) methylene chloride	7.038	49	2895	0.135	ppbV	97
29) 3-chloropropene	0.000		0	N.D.	d	
30) carbon disulfide	0.000		0	N.D.	d	
31) Freon 113	7.362	101	2252	0.068	ppbV	90
32) trans-1,2-dichloroethene	0.000		0	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.		
34) MTBE	0.000		0	N.D.	d	
36) 2-butanone	8.900	43	15499	0.366	ppbV	95
38) Ethyl Acetate	9.708	61	3340	0.472	ppbV	86
39) chloroform	0.000		0	N.D.	d	
40) Tetrahydrofuran	10.225	42	1743	0.066	ppbV #	89
42) 1,2-dichloroethane	10.592		0	N.D.		
44) hexane	9.658	57	100486	2.889	ppbV #	49
50) benzene	11.413	78	28608	0.421	ppbV	99
53) cyclohexane	11.727	56	46645	1.238	ppbV	93

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38758.D
Acq On : 20 Mar 2020 5:35 PM
Operator : AIRPIANO3:EW
Sample : L2011723-05,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 18:10:57 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : TO15-NY-7-SIM - .

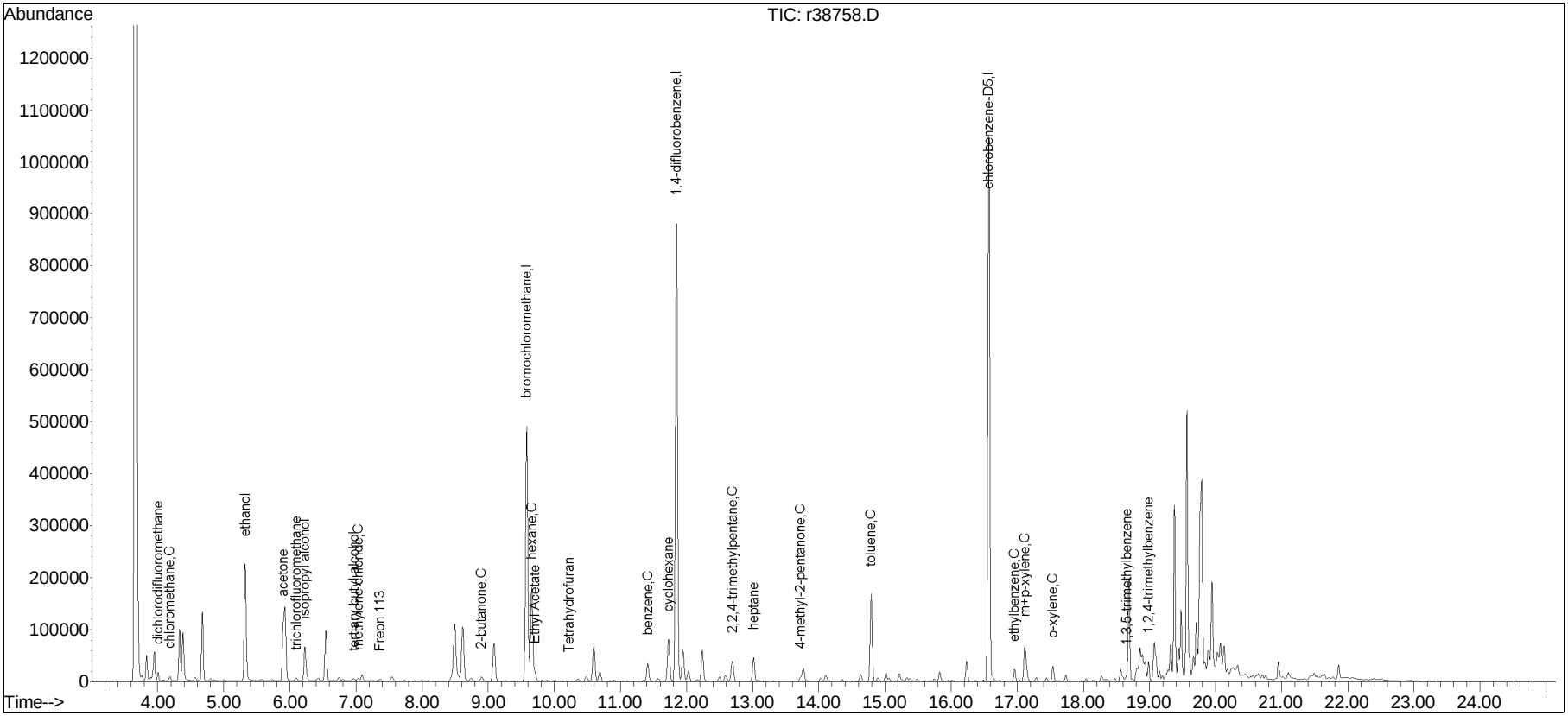
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) 1,2-dichloropropane	0.000		0	N.D.		
57) bromodichloromethane	0.000		0	N.D.	d	
58) 1,4-dioxane	0.000		0	N.D.		
60) 2,2,4-trimethylpentane	12.693	57	40782	0.368	ppbV #	86
62) heptane	13.013	43	26930	0.619	ppbV	93
63) cis-1,3-dichloropropene	0.000		0	N.D.		
64) 4-methyl-2-pentanone	13.725	43	5307	0.108	ppbV	91
65) trans-1,3-dichloropropene	0.000		0	N.D.		
66) 1,1,2-trichloroethane	0.000		0	N.D.		
68) toluene	14.792	91	143719	2.158	ppbV	100
72) 2-hexanone	0.000		0	N.D.	d	
74) dibromochloromethane	0.000		0	N.D.		
75) 1,2-dibromoethane	0.000		0	N.D.		
80) chlorobenzene	0.000		0	N.D.	d	
81) ethylbenzene	16.958	91	21330	0.269	ppbV	92
83) m+p-xylene	17.117	91	63247	0.974	ppbV	88
84) bromoform	0.000		0	N.D.		
85) styrene	17.442		0	N.D.		
86) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	d	
87) o-xylene	17.542	91	21924	0.345	ppbV	89
96) 4-ethyl toluene	18.592		0	N.D.		
97) 1,3,5-trimethylbenzene	18.658	105	5480	0.066	ppbV #	96
99) 1,2,4-trimethylbenzene	18.983	105	19325	0.249	ppbV #	58
101) Benzyl Chloride	0.000		0	N.D.	d	
102) 1,3-dichlorobenzene	0.000		0	N.D.	d	
103) 1,4-dichlorobenzene	19.175		0	N.D.		
107) 1,2-dichlorobenzene	0.000		0	N.D.		
115) 1,2,4-trichlorobenzene	0.000		0	N.D.	d	
119) hexachlorobutadiene	0.000		0	N.D.		

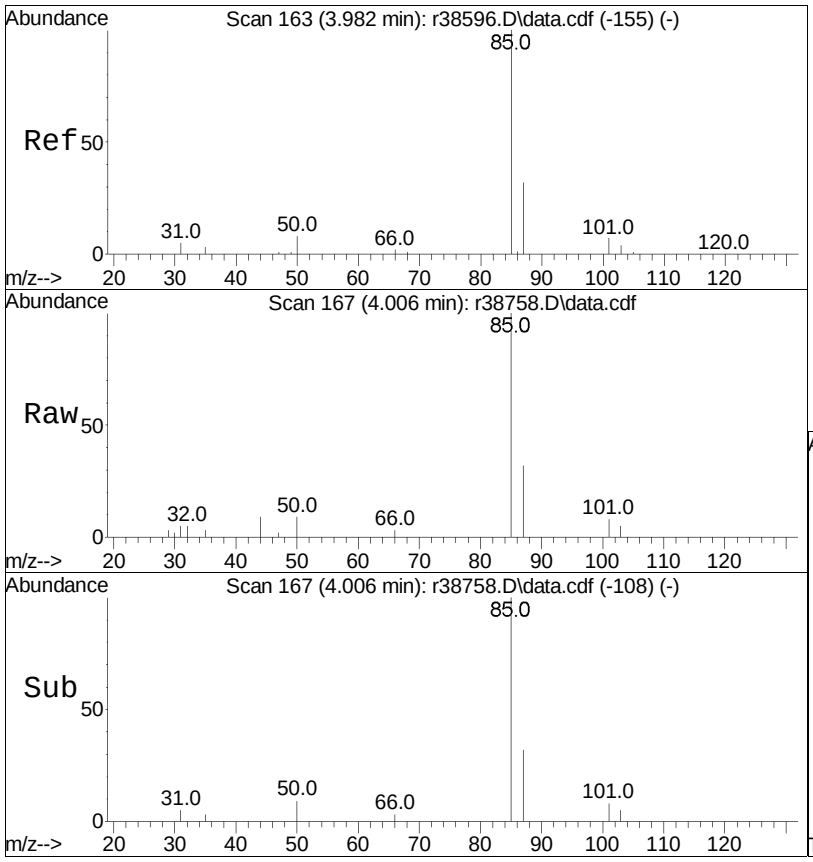
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : TO15-NY-7-SIM - .\Airpiano3\2020\03\200320T\r38754.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38758.D
Acq On : 20 Mar 2020 5:35 PM
Operator : AIRPIANO3:EW
Sample : L2011723-05,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 18:10:57 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

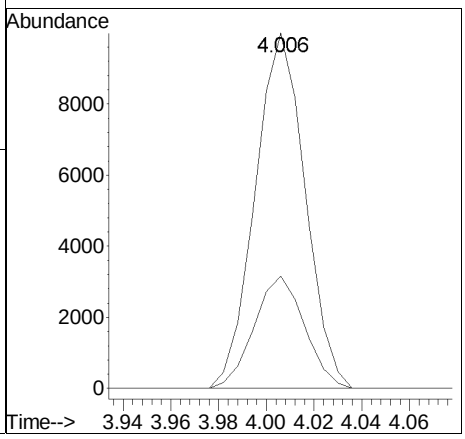


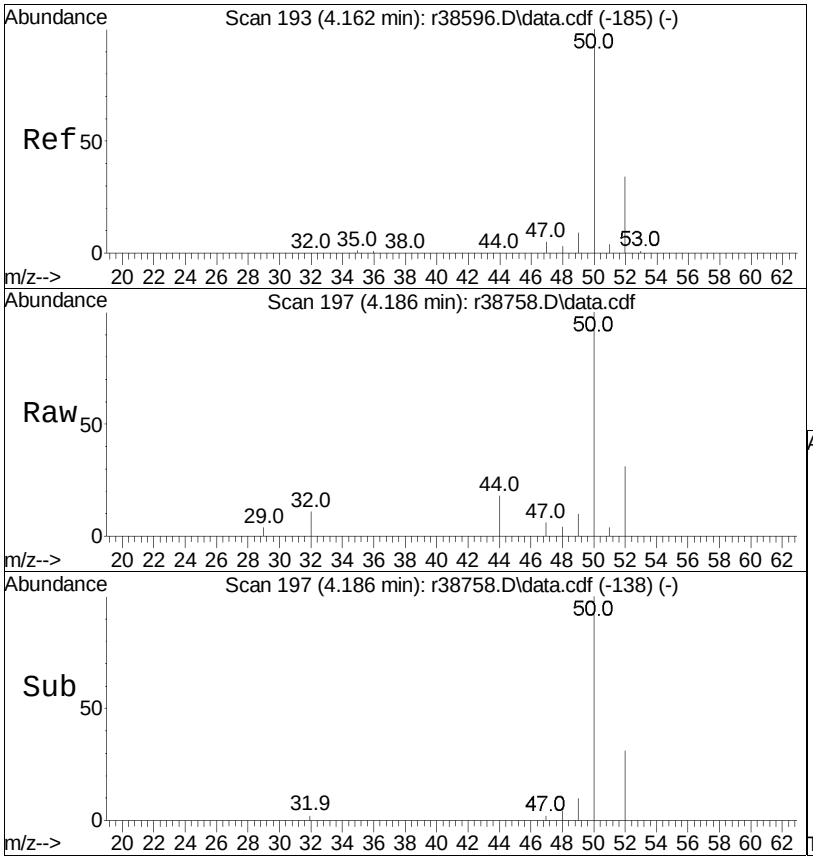


#5
dichlorodifluoromethane
Concen: 0.47 ppbV
RT: 4.006 min Scan# 167
Delta R.T. 0.024 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 85 Resp: 14529

Ion	Ratio	Lower	Upper
85	100		
87	31.6	25.4	38.0

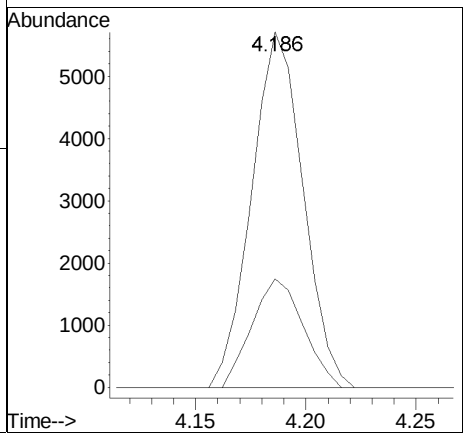


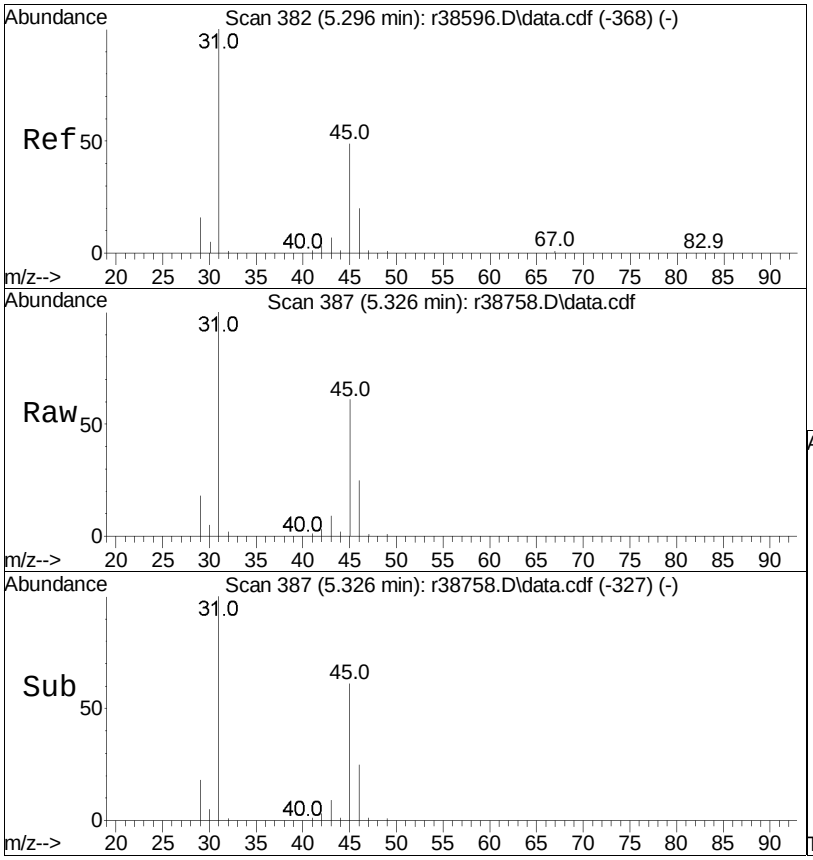


#6
chloromethane
Concen: 0.65 ppbV
RT: 4.186 min Scan# 197
Delta R.T. 0.024 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 50 Resp: 9270

Ion	Ratio	Lower	Upper
50	100		
52	30.6	26.9	40.3

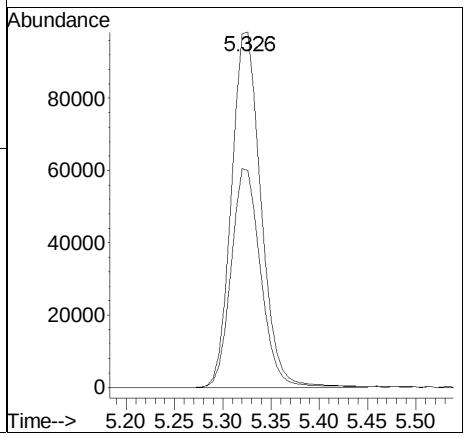


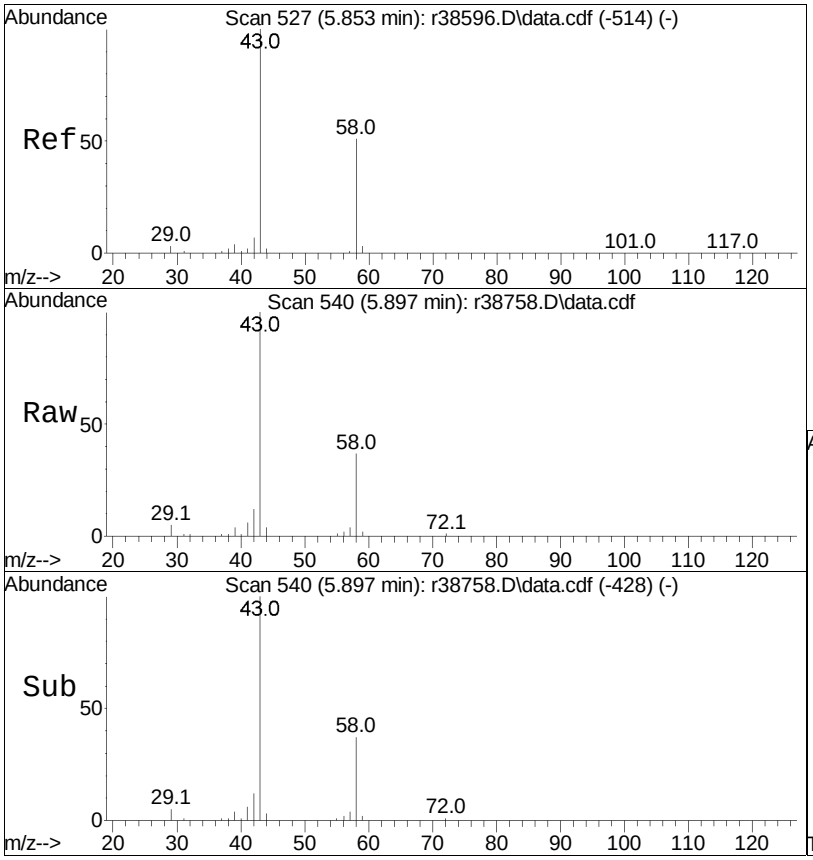


#15
ethanol
Concen: 16.49 ppbV
RT: 5.326 min Scan# 387
Delta R.T. 0.030 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 31 Resp: 221303

Ion	Ratio	Lower	Upper
31	100		
45	61.1	39.0	58.4#

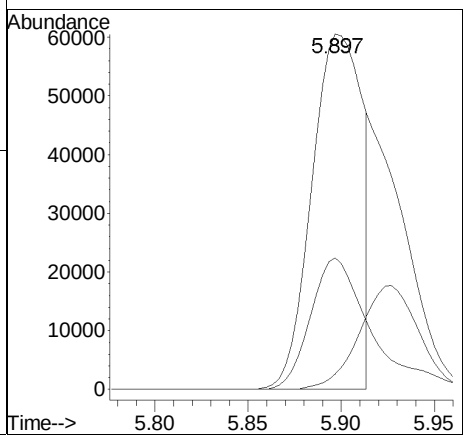


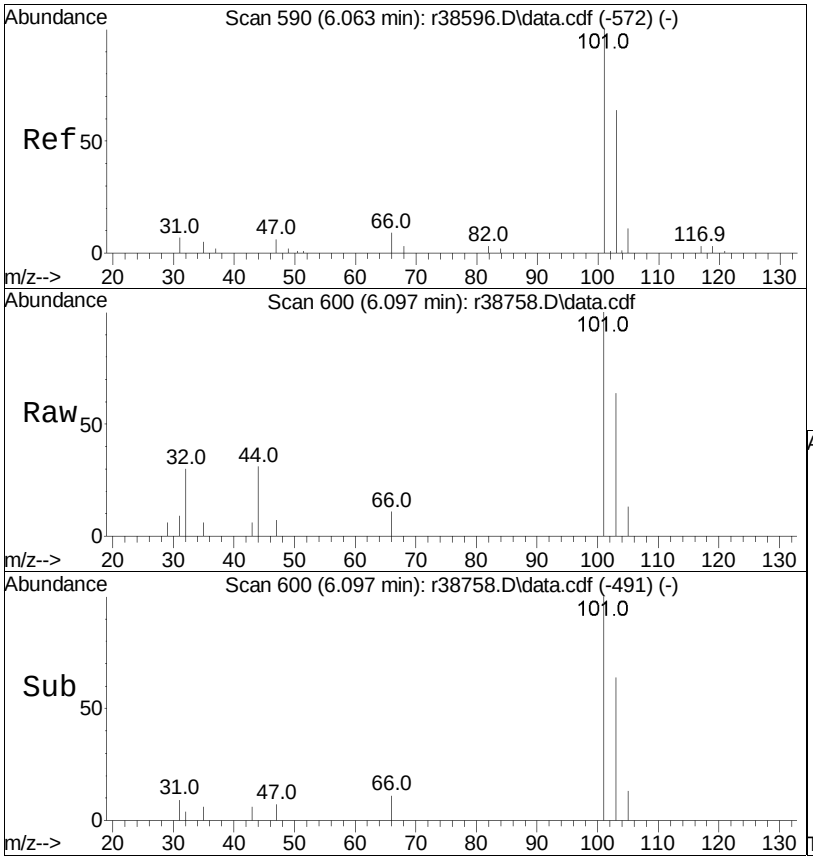


#19
acetone
Concen: 5.09 ppbV m
RT: 5.897 min Scan# 540
Delta R.T. 0.043 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 43 Resp: 113709

Ion	Ratio	Lower	Upper
43	100		
58	37.0	40.6	60.8#
57	4.3	1.0	1.6#

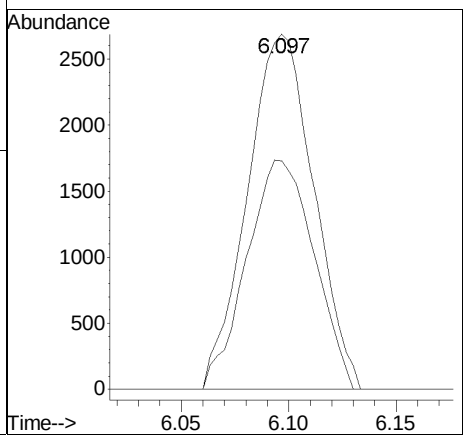


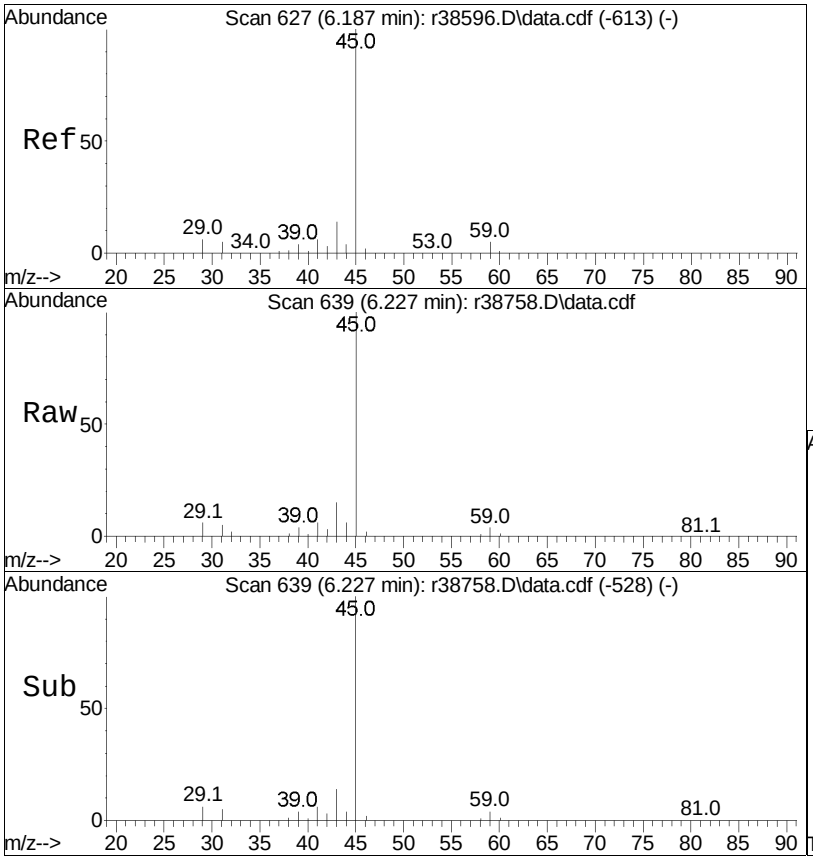


#21
trichlorofluoromethane
Concen: 0.24 ppbV
RT: 6.097 min Scan# 600
Delta R.T. 0.033 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion:101 Resp: 5785

Ion	Ratio	Lower	Upper
101	100		
103	64.3	51.4	77.0

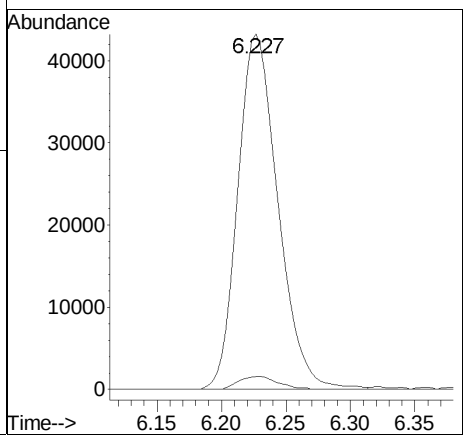


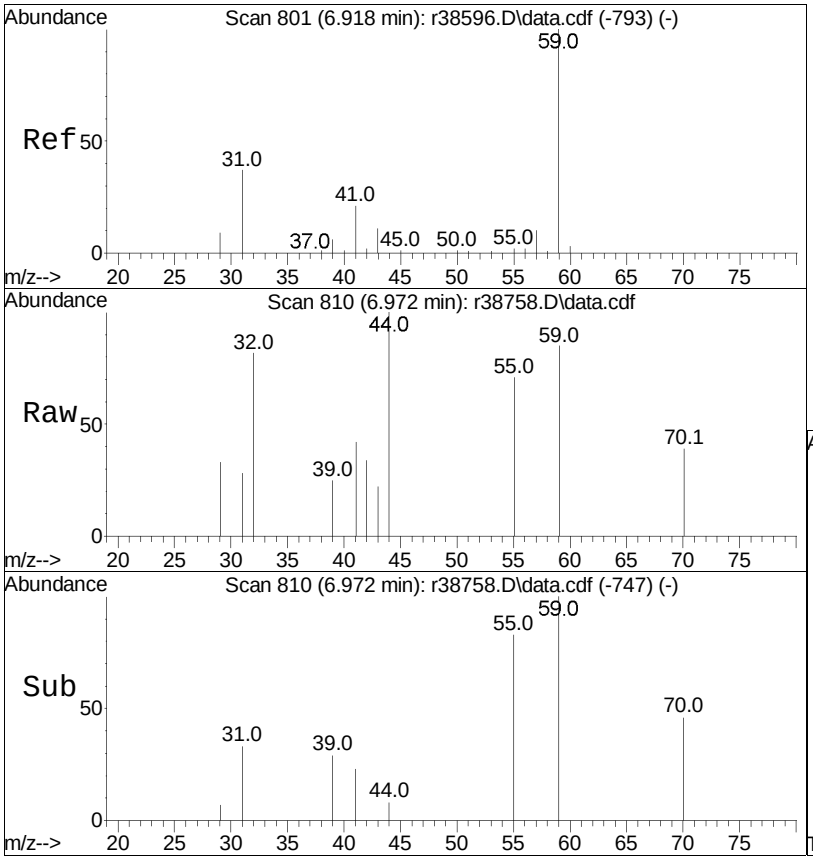


#22
isopropyl alcohol
Concen: 3.28 ppbV
RT: 6.227 min Scan# 639
Delta R.T. 0.040 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 45 Resp: 93823

Ion	Ratio	Lower	Upper
45	100		
59	3.6	3.9	5.9#

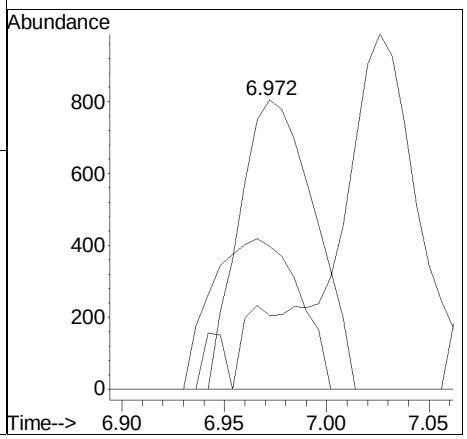


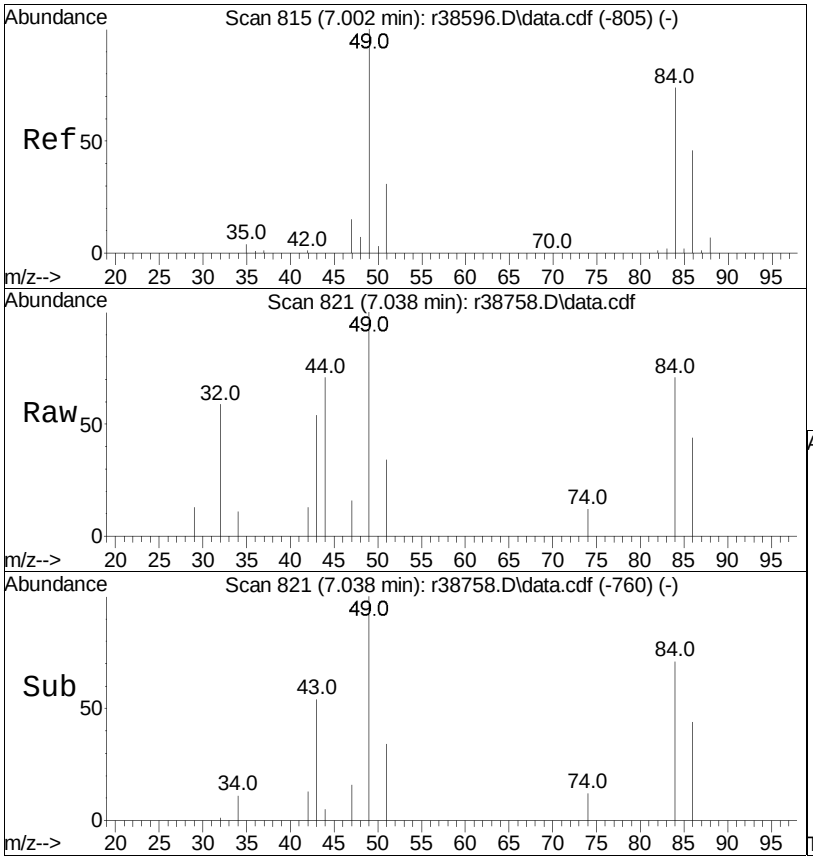


#27
tertiary butyl alcohol
Concen: 0.06 ppbV
RT: 6.972 min Scan# 810
Delta R.T. 0.054 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 59 Resp: 2070

Ion	Ratio	Lower	Upper
59	100		
41	49.4	16.9	25.3#
43	25.6	8.9	13.3#

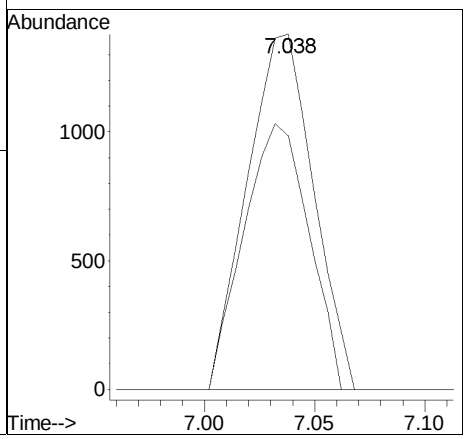


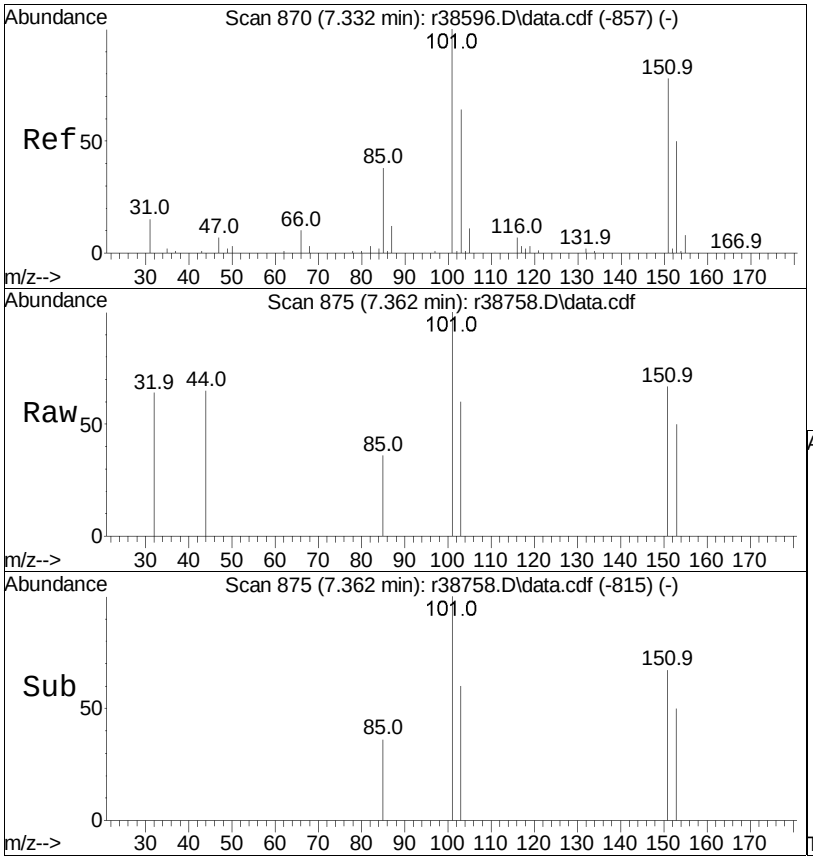


#28
methylene chloride
Concen: 0.13 ppbV
RT: 7.038 min Scan# 821
Delta R.T. 0.036 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 49 Resp: 2895

Ion	Ratio	Lower	Upper
49	100		
84	71.4	59.3	88.9

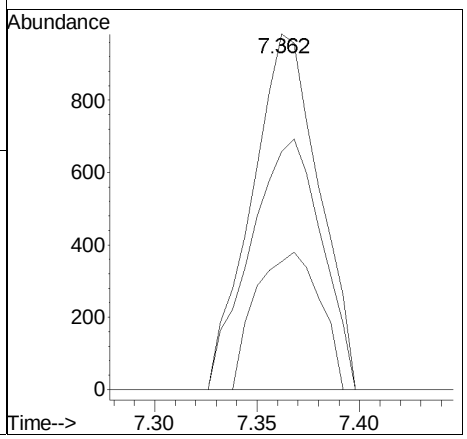


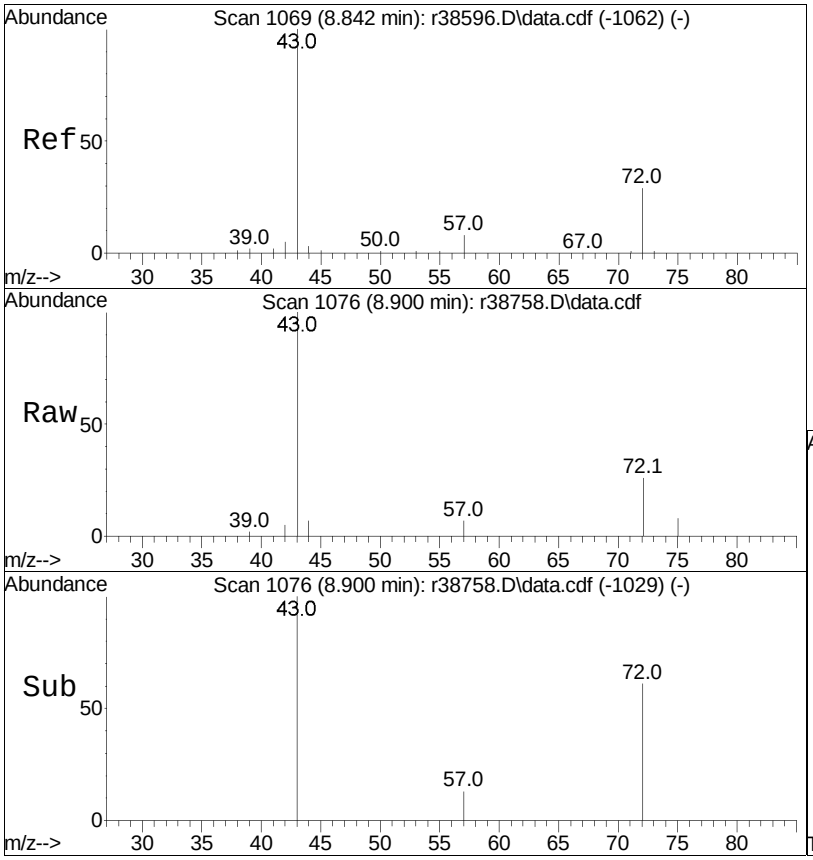


#31
Freon 113
Concen: 0.07 ppbV
RT: 7.362 min Scan# 875
Delta R.T. 0.030 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion:101 Resp: 2252

Ion	Ratio	Lower	Upper
101	100		
85	36.0	30.6	45.8
151	67.0	62.4	93.6

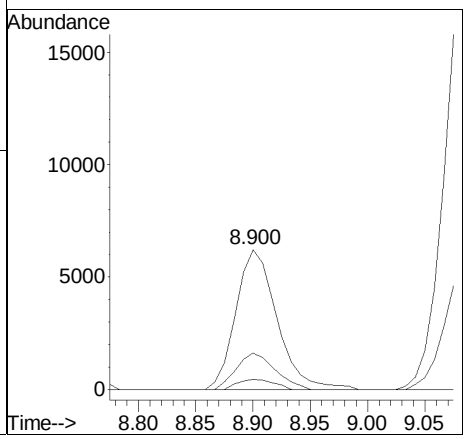


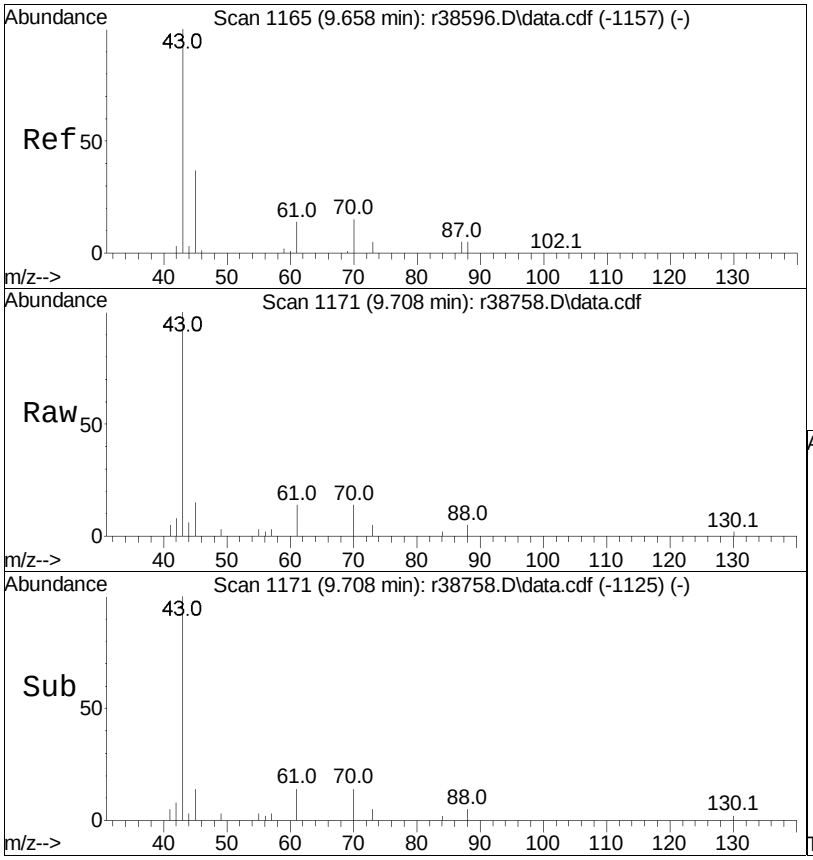


#36
2-butanone
Concen: 0.37 ppbV
RT: 8.900 min Scan# 1076
Delta R.T. 0.058 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 43 Resp: 15499

Ion	Ratio	Lower	Upper
43	100		
72	26.1	23.1	34.7
57	7.3	6.3	9.5

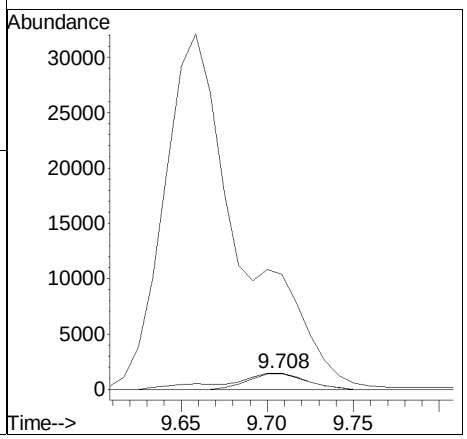


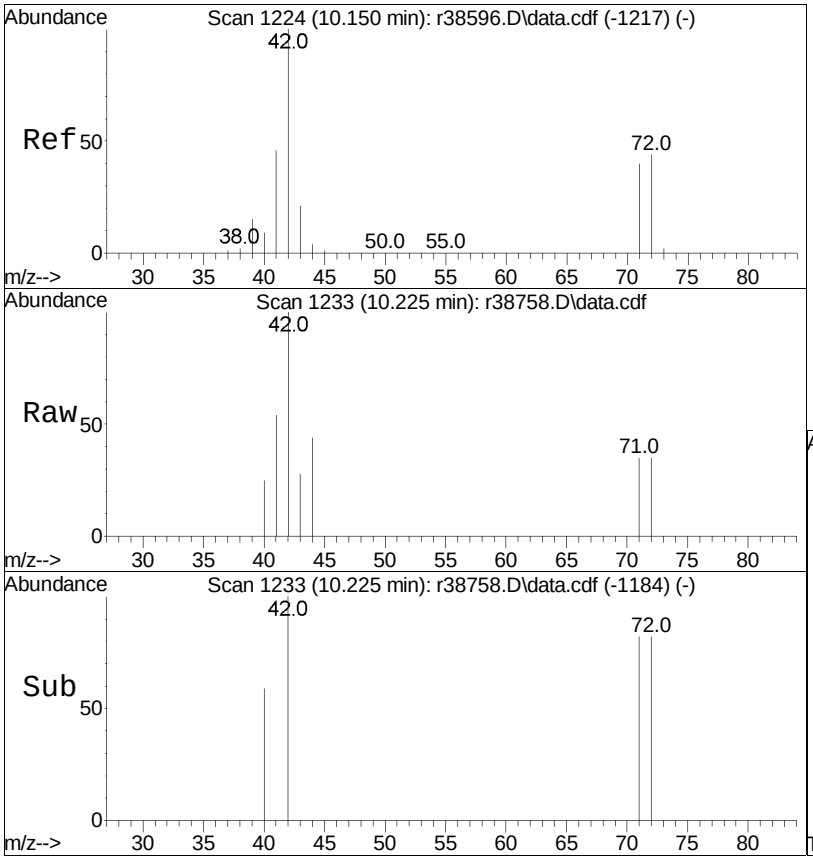


#38
Ethyl Acetate
Concen: 0.47 ppbV
RT: 9.708 min Scan# 1171
Delta R.T. 0.050 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 61 Resp: 3340

Ion	Ratio	Lower	Upper
61	100		
70	103.9	85.8	128.6
43	732.6	631.4	947.2

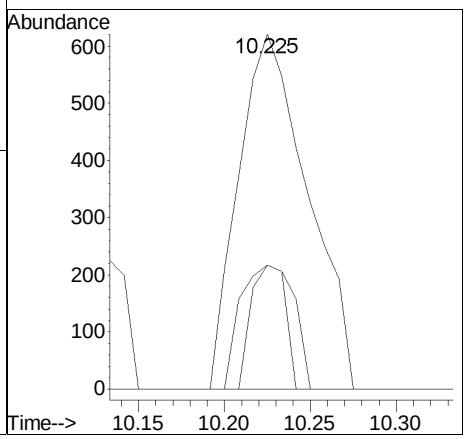


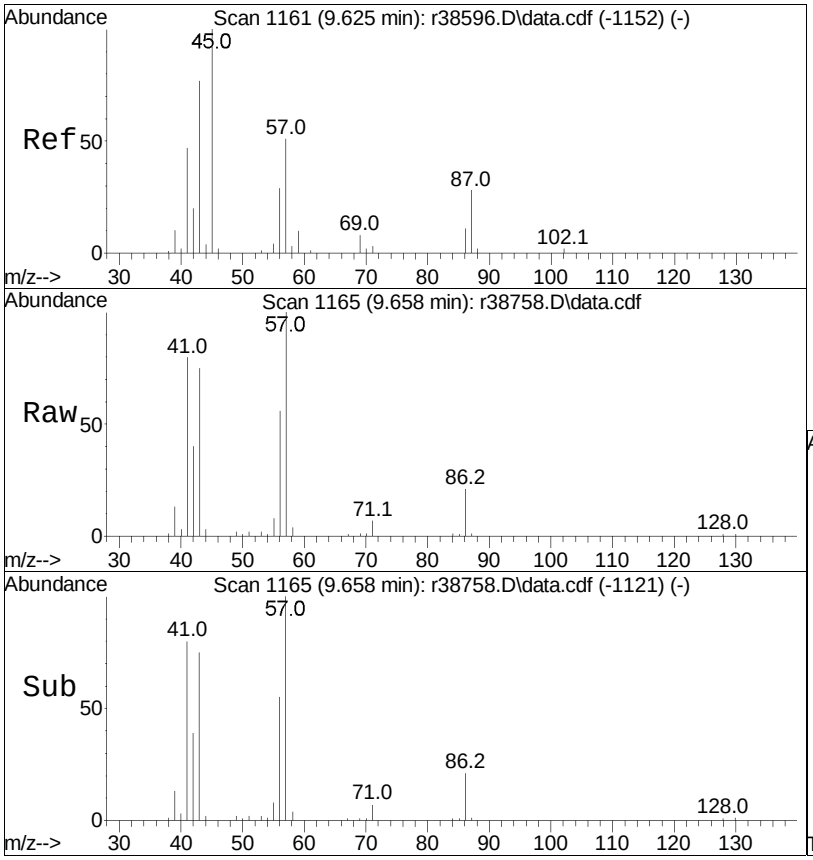


#40
Tetrahydrofuran
Concen: 0.07 ppbV
RT: 10.225 min Scan# 1233
Delta R.T. 0.075 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 42 Resp: 1743

Ion	Ratio	Lower	Upper
42	100		
71	34.9	31.8	47.8
72	34.9	35.2	52.8#

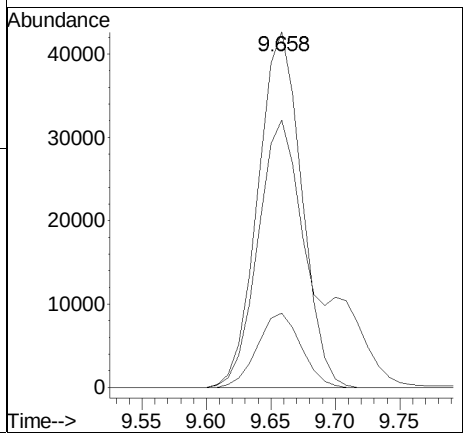


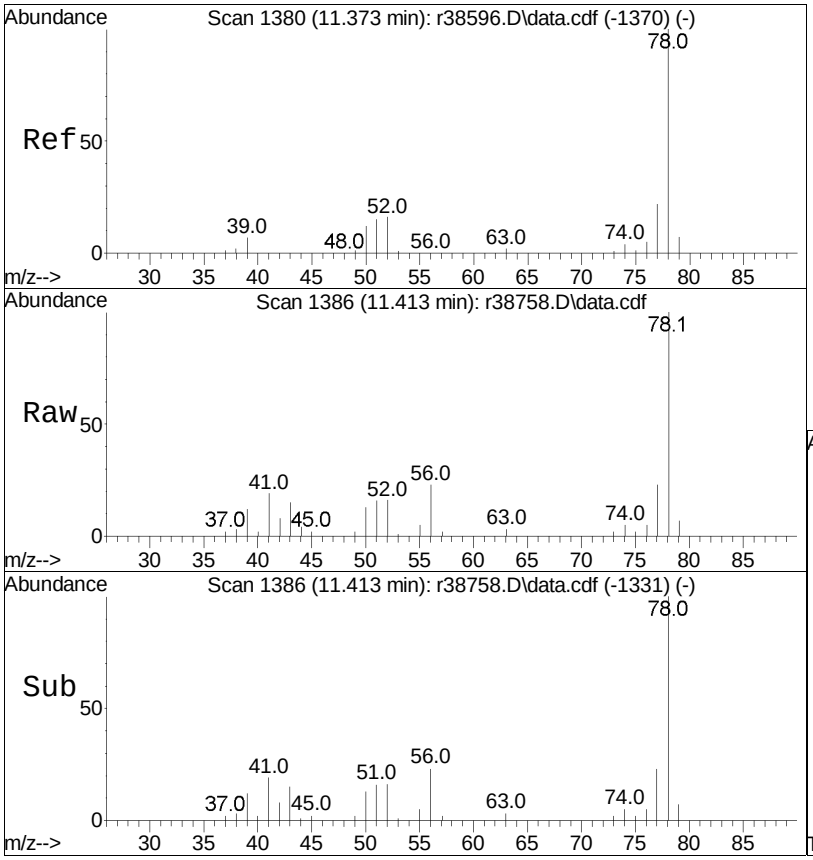


#44
hexane
Concen: 2.89 ppbV
RT: 9.658 min Scan# 1165
Delta R.T. 0.033 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 57 Resp: 100486

Ion	Ratio	Lower	Upper
57	100		
43	75.3	119.3	178.9#
86	20.9	17.0	25.6

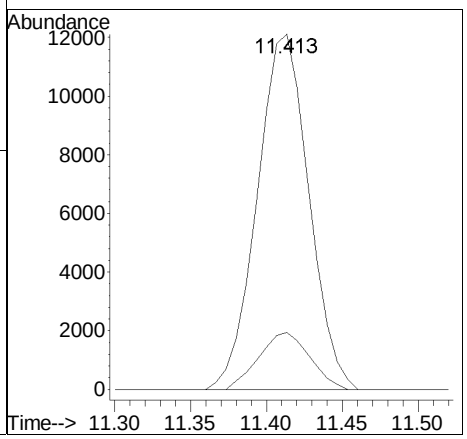


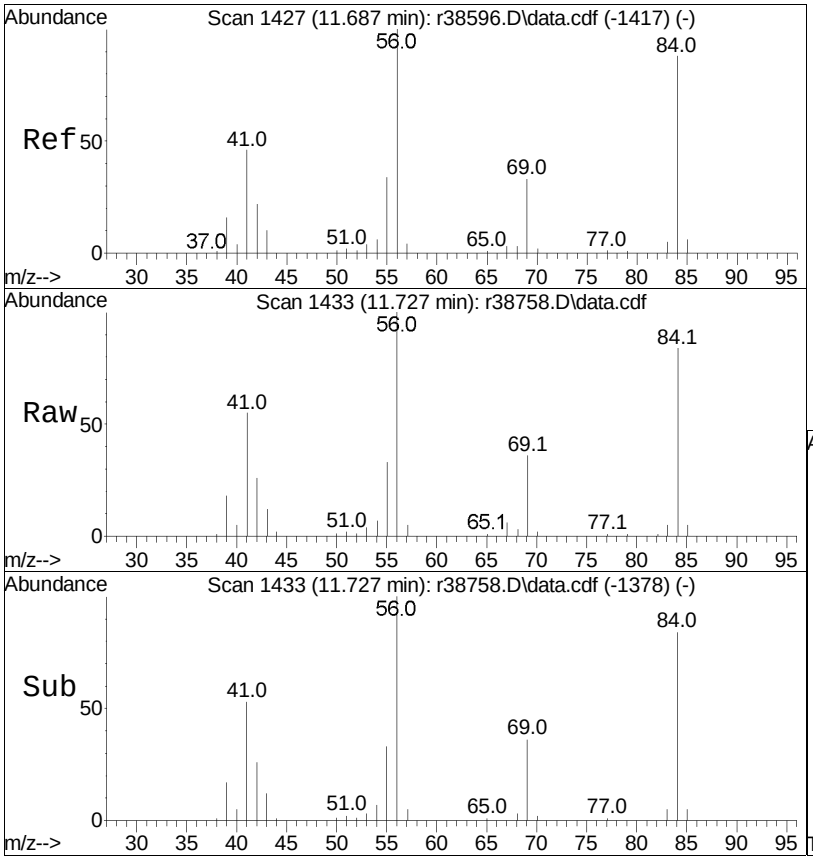


#50
benzene
Concen: 0.42 ppbV
RT: 11.413 min Scan# 1386
Delta R.T. 0.040 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 78 Resp: 28608

Ion	Ratio	Lower	Upper
78	100		
52	16.0	12.6	18.8

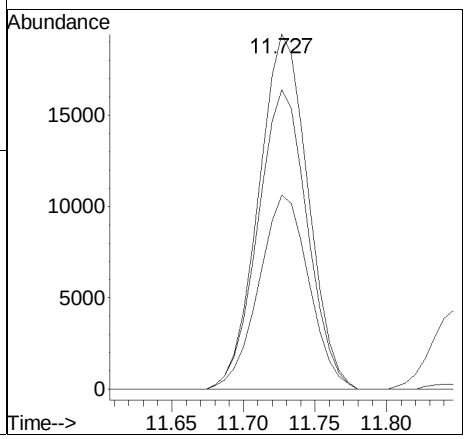


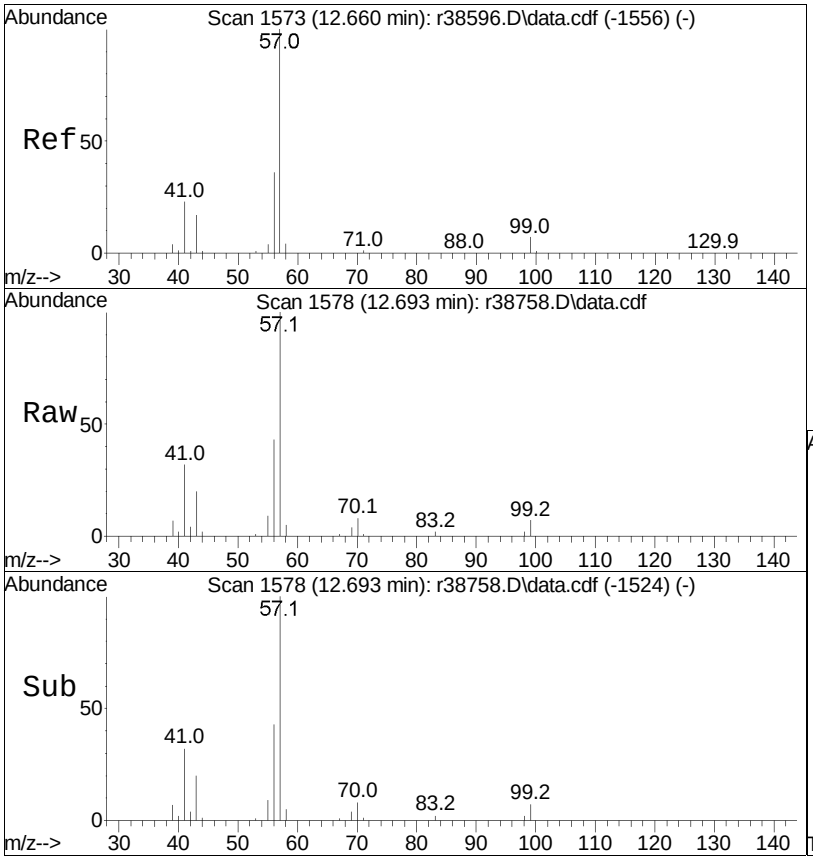


#53
cyclohexane
Concen: 1.24 ppbV
RT: 11.727 min Scan# 1433
Delta R.T. 0.040 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 56 Resp: 46645

Ion	Ratio	Lower	Upper
56	100		
84	84.3	70.2	105.2
41	54.6	36.9	55.3

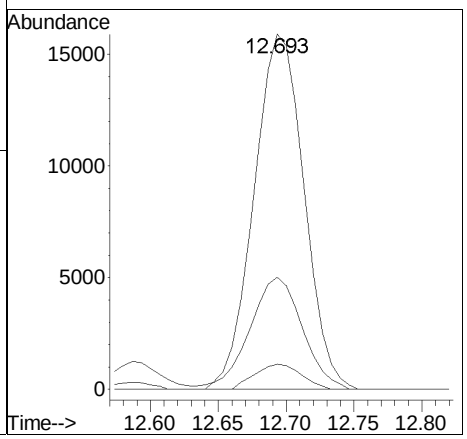


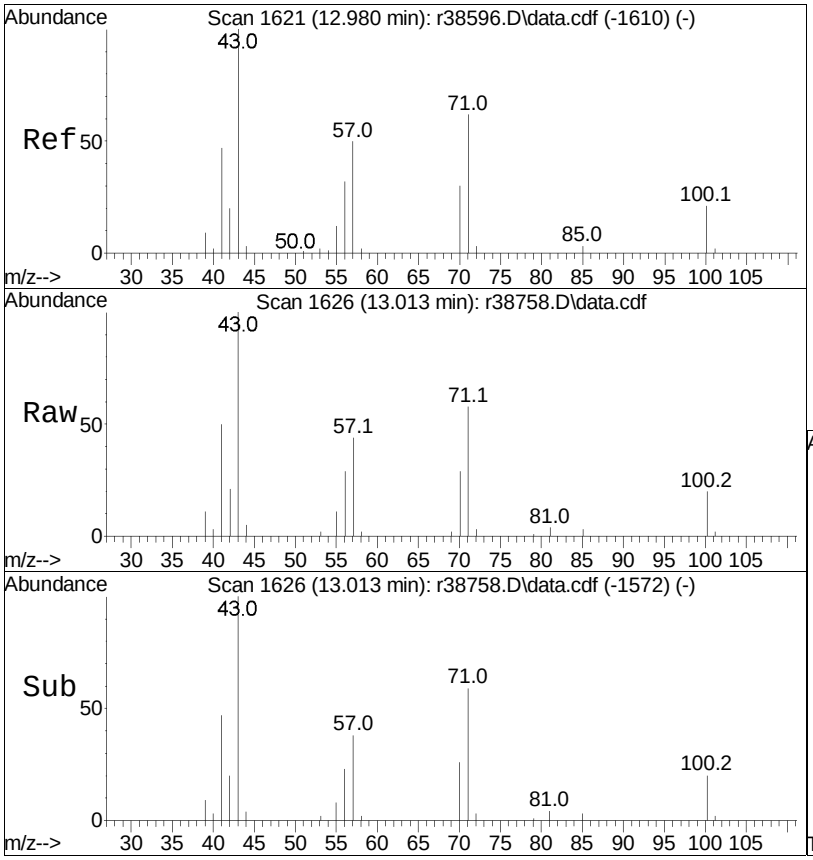


#60
2,2,4-trimethylpentane
Concen: 0.37 ppbV
RT: 12.693 min Scan# 1578
Delta R.T. 0.033 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 57 Resp: 40782

Ion	Ratio	Lower	Upper
57	100		
99	7.1	5.4	8.2
41	31.6	18.2	27.2#

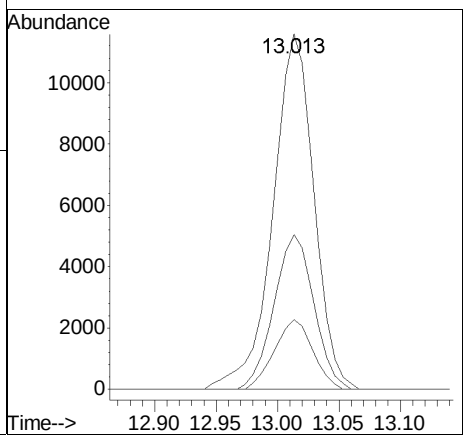


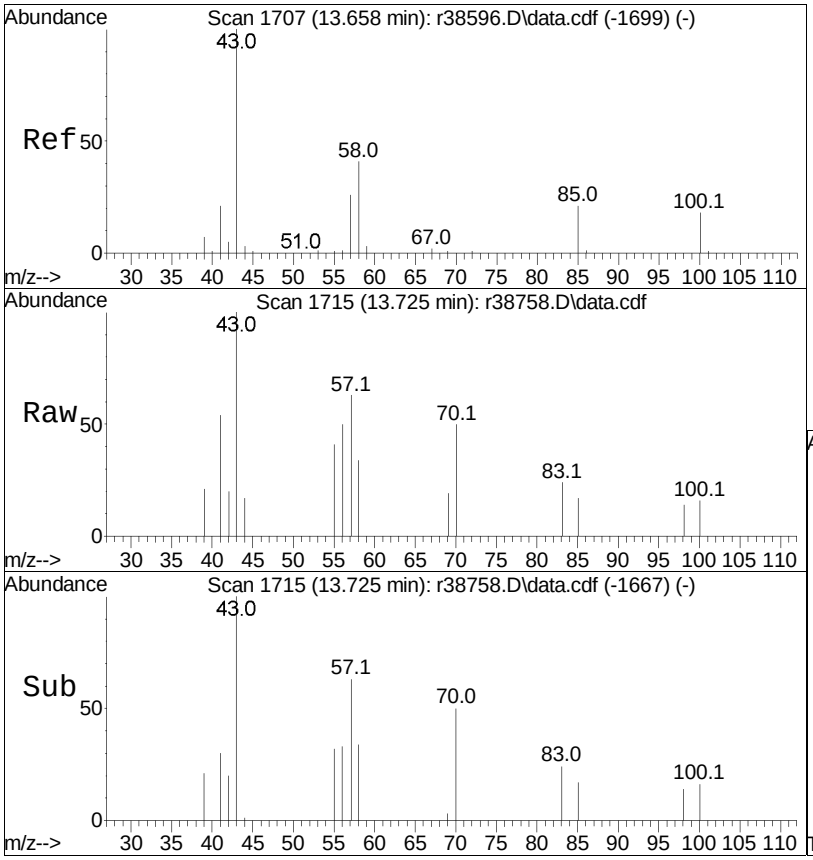


#62
heptane
Concen: 0.62 ppbV
RT: 13.013 min Scan# 1626
Delta R.T. 0.033 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 43 Resp: 26930

Ion	Ratio	Lower	Upper
43	100		
57	43.6	39.8	59.6
100	19.6	17.3	25.9

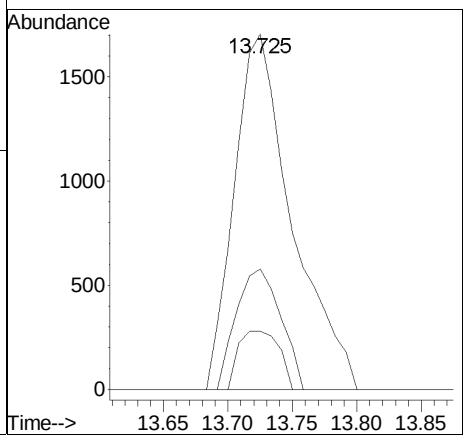


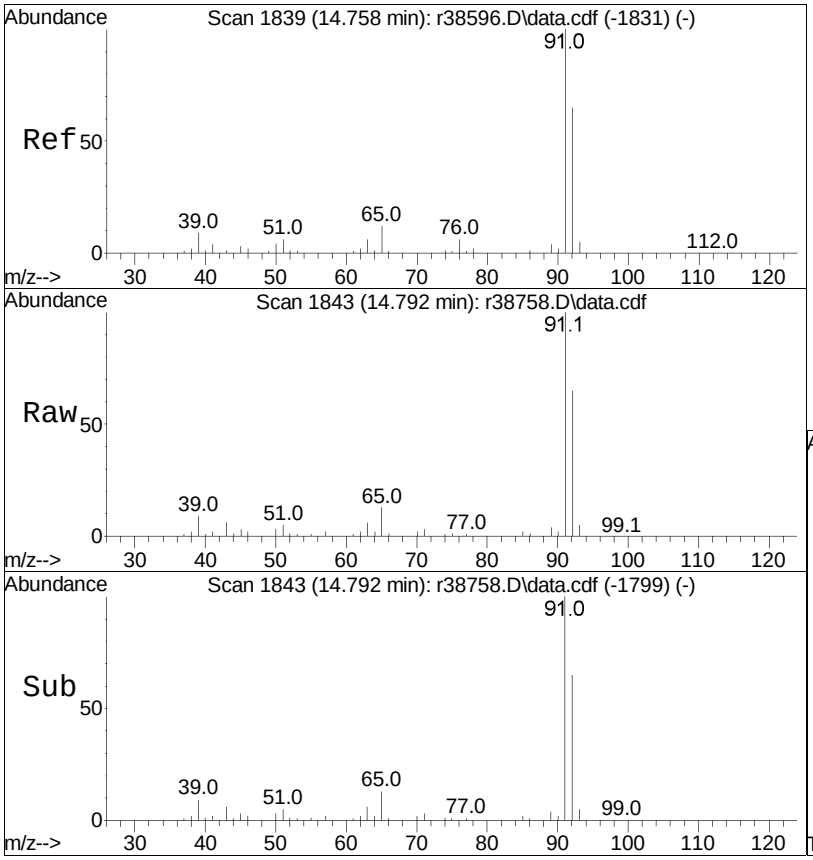


#64
4-methyl-2-pentanone
Concen: 0.11 ppbV
RT: 13.725 min Scan# 1715
Delta R.T. 0.067 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 43 Resp: 5307

Ion	Ratio	Lower	Upper
43	100		
58	33.9	32.5	48.7
100	16.4	14.7	22.1

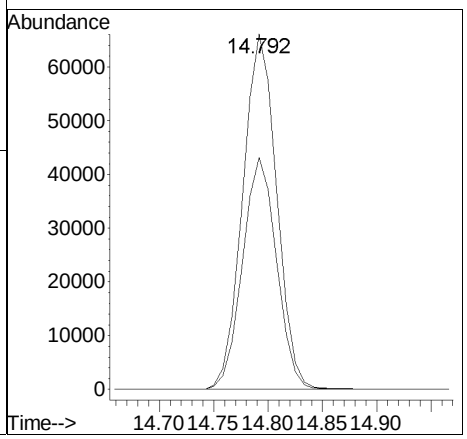


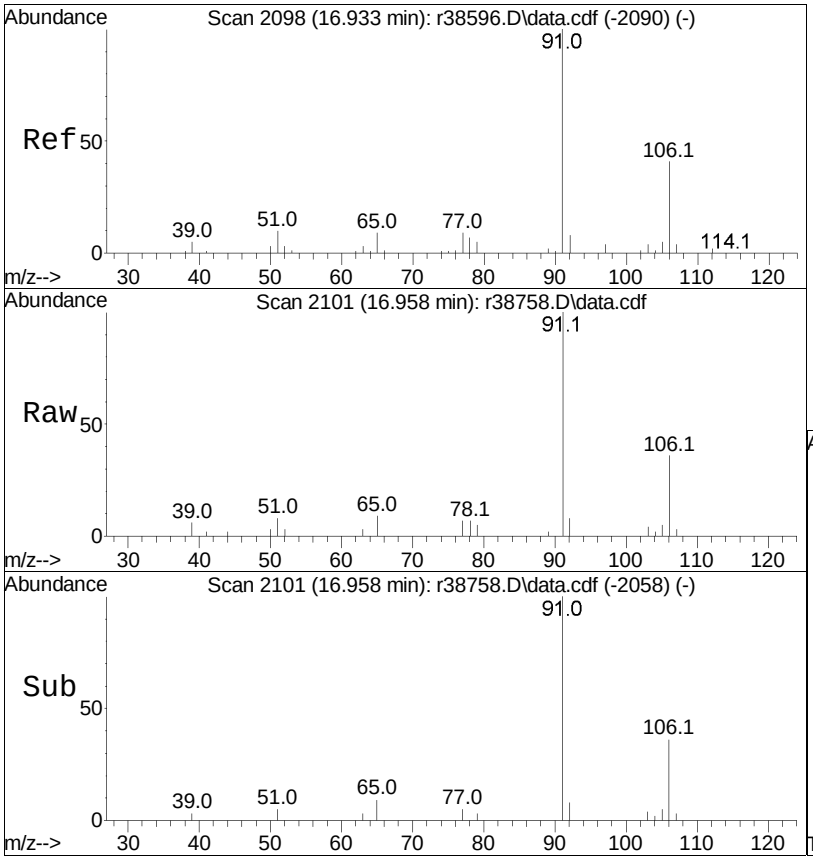


#68
toluene
Concen: 2.16 ppbV
RT: 14.792 min Scan# 1843
Delta R.T. 0.033 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 91 Resp: 143719

Ion	Ratio	Lower	Upper
91	100		
92	65.3	52.4	78.6

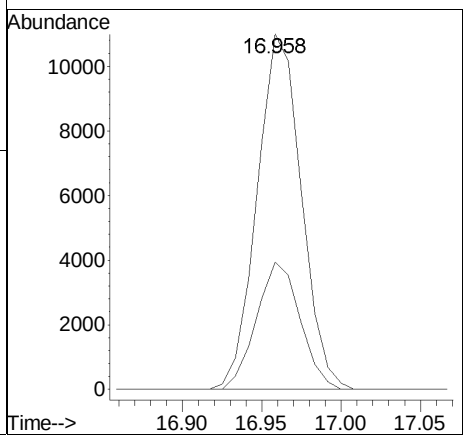


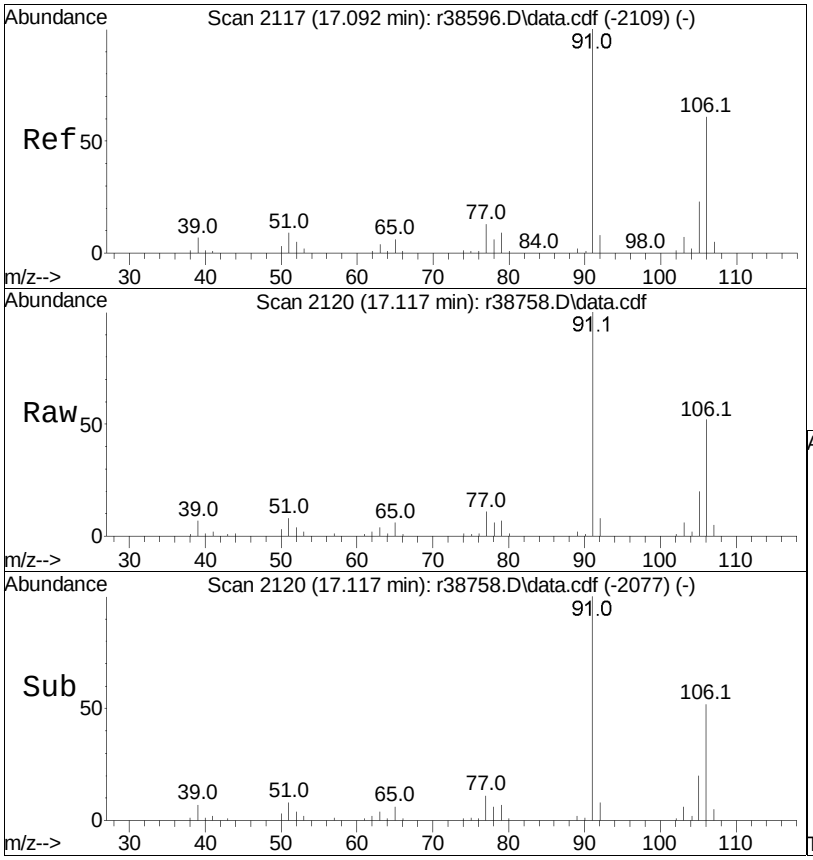


#81
ethylbenzene
Concen: 0.27 ppbV
RT: 16.958 min Scan# 2101
Delta R.T. 0.025 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 91 Resp: 21330

Ion	Ratio	Lower	Upper
91	100		
106	35.8	32.6	48.8

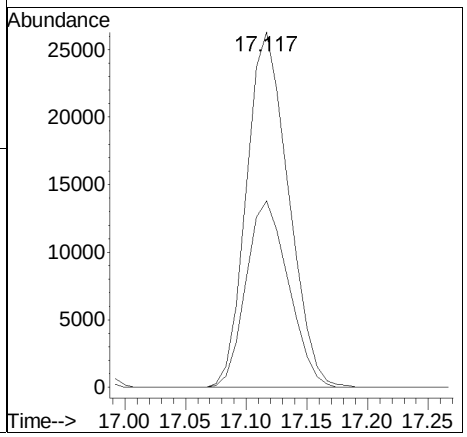


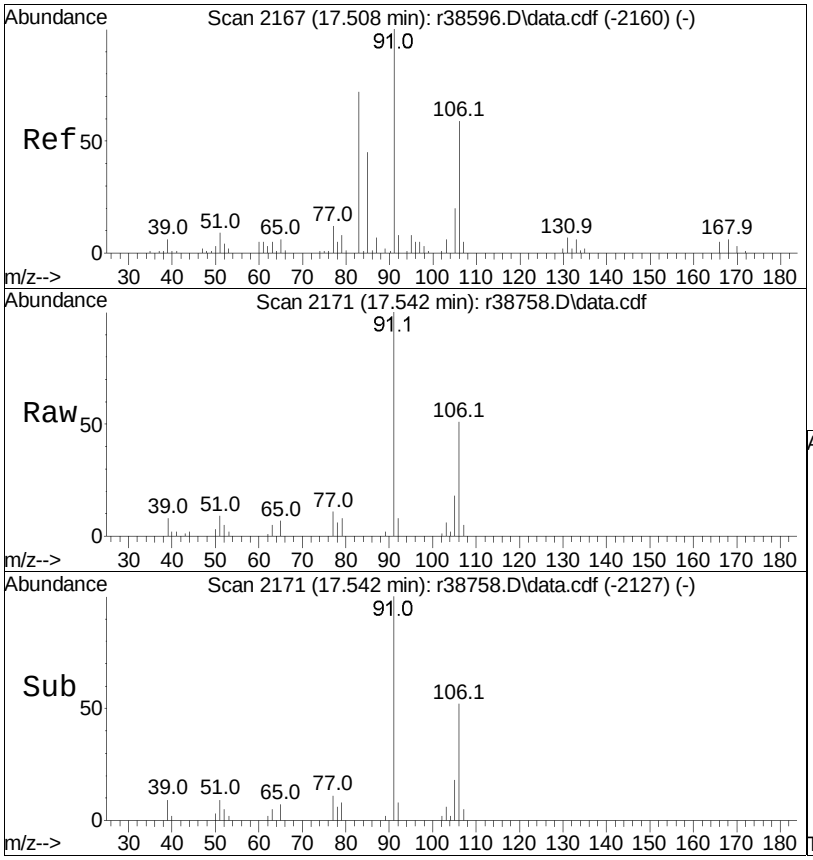


#83
m+p-xylene
Concen: 0.97 ppbV
RT: 17.117 min Scan# 2120
Delta R.T. 0.025 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 91 Resp: 63247

Ion	Ratio	Lower	Upper
91	100		
106	52.5	49.0	73.6

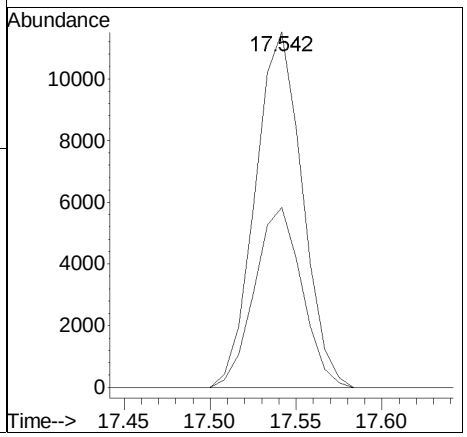


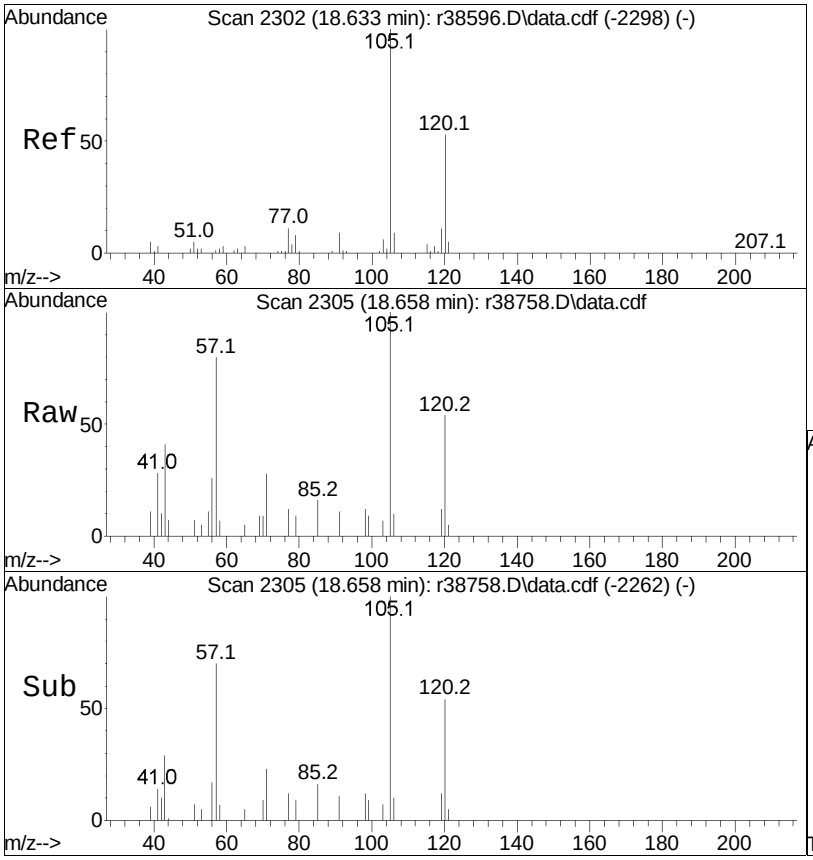


#87
o-xylene
Concen: 0.34 ppbV
RT: 17.542 min Scan# 2171
Delta R.T. 0.033 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion: 91 Resp: 21924

Ion	Ratio	Lower	Upper
91	100		
106	50.7	47.4	71.0

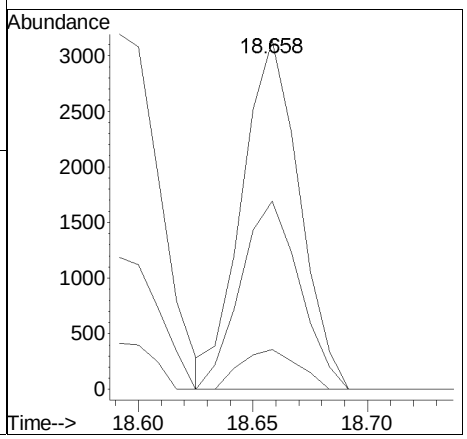


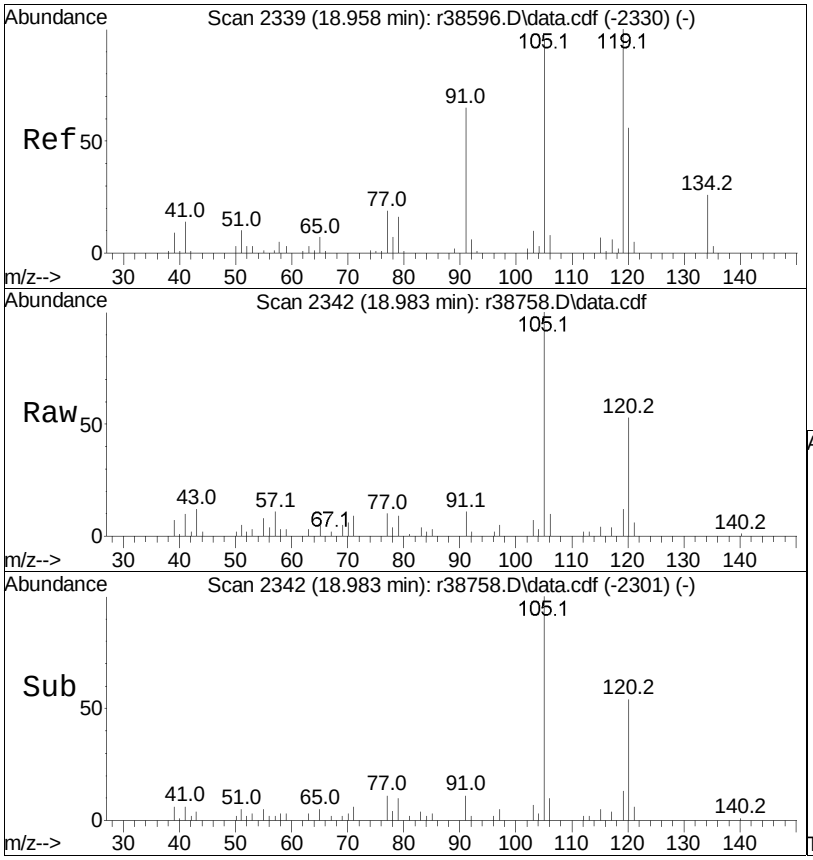


#97
1,3,5-trimethylbenzene
Concen: 0.07 ppbV
RT: 18.658 min Scan# 2305
Delta R.T. 0.025 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion:105 Resp: 5480

Ion	Ratio	Lower	Upper
105	100		
120	54.0	41.6	62.4
91	11.5	7.0	10.4#

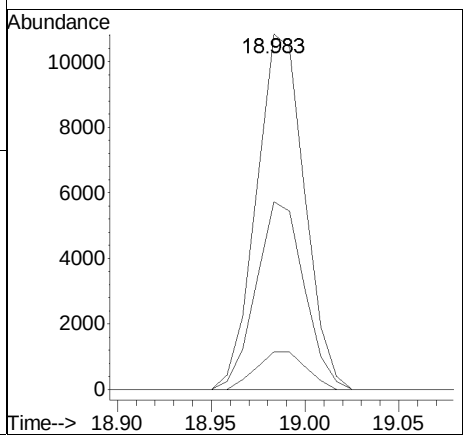




#99
1,2,4-trimethylbenzene
Concen: 0.25 ppbV
RT: 18.983 min Scan# 2342
Delta R.T. 0.025 min
Lab File: r38758.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion:105 Resp: 19325

Ion	Ratio	Lower	Upper
105	100		
120	52.8	47.1	70.7
91	10.6	55.0	82.6#

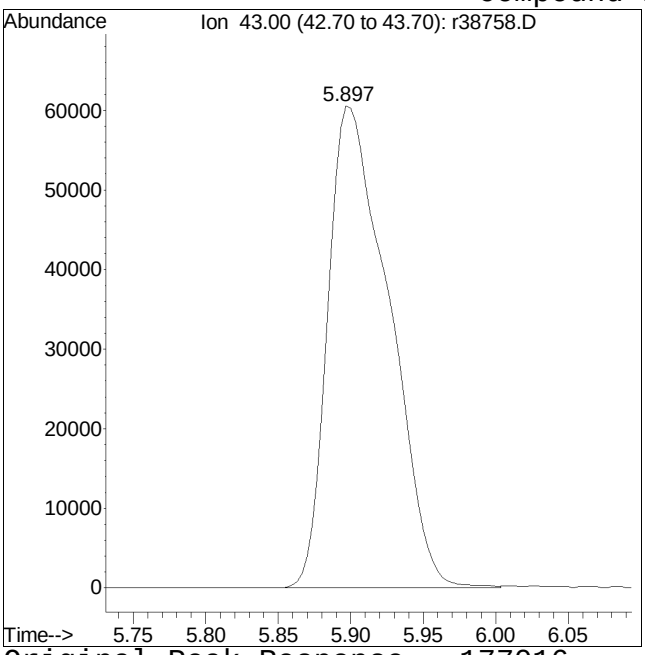


Manual Integration Report

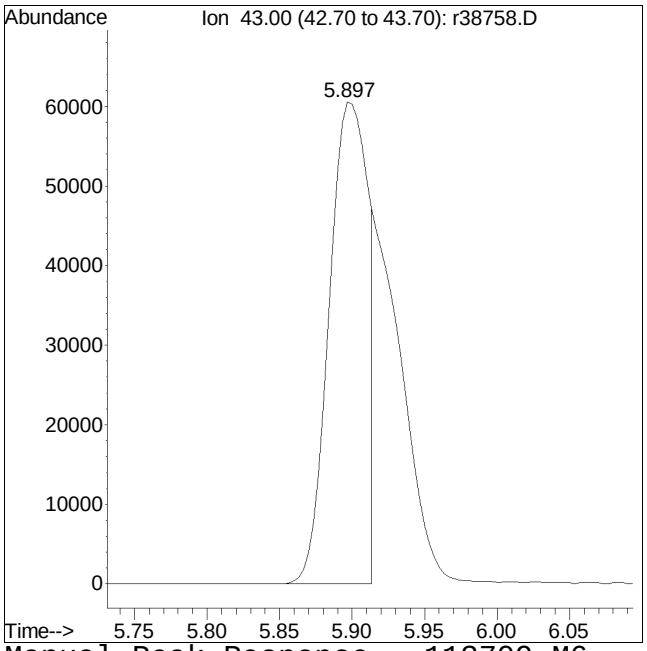
Data Path : O:\Forensics\Data\AirpianoQ
Data File : r38758.D
Date Inj'd : 3/20/2020 0:5: 5
Sample : L2011723-05,3,250,250

Method : TFS3_200312.M
Operator : AIRPIANO3:EW
Instrument :
Quant Date : 3/21/2020 8:04 am

Compound #19: acetone



Original Peak Response = 177016



Manual Peak Response = 113709 M6

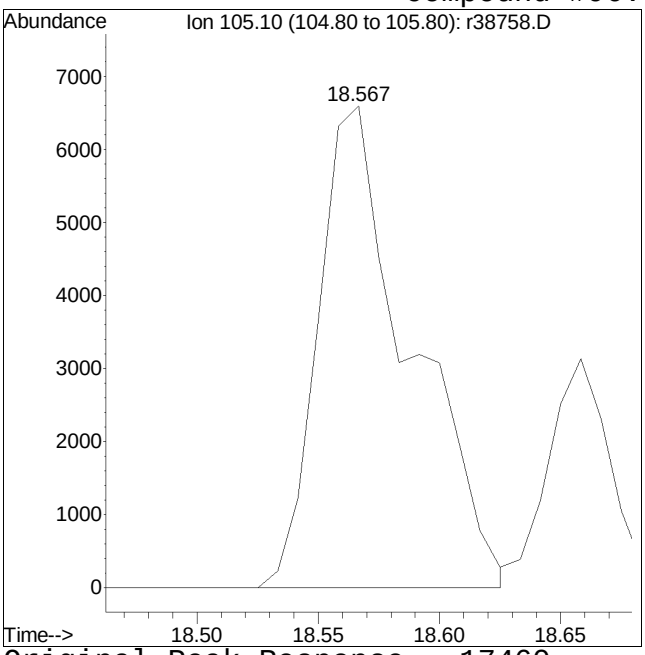
M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Manual Integration Report

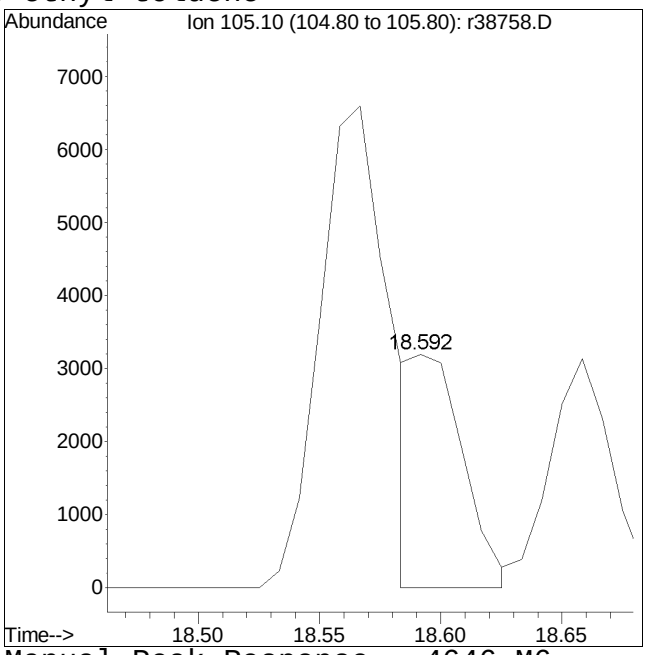
Data Path : O:\Forensics\Data\AirpianoQ
Data File : r38758.D
Date Inj'd : 3/20/2020 0:5: 5
Sample : L2011723-05,3,250,250

Method : TFS3_200312.M
Operator : AIRPIANO3:EW
Instrument :
Quant Date : 3/21/2020 8:04 am

Compound #96: 4-ethyl toluene



Original Peak Response = 17460



Manual Peak Response = 4646 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38759.D
Acq On : 20 Mar 2020 6:16 PM
Operator : AIRPIANO3:EW
Sample : L2011723-06,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 18:12:50 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : TO15-NY-7-SIM - .

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) bromochloromethane	9.583	49	357016	10.000	ppbV		0.03
Standard Area = 353543			Recovery = 100.98%				
43) 1,4-difluorobenzene	11.847	114	960052	10.000	ppbV		0.03
Standard Area = 970632			Recovery = 98.91%				
67) chlorobenzene-D5	16.575	54	137219	10.000	ppbV		0.03
Standard Area = 139948			Recovery = 98.05%				
System Monitoring Compounds							
Target Compounds							Qvalue
5) dichlorodifluoromethane	4.006	85	15118	0.469	ppbV		97
6) chloromethane	4.186	50	11986	0.808	ppbV		96
7) Freon-114	4.318		0	N.D.			
10) 1,3-butadiene	4.612	54	25671	1.480	ppbV		86
13) bromomethane	4.936		0	N.D.			
14) chloroethane	0.000		0	N.D.			
15) ethanol	5.326	31	1688074	121.386	ppbV	#	79
17) vinyl bromide	0.000		0	N.D.			
19) acetone	5.900	43	365985M6	15.803	ppbV		
21) trichlorofluoromethane	6.100	101	5960	0.237	ppbV		97
22) isopropyl alcohol	6.223	45	513424	17.339	ppbV	#	97
27) tertiary butyl alcohol	6.972	59	3568	0.101	ppbV	#	1
28) methylene chloride	7.038	49	3162	0.142	ppbV		93
29) 3-chloropropene	0.000		0	N.D.	d		
30) carbon disulfide	7.326		0	N.D.			
31) Freon 113	7.368	101	2303	0.067	ppbV		97
32) trans-1,2-dichloroethene	0.000		0	N.D.	d		
33) 1,1-dichloroethane	0.000		0	N.D.	d		
34) MTBE	0.000		0	N.D.	d		
36) 2-butanone	8.892	43	48987	1.115	ppbV		96
38) Ethyl Acetate	0.000		0	N.D.	d		
39) chloroform	9.750	83	2837	0.082	ppbV	#	88
40) Tetrahydrofuran	10.208	42	12377	0.450	ppbV		92
42) 1,2-dichloroethane	0.000		0	N.D.	d		
44) hexane	9.658	57	2055152	57.709	ppbV	#	48
50) benzene	11.413	78	467355	6.723	ppbV		100
53) cyclohexane	11.733	56	958925	24.858	ppbV		95

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38759.D
Acq On : 20 Mar 2020 6:16 PM
Operator : AIRPIANO3:EW
Sample : L2011723-06,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 18:12:50 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : TO15-NY-7-SIM - .

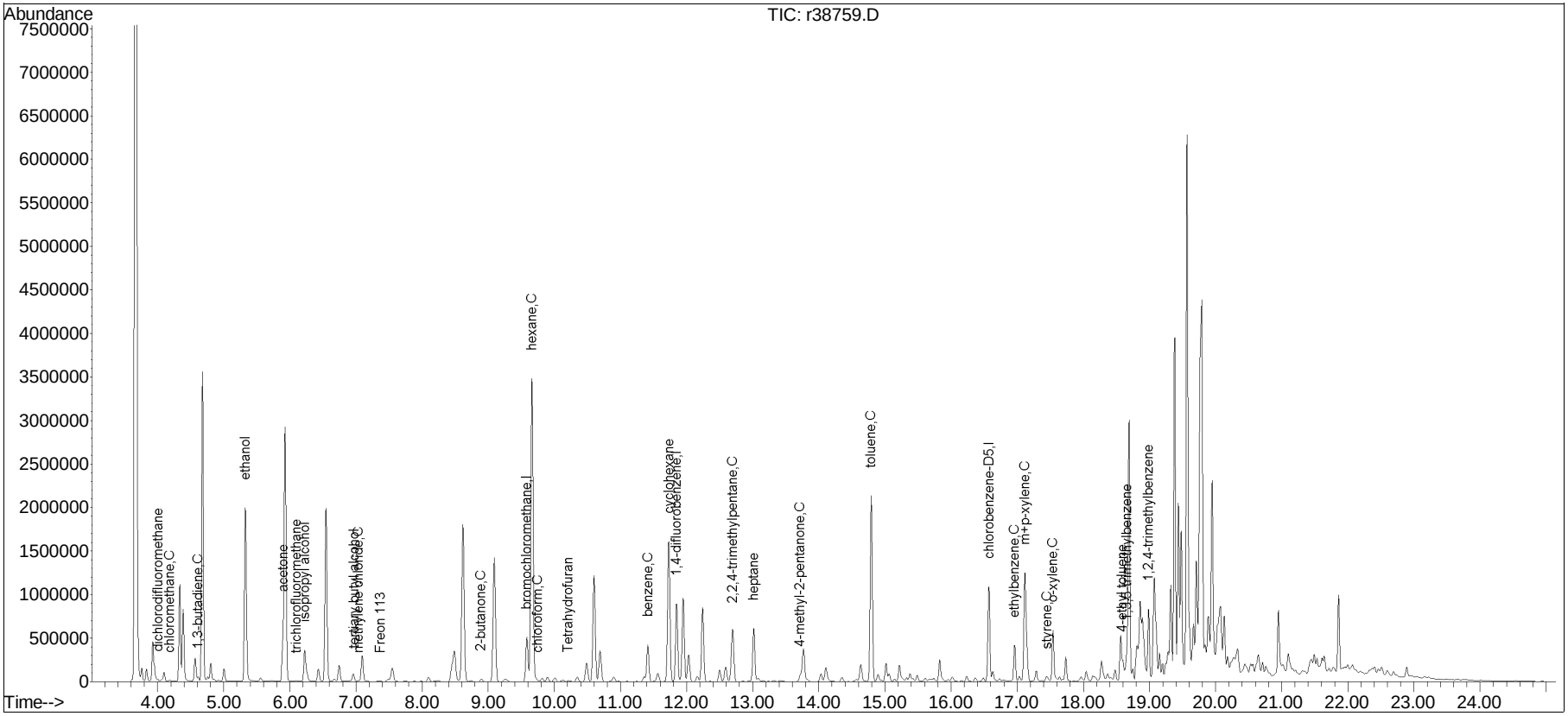
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
56) 1,2-dichloropropane	0.000		0	N.D.	d		
57) bromodichloromethane	0.000		0	N.D.	d		
58) 1,4-dioxane	0.000		0	N.D.	d		
60) 2,2,4-trimethylpentane	12.700	57	605165	5.340	ppbV	#	88
62) heptane	13.013	43	355547	7.984	ppbV		91
63) cis-1,3-dichloropropene	0.000		0	N.D.			
64) 4-methyl-2-pentanone	13.717	43	34435	0.686	ppbV	#	89
65) trans-1,3-dichloropropene	0.000		0	N.D.			
66) 1,1,2-trichloroethane	0.000		0	N.D.	d		
68) toluene	14.792	91	1818461	26.114	ppbV		99
72) 2-hexanone	0.000		0	N.D.	d		
74) dibromochloromethane	0.000		0	N.D.			
75) 1,2-dibromoethane	0.000		0	N.D.			
80) chlorobenzene	0.000		0	N.D.	d		
81) ethylbenzene	16.958	91	360980	4.353	ppbV		94
83) m+p-xylene	17.117	91	1067446	15.722	ppbV		93
84) bromoform	0.000		0	N.D.			
85) styrene	17.450	104	19109	0.315	ppbV		98
86) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	d		
87) o-xylene	17.542	91	404889	6.086	ppbV		92
96) 4-ethyl toluene	18.592	105	113971M6	1.064	ppbV		
97) 1,3,5-trimethylbenzene	18.658	105	121959	1.400	ppbV		95
99) 1,2,4-trimethylbenzene	18.983	105	433251	5.345	ppbV	#	57
101) Benzyl Chloride	0.000		0	N.D.	d		
102) 1,3-dichlorobenzene	0.000		0	N.D.	d		
103) 1,4-dichlorobenzene	19.167		0	N.D.			
107) 1,2-dichlorobenzene	0.000		0	N.D.			
115) 1,2,4-trichlorobenzene	20.908		0	N.D.			
119) hexachlorobutadiene	0.000		0	N.D.			

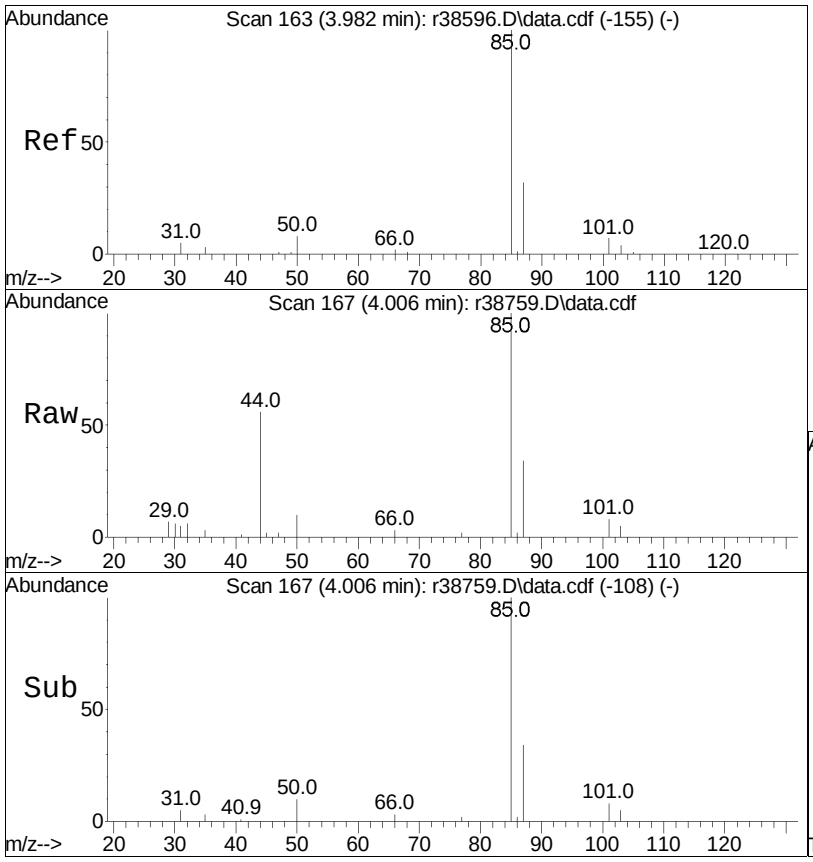
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : TO15-NY-7-SIM - .\Airpiano3\2020\03\200320T\r38754.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38759.D
Acq On : 20 Mar 2020 6:16 PM
Operator : AIRPIANO3:EW
Sample : L2011723-06,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 18:12:50 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

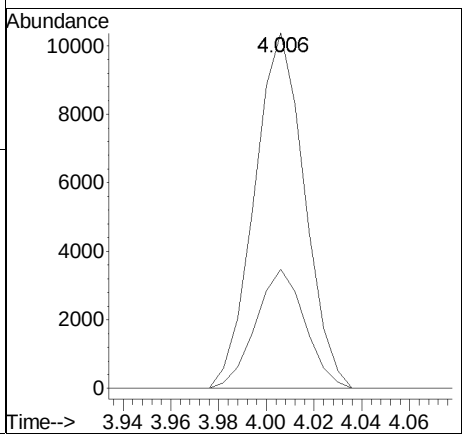


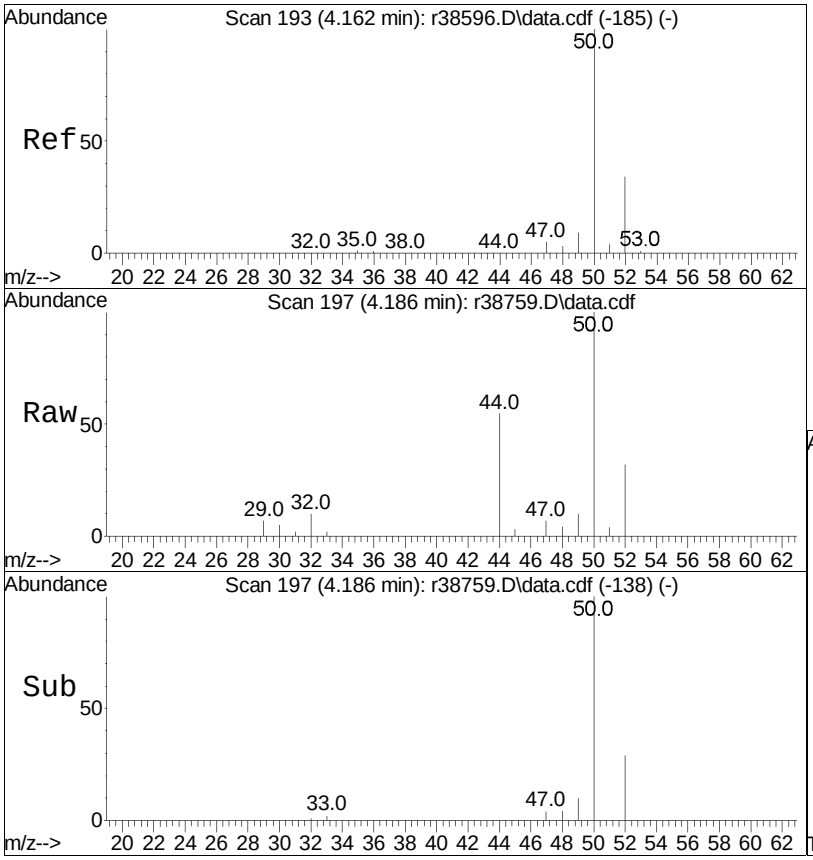


#5
dichlorodifluoromethane
Concen: 0.47 ppbV
RT: 4.006 min Scan# 167
Delta R.T. 0.024 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 85 Resp: 15118

Ion	Ratio	Lower	Upper
85	100		
87	33.6	25.4	38.0

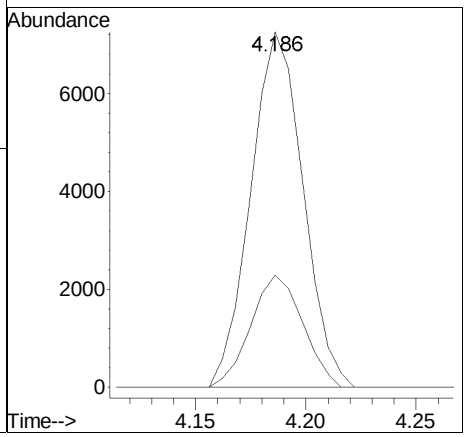


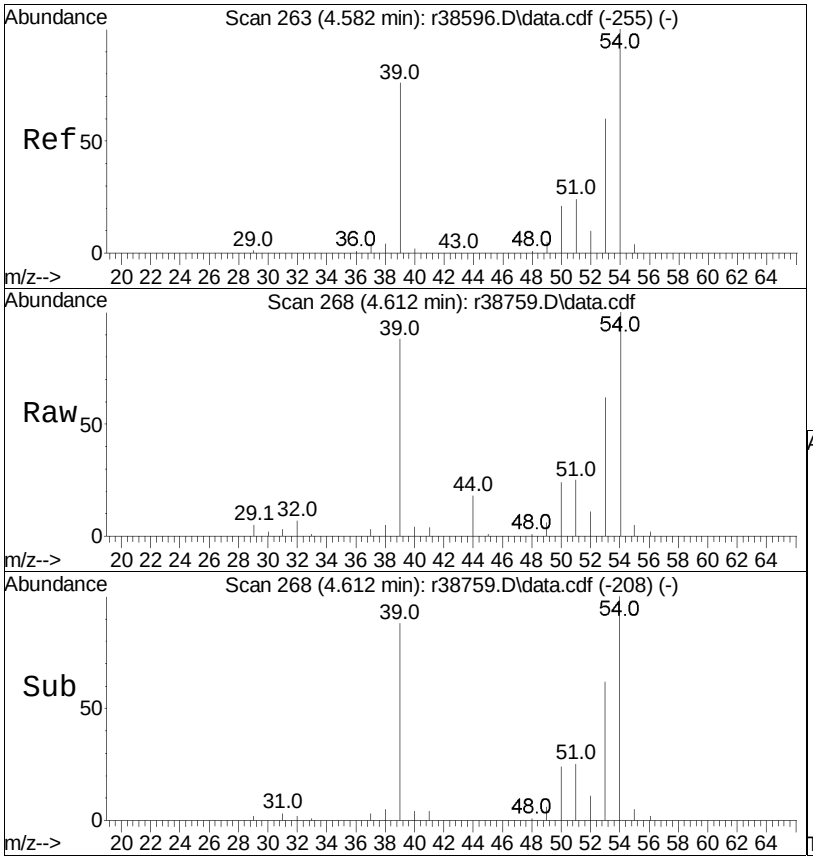


#6
chloromethane
Concen: 0.81 ppbV
RT: 4.186 min Scan# 197
Delta R.T. 0.024 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 50 Resp: 11986

Ion	Ratio	Lower	Upper
50	100		
52	31.6	26.9	40.3

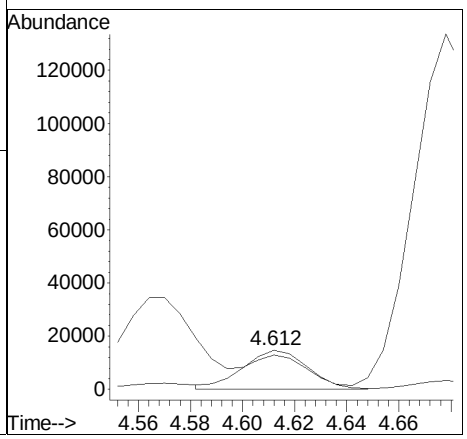


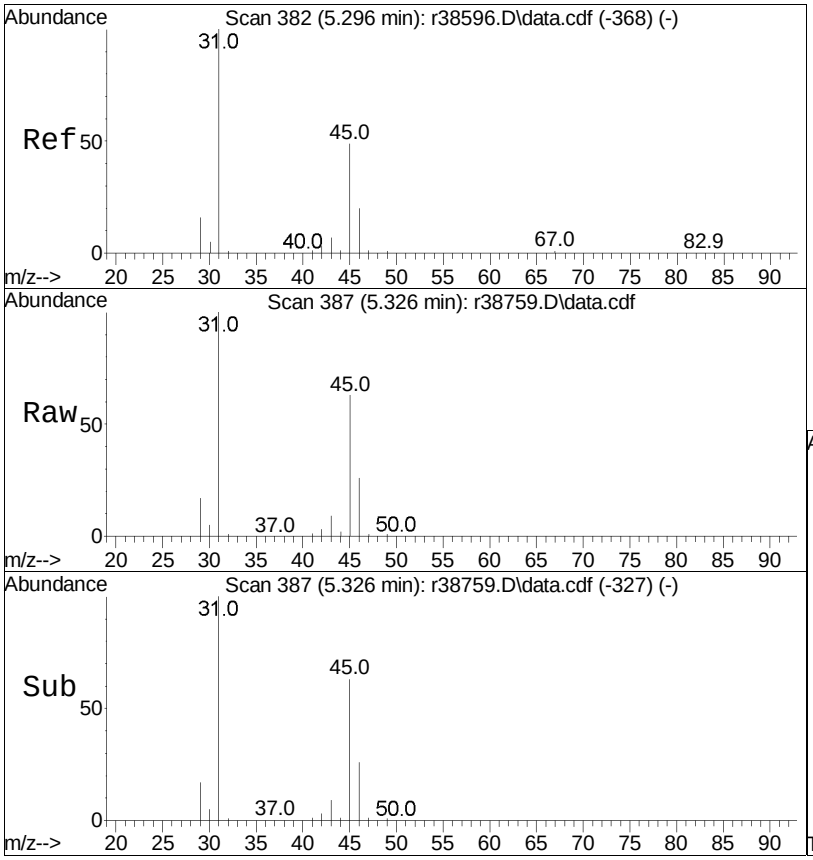


#10
1,3-butadiene
Concen: 1.48 ppbV
RT: 4.612 min Scan# 268
Delta R.T. 0.030 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 54 Resp: 25671

Ion	Ratio	Lower	Upper
54	100		
39	87.9	60.9	91.3

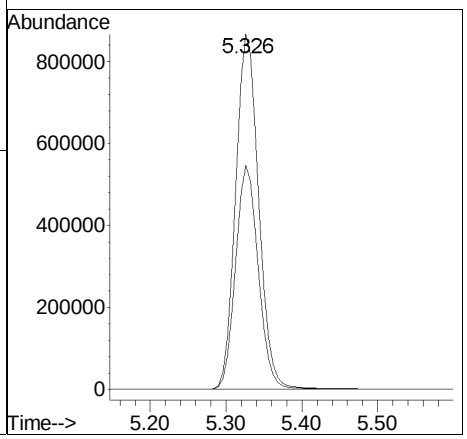


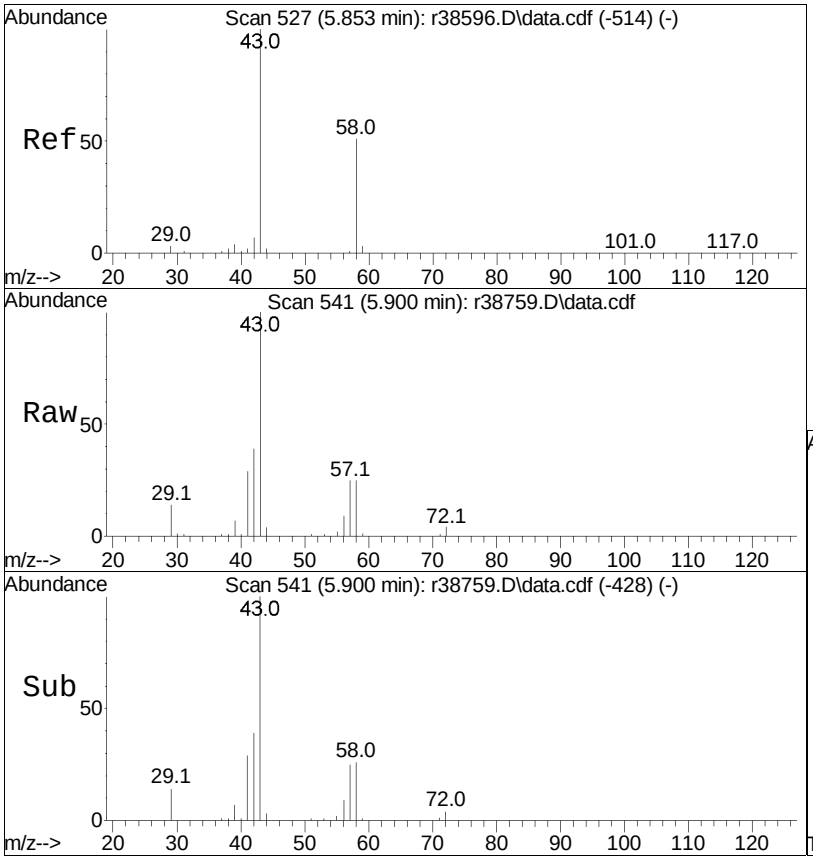


#15
ethanol
Concen: 121.39 ppbV
RT: 5.326 min Scan# 387
Delta R.T. 0.030 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 31 Resp: 1688074

Ion	Ratio	Lower	Upper
31	100		
45	63.0	39.0	58.4#

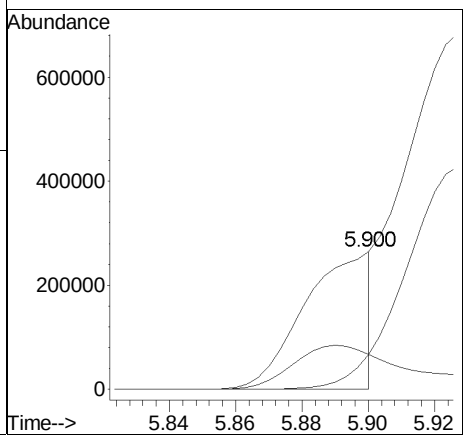


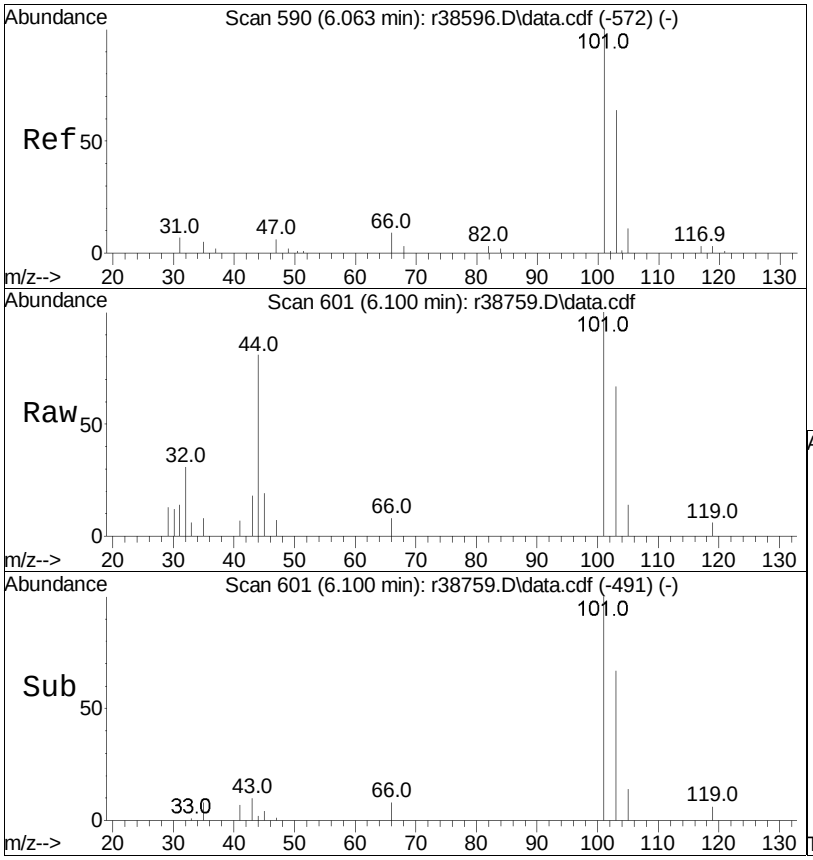


#19
acetone
Concen: 15.80 ppbV m
RT: 5.900 min Scan# 541
Delta R.T. 0.047 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 43 Resp: 365985

Ion	Ratio	Lower	Upper
43	100		
58	25.5	40.6	60.8#
57	25.1	1.0	1.6#

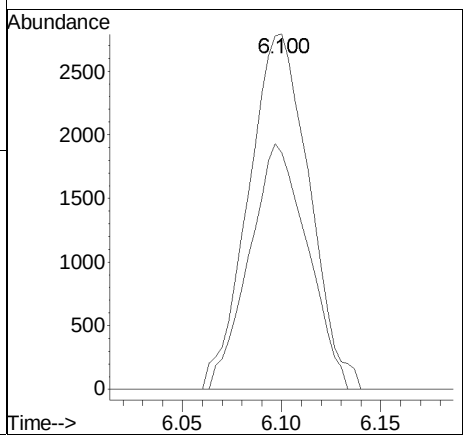


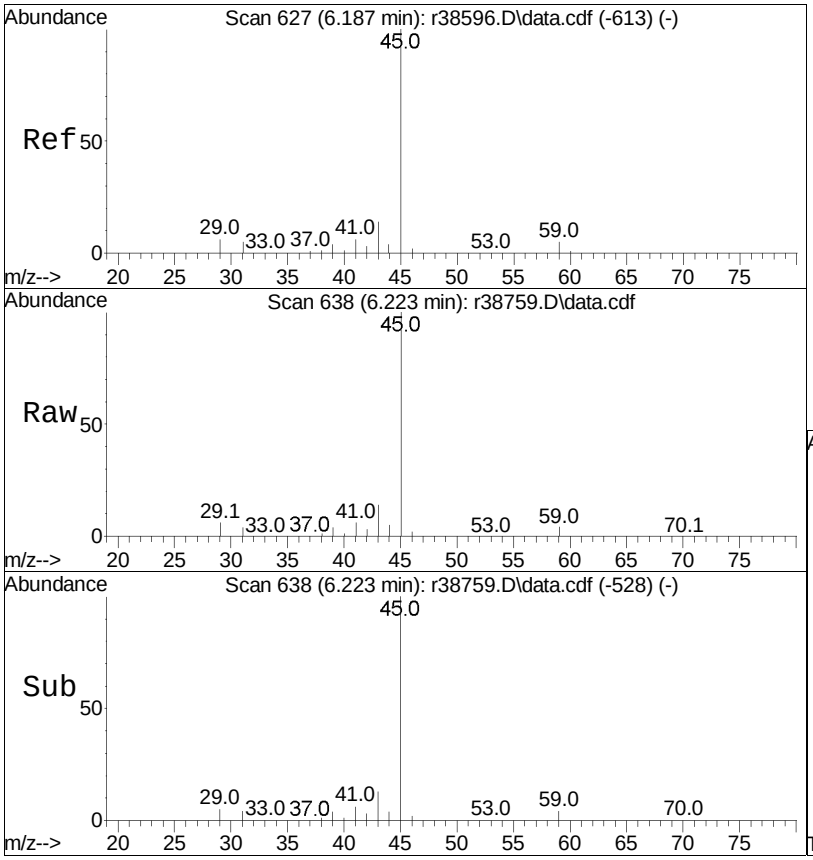


#21
trichlorofluoromethane
Concen: 0.24 ppbV
RT: 6.100 min Scan# 601
Delta R.T. 0.037 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion:101 Resp: 5960

Ion	Ratio	Lower	Upper
101	100		
103	66.6	51.4	77.0

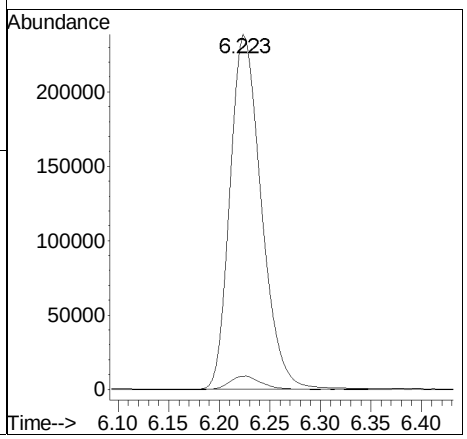


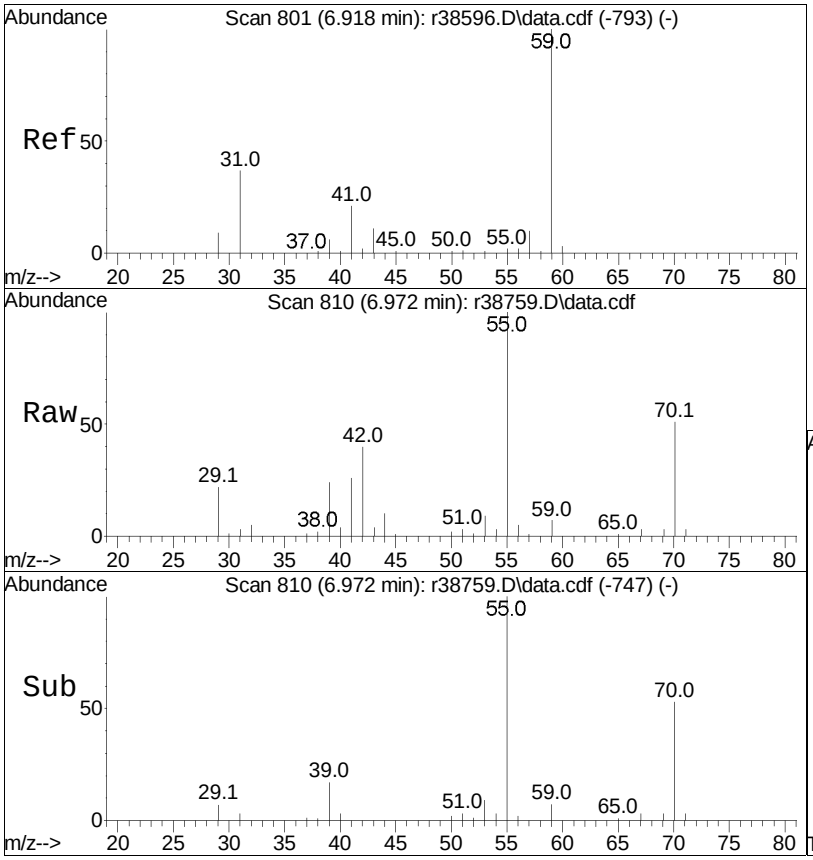


#22
isopropyl alcohol
Concen: 17.34 ppbV
RT: 6.223 min Scan# 638
Delta R.T. 0.037 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 45 Resp: 513424

Ion	Ratio	Lower	Upper
45	100		
59	3.8	3.9	5.9#

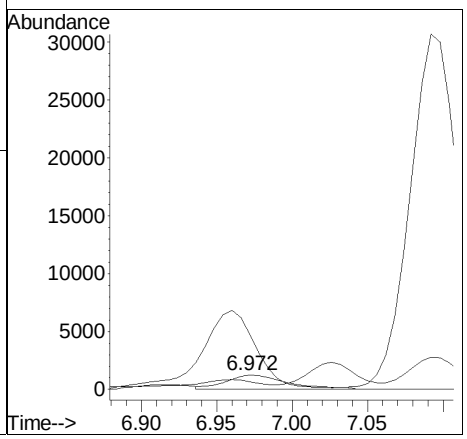


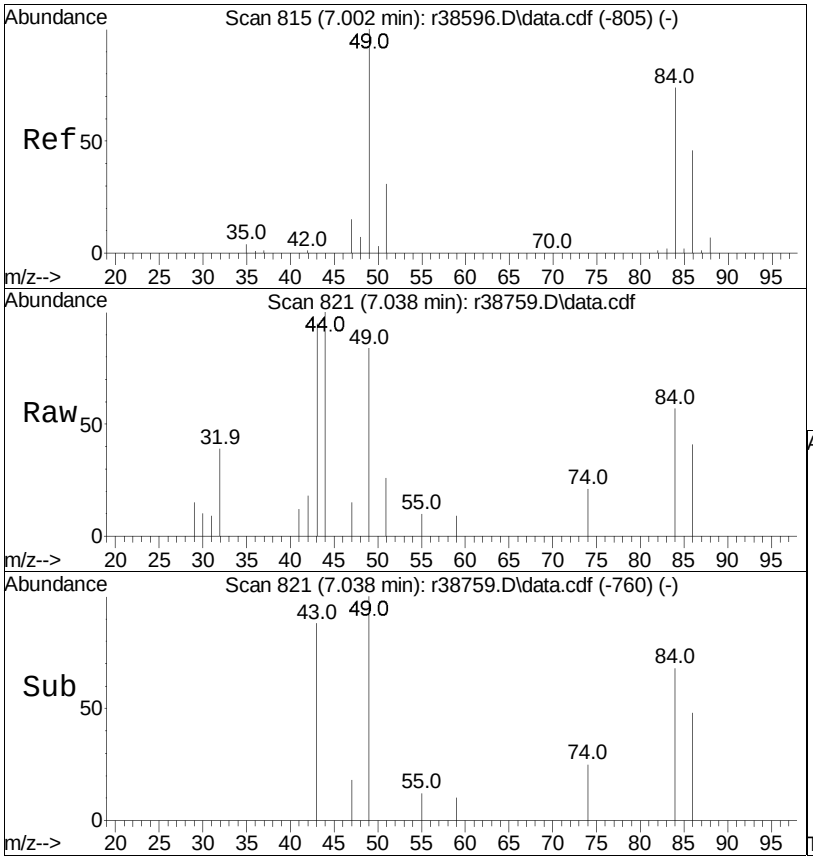


#27
tertiary butyl alcohol
Concen: 0.10 ppbV
RT: 6.972 min Scan# 810
Delta R.T. 0.054 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 59 Resp: 3568

Ion	Ratio	Lower	Upper
59	100		
41	379.6	16.9	25.3#
43	52.9	8.9	13.3#

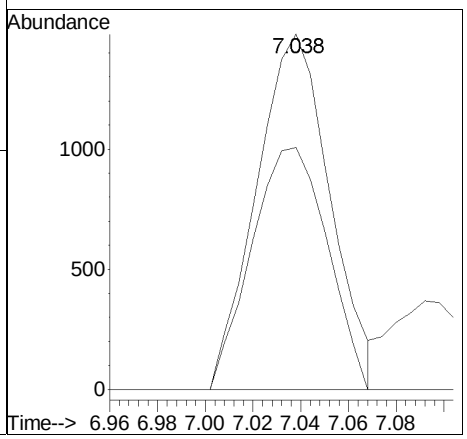


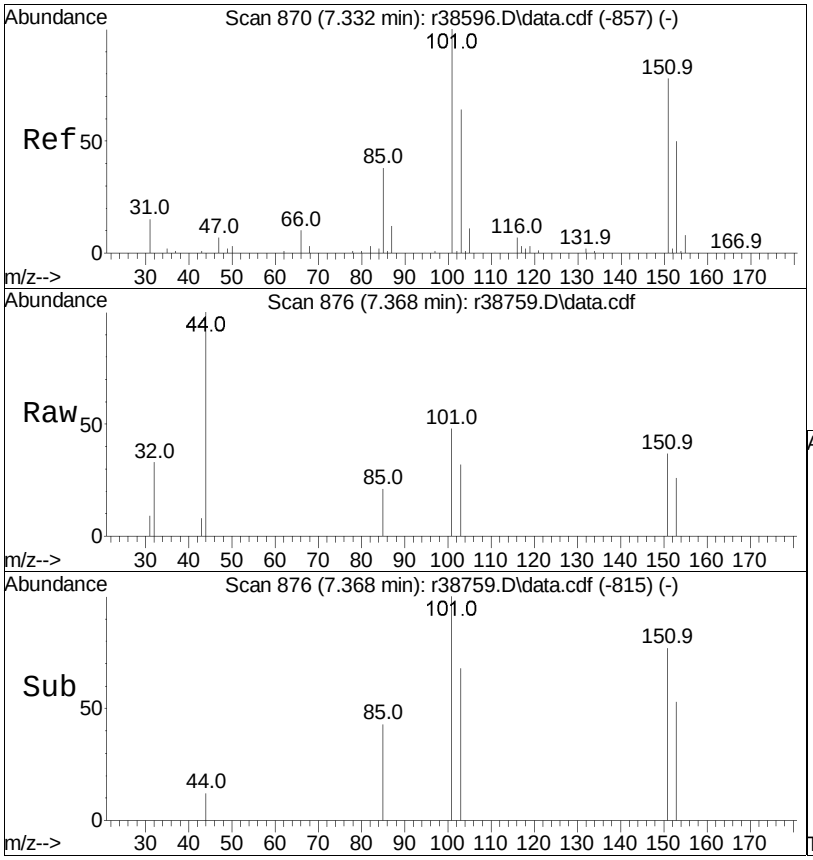


#28
methylene chloride
Concen: 0.14 ppbV
RT: 7.038 min Scan# 821
Delta R.T. 0.036 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 49 Resp: 3162

Ion	Ratio	Lower	Upper
49	100		
84	68.1	59.3	88.9

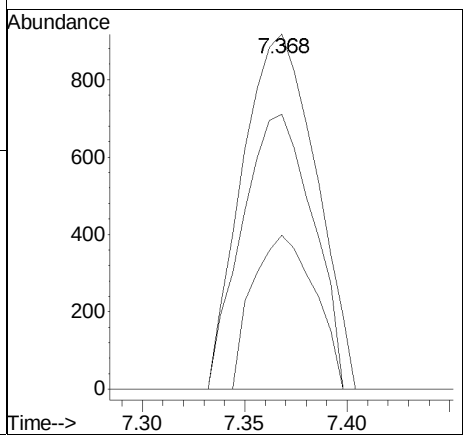


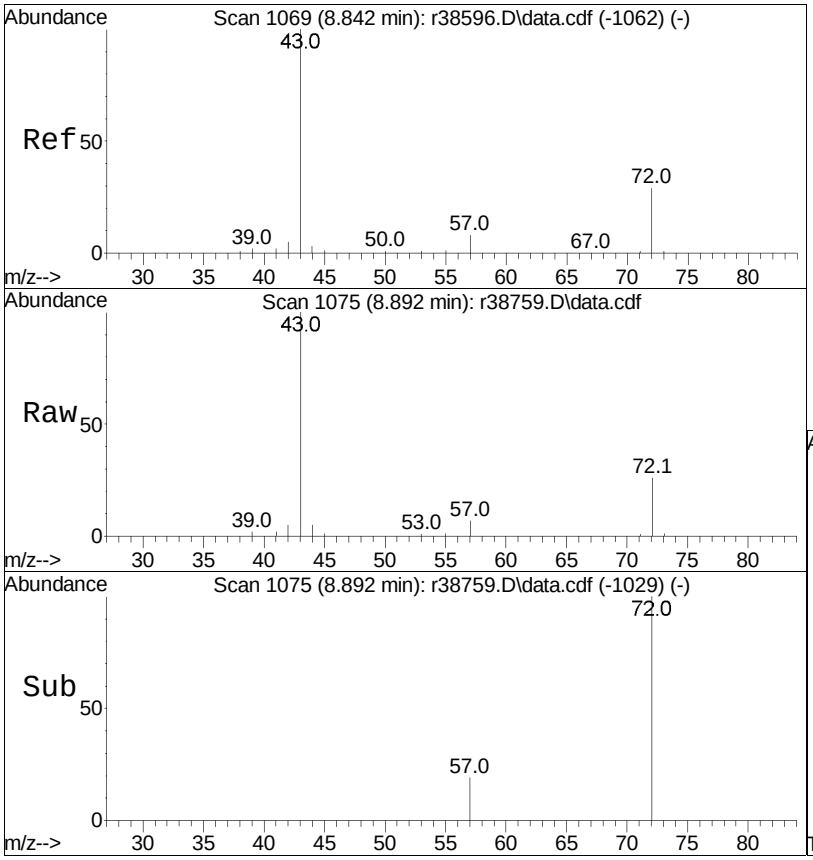


#31
Freon 113
Concen: 0.07 ppbV
RT: 7.368 min Scan# 876
Delta R.T. 0.036 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion:101 Resp: 2303

Ion	Ratio	Lower	Upper
101	100		
85	43.4	30.6	45.8
151	77.5	62.4	93.6

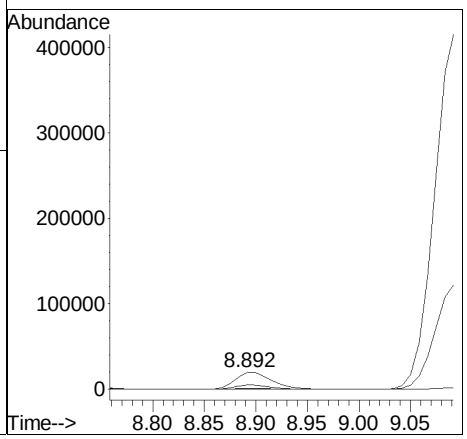


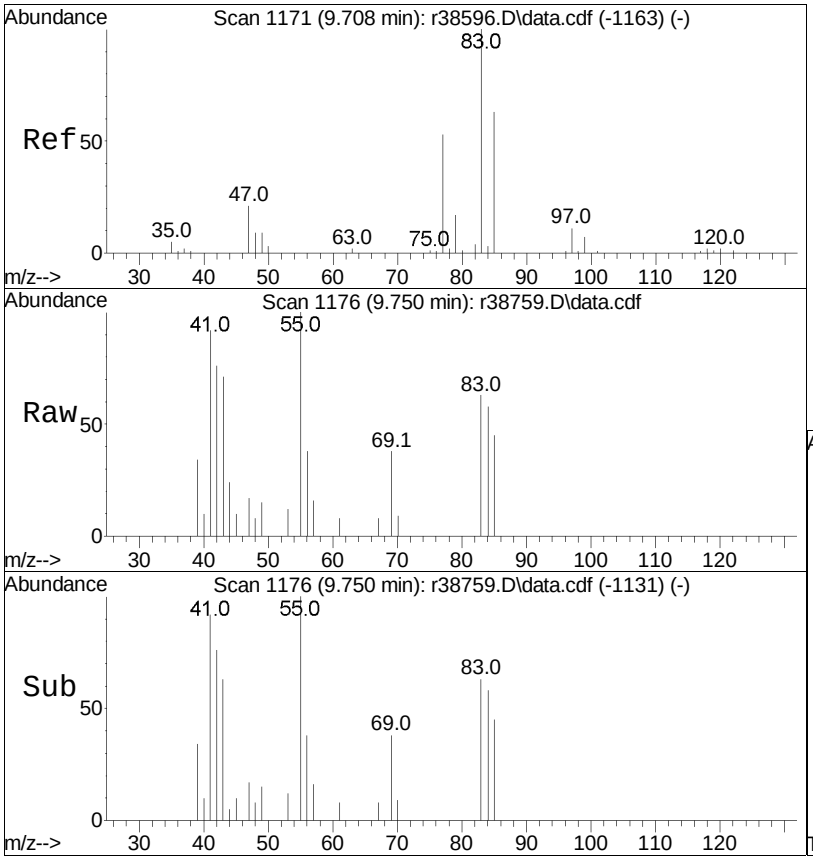


#36
2-butanone
Concen: 1.12 ppbV
RT: 8.892 min Scan# 1075
Delta R.T. 0.050 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 43 Resp: 48987

Ion	Ratio	Lower	Upper
43	100		
72	26.3	23.1	34.7
57	6.9	6.3	9.5

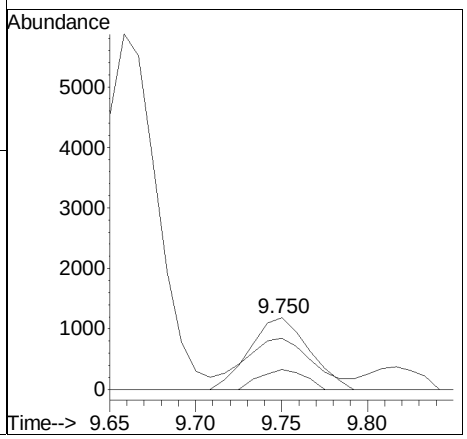


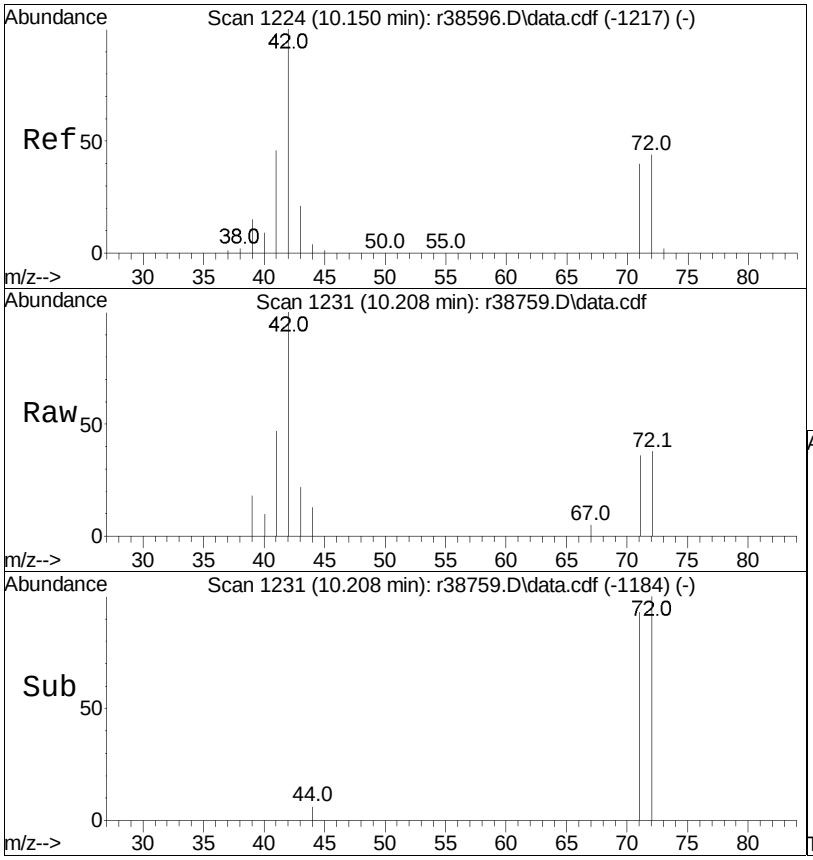


#39
chloroform
Concen: 0.08 ppbV
RT: 9.750 min Scan# 1176
Delta R.T. 0.042 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 83 Resp: 2837

Ion	Ratio	Lower	Upper
83	100		
85	71.5	50.4	75.6
47	27.8	16.9	25.3#

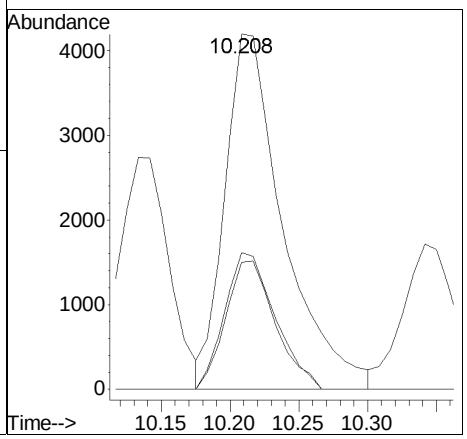


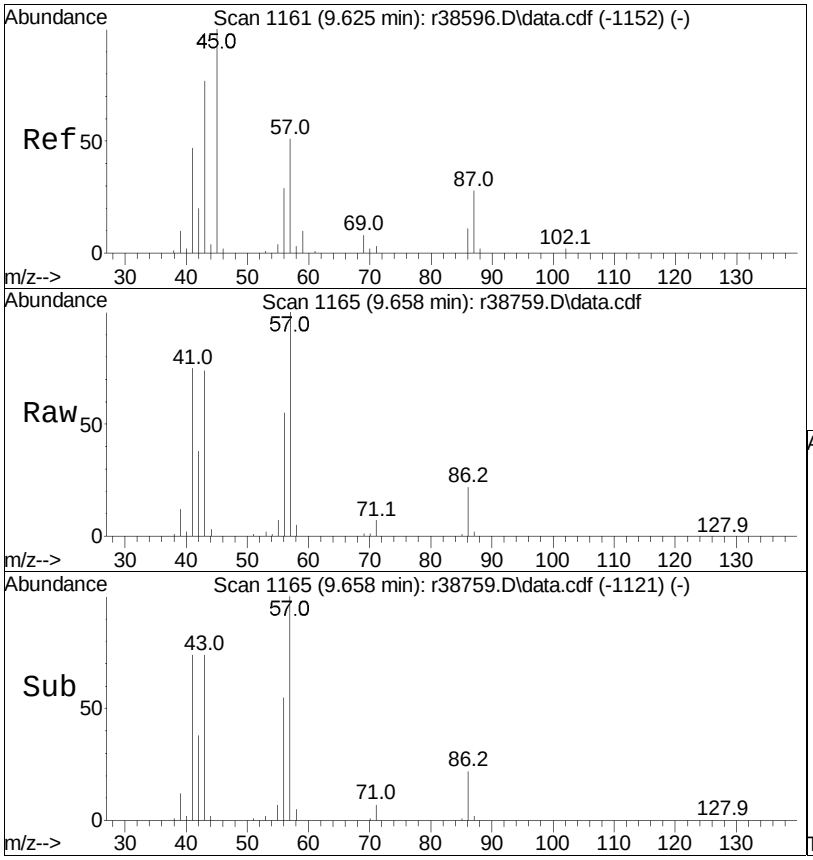


#40
Tetrahydrofuran
Concen: 0.45 ppbV
RT: 10.208 min Scan# 1231
Delta R.T. 0.058 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 42 Resp: 12377

Ion	Ratio	Lower	Upper
42	100		
71	35.8	31.8	47.8
72	38.5	35.2	52.8

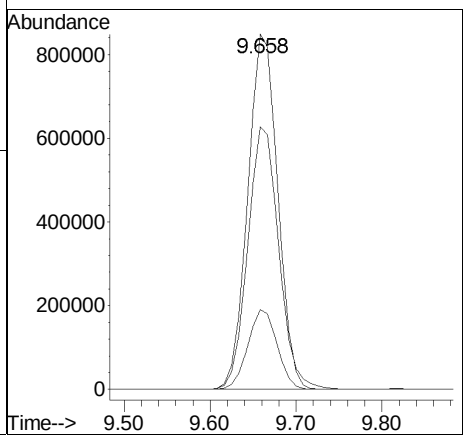


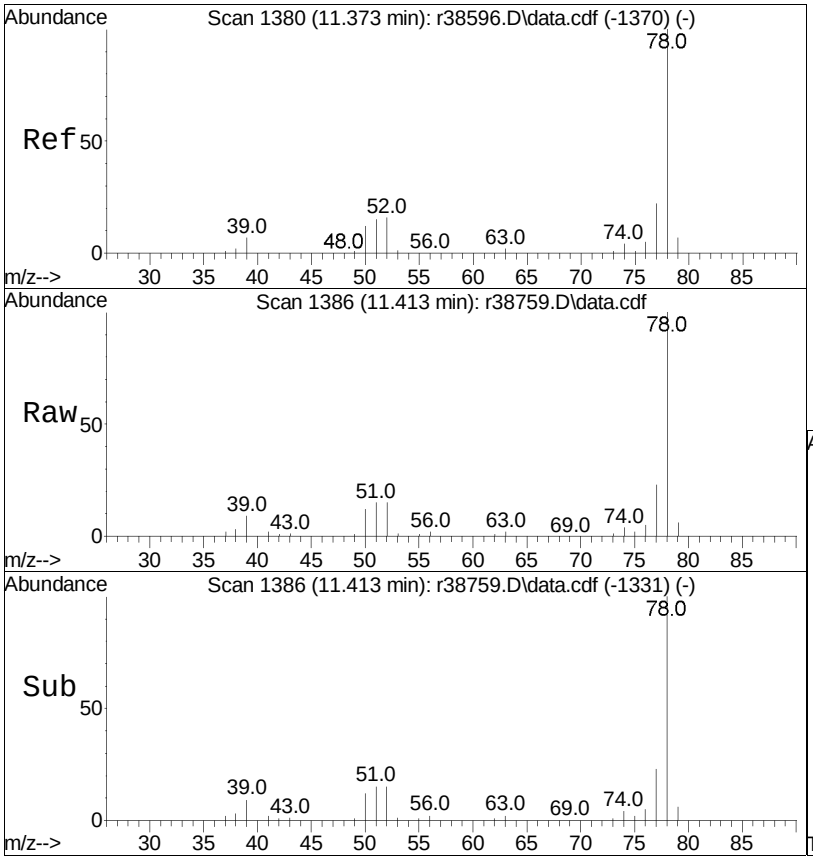


#44
hexane
Concen: 57.71 ppbV
RT: 9.658 min Scan# 1165
Delta R.T. 0.033 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 57 Resp: 2055152

Ion	Ratio	Lower	Upper
57	100		
43	73.9	119.3	178.9#
86	22.5	17.0	25.6

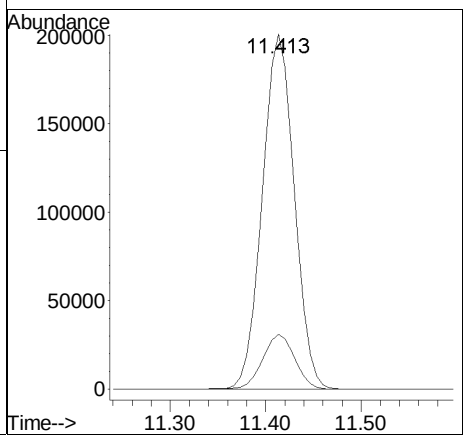


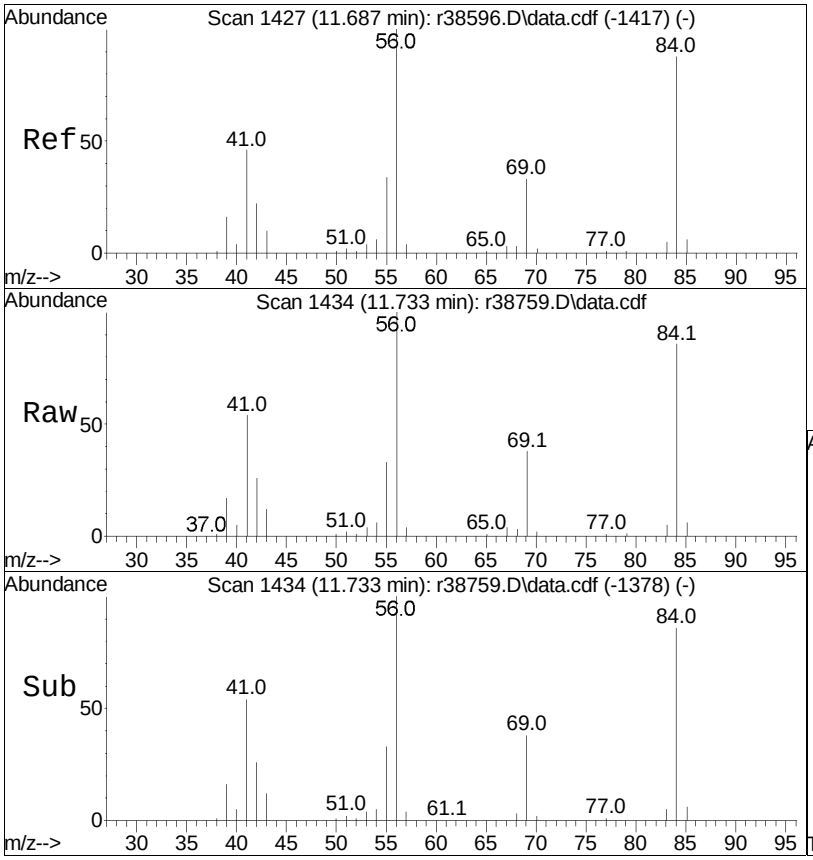


#50
benzene
Concen: 6.72 ppbV
RT: 11.413 min Scan# 1386
Delta R.T. 0.040 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 78 Resp: 467355

Ion	Ratio	Lower	Upper
78	100		
52	15.5	12.6	18.8

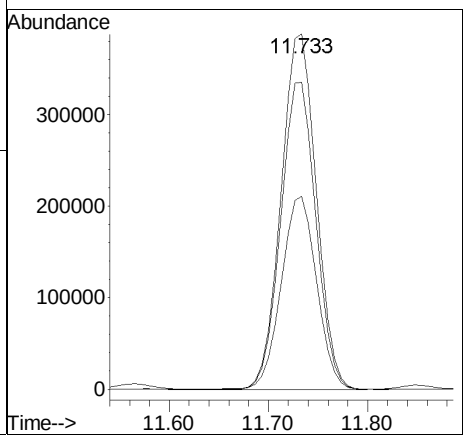


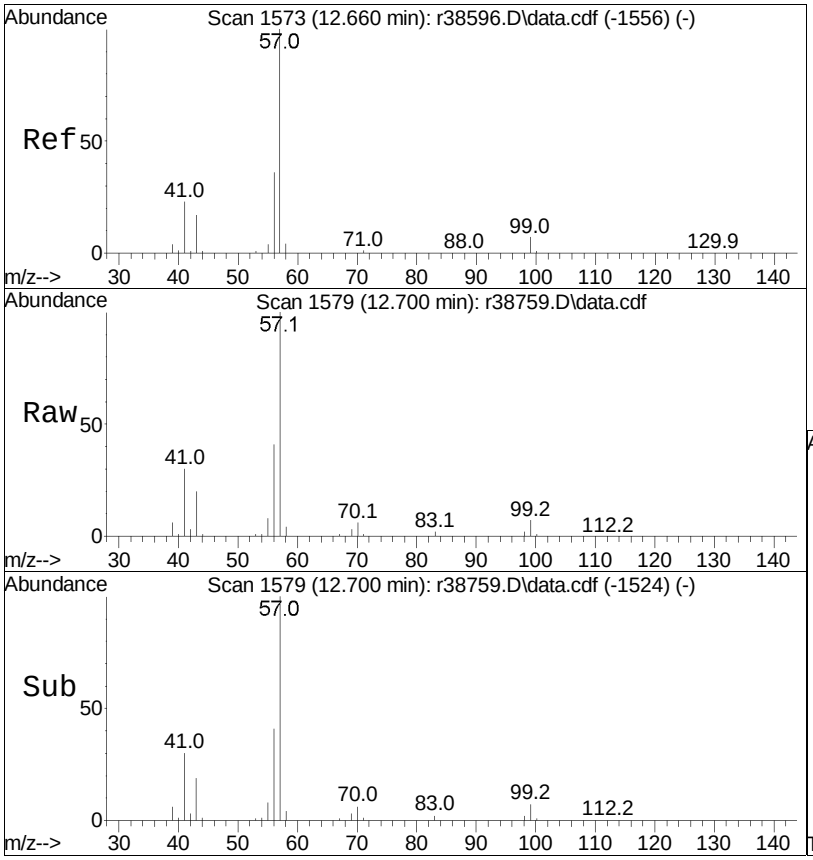


#53
cyclohexane
Concen: 24.86 ppbV
RT: 11.733 min Scan# 1434
Delta R.T. 0.047 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 56 Resp: 958925

Ion	Ratio	Lower	Upper
56	100		
84	86.4	70.2	105.2
41	54.3	36.9	55.3

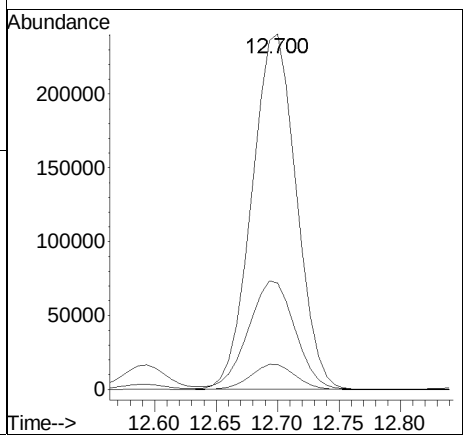


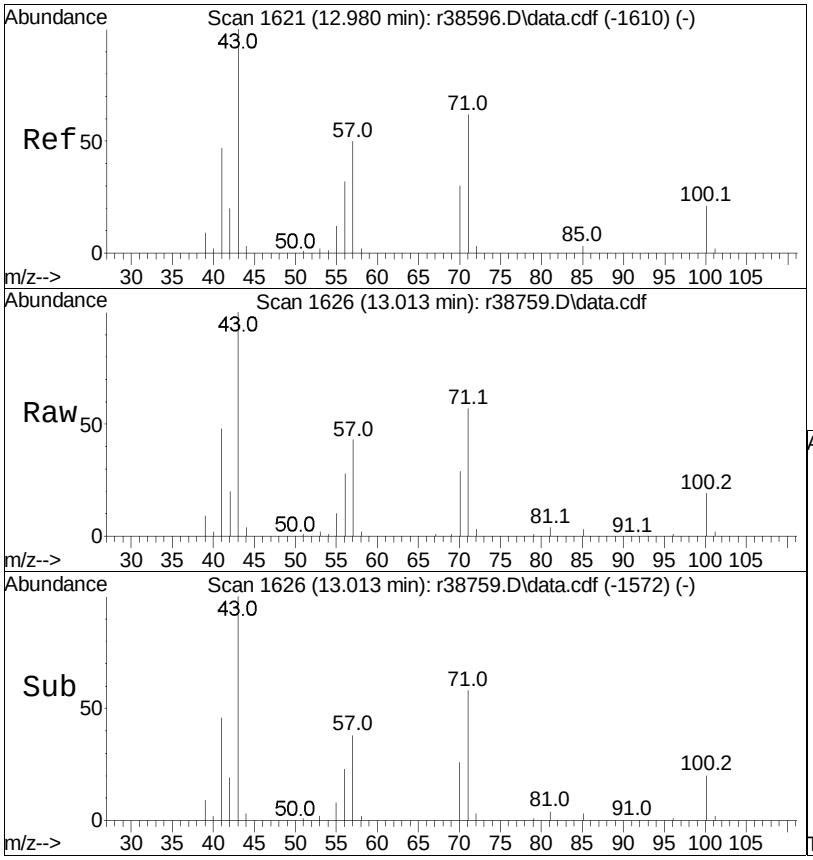


#60
2,2,4-trimethylpentane
Concen: 5.34 ppbV
RT: 12.700 min Scan# 1579
Delta R.T. 0.040 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 57 Resp: 605165

Ion	Ratio	Lower	Upper
57	100		
99	7.0	5.4	8.2
41	29.9	18.2	27.2#

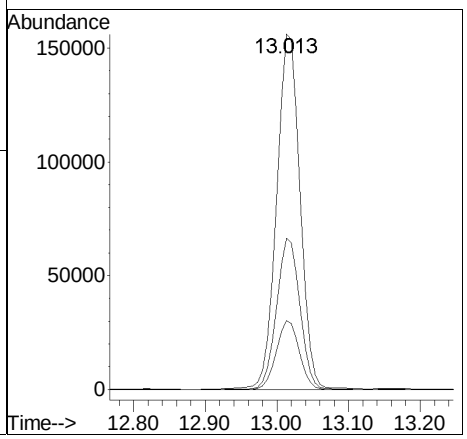


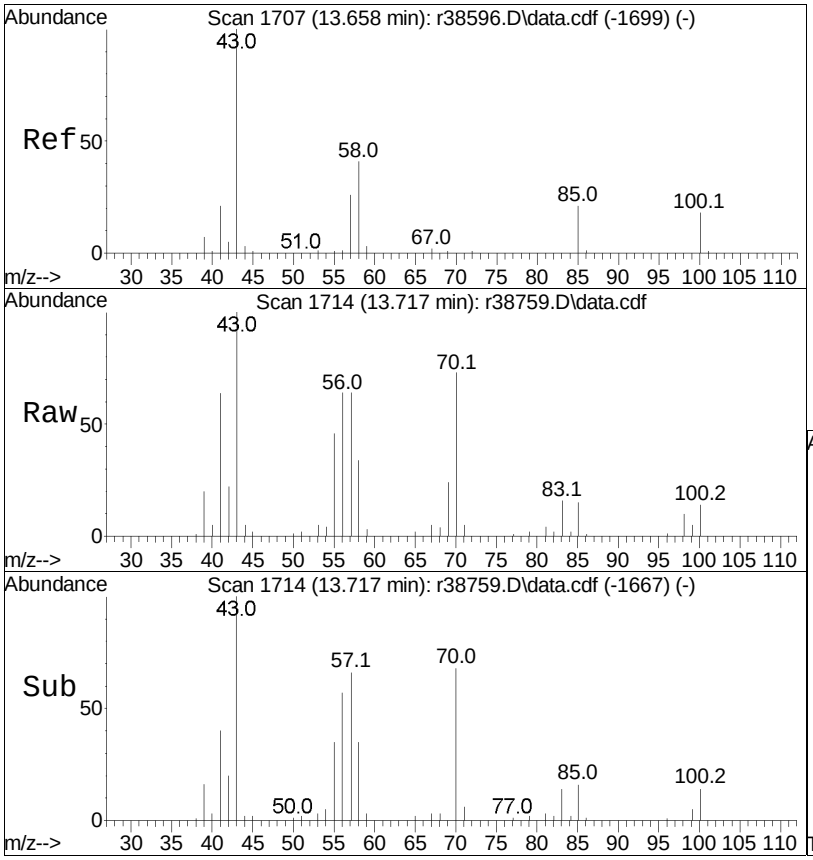


#62
heptane
Concen: 7.98 ppbV
RT: 13.013 min Scan# 1626
Delta R.T. 0.033 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 43 Resp: 355547

Ion	Ratio	Lower	Upper
43	100		
57	42.6	39.8	59.6
100	19.4	17.3	25.9

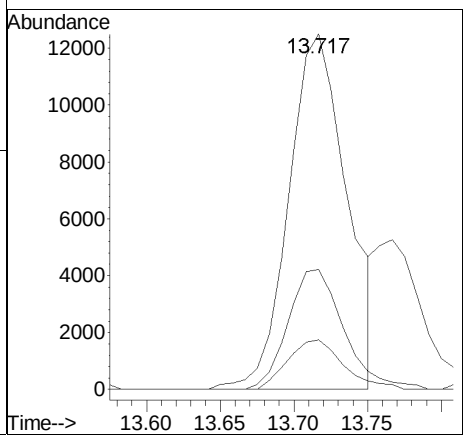


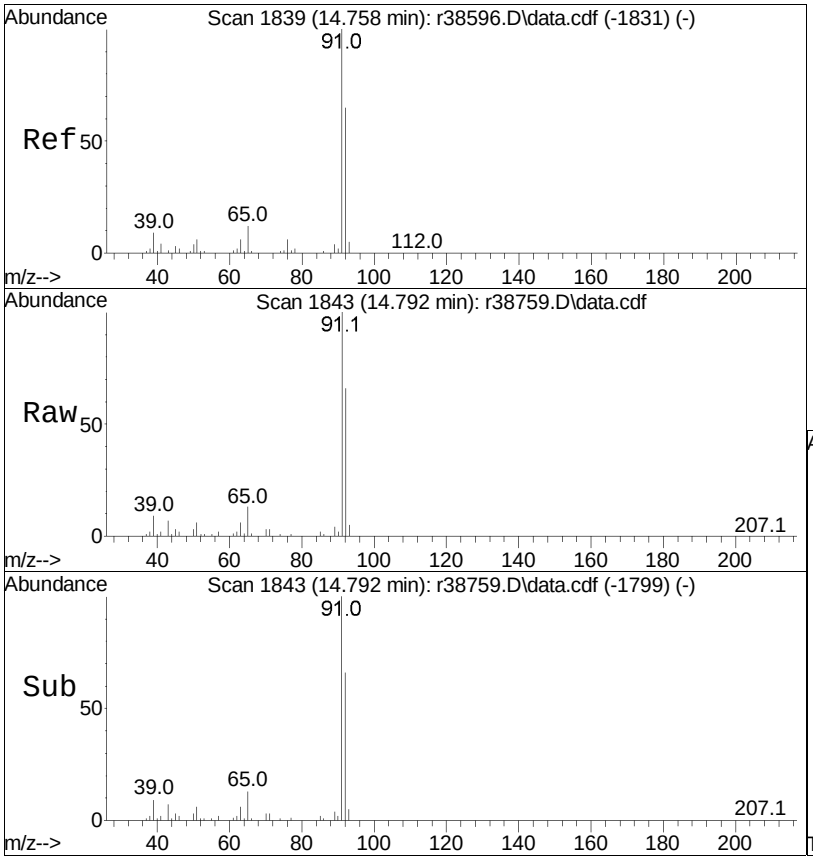


#64
4-methyl-2-pentanone
Concen: 0.69 ppbV
RT: 13.717 min Scan# 1714
Delta R.T. 0.058 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 43 Resp: 34435

Ion	Ratio	Lower	Upper
43	100		
58	33.7	32.5	48.7
100	14.0	14.7	22.1#

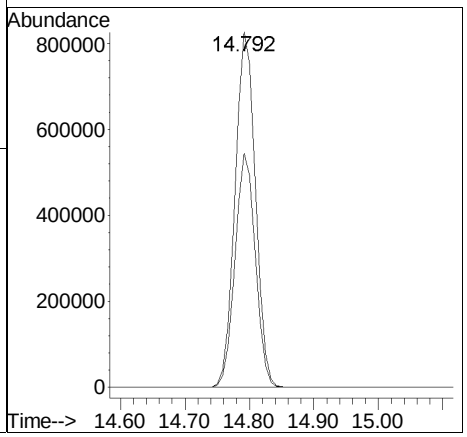


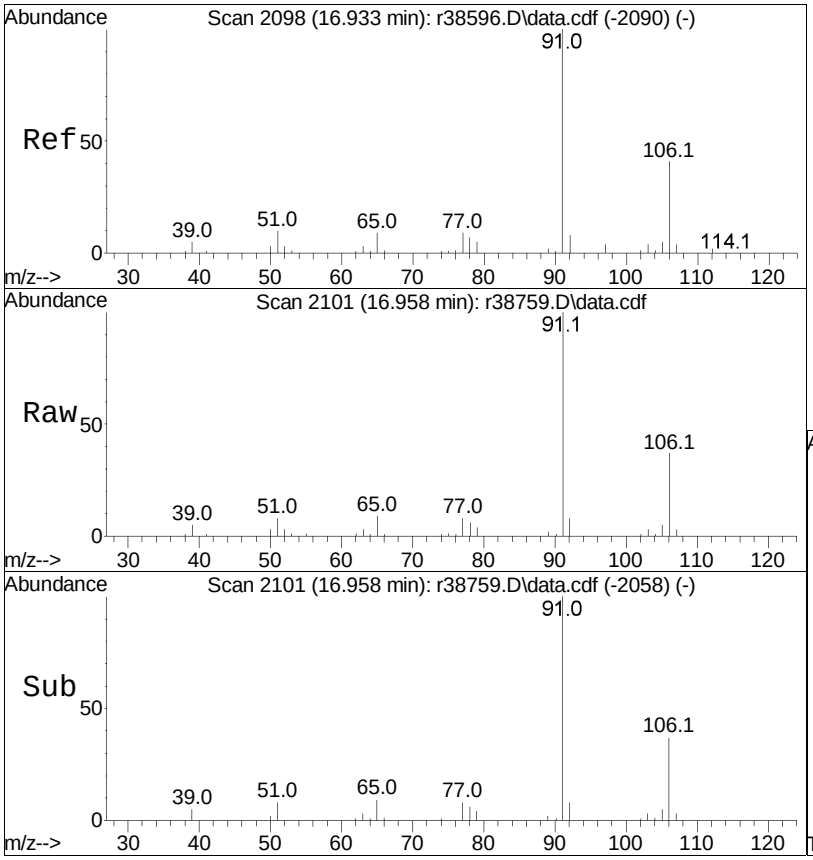


#68
toluene
Concen: 26.11 ppbV
RT: 14.792 min Scan# 1843
Delta R.T. 0.033 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 91 Resp: 1818461

Ion	Ratio	Lower	Upper
91	100		
92	65.9	52.4	78.6

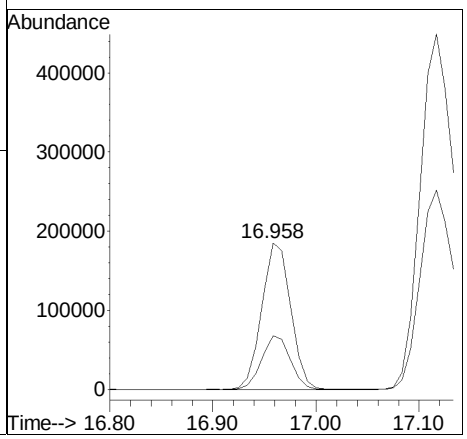


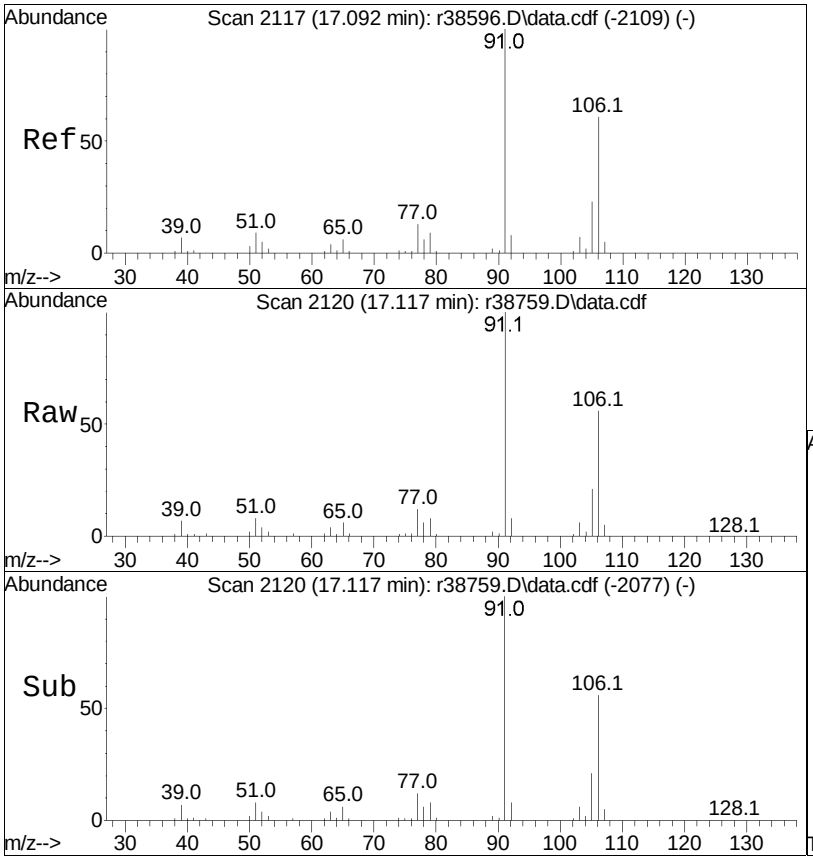


#81
ethylbenzene
Concen: 4.35 ppbV
RT: 16.958 min Scan# 2101
Delta R.T. 0.025 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 91 Resp: 360980

Ion	Ratio	Lower	Upper
91	100		
106	36.7	32.6	48.8

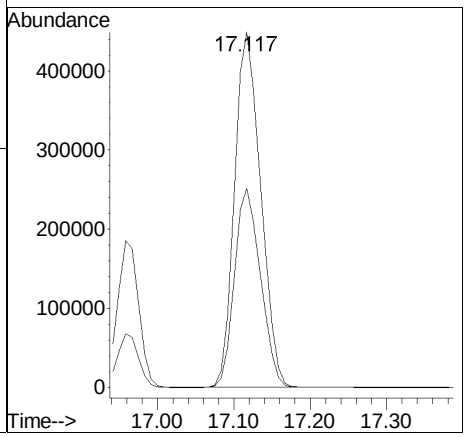


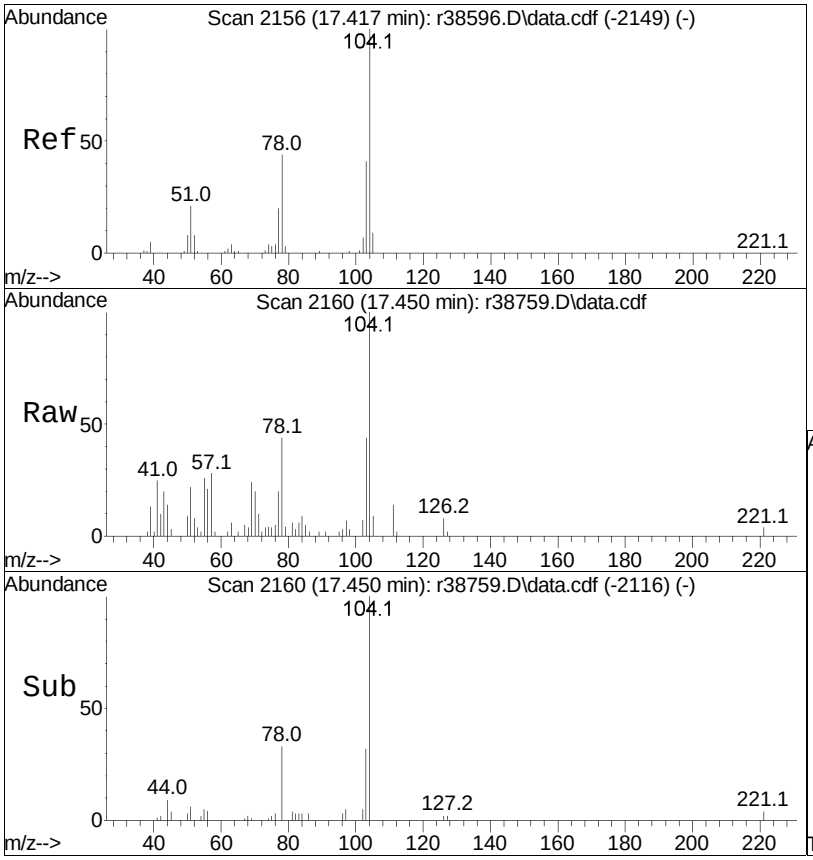


#83
m+p-xylene
Concen: 15.72 ppbV
RT: 17.117 min Scan# 2120
Delta R.T. 0.025 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 91 Resp: 1067446

Ion	Ratio	Lower	Upper
91	100		
106	56.1	49.0	73.6

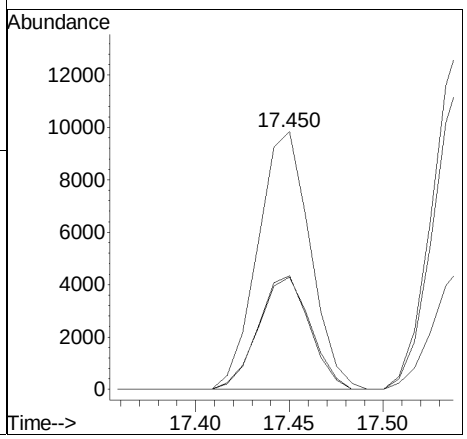


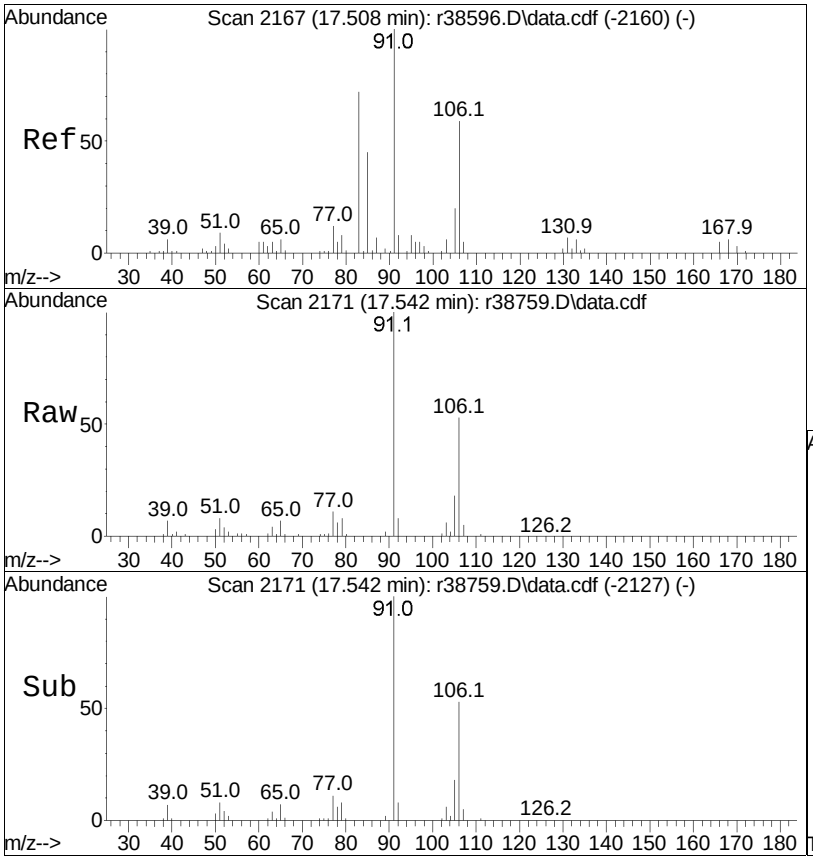


#85
styrene
Concen: 0.32 ppbV
RT: 17.450 min Scan# 2160
Delta R.T. 0.033 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion:104 Resp: 19109

Ion	Ratio	Lower	Upper
104	100		
103	44.1	33.1	49.7
78	43.6	35.0	52.6

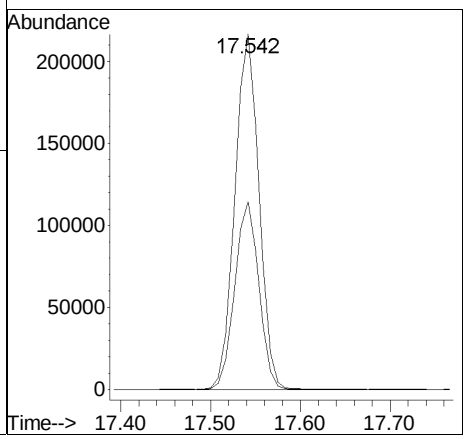


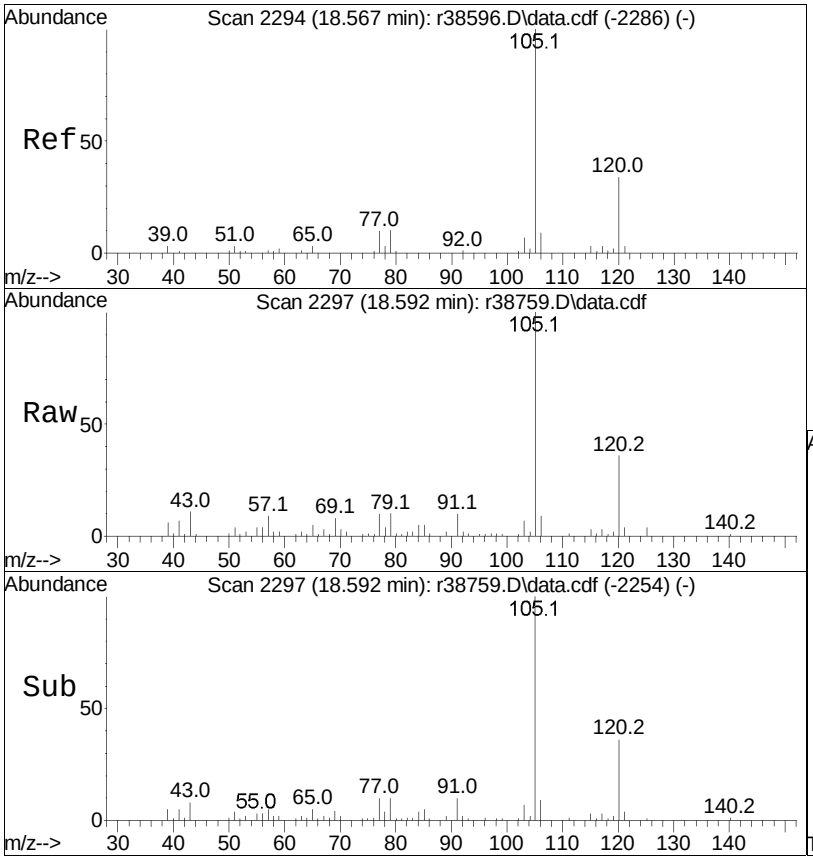


#87
o-xylene
Concen: 6.09 ppbV
RT: 17.542 min Scan# 2171
Delta R.T. 0.033 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion: 91 Resp: 404889

Ion	Ratio	Lower	Upper
91	100		
106	52.9	47.4	71.0

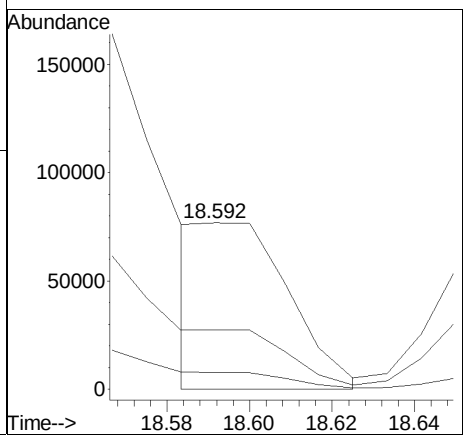


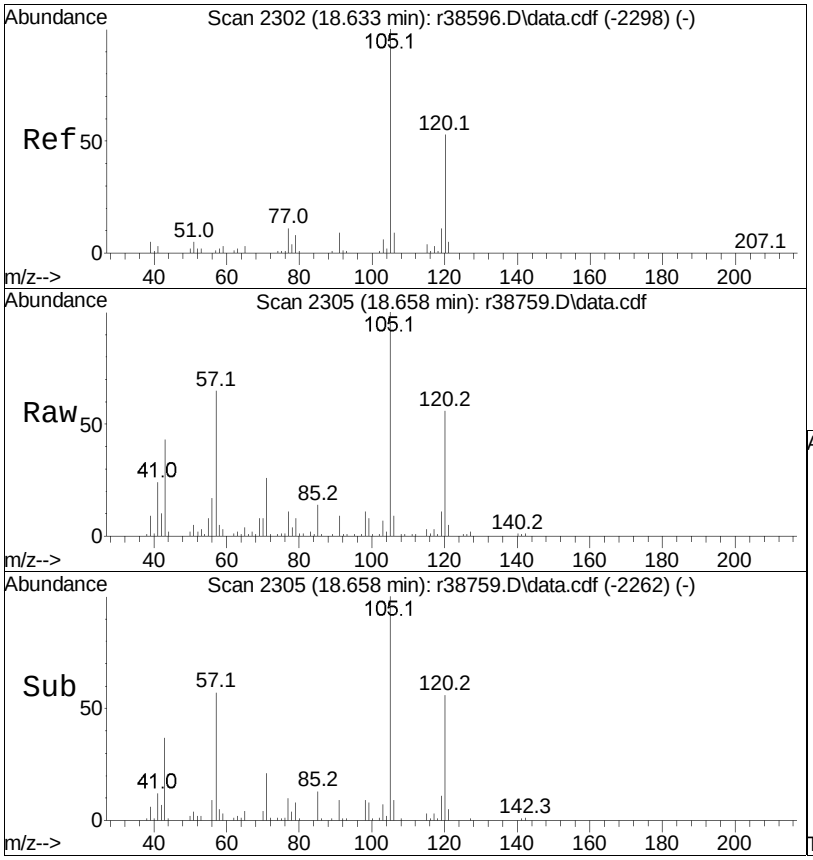


#96
4-ethyl toluene
Concen: 1.06 ppbV m
RT: 18.592 min Scan# 2297
Delta R.T. 0.025 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion:105 Resp: 113971

Ion	Ratio	Lower	Upper
105	100		
120	35.9	27.0	40.4
91	10.0	7.4	11.0

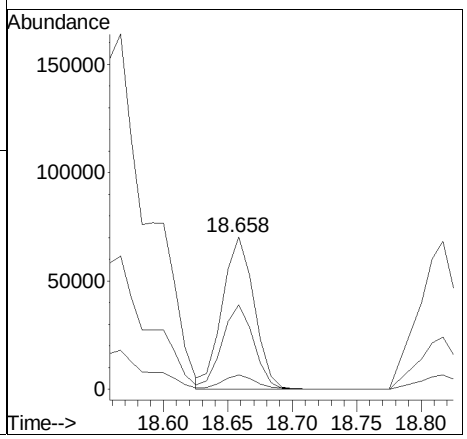


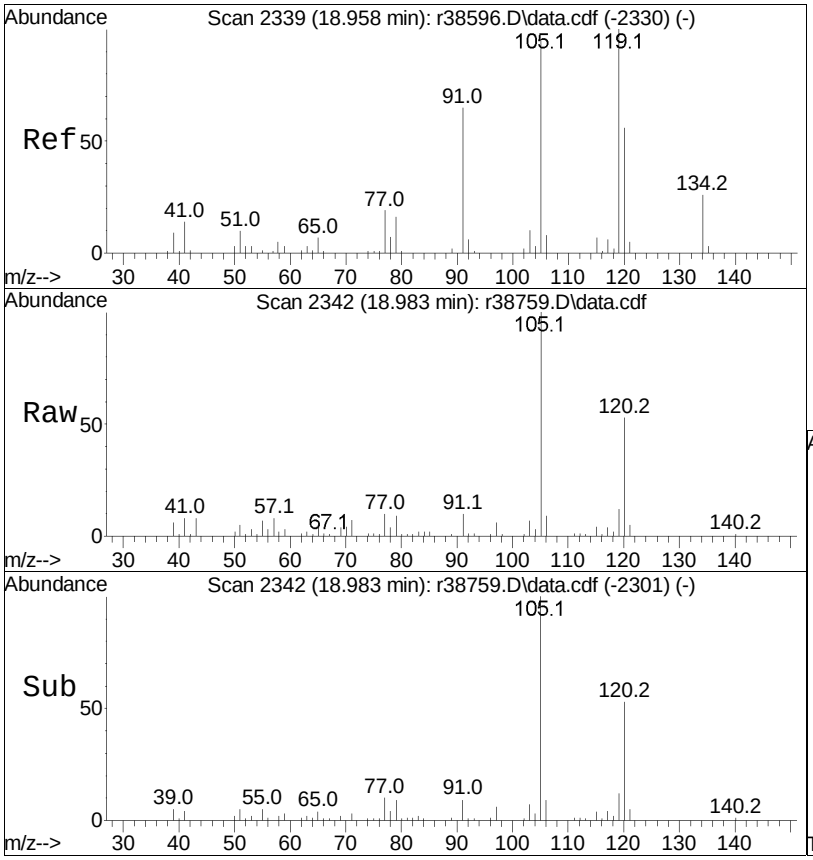


#97
1,3,5-trimethylbenzene
Concen: 1.40 ppbV
RT: 18.658 min Scan# 2305
Delta R.T. 0.025 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion:105 Resp: 121959

Ion	Ratio	Lower	Upper
105	100		
120	55.5	41.6	62.4
91	9.5	7.0	10.4

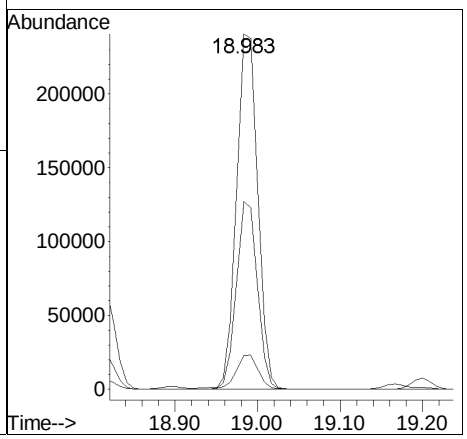




#99
1,2,4-trimethylbenzene
Concen: 5.34 ppbV
RT: 18.983 min Scan# 2342
Delta R.T. 0.025 min
Lab File: r38759.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion:105 Resp: 433251

Ion	Ratio	Lower	Upper
105	100		
120	52.8	47.1	70.7
91	9.6	55.0	82.6#

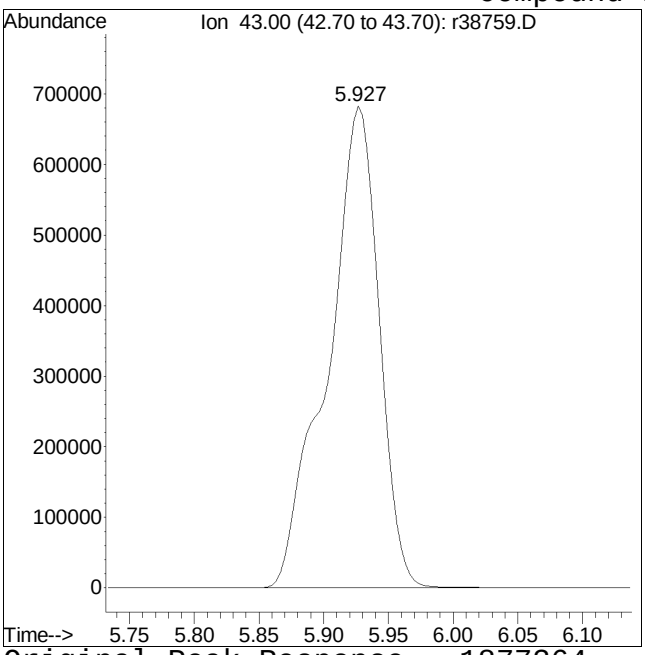


Manual Integration Report

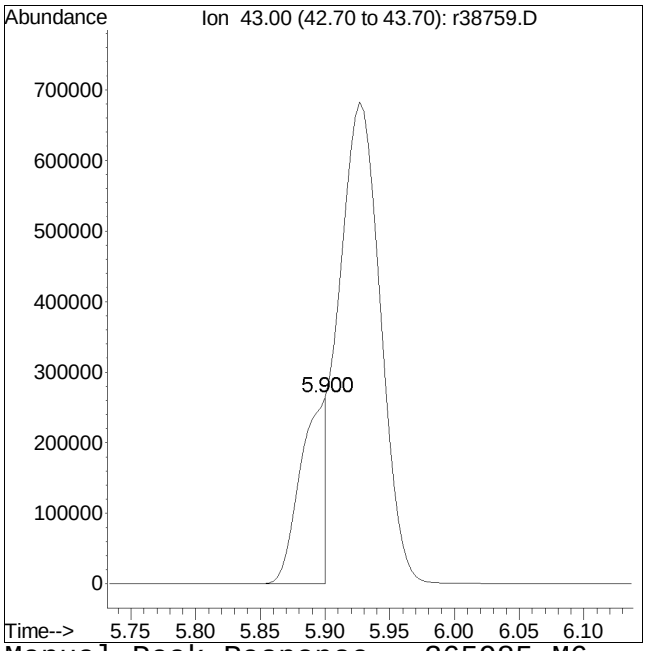
Data Path : O:\Forensics\Data\AirpianoQ
Data File : r38759.D
Date Inj'd : 3/20/2020 0:6: 6
Sample : L2011723-06,3,250,250

Method : TFS3_200312.M
Operator : AIRPIANO3:EW
Instrument :
Quant Date : 3/21/2020 8:04 am

Compound #19: acetone



Original Peak Response = 1877364



Manual Peak Response = 365985 M6

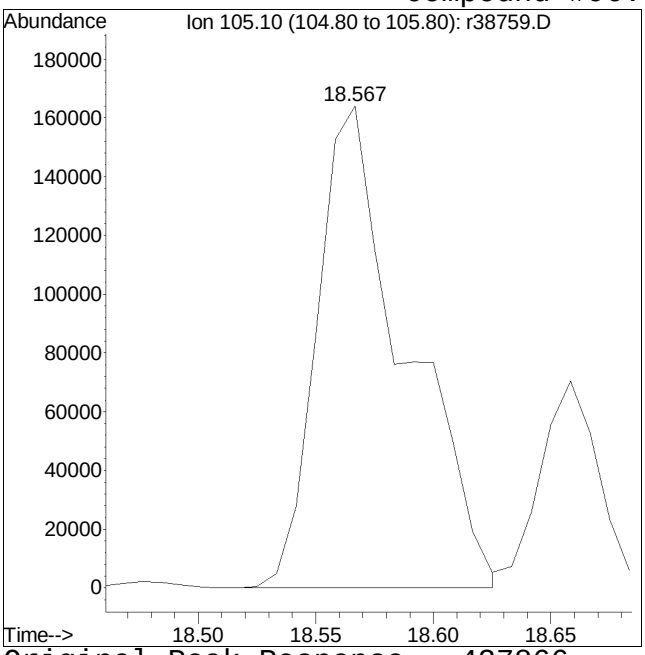
M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Manual Integration Report

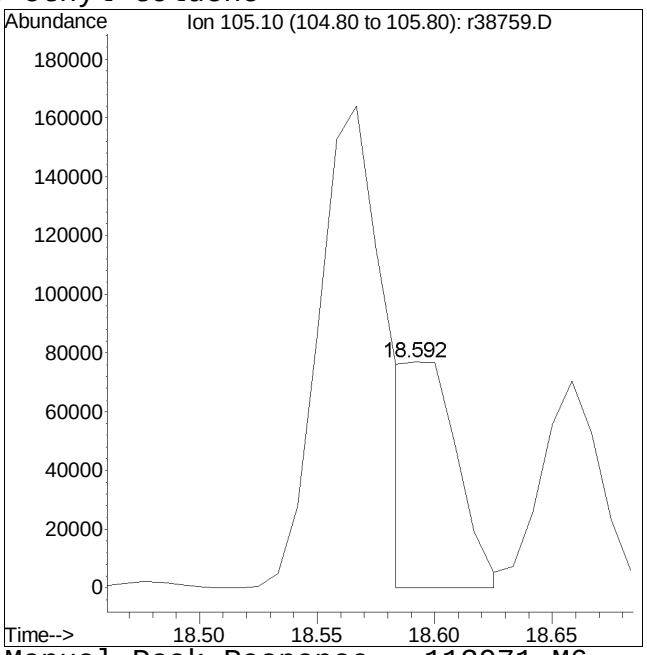
Data Path : O:\Forensics\Data\AirpianoQ
Data File : r38759.D
Date Inj'd : 3/20/2020 0:6: 6
Sample : L2011723-06,3,250,250

Method : TFS3_200312.M
Operator : AIRPIANO3:EW
Instrument :
Quant Date : 3/21/2020 8:04 am

Compound #96: 4-ethyl toluene



Original Peak Response = 427866



Manual Peak Response = 113971 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193208.D
Acq On : 21 Mar 2020 1:52 AM
Operator : AIRLAB19:EW
Sample : L2011723-01,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:39:35 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.775	49	351122	10.000	ppbV	0.00
Standard Area = 288364			Recovery = 121.76%			
43) 1,4-difluorobenzene	10.740	114	1066245	10.000	ppbV	0.00
Standard Area = 940727			Recovery = 113.34%			
67) chlorobenzene-D5	14.875	54	134903	10.000	ppbV	0.00
Standard Area = 108860			Recovery = 123.92%			
System Monitoring Compounds						
Target Compounds						Qvalue
5) dichlorodifluoromethane	3.562	85	8056	0.409	ppbV	98
6) chloromethane	3.772	50	3260	0.259	ppbV	99
7) Freon-114	3.910		0	N.D.		
9) vinyl chloride	0.000		0	N.D.		
10) 1,3-butadiene	4.240	54	11175	0.830	ppbV	96
13) bromomethane	0.000		0	N.D.		
14) chloroethane	4.792		0	N.D.		
15) ethanol	4.930	31	111277	10.846	ppbV #	63
17) vinyl bromide	0.000		0	N.D.		
19) acetone	5.483	43	753012	39.937	ppbV #	100
21) trichlorofluoromethane	5.697	101	4308	0.208	ppbV	97
22) isopropyl alcohol	5.770	45	58862	1.643	ppbV	100
26) 1,1-dichloroethene	0.000		0	N.D.	d	
27) tertiary butyl alcohol	6.432	59	67138	2.044	ppbV #	95
28) methylene chloride	6.540	49	8130	0.353	ppbV	88
29) 3-chloropropene	0.000		0	N.D.	d	
30) carbon disulfide	6.846	76	92534	1.444	ppbV #	82
31) Freon 113	6.822	101	2249	0.067	ppbV	96
32) trans-1,2-dichloroethene	0.000		0	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.	d	
34) MTBE	0.000		0	N.D.	d	
36) 2-butanone	8.133	43	215839	5.107	ppbV	96
37) cis-1,2-dichloroethene	0.000		0	N.D.		
38) Ethyl Acetate	0.000		0	N.D.	d	
39) chloroform	8.908	83	2032881	69.225	ppbV	94
40) Tetrahydrofuran	9.308	42	87023	3.064	ppbV	99
42) 1,2-dichloroethane	0.000		0	N.D.	d	

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193208.D
Acq On : 21 Mar 2020 1:52 AM
Operator : AIRLAB19:EW
Sample : L2011723-01,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:39:35 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) hexane	8.817	57	1267156	32.423	ppbV #	16
48) 1,1,1-trichloroethane	0.000		0	N.D.		
50) benzene	10.393	78	257634	3.341	ppbV	99
52) carbon tetrachloride	10.553	117	1427	0.069	ppbV	86
53) cyclohexane	10.687	56	618830	14.476	ppbV	99
56) 1,2-dichloropropane	0.000		0	N.D.	d	
57) bromodichloromethane	11.440	83	176126	5.239	ppbV	98
58) 1,4-dioxane	0.000		0	N.D.		
59) trichloroethene	11.487		0	N.D.		
60) 2,2,4-trimethylpentane	11.513	57	646251	5.239	ppbV	94
62) heptane	11.780	43	252318	5.291	ppbV	97
63) cis-1,3-dichloropropene	0.000		0	N.D.		
64) 4-methyl-2-pentanone	12.417	43	30288	0.590	ppbV	96
65) trans-1,3-dichloropropene	0.000		0	N.D.		
66) 1,1,2-trichloroethane	0.000		0	N.D.	d	
68) toluene	13.367	91	1537209	18.713	ppbV	98
72) 2-hexanone	13.567	43	137889	2.889	ppbV #	67
74) dibromochloromethane	13.750	129	5012	0.159	ppbV	95
75) 1,2-dibromoethane	0.000		0	N.D.		
78) tetrachloroethene	14.358	166	1635655	45.318	ppbV	99
80) chlorobenzene	0.000		0	N.D.	d	
81) ethylbenzene	15.192	91	376214	3.818	ppbV	99
83) m+p-xylene	15.317	91	788667	10.153	ppbV	99
84) bromoform	0.000		0	N.D.		
85) styrene	15.600	104	15270	0.203	ppbV	99
86) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	d	
87) o-xylene	15.683	91	337741	4.432	ppbV	99
96) 4-ethyl toluene	16.608	105	95122M6	0.737	ppbV	
97) 1,3,5-trimethylbenzene	16.658	105	79878	0.770	ppbV	95
99) 1,2,4-trimethylbenzene	16.983	105	213713	2.227	ppbV #	59
101) Benzyl Chloride	0.000		0	N.D.	d	
102) 1,3-dichlorobenzene	17.167		0	N.D.		
103) 1,4-dichlorobenzene	17.167		0	N.D.		
107) 1,2-dichlorobenzene	17.442		0	N.D.		
115) 1,2,4-trichlorobenzene	0.000		0	N.D.		
119) hexachlorobutadiene	0.000		0	N.D.		

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

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193208.D
Acq On : 21 Mar 2020 1:52 AM
Operator : AIRLAB19:EW
Sample : L2011723-01,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:39:35 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

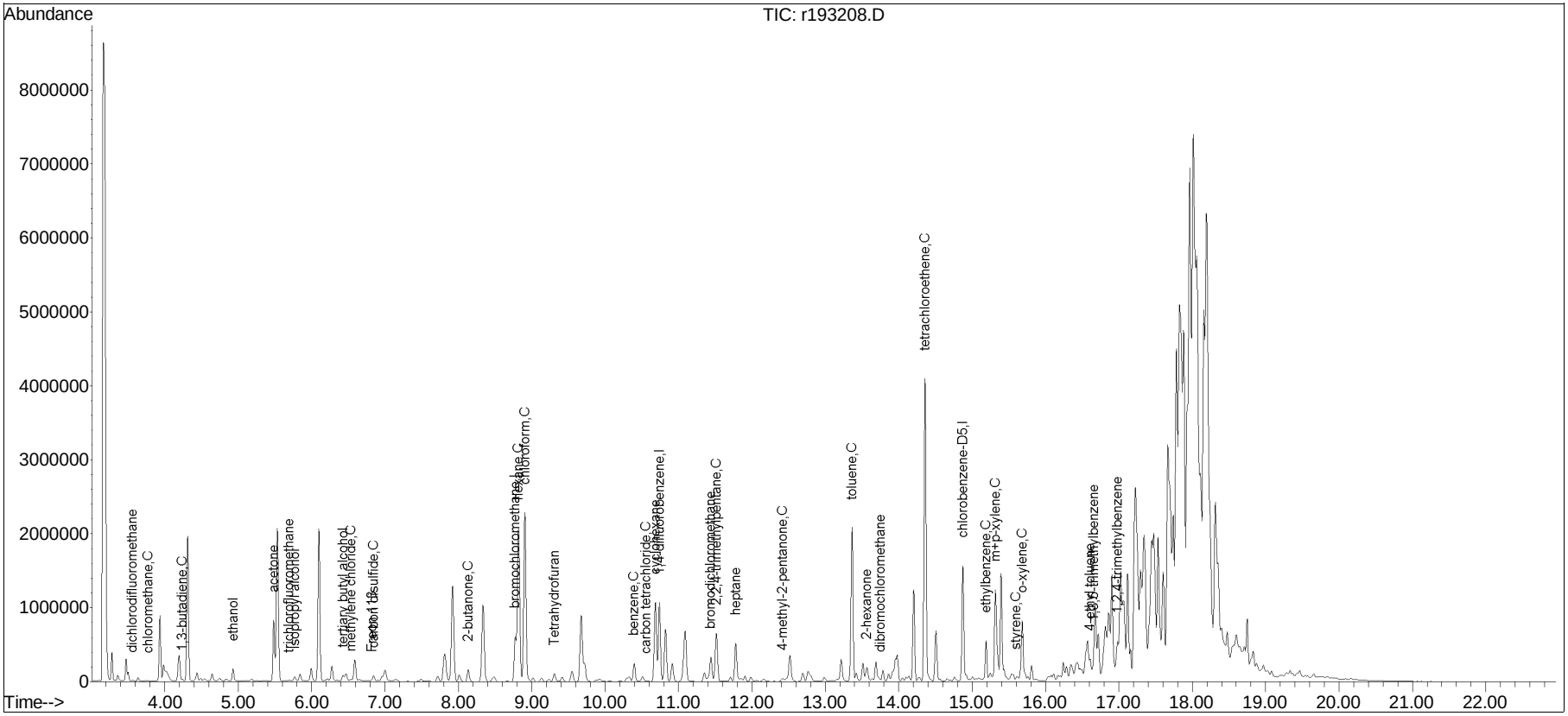
CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

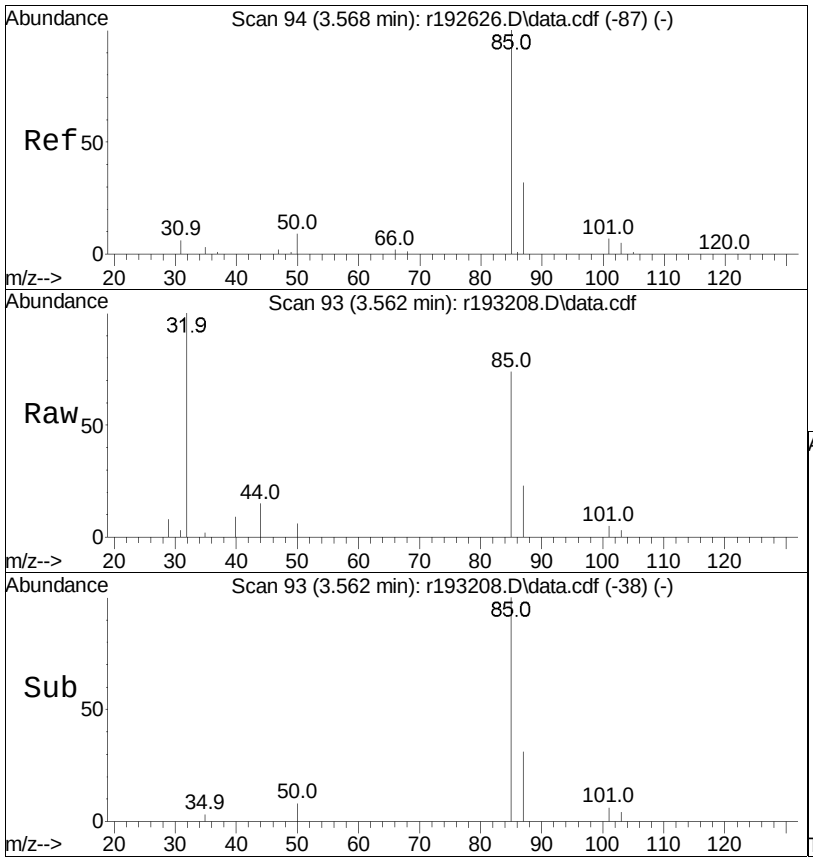
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Sub List : TO15-NY - .s\Data\Airlab19\2020\03\200320T\r193190.D

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193208.D
Acq On : 21 Mar 2020 1:52 AM
Operator : AIRLAB19:EW
Sample : L2011723-01,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:39:35 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

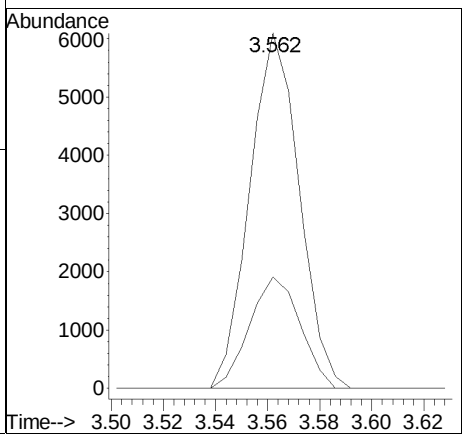


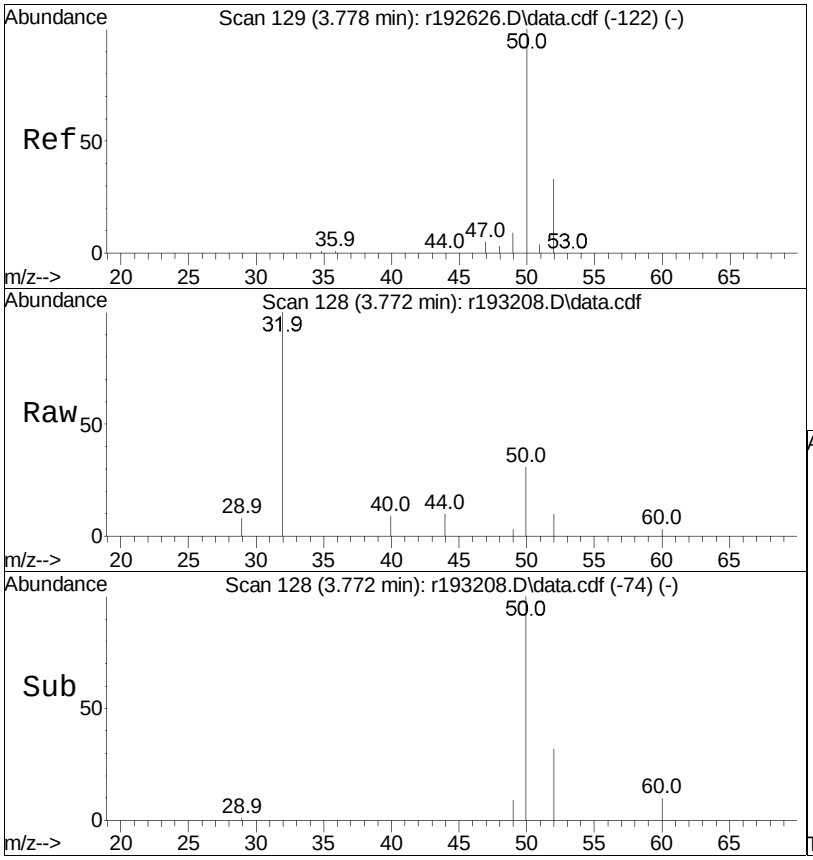


#5
dichlorodifluoromethane
Concen: 0.41 ppbV
RT: 3.562 min Scan# 93
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 85 Resp: 8056

Ion	Ratio	Lower	Upper
85	100		
87	31.4	25.9	38.9

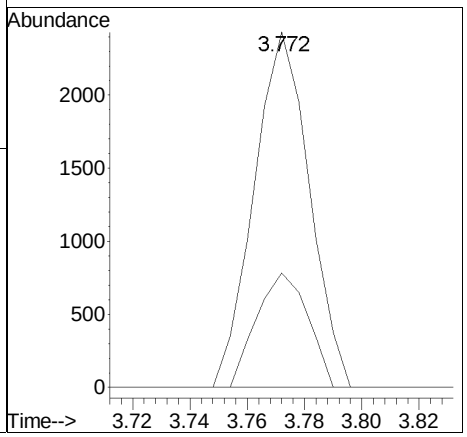


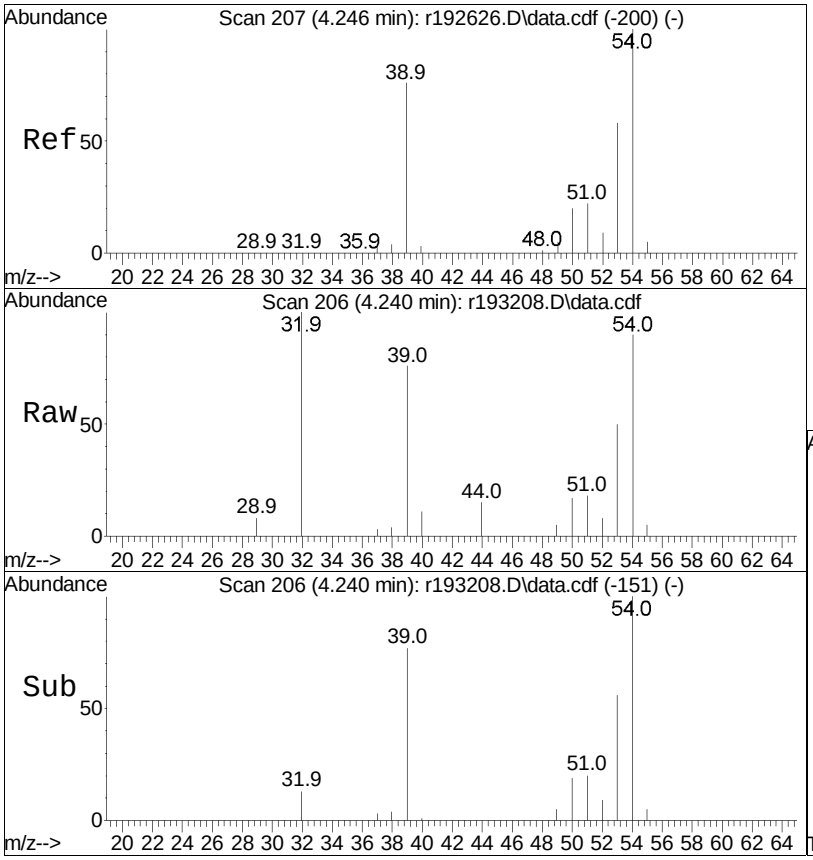


#6
chloromethane
Concen: 0.26 ppbV
RT: 3.772 min Scan# 128
Delta R.T. -0.006 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 50 Resp: 3260

Ion	Ratio	Lower	Upper
50	100		
52	32.2	26.3	39.5

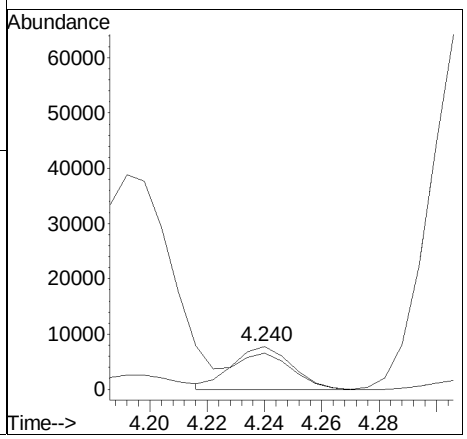


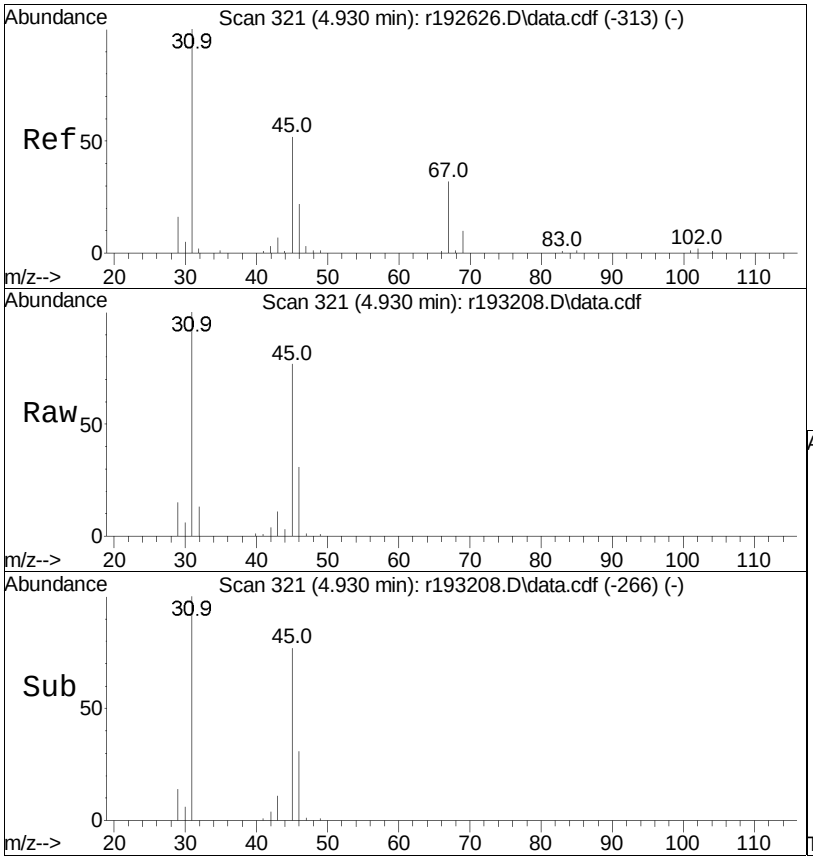


#10
1,3-butadiene
Concen: 0.83 ppbV
RT: 4.240 min Scan# 206
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 54 Resp: 11175

Ion	Ratio	Lower	Upper
54	100		
39	84.8	65.3	97.9

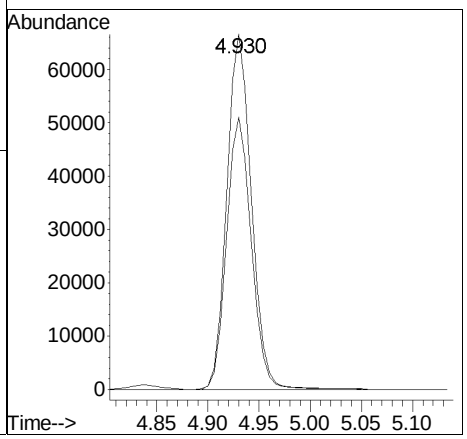


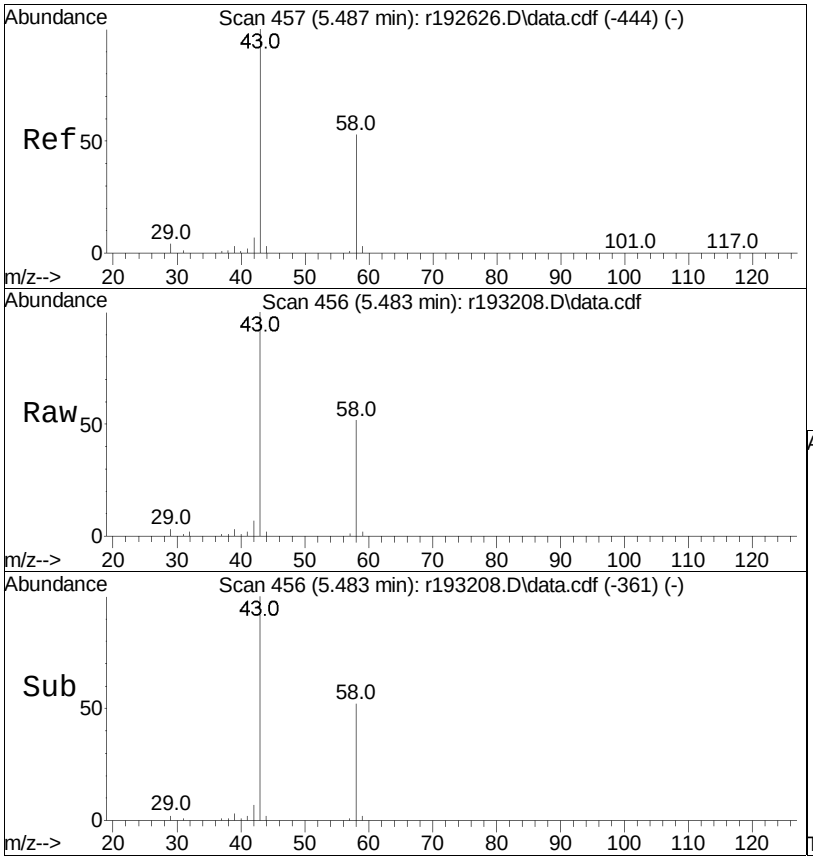


#15
ethanol
Concen: 10.85 ppbV
RT: 4.930 min Scan# 321
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 31 Resp: 111277

Ion	Ratio	Lower	Upper
31	100		
45	76.7	40.6	60.8#

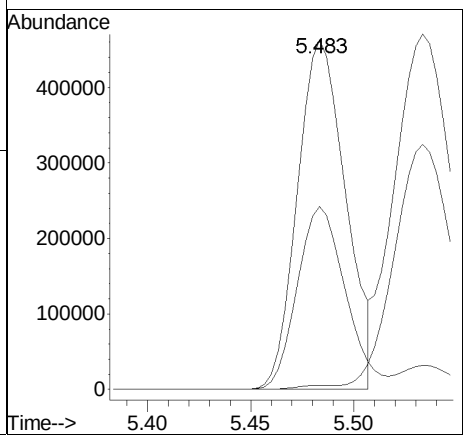


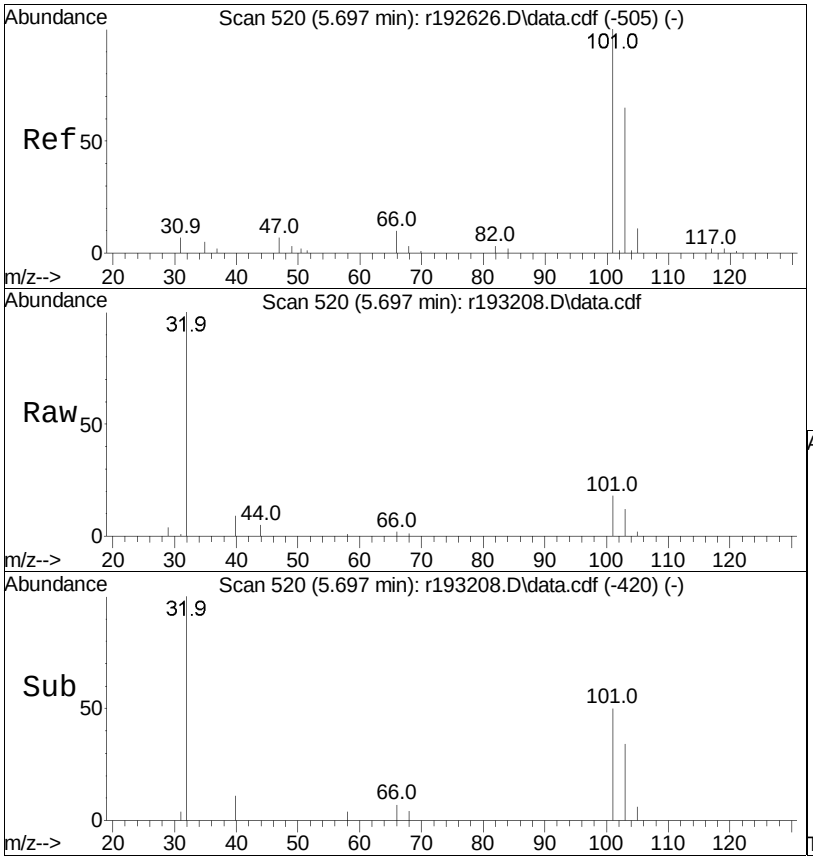


#19
acetone
Concen: 39.94 ppbV
RT: 5.483 min Scan# 456
Delta R.T. -0.013 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 43 Resp: 753012

Ion	Ratio	Lower	Upper
43	100		
58	52.3	42.0	63.0
57	1.2	1.4	2.0#

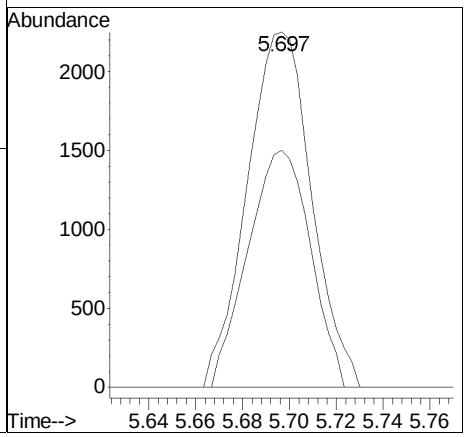


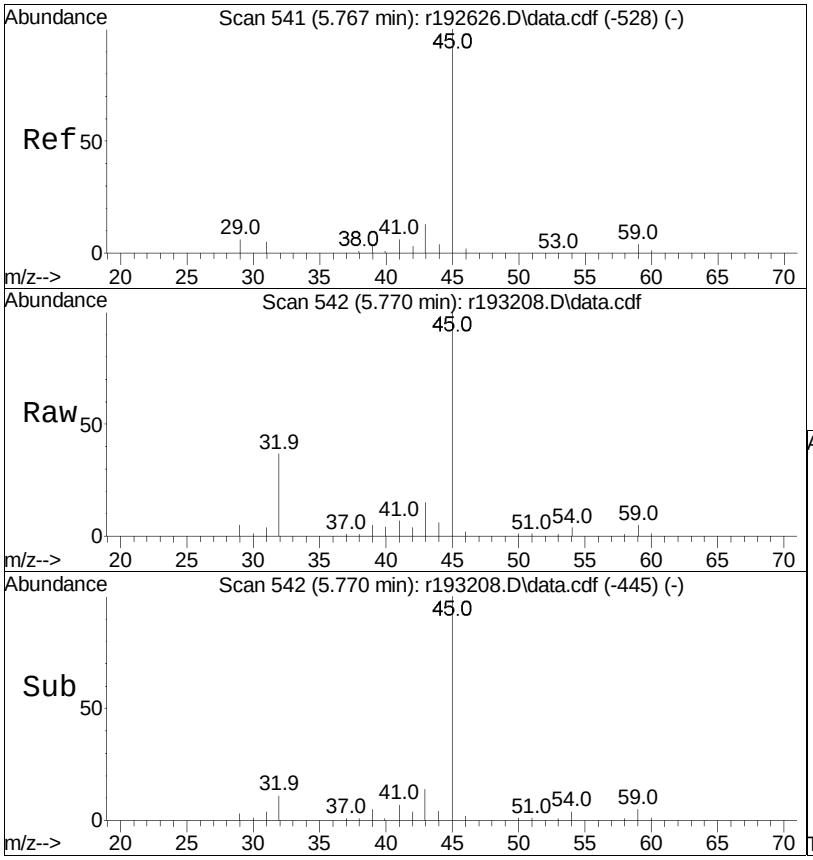


#21
trichlorofluoromethane
Concen: 0.21 ppbV
RT: 5.697 min Scan# 520
Delta R.T. 0.003 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion:101 Resp: 4308

Ion	Ratio	Lower	Upper
101	100		
103	66.8	51.4	77.2

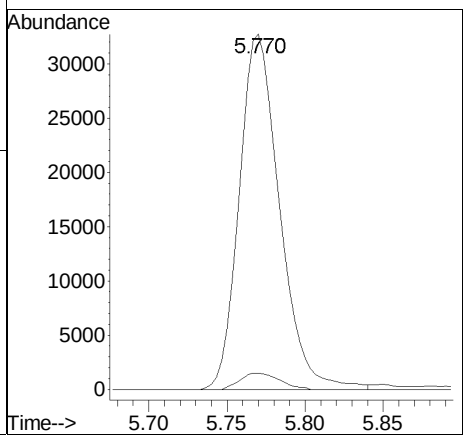


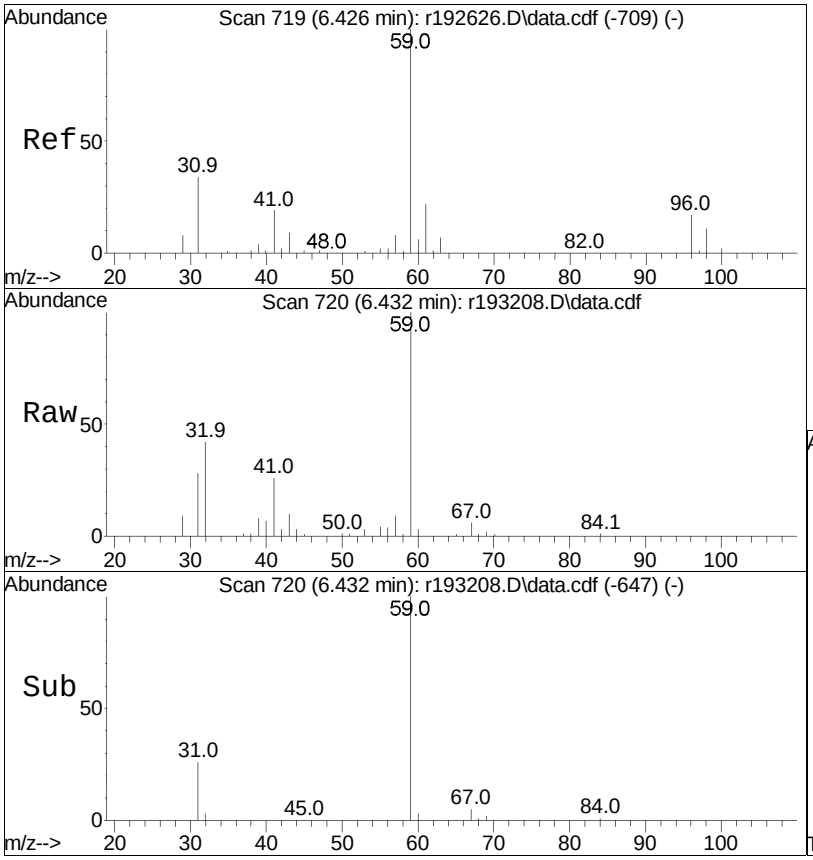


#22
isopropyl alcohol
Concen: 1.64 ppbV
RT: 5.770 min Scan# 542
Delta R.T. -0.007 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 45 Resp: 58862

Ion	Ratio	Lower	Upper
45	100		
59	4.6	3.7	5.5

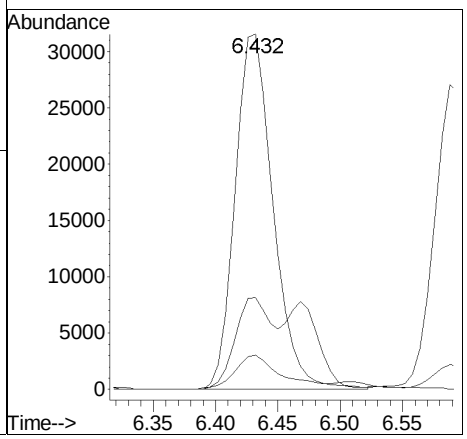


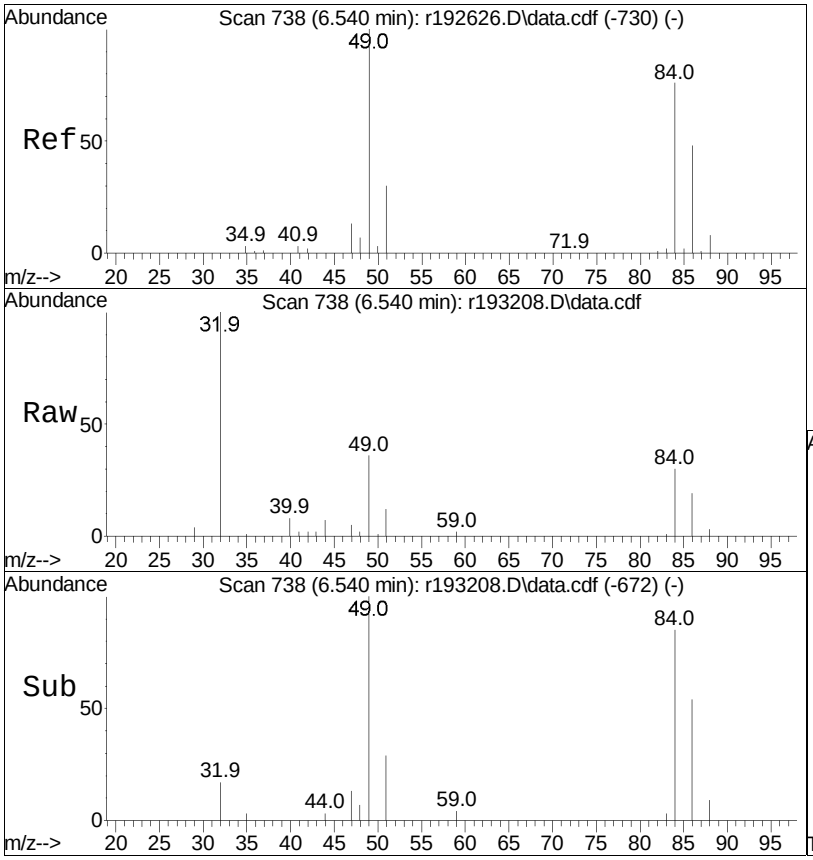


#27
tertiary butyl alcohol
Concen: 2.04 ppbV
RT: 6.432 min Scan# 720
Delta R.T. -0.018 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 59 Resp: 67138

Ion	Ratio	Lower	Upper
59	100		
41	25.8	18.8	28.2
43	9.6	9.8	14.8#

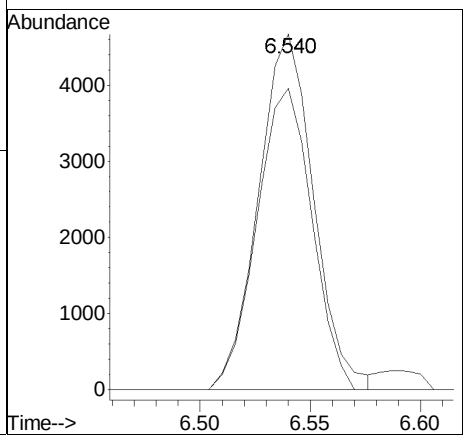


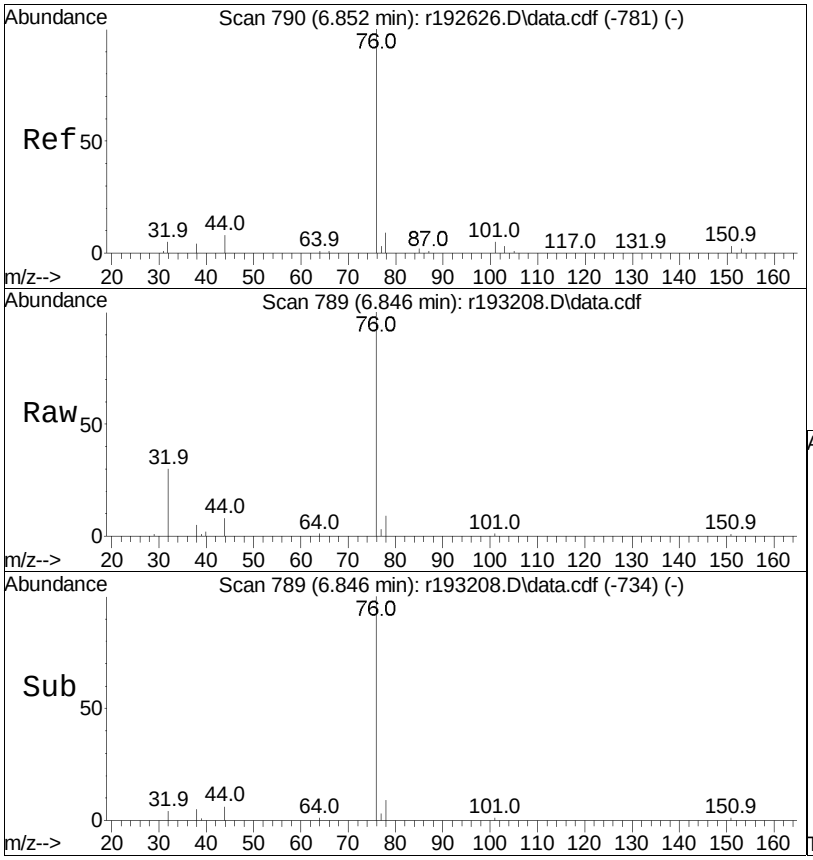


#28
methylene chloride
Concen: 0.35 ppbV
RT: 6.540 min Scan# 738
Delta R.T. 0.006 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 49 Resp: 8130

Ion	Ratio	Lower	Upper
49	100		
84	84.7	59.8	89.6

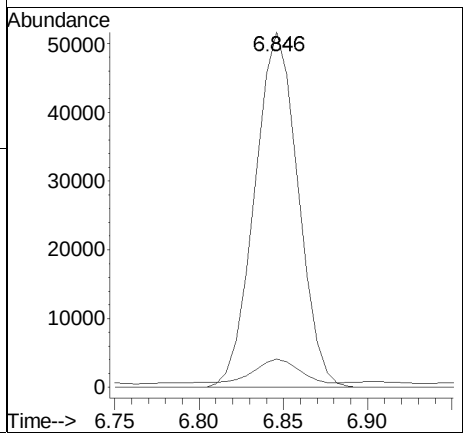


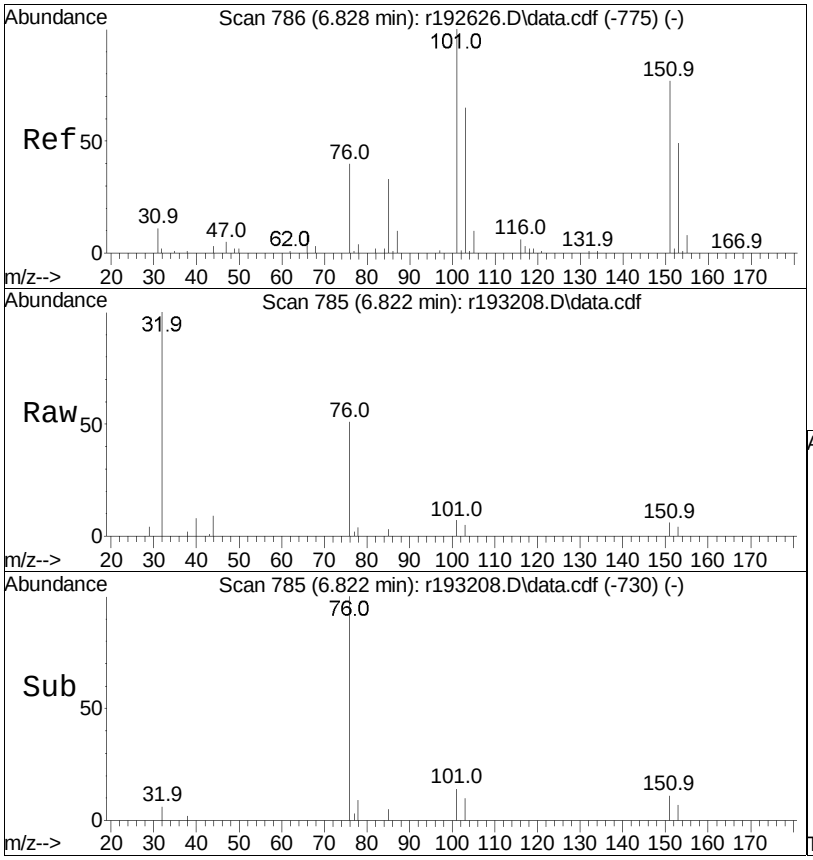


#30
carbon disulfide
Concen: 1.44 ppbV
RT: 6.846 min Scan# 789
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 76 Resp: 92534

Ion	Ratio	Lower	Upper
76	100		
44	8.0	12.3	18.5#

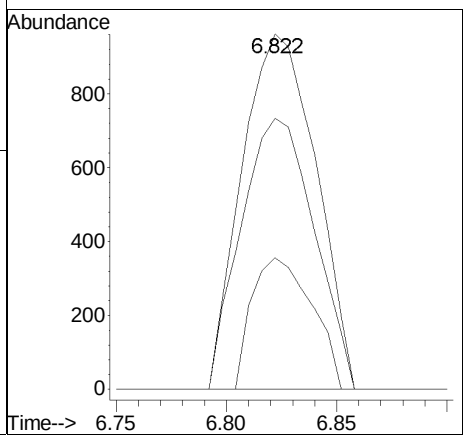


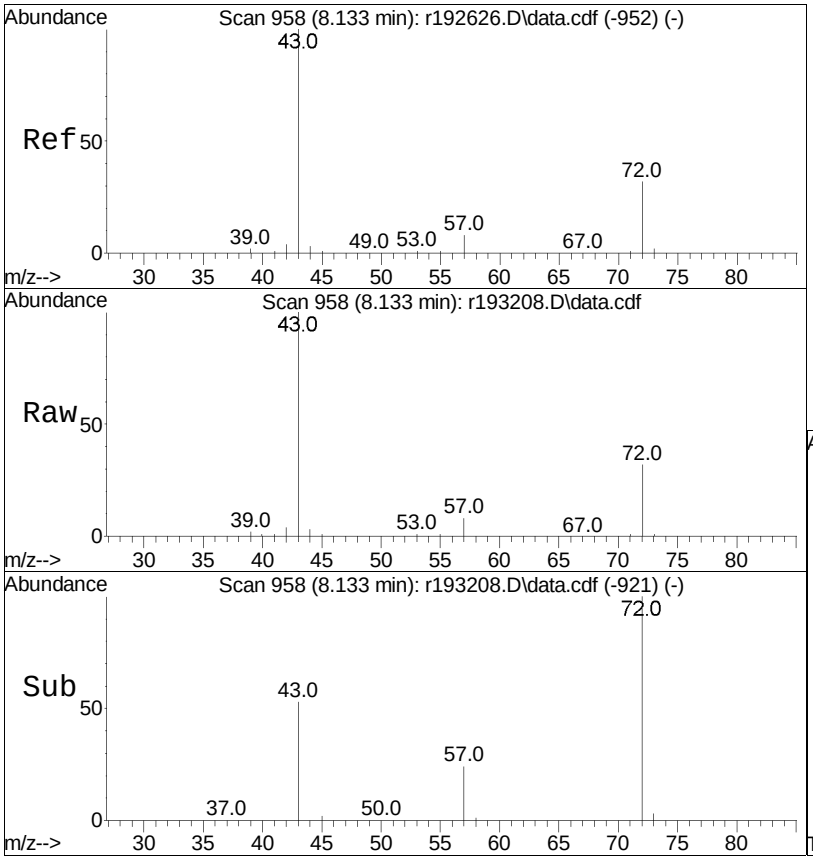


#31
Freon 113
Concen: 0.07 ppbV
RT: 6.822 min Scan# 785
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion:101 Resp: 2249

Ion	Ratio	Lower	Upper
101	100		
85	37.0	26.7	40.1
151	76.3	63.4	95.2

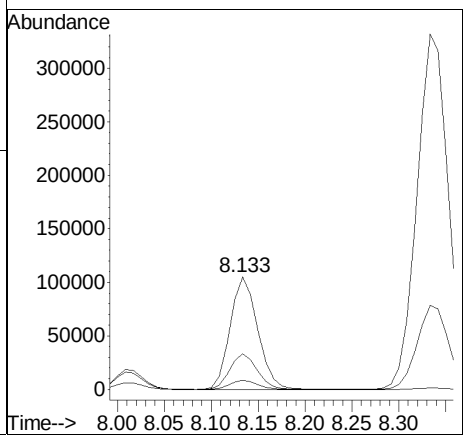


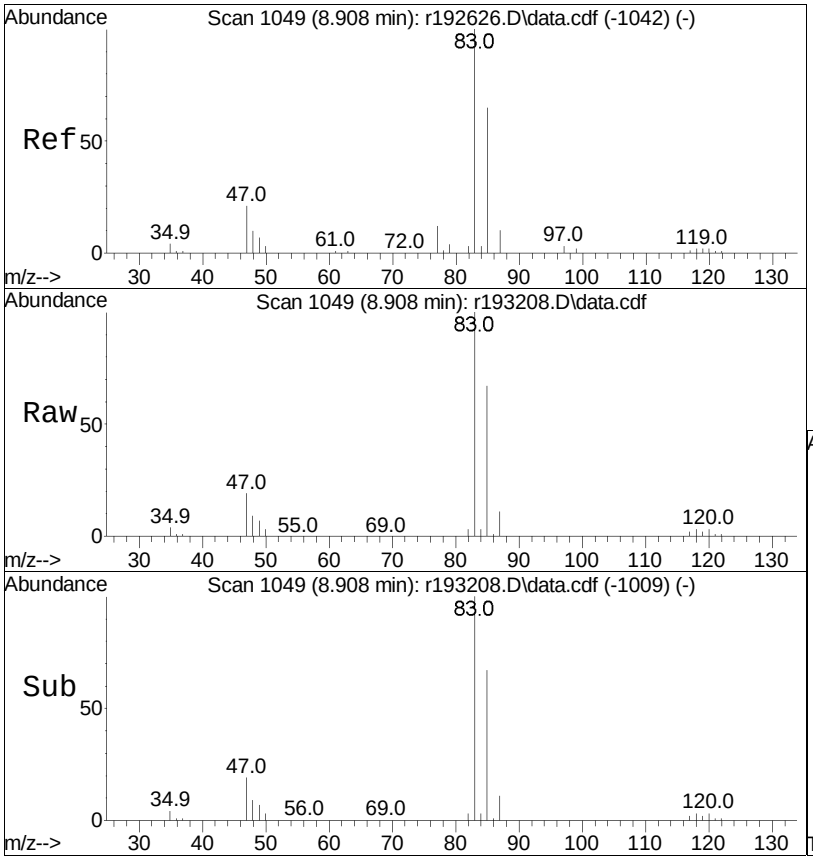


#36
2-butanone
Concen: 5.11 ppbV
RT: 8.133 min Scan# 958
Delta R.T. -0.025 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 43 Resp: 215839

Ion	Ratio	Lower	Upper
43	100		
72	31.7	27.7	41.5
57	8.1	6.3	9.5

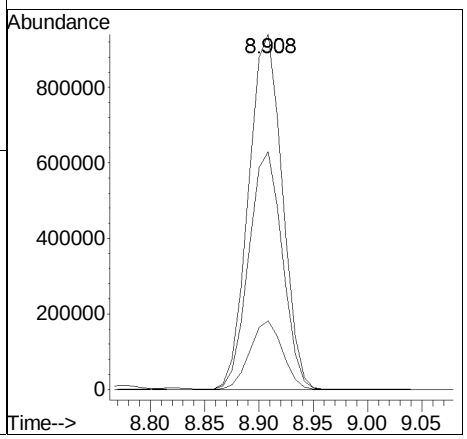


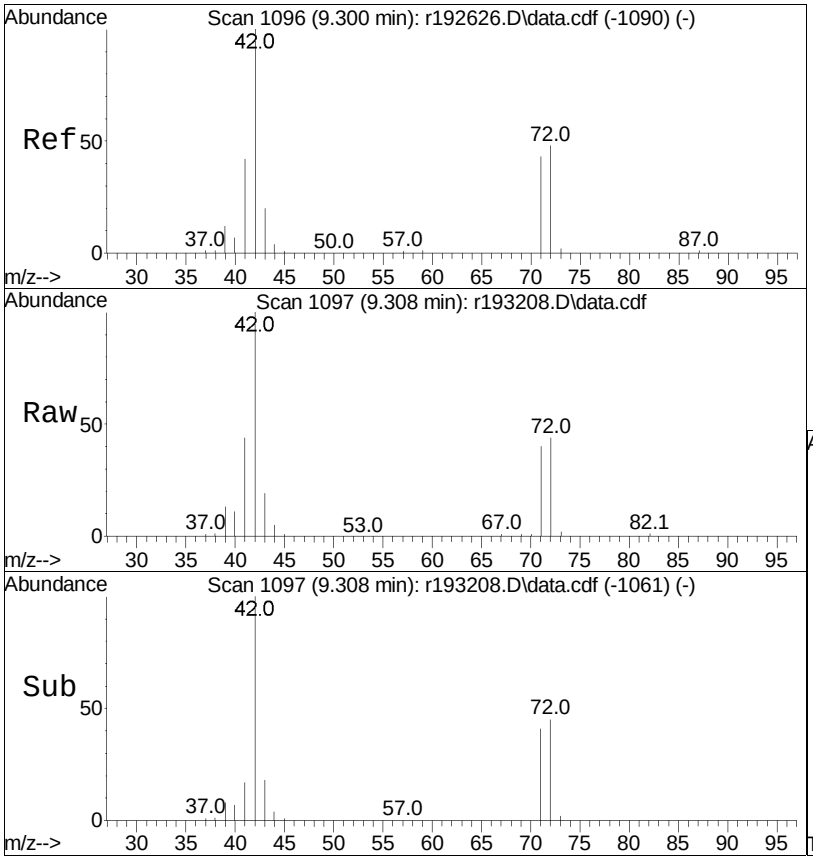


#39
chloroform
Concen: 69.23 ppbV
RT: 8.908 min Scan# 1049
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 83 Resp: 2032881

Ion	Ratio	Lower	Upper
83	100		
85	66.9	50.1	75.1
47	19.3	17.6	26.4

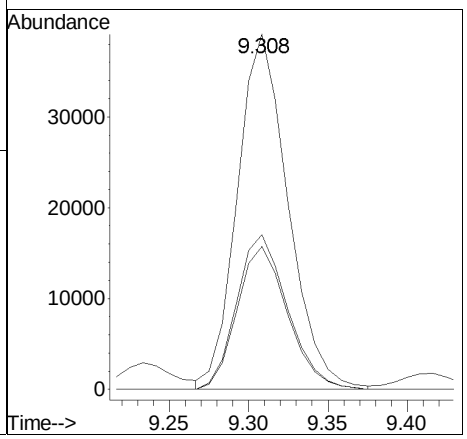


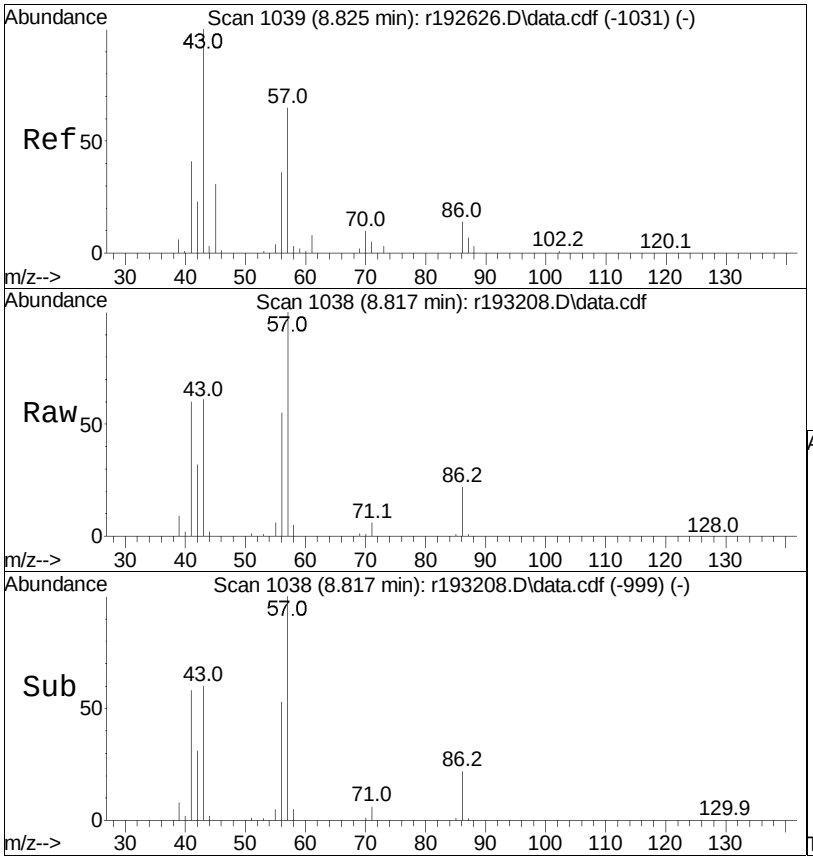


#40
Tetrahydrofuran
Concen: 3.06 ppbV
RT: 9.308 min Scan# 1097
Delta R.T. -0.033 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 42 Resp: 87023

Ion	Ratio	Lower	Upper
42	100		
71	40.2	32.5	48.7
72	43.6	33.7	50.5

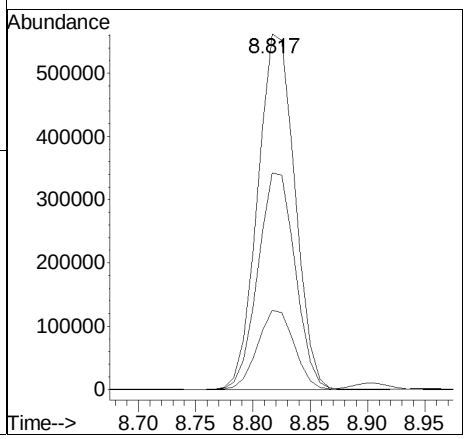


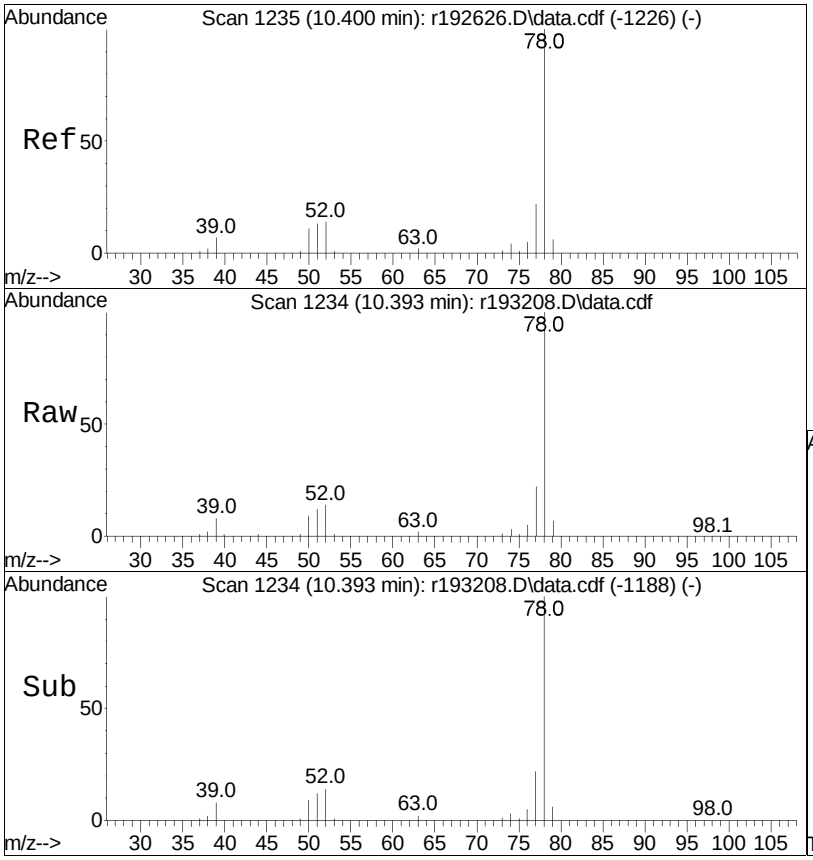


#44
hexane
Concen: 32.42 ppbV
RT: 8.817 min Scan# 1038
Delta R.T. -0.008 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 57 Resp: 1267156

Ion	Ratio	Lower	Upper
57	100		
43	60.9	159.3	238.9#
86	22.3	15.7	23.5

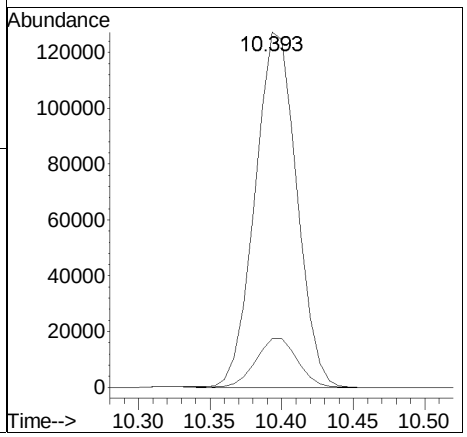


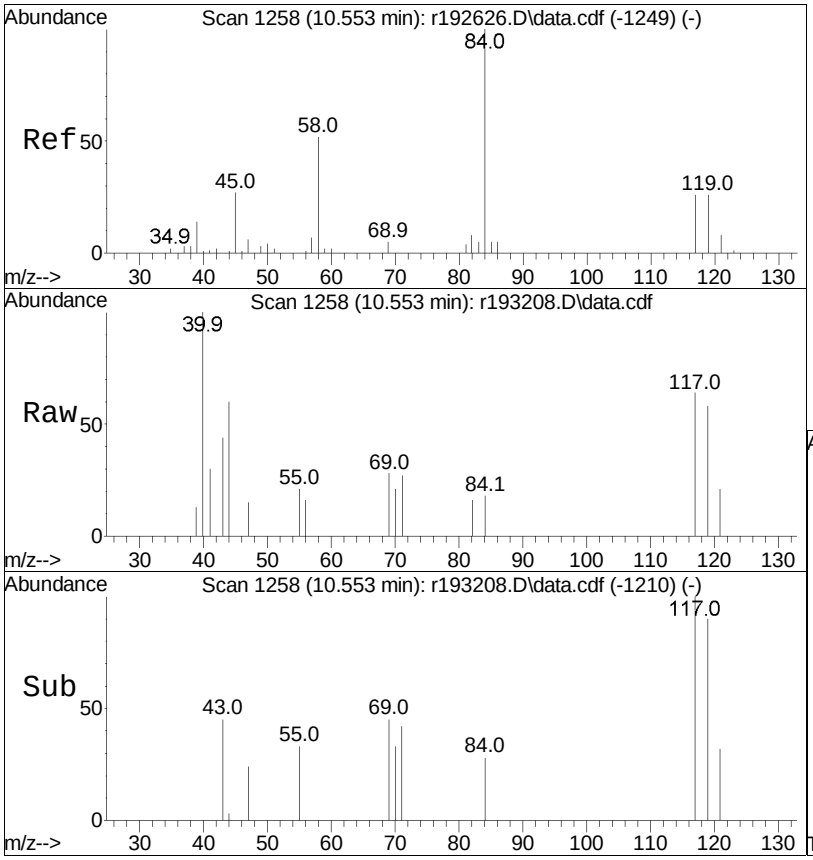


#50
benzene
Concen: 3.34 ppbV
RT: 10.393 min Scan# 1234
Delta R.T. -0.007 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 78 Resp: 257634

Ion	Ratio	Lower	Upper
78	100		
52	13.8	11.4	17.2

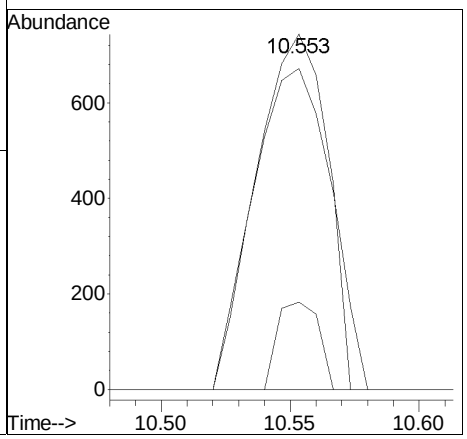


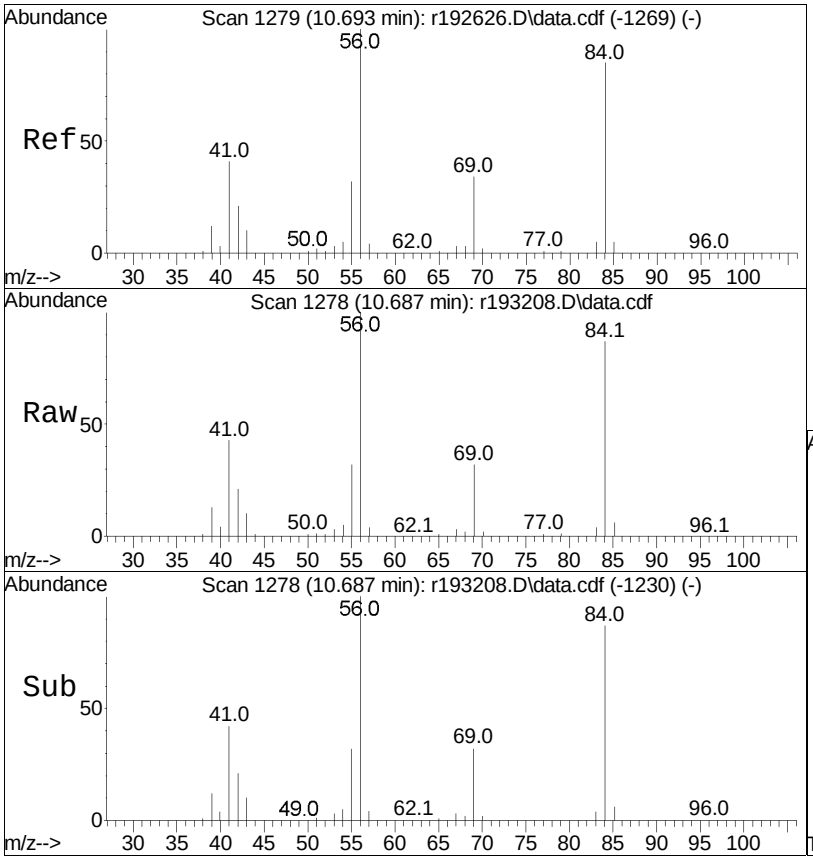


#52
carbon tetrachloride
Concen: 0.07 ppbV
RT: 10.553 min Scan# 1258
Delta R.T. -0.007 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion:117 Resp: 1427

Ion	Ratio	Lower	Upper
117	100		
119	90.3	85.4	128.2
82	24.6	22.6	33.8

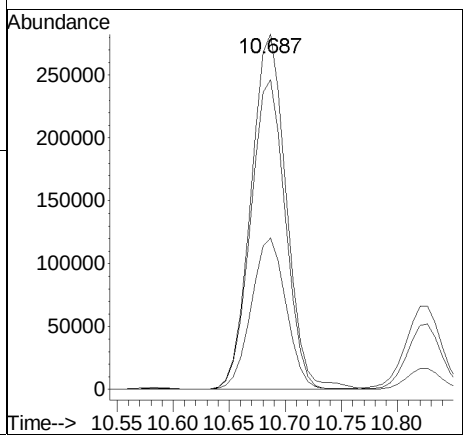


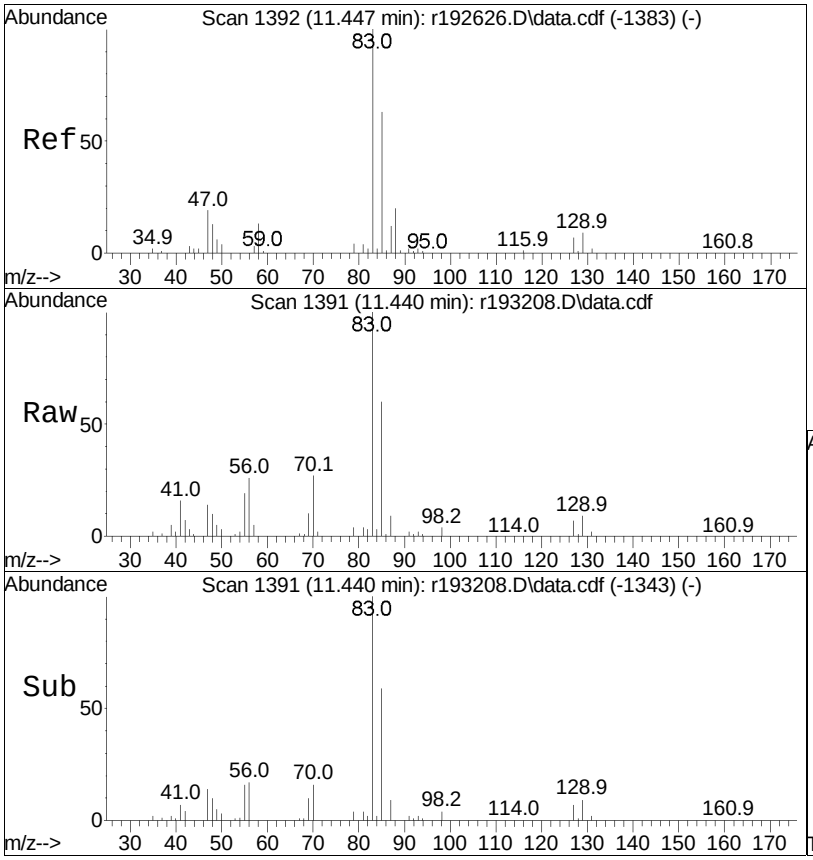


#53
cyclohexane
Concen: 14.48 ppbV
RT: 10.687 min Scan# 1278
Delta R.T. -0.007 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 56 Resp: 618830

Ion	Ratio	Lower	Upper
56	100		
84	87.1	69.8	104.6
41	42.6	32.1	48.1

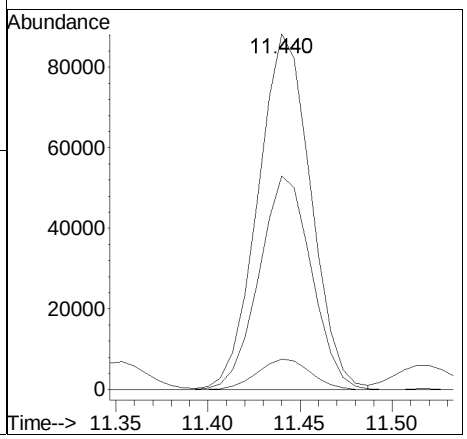


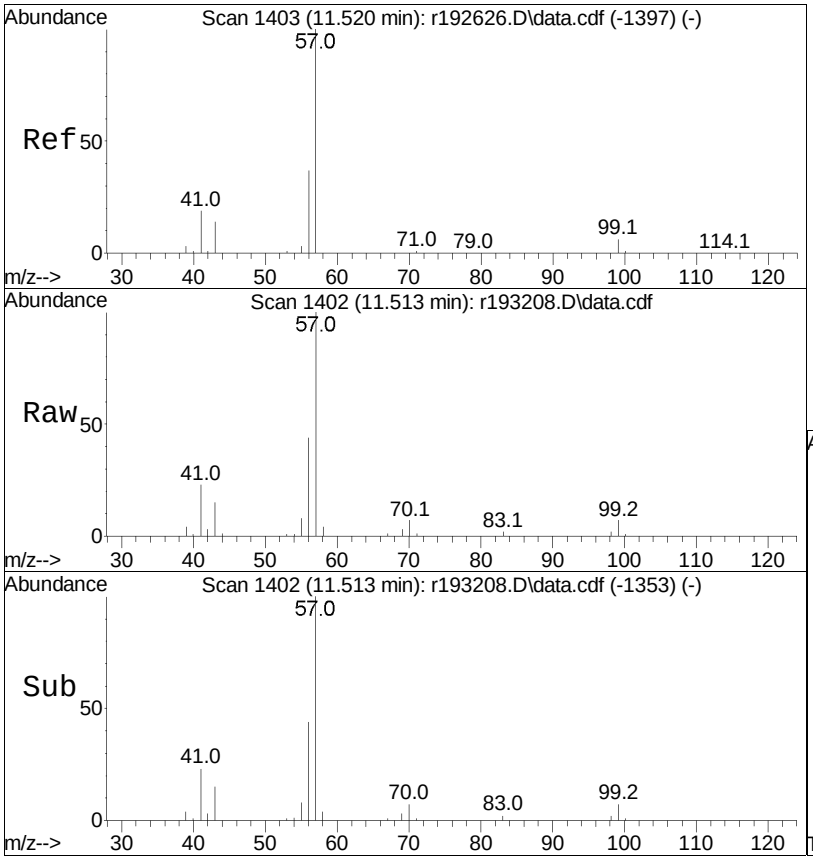


#57
bromodichloromethane
Concen: 5.24 ppbV
RT: 11.440 min Scan# 1391
Delta R.T. -0.007 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 83 Resp: 176126

Ion	Ratio	Lower	Upper
83	100		
85	60.1	49.1	73.7
129	8.5	7.8	11.6

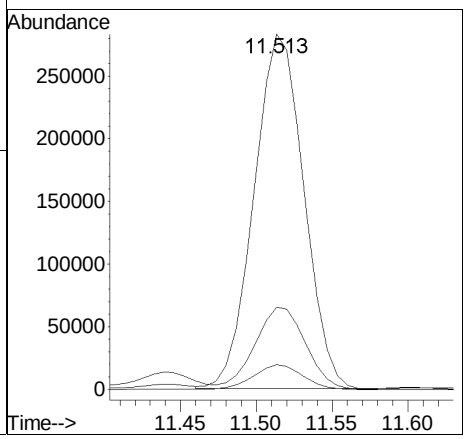


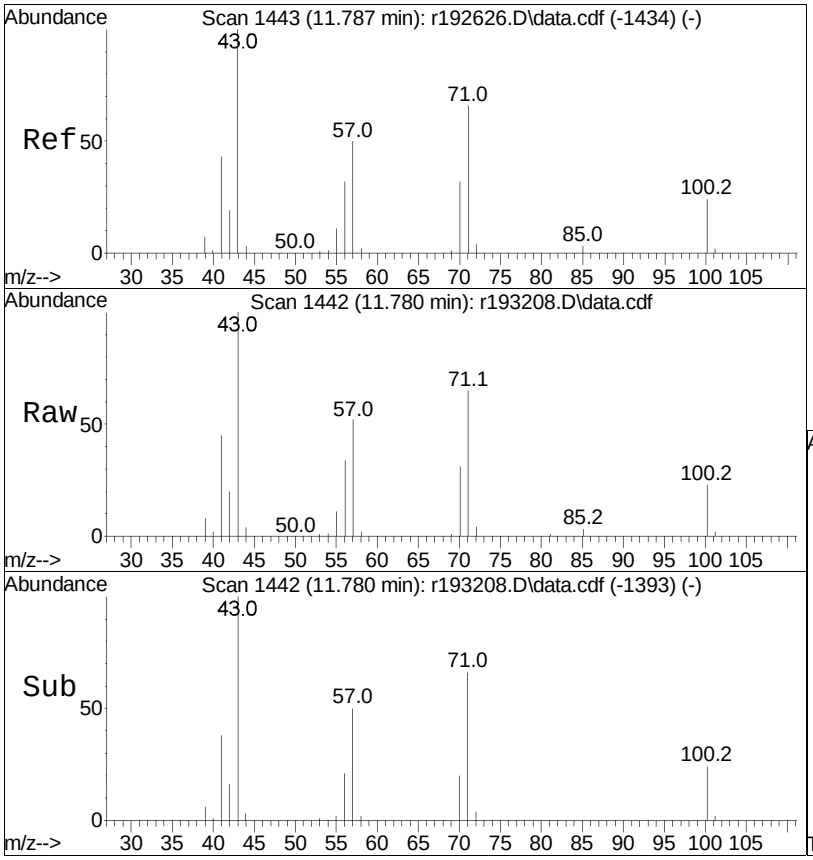


#60
2,2,4-trimethylpentane
Concen: 5.24 ppbV
RT: 11.513 min Scan# 1402
Delta R.T. -0.007 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 57 Resp: 646251

Ion	Ratio	Lower	Upper
57	100		
99	7.0	6.0	9.0
41	23.1	15.6	23.4

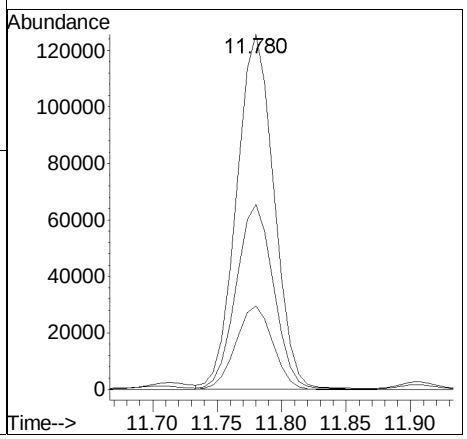


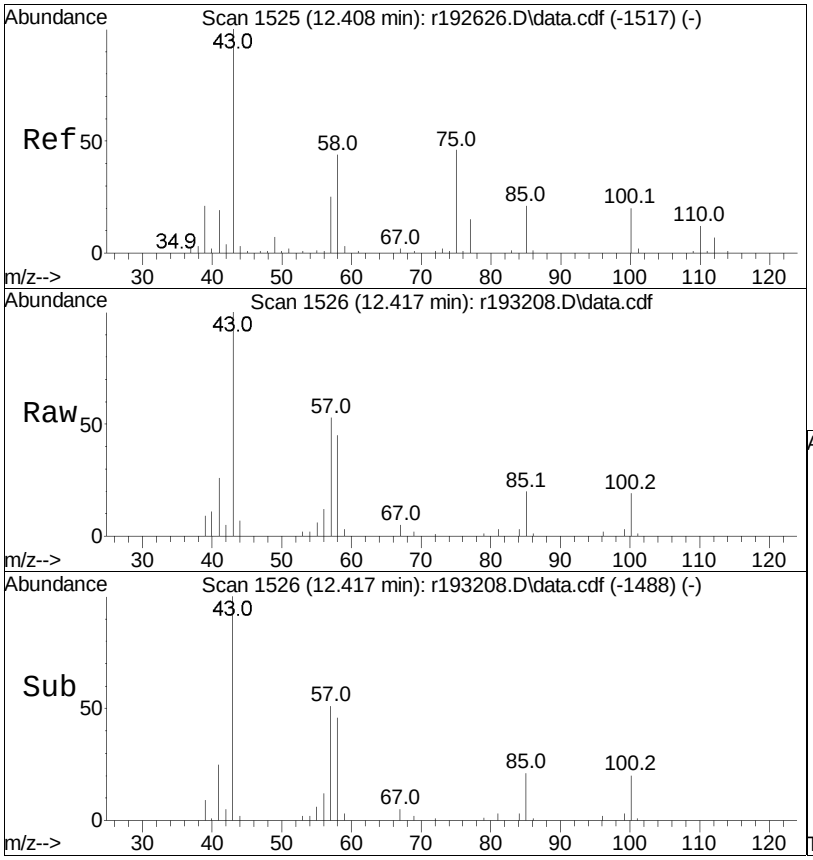


#62
heptane
Concen: 5.29 ppbV
RT: 11.780 min Scan# 1442
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 43 Resp: 252318

Ion	Ratio	Lower	Upper
43	100		
57	52.1	41.0	61.6
100	23.5	21.4	32.2

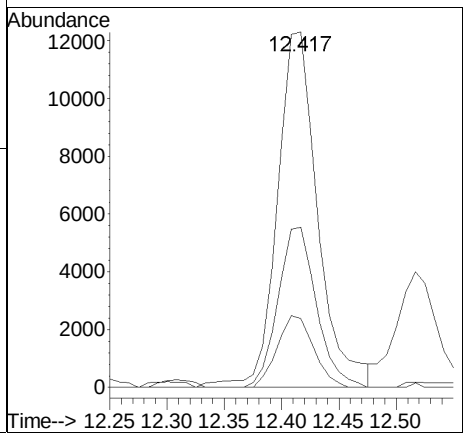


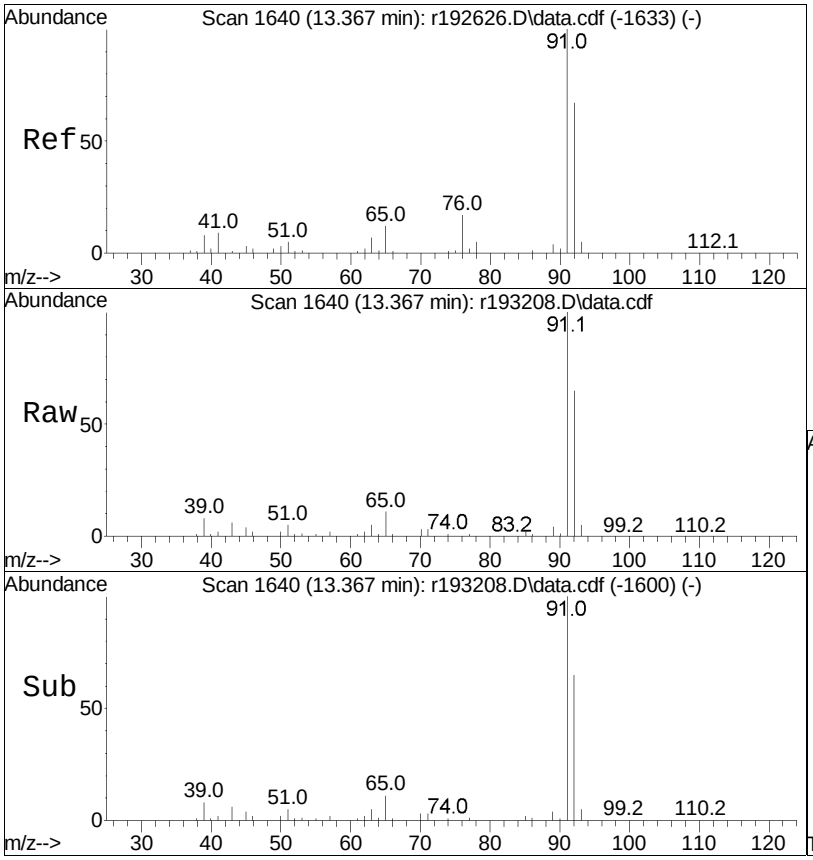


#64
4-methyl-2-pentanone
Concen: 0.59 ppbV
RT: 12.417 min Scan# 1526
Delta R.T. -0.017 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 43 Resp: 30288

Ion	Ratio	Lower	Upper
43	100		
58	45.1	32.9	49.3
100	19.4	15.4	23.2

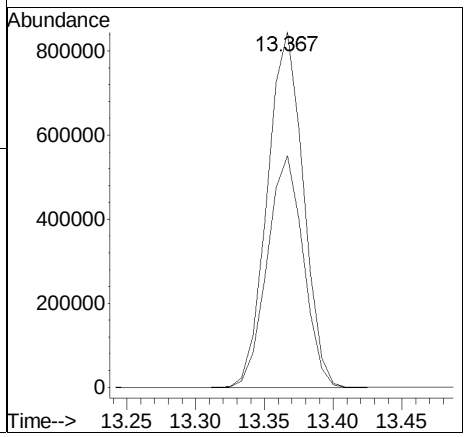


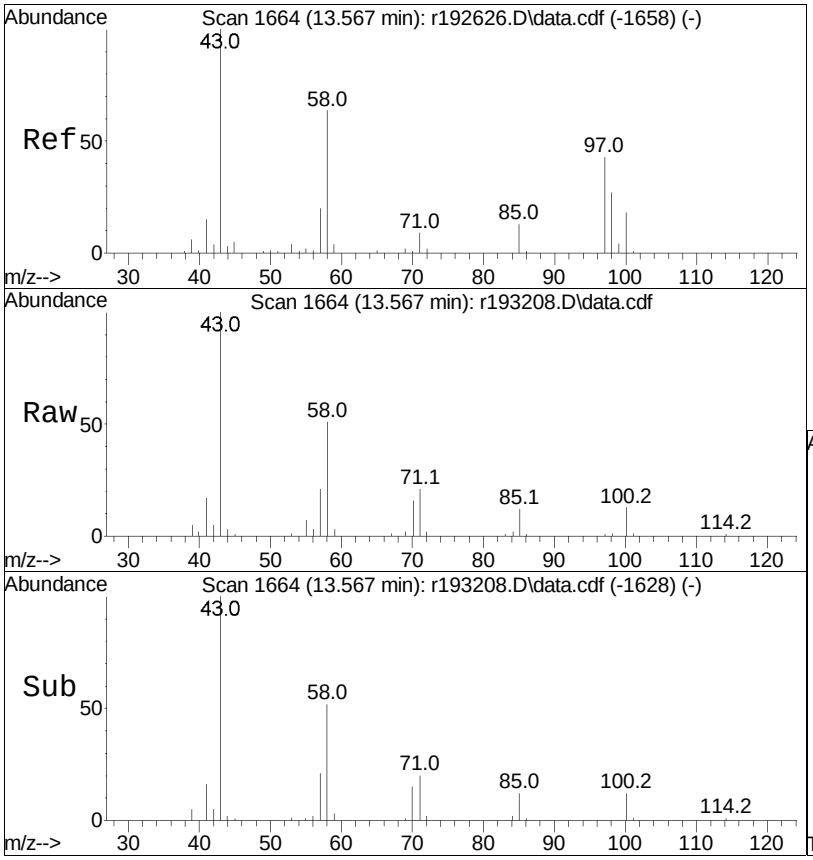


#68
toluene
Concen: 18.71 ppbV
RT: 13.367 min Scan# 1640
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 91 Resp: 1537209

Ion	Ratio	Lower	Upper
91	100		
92	65.2	53.3	79.9

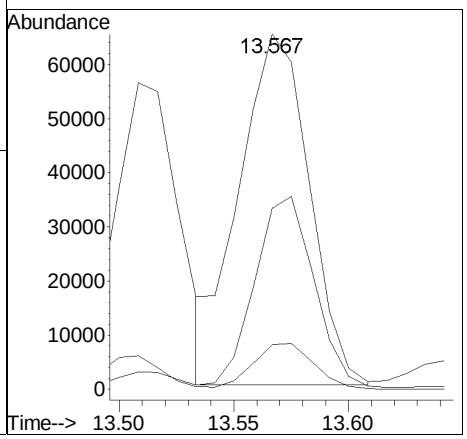


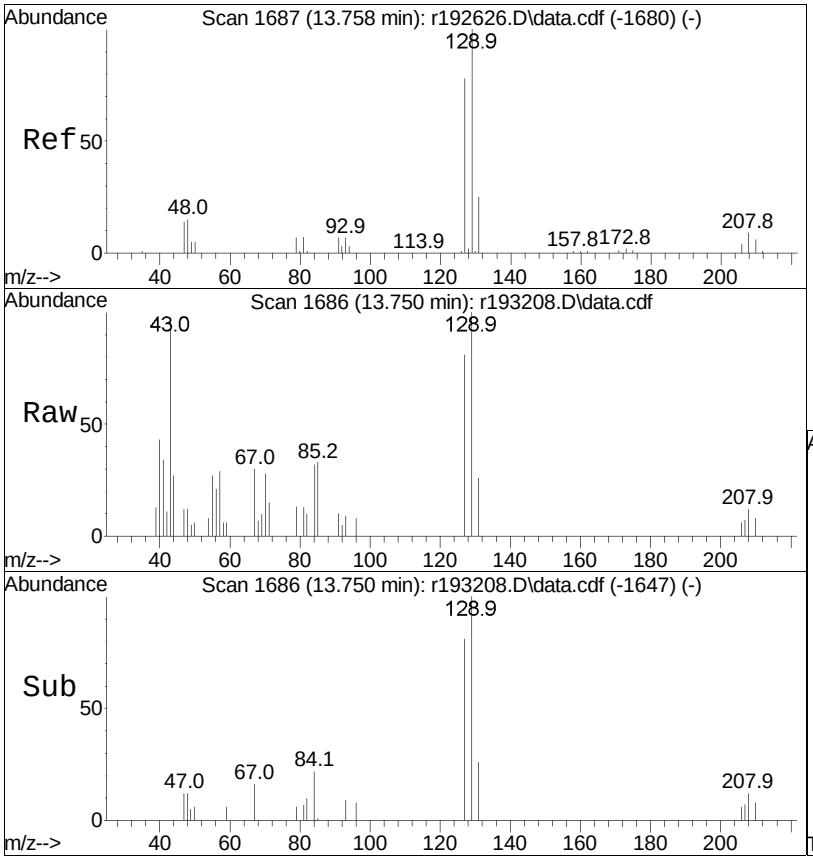


#72
2-hexanone
Concen: 2.89 ppbV
RT: 13.567 min Scan# 1664
Delta R.T. -0.033 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 43 Resp: 137889

Ion	Ratio	Lower	Upper
43	100		
58	51.0	62.6	94.0#
100	12.6	26.5	39.7#

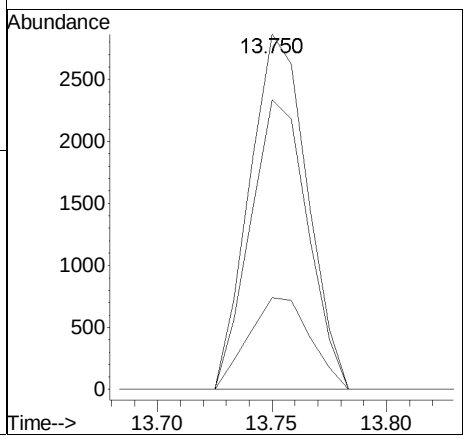


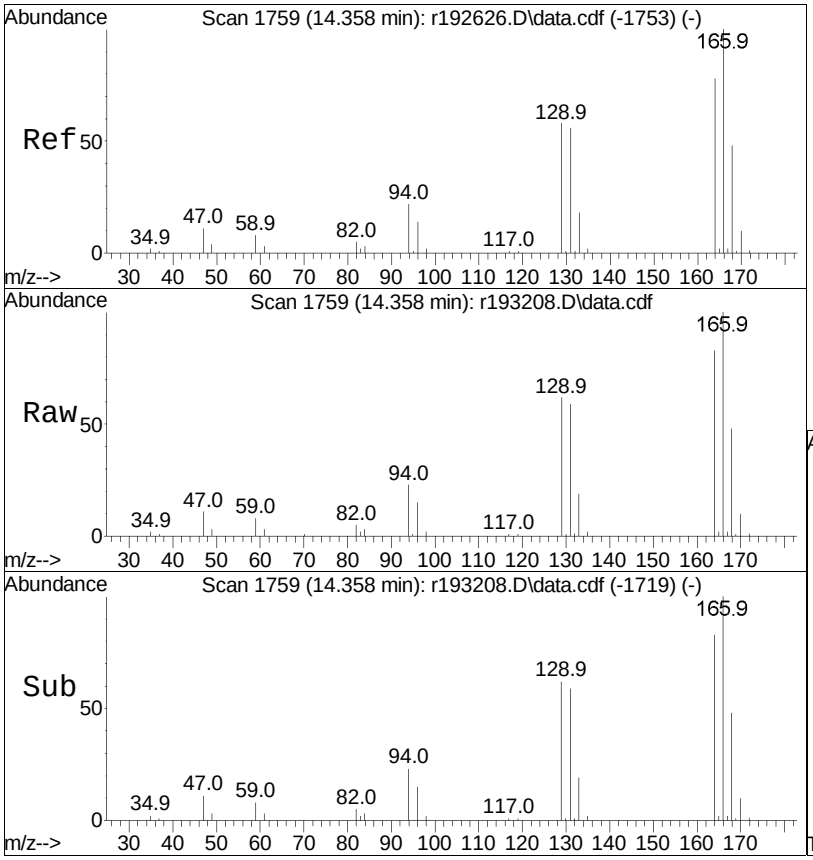


#74
dibromochloromethane
Concen: 0.16 ppbV
RT: 13.750 min Scan# 1686
Delta R.T. -0.008 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion:129 Resp: 5012

Ion	Ratio	Lower	Upper
129	100		
127	81.5	60.9	91.3
131	25.8	19.7	29.5

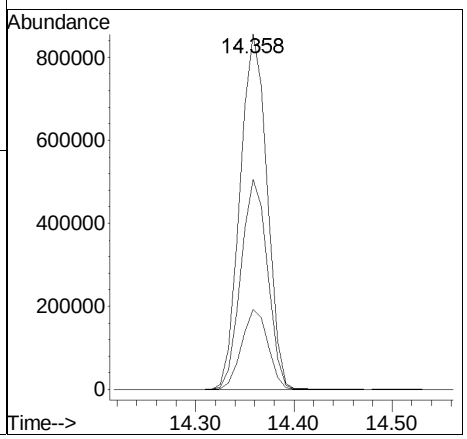


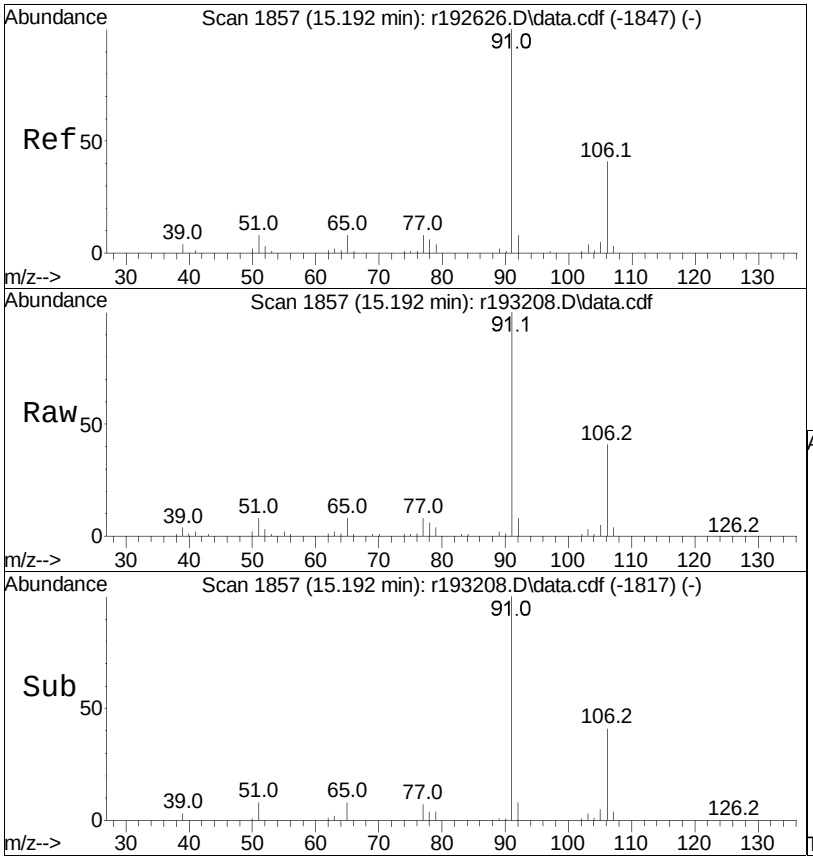


#78
tetrachloroethene
Concen: 45.32 ppbV
RT: 14.358 min Scan# 1759
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion:166 Resp: 1635655

Ion	Ratio	Lower	Upper
166	100		
131	59.1	46.4	69.6
94	22.5	18.5	27.7

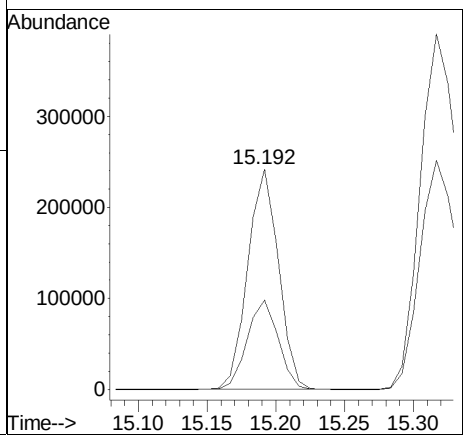


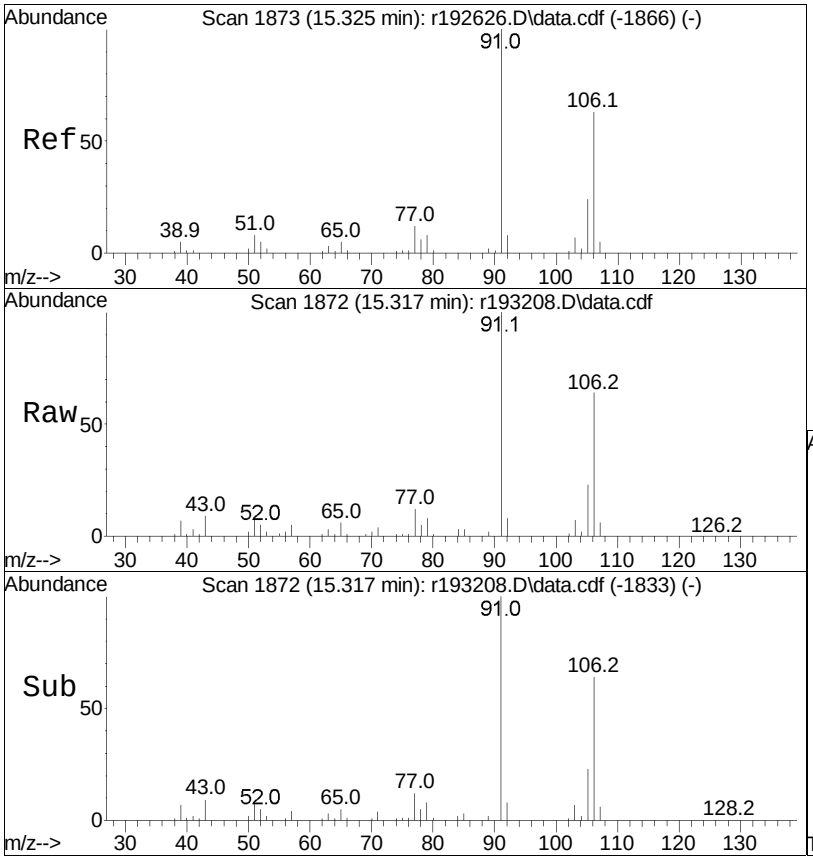


#81
ethylbenzene
Concen: 3.82 ppbV
RT: 15.192 min Scan# 1857
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 91 Resp: 376214

Ion	Ratio	Lower	Upper
91	100		
106	40.5	32.9	49.3

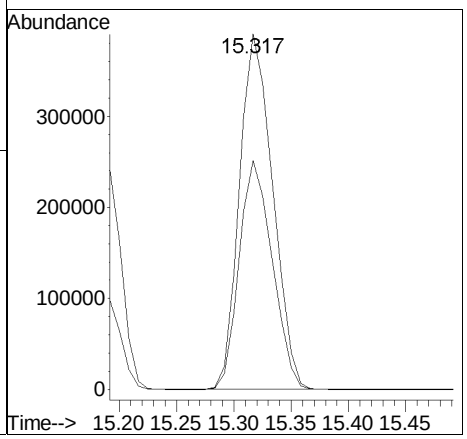


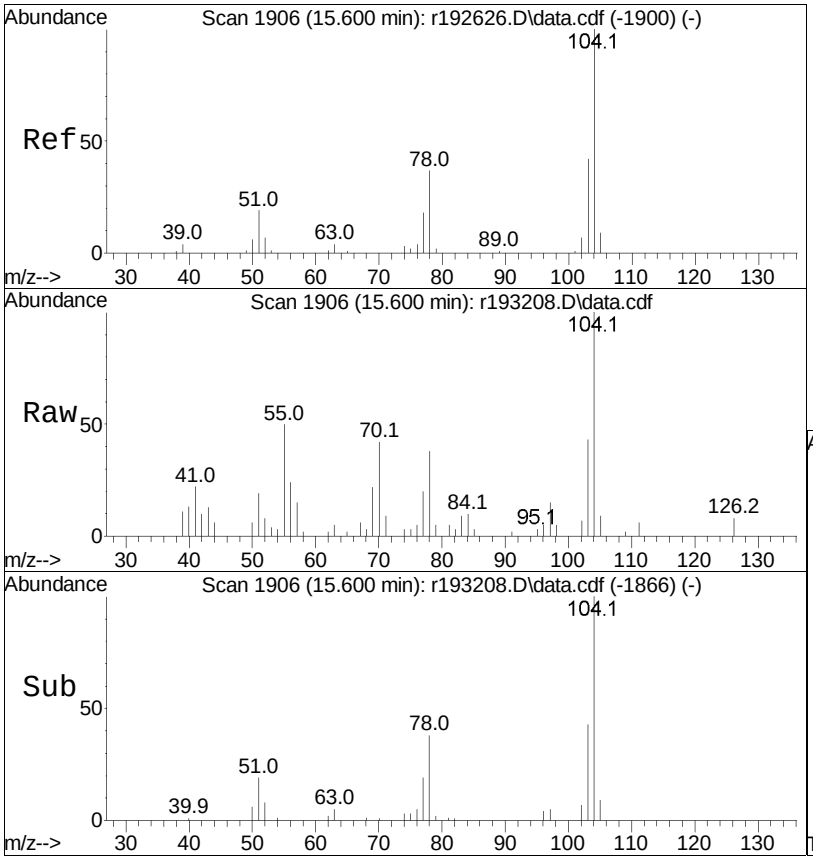


#83
m+p-xylene
Concen: 10.15 ppbV
RT: 15.317 min Scan# 1872
Delta R.T. -0.008 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 91 Resp: 788667

Ion	Ratio	Lower	Upper
91	100		
106	64.4	51.0	76.4

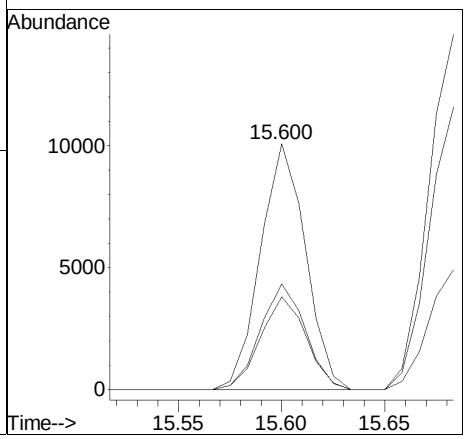


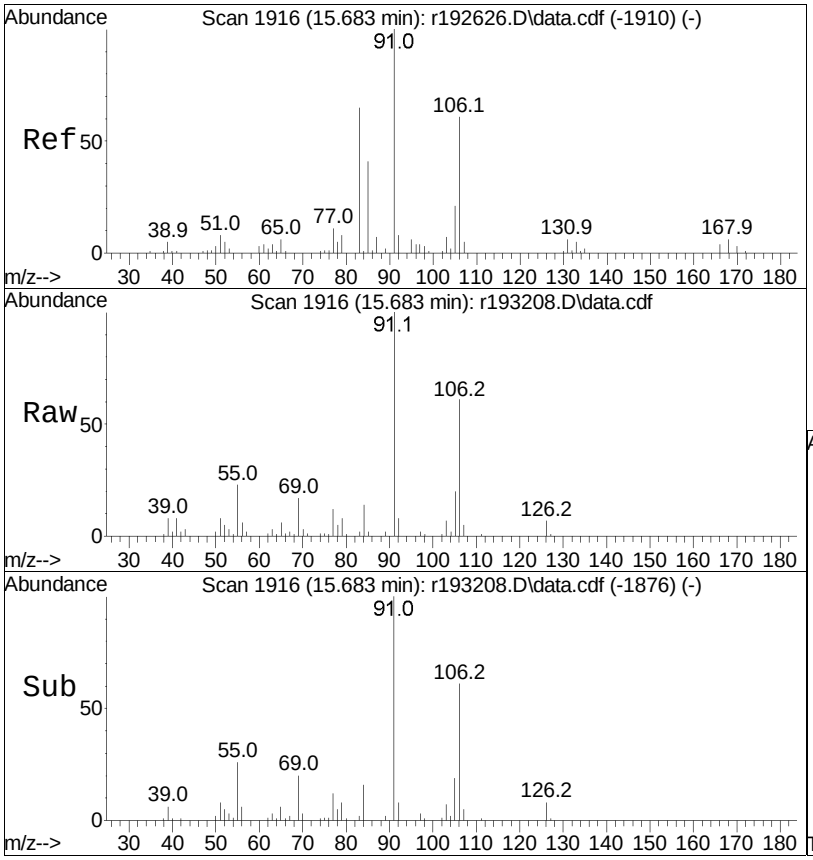


#85
styrene
Concen: 0.20 ppbV
RT: 15.600 min Scan# 1906
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion:104 Resp: 15270

Ion	Ratio	Lower	Upper
104	100		
103	42.9	33.4	50.0
78	37.7	30.6	46.0

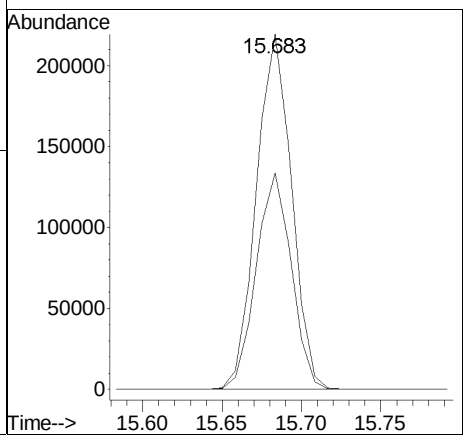


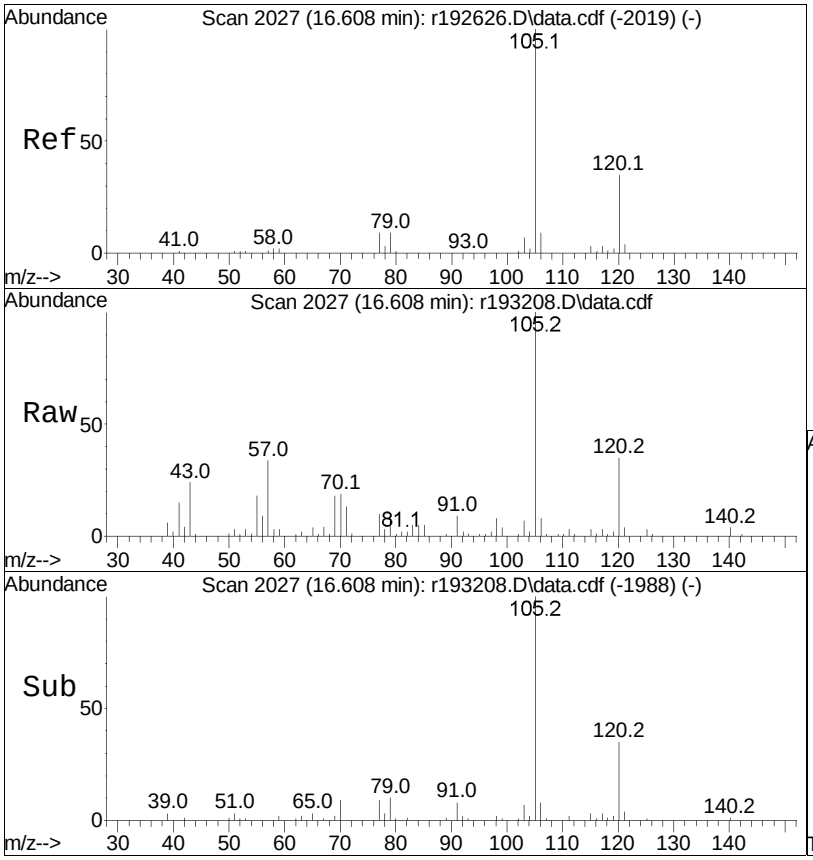


#87
o-xylene
Concen: 4.43 ppbV
RT: 15.683 min Scan# 1916
Delta R.T. 0.000 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion: 91 Resp: 337741

Ion	Ratio	Lower	Upper
91	100		
106	60.9	47.8	71.8

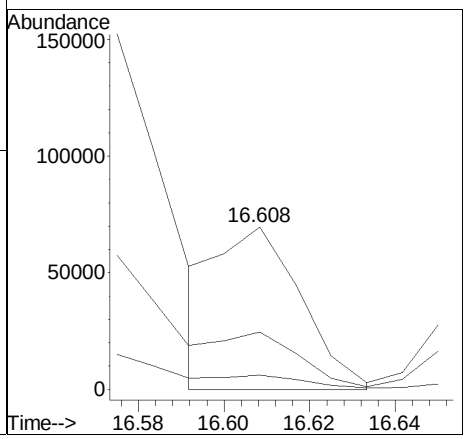


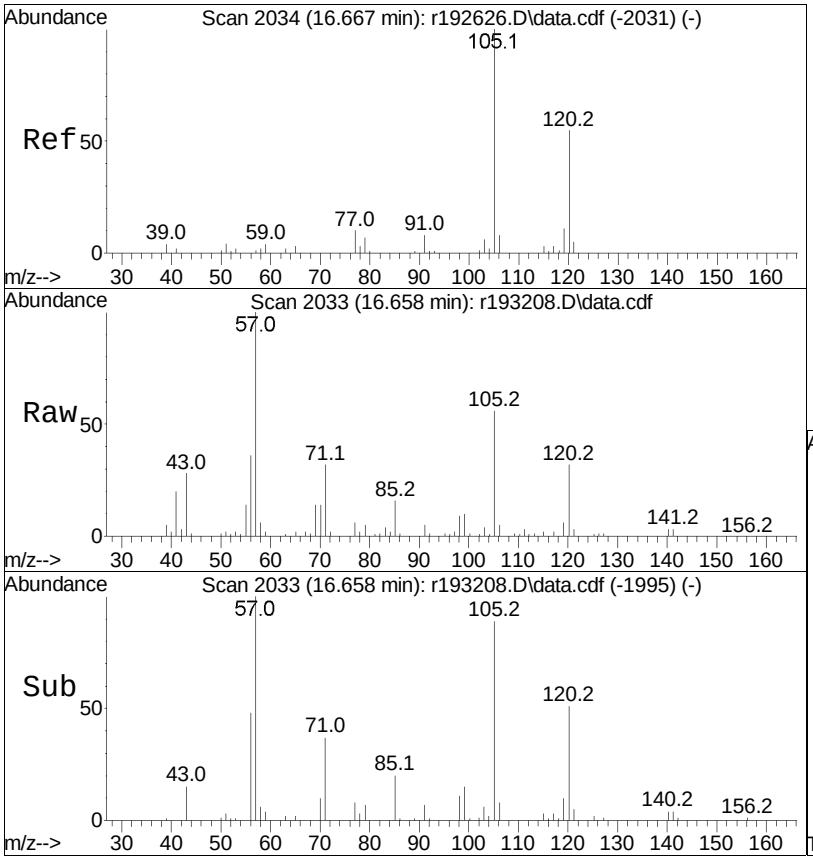


#96
4-ethyl toluene
Concen: 0.74 ppbV m
RT: 16.608 min Scan# 2027
Delta R.T. -0.008 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion:105 Resp: 95122

Ion	Ratio	Lower	Upper
105	100		
120	35.4	27.2	40.8
91	8.8	7.0	10.4

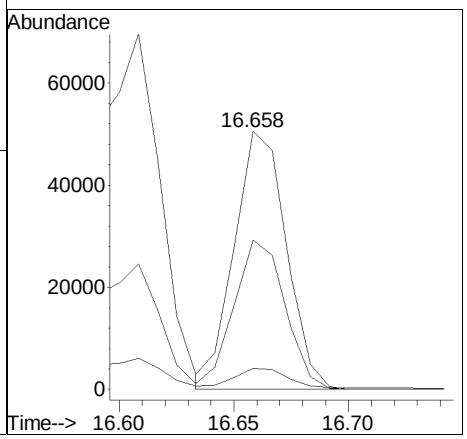


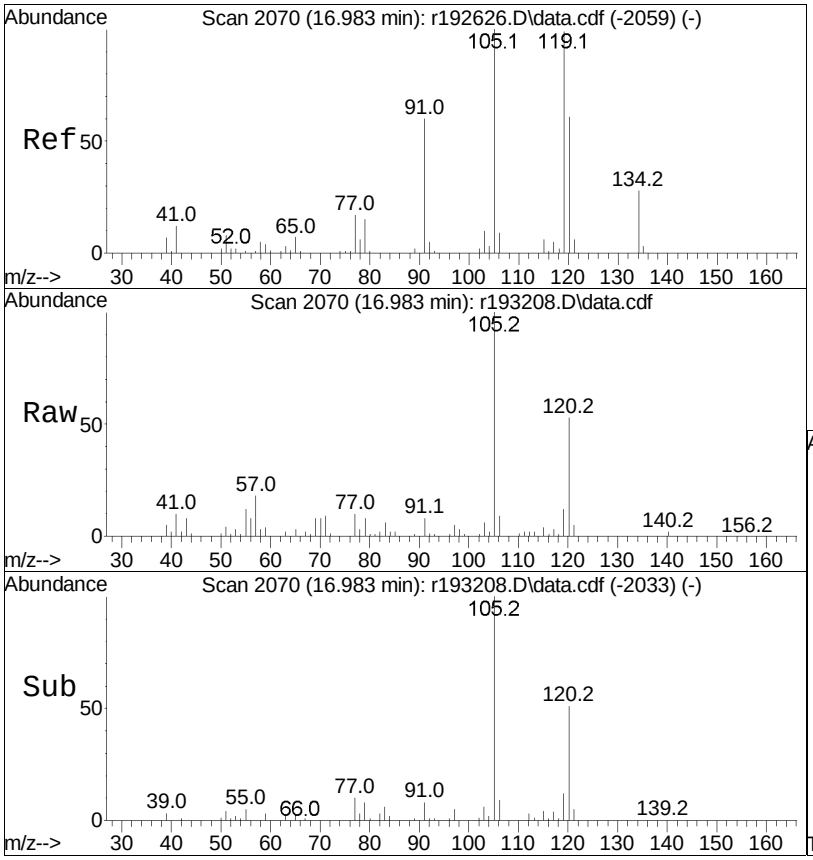


#97
1,3,5-trimethylbenzene
Concen: 0.77 ppbV
RT: 16.658 min Scan# 2033
Delta R.T. -0.017 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion:105 Resp: 79878

Ion	Ratio	Lower	Upper
105	100		
120	57.8	42.6	64.0
91	8.2	6.6	9.8

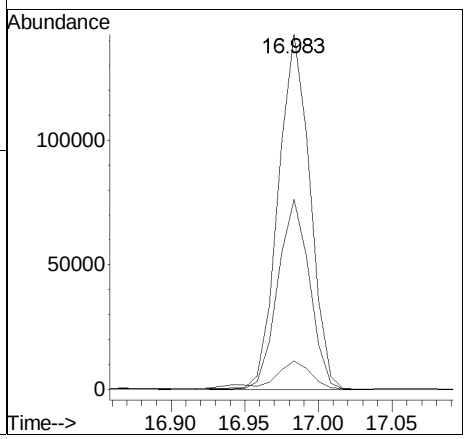




#99
1,2,4-trimethylbenzene
Concen: 2.23 ppbV
RT: 16.983 min Scan# 2070
Delta R.T. -0.008 min
Lab File: r193208.D
Acq: 21 Mar 2020 1:52 AM

Tgt Ion:105 Resp: 213713

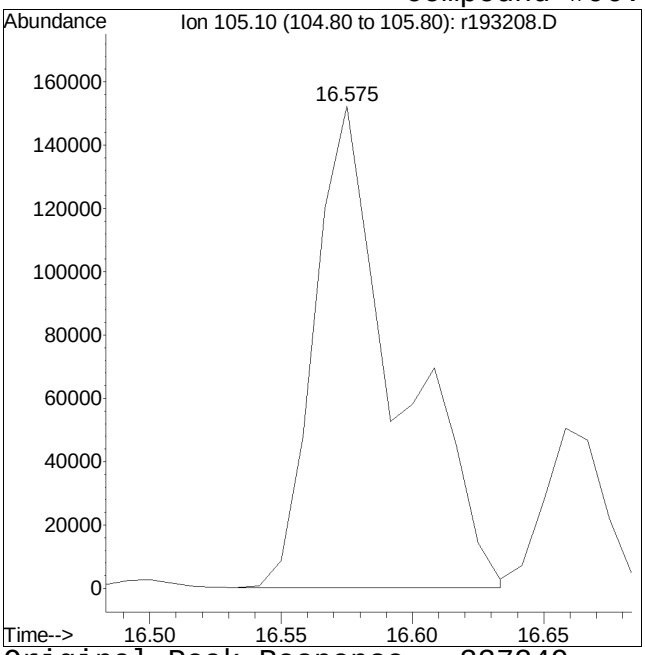
Ion	Ratio	Lower	Upper
105	100		
120	53.5	49.2	73.8
91	8.0	49.9	74.9#



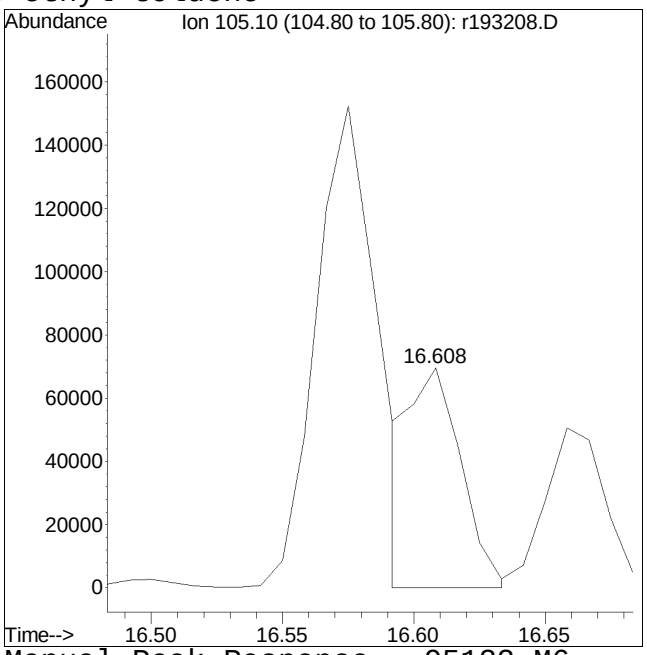
Manual Integration Report

Data Path : O:\Forensics\Data\Airlab19QMethod : TFS19_200224.M
Data File : r193208.D Operator : AIRLAB19:EW
Date Inj'd : 3/21/2020 0:1: 2 Instrument :
Sample : L2011723-01,3,250,250 Quant Date : 3/21/2020 7:57 am

Compound #96: 4-ethyl toluene



Original Peak Response = 337249



Manual Peak Response = 95122 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193209.D
Acq On : 21 Mar 2020 2:28 AM
Operator : AIRLAB19:EW
Sample : L2011723-02D,3,75,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:41:41 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.775	49	320561	10.000	ppbV	0.00
Standard Area = 288364			Recovery = 111.17%			
43) 1,4-difluorobenzene	10.740	114	1004362	10.000	ppbV	0.00
Standard Area = 940727			Recovery = 106.76%			
67) chlorobenzene-D5	14.875	54	120197	10.000	ppbV	0.00
Standard Area = 108860			Recovery = 110.41%			
System Monitoring Compounds						
Target Compounds						Qvalue
5) dichlorodifluoromethane	3.562	85	2107	0.117	ppbV	100
6) chloromethane	3.772	50	702	0.061	ppbV	97
7) Freon-114	0.000		0	N.D.		
9) vinyl chloride	0.000		0	N.D.		
10) 1,3-butadiene	0.000		0	N.D.	d	
13) bromomethane	0.000		0	N.D.		
14) chloroethane	0.000		0	N.D.		
15) ethanol	4.930	31	39666	4.235	ppbV #	62
17) vinyl bromide	0.000		0	N.D.		
19) acetone	5.483	43	4095854	237.941	ppbV #	98
21) trichlorofluoromethane	5.697	101	1026	0.054	ppbV	95
22) isopropyl alcohol	5.763	45	131205	4.012	ppbV	100
26) 1,1-dichloroethene	0.000		0	N.D.		
27) tertiary butyl alcohol	6.426	59	80562	2.687	ppbV #	97
28) methylene chloride	6.534		0	N.D.		
29) 3-chloropropene	0.000		0	N.D.	d	
30) carbon disulfide	6.846	76	14408	0.246	ppbV #	92
31) Freon 113	6.822		0	N.D.		
32) trans-1,2-dichloroethene	0.000		0	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.		
34) MTBE	0.000		0	N.D.	d	
36) 2-butanone	8.125	43	545208	14.131	ppbV	95
37) cis-1,2-dichloroethene	0.000		0	N.D.		
38) Ethyl Acetate	0.000		0	N.D.	d	
39) chloroform	0.000		0	N.D.	d	
40) Tetrahydrofuran	9.308	42	60823	2.346	ppbV	98
42) 1,2-dichloroethane	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193209.D
Acq On : 21 Mar 2020 2:28 AM
Operator : AIRLAB19:EW
Sample : L2011723-02D,3,75,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:41:41 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) hexane	8.817	57	35356	0.960 ppbV #	21
48) 1,1,1-trichloroethane	0.000		0	N.D.	
50) benzene	10.400	78	27359	0.377 ppbV	99
52) carbon tetrachloride	0.000		0	N.D.	
53) cyclohexane	10.687	56	20718	0.514 ppbV	98
56) 1,2-dichloropropane	0.000		0	N.D. d	
57) bromodichloromethane	0.000		0	N.D. d	
58) 1,4-dioxane	0.000		0	N.D.	
59) trichloroethene	0.000		0	N.D.	
60) 2,2,4-trimethylpentane	0.000		0	N.D. d	
62) heptane	11.780	43	147899	3.293 ppbV	96
63) cis-1,3-dichloropropene	0.000		0	N.D.	
64) 4-methyl-2-pentanone	12.425	43	32766	0.678 ppbV	94
65) trans-1,3-dichloropropene	0.000		0	N.D.	
66) 1,1,2-trichloroethane	0.000		0	N.D. d	
68) toluene	13.367	91	298677	4.081 ppbV	98
72) 2-hexanone	13.575	43	103089	2.424 ppbV #	81
74) dibromochloromethane	0.000		0	N.D.	
75) 1,2-dibromoethane	0.000		0	N.D.	
78) tetrachloroethene	14.358	166	111593	3.470 ppbV	96
80) chlorobenzene	0.000		0	N.D. d	
81) ethylbenzene	15.192	91	43794	0.499 ppbV	98
83) m+p-xylene	15.317	91	139441	2.015 ppbV	99
84) bromoform	0.000		0	N.D.	
85) styrene	15.600	104	3372	0.050 ppbV	100
86) 1,1,2,2-tetrachloroethane	0.000		0	N.D. d	
87) o-xylene	15.683	91	49703	0.732 ppbV	100
96) 4-ethyl toluene	16.617	105	22527M6	0.196 ppbV	
97) 1,3,5-trimethylbenzene	16.667	105	21733	0.235 ppbV	96
99) 1,2,4-trimethylbenzene	16.983	105	76194	0.891 ppbV #	61
101) Benzyl Chloride	0.000		0	N.D. d	
102) 1,3-dichlorobenzene	0.000		0	N.D. d	
103) 1,4-dichlorobenzene	0.000		0	N.D. d	
107) 1,2-dichlorobenzene	17.442		0	N.D.	
115) 1,2,4-trichlorobenzene	0.000		0	N.D.	
119) hexachlorobutadiene	0.000		0	N.D.	

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

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193209.D
Acq On : 21 Mar 2020 2:28 AM
Operator : AIRLAB19:EW
Sample : L2011723-02D,3,75,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:41:41 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

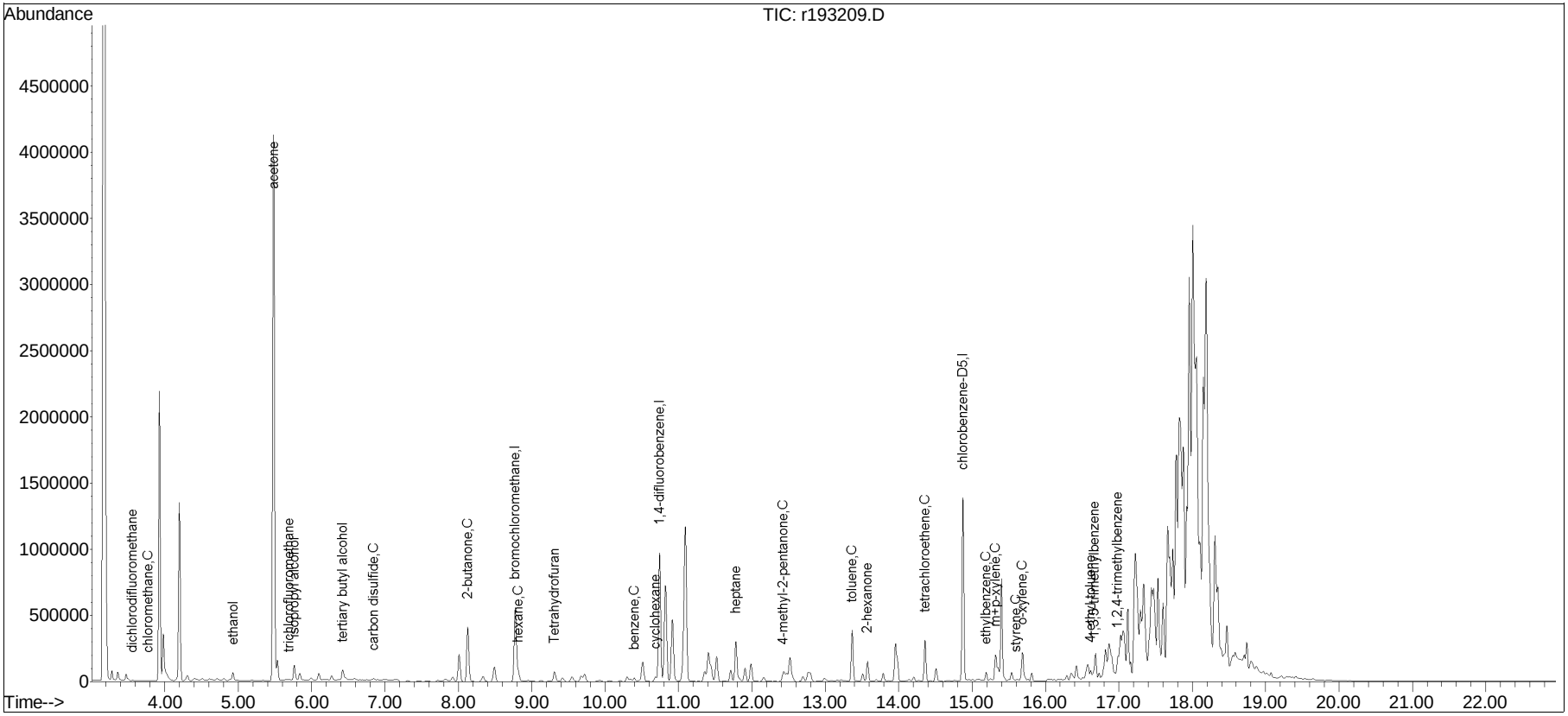
CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

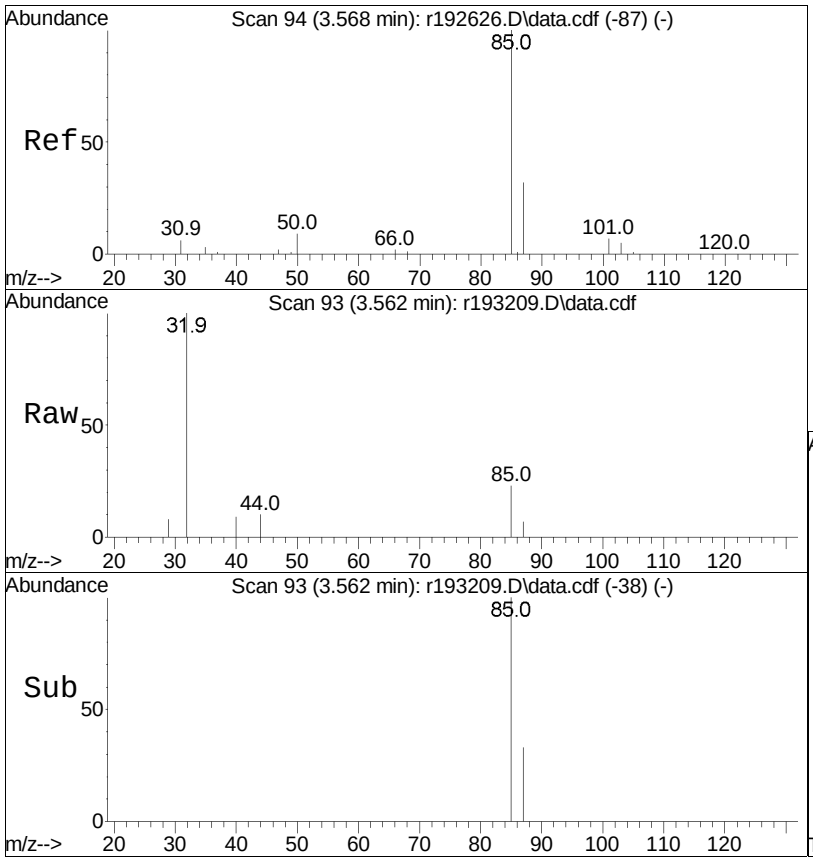
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Sub List : TO15-NY - .s\Data\Airlab19\2020\03\200320T\r193190.D

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193209.D
Acq On : 21 Mar 2020 2:28 AM
Operator : AIRLAB19:EW
Sample : L2011723-02D,3,75,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:41:41 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

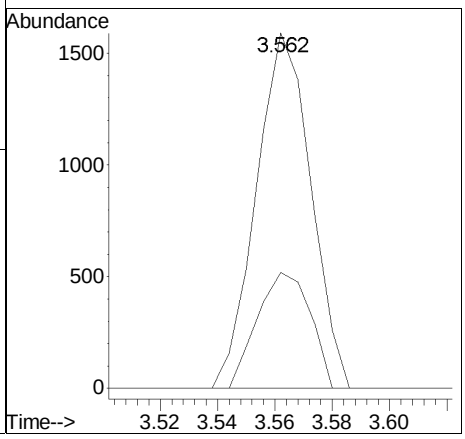


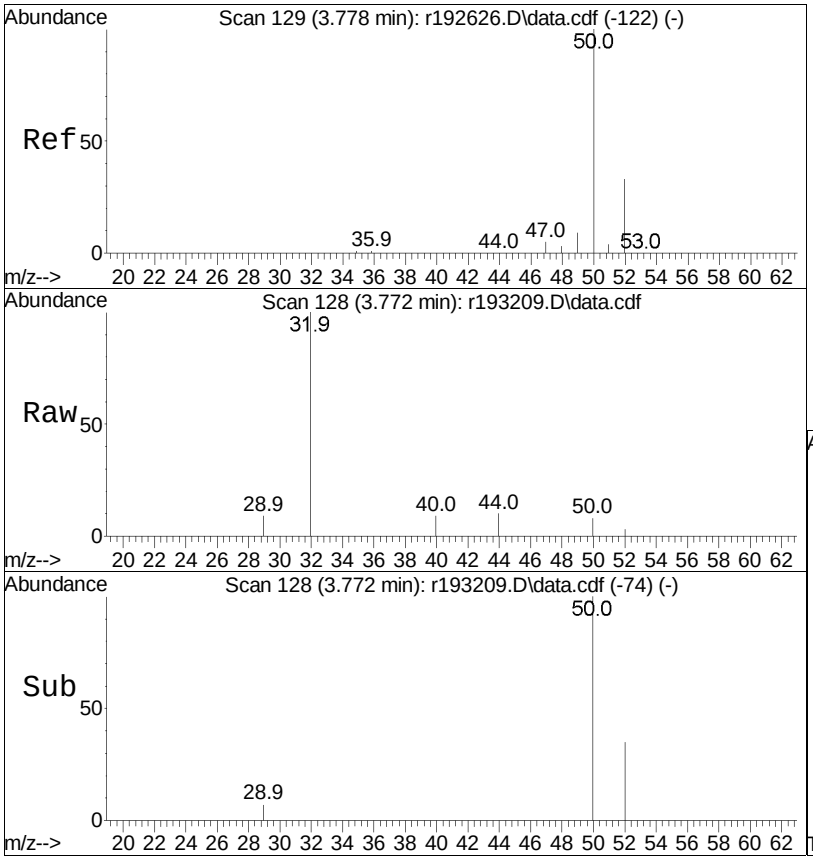


#5
dichlorodifluoromethane
Concen: 0.12 ppbV
RT: 3.562 min Scan# 93
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 85 Resp: 2107

Ion	Ratio	Lower	Upper
85	100		
87	32.6	25.9	38.9

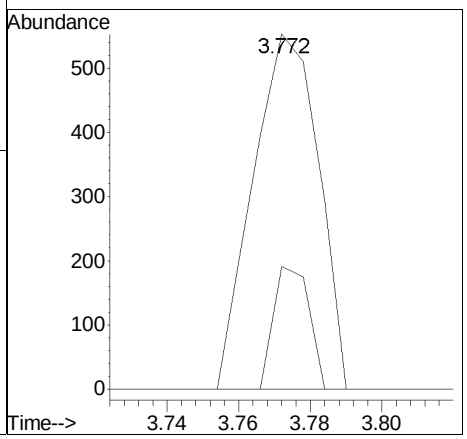


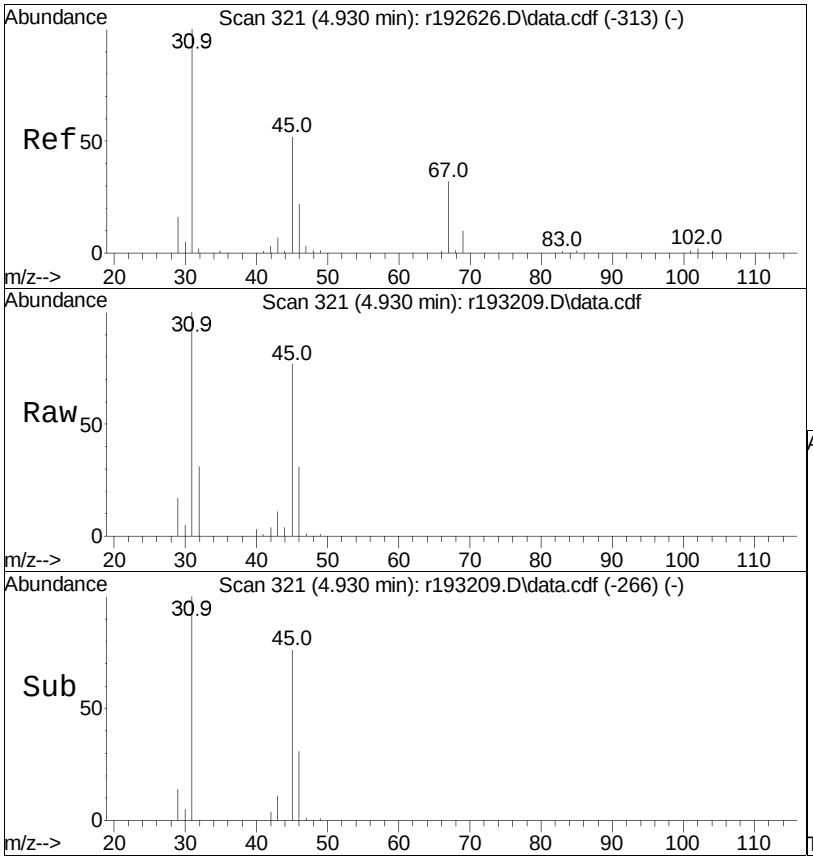


#6
chloromethane
Concen: 0.06 ppbV
RT: 3.772 min Scan# 128
Delta R.T. -0.006 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 50 Resp: 702

Ion	Ratio	Lower	Upper
50	100		
52	34.5	26.3	39.5

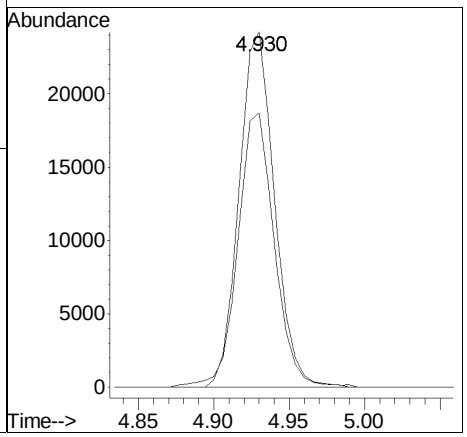


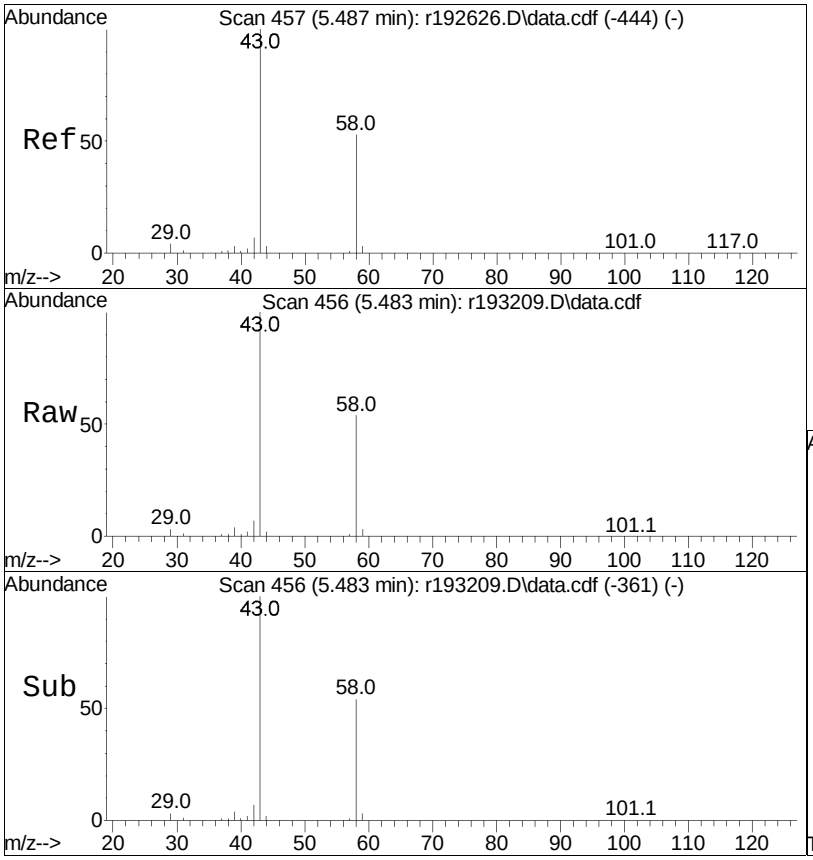


#15
ethanol
Concen: 4.23 ppbV
RT: 4.930 min Scan# 321
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 31 Resp: 39666

Ion	Ratio	Lower	Upper
31	100		
45	77.3	40.6	60.8#

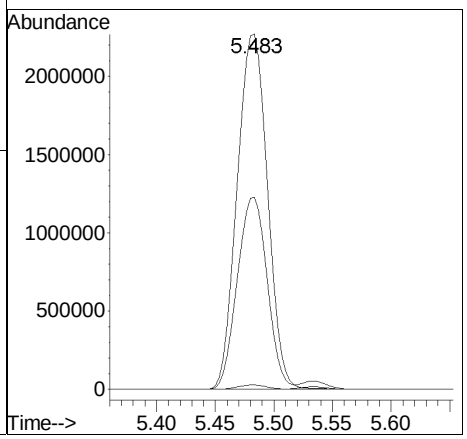


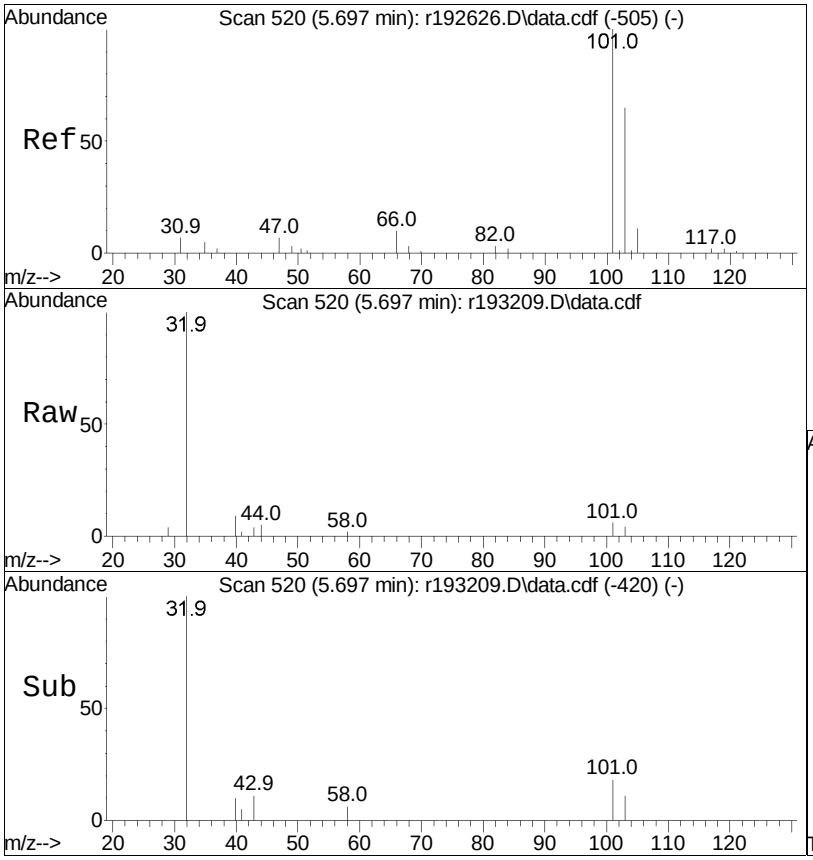


#19
acetone
Concen: 237.94 ppbV
RT: 5.483 min Scan# 456
Delta R.T. -0.013 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 43 Resp: 4095854

Ion	Ratio	Lower	Upper
43	100		
58	54.1	42.0	63.0
57	1.3	1.4	2.0#

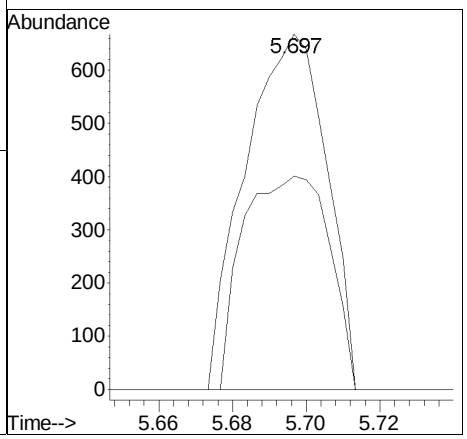


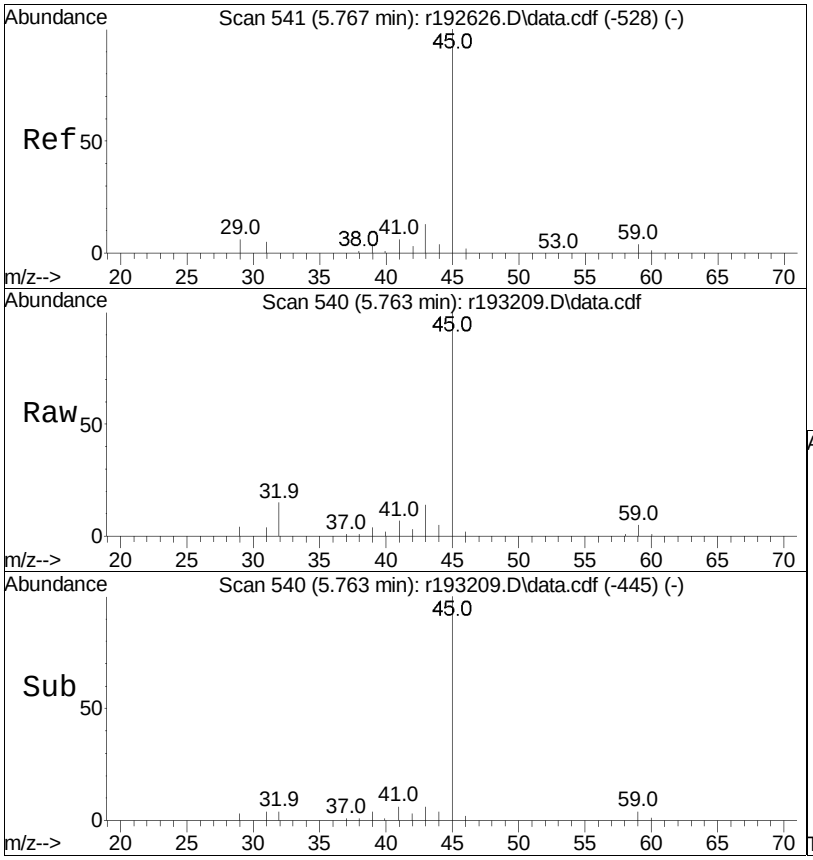


#21
trichlorofluoromethane
Concen: 0.05 ppbV
RT: 5.697 min Scan# 520
Delta R.T. 0.003 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion:101 Resp: 1026

Ion	Ratio	Lower	Upper
101	100		
103	60.0	51.4	77.2

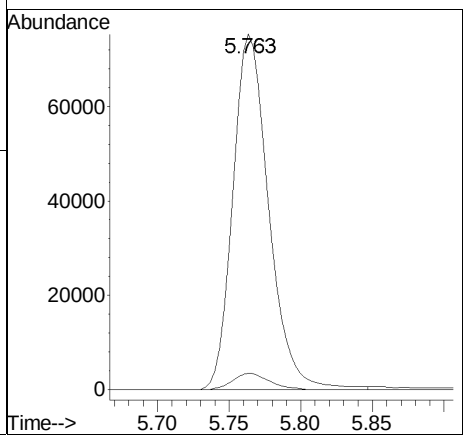


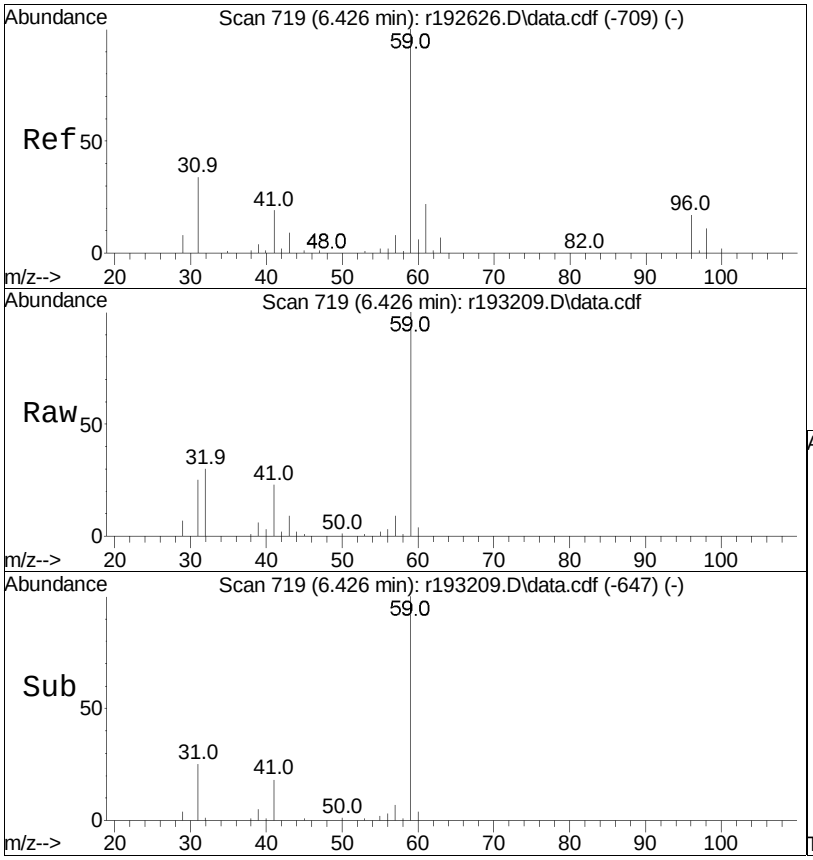


#22
isopropyl alcohol
Concen: 4.01 ppbV
RT: 5.763 min Scan# 540
Delta R.T. -0.013 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 45 Resp: 131205

Ion	Ratio	Lower	Upper
45	100		
59	4.6	3.7	5.5

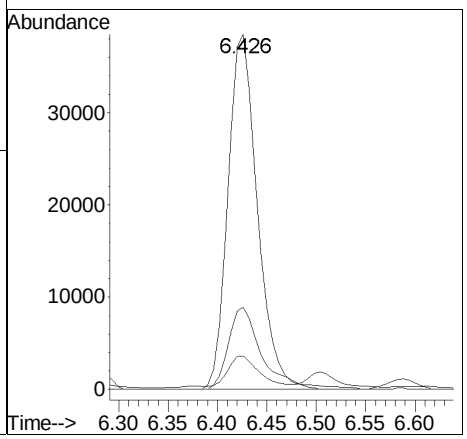


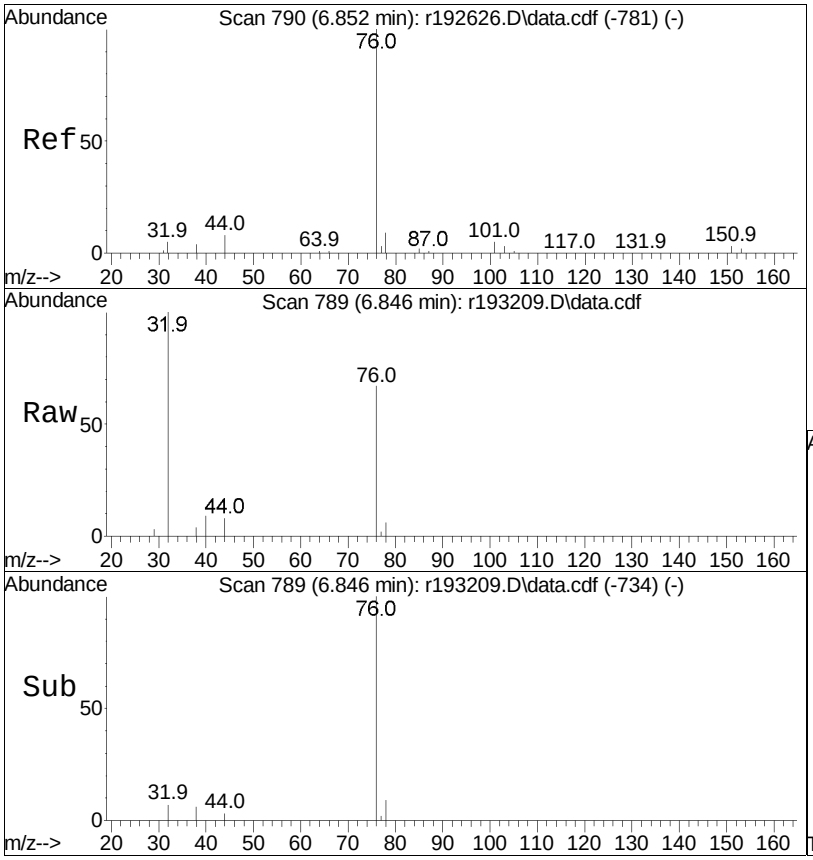


#27
tertiary butyl alcohol
Concen: 2.69 ppbV
RT: 6.426 min Scan# 719
Delta R.T. -0.024 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 59 Resp: 80562

Ion	Ratio	Lower	Upper
59	100		
41	23.1	18.8	28.2
43	9.4	9.8	14.8#

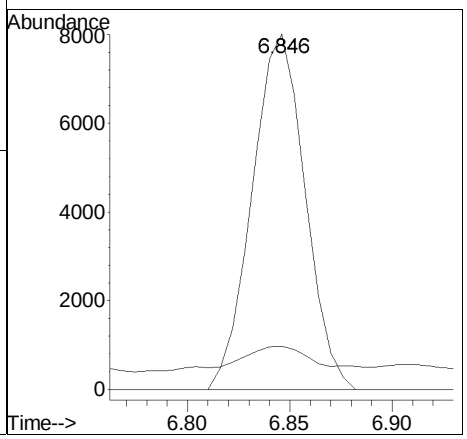


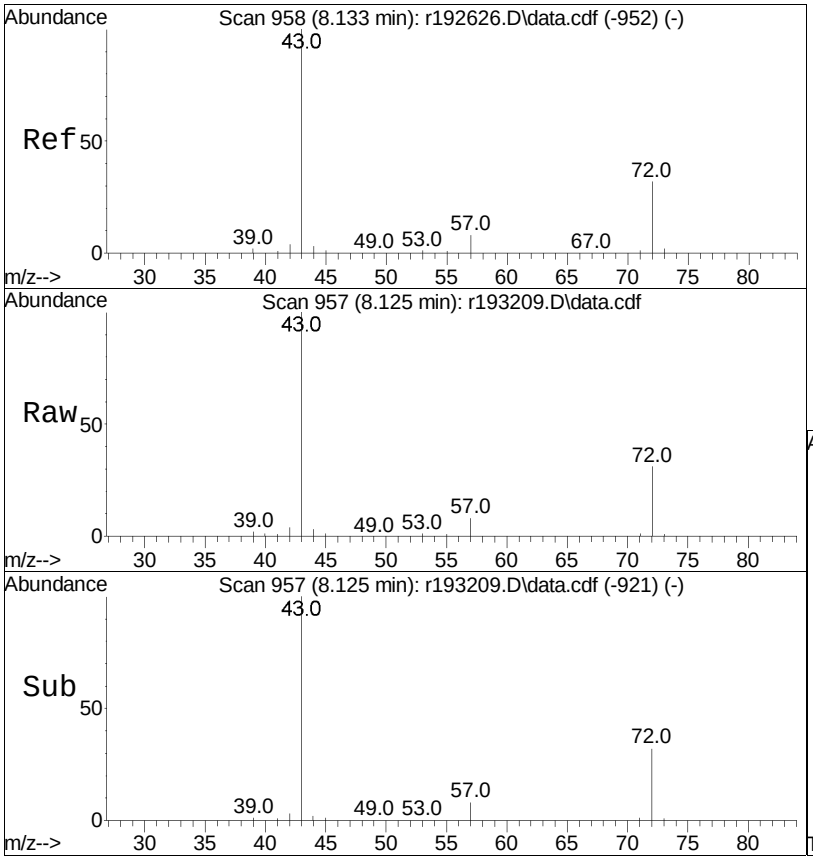


#30
carbon disulfide
Concen: 0.25 ppbV
RT: 6.846 min Scan# 789
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 76 Resp: 14408

Ion	Ratio	Lower	Upper
76	100		
44	12.2	12.3	18.5#

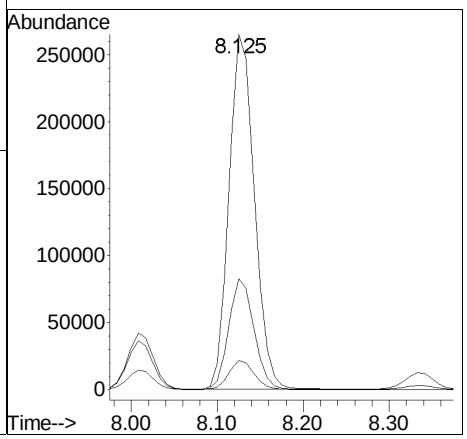


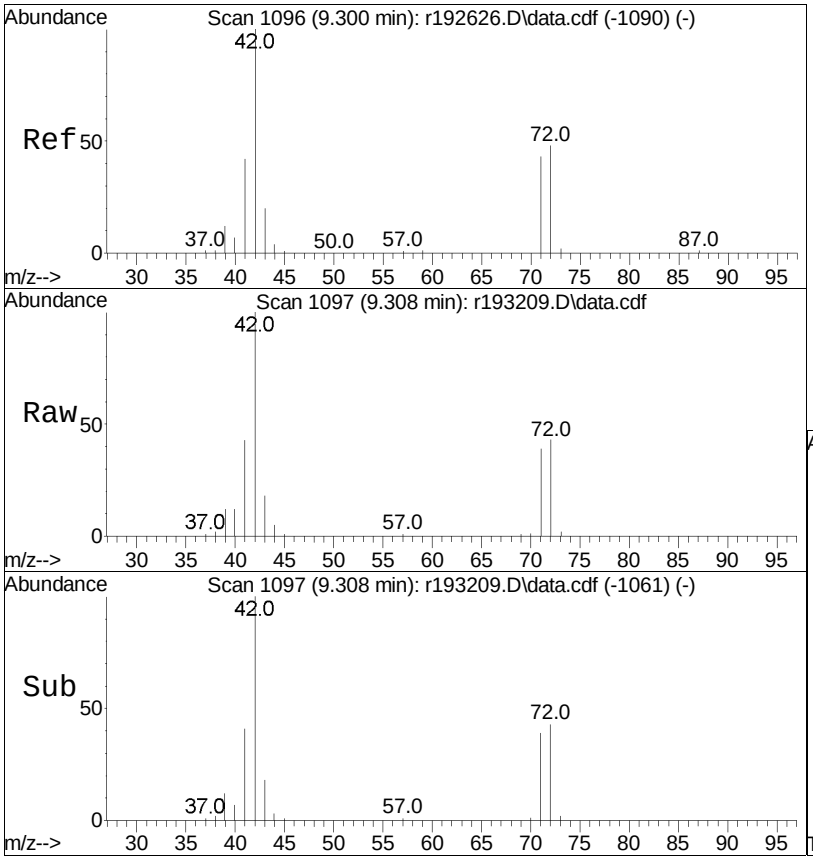


#36
2-butanone
Concen: 14.13 ppbV
RT: 8.125 min Scan# 957
Delta R.T. -0.033 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 43 Resp: 545208

Ion	Ratio	Lower	Upper
43	100		
72	31.1	27.7	41.5
57	8.2	6.3	9.5

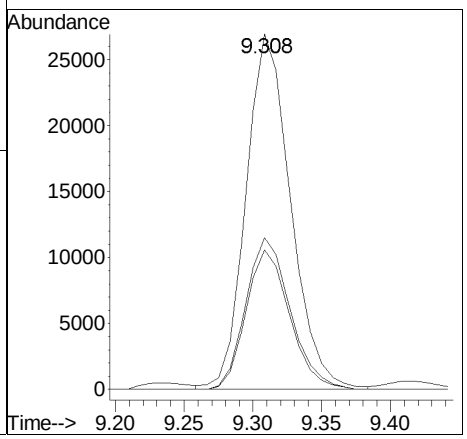


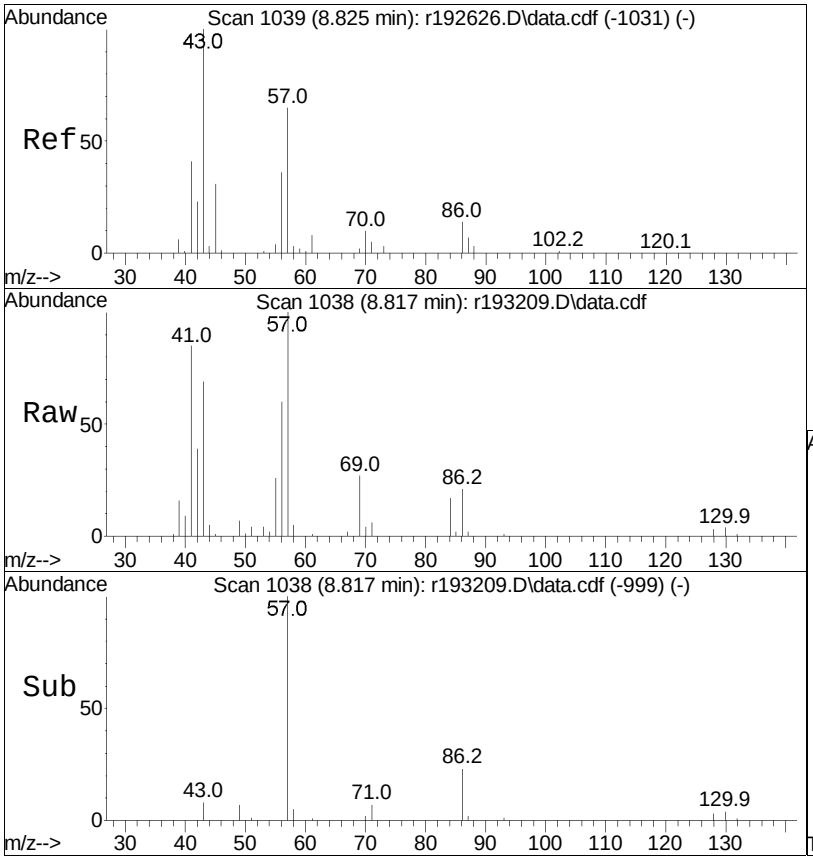


#40
Tetrahydrofuran
Concen: 2.35 ppbV
RT: 9.308 min Scan# 1097
Delta R.T. -0.033 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 42 Resp: 60823

Ion	Ratio	Lower	Upper
42	100		
71	39.3	32.5	48.7
72	42.7	33.7	50.5

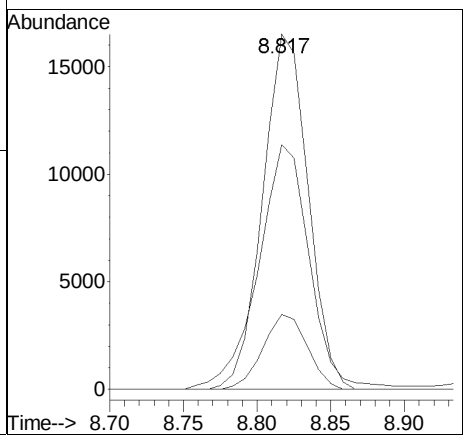


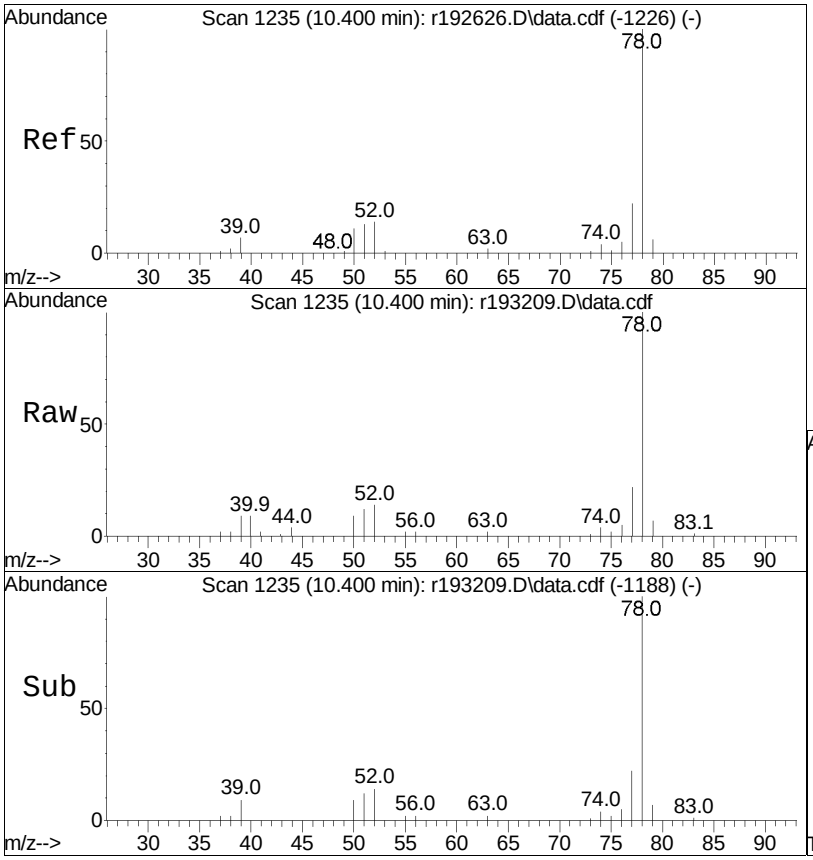


#44
hexane
Concen: 0.96 ppbV
RT: 8.817 min Scan# 1038
Delta R.T. -0.008 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 57 Resp: 35356

Ion	Ratio	Lower	Upper
57	100		
43	68.9	159.3	238.9#
86	21.1	15.7	23.5

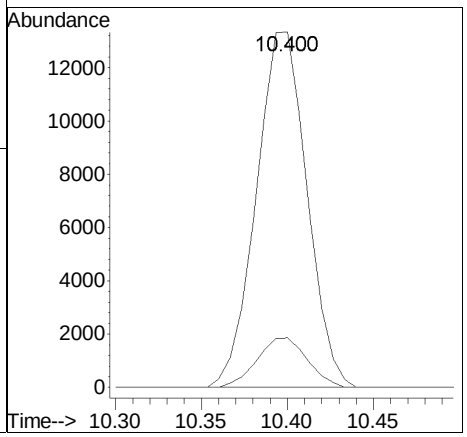


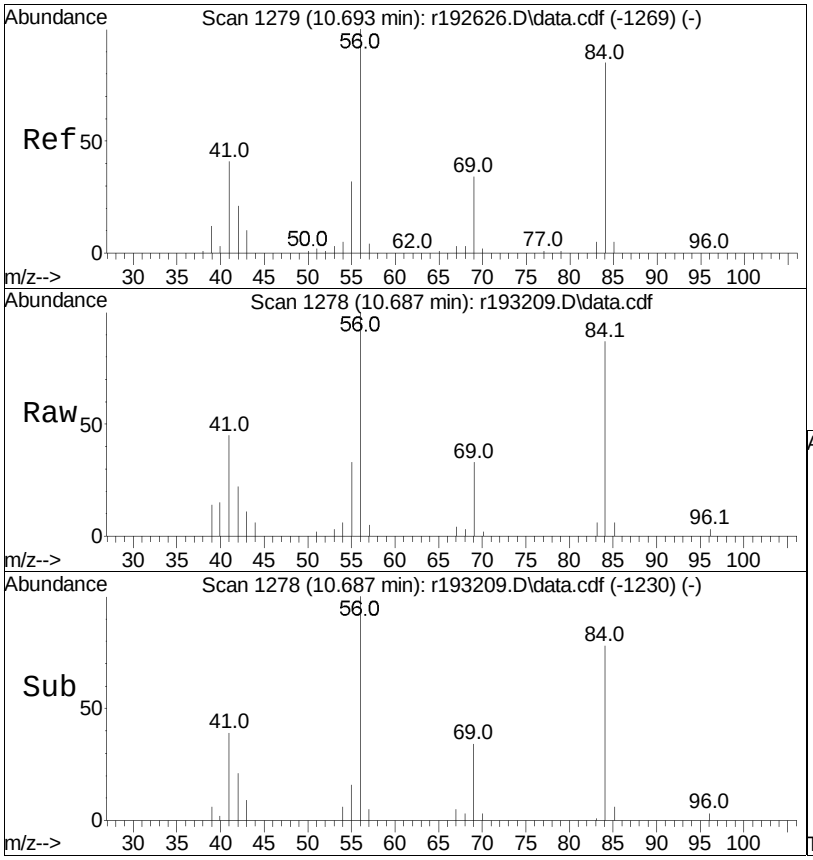


#50
benzene
Concen: 0.38 ppbV
RT: 10.400 min Scan# 1235
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 78 Resp: 27359

Ion	Ratio	Lower	Upper
78	100		
52	13.9	11.4	17.2

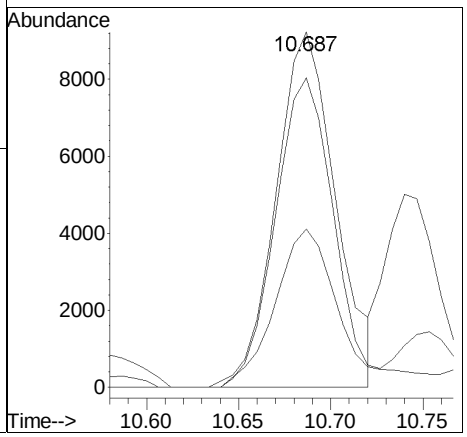


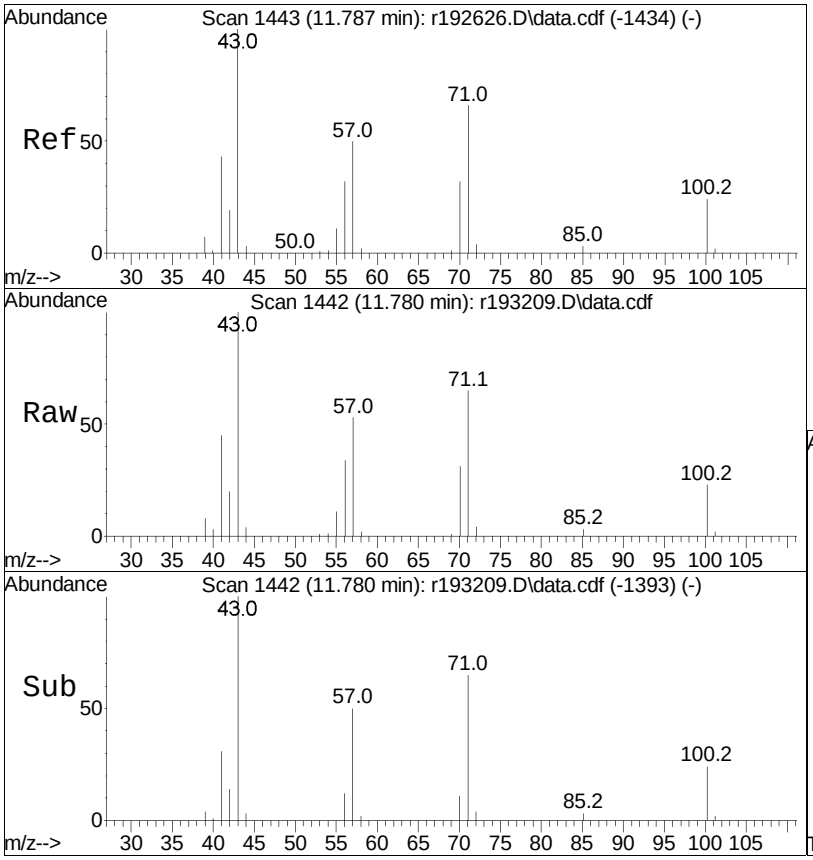


#53
cyclohexane
Concen: 0.51 ppbV
RT: 10.687 min Scan# 1278
Delta R.T. -0.007 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 56 Resp: 20718

Ion	Ratio	Lower	Upper
56	100		
84	87.1	69.8	104.6
41	44.6	32.1	48.1

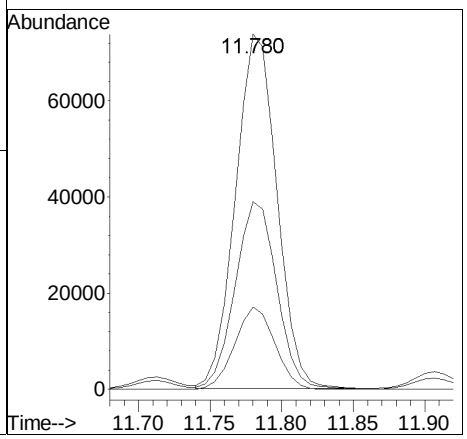


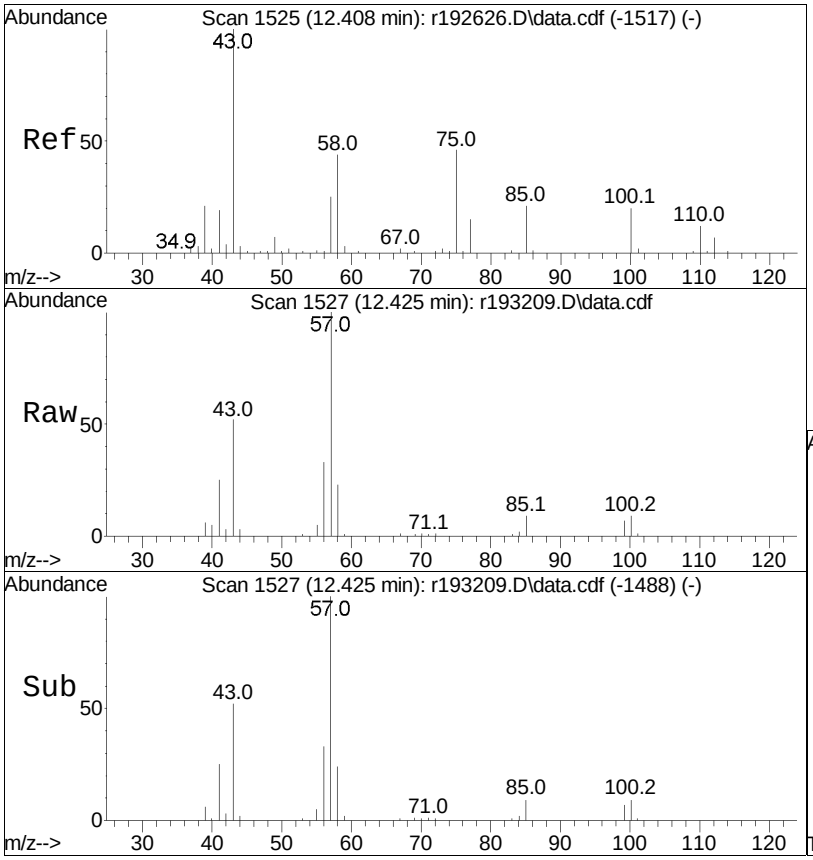


#62
heptane
Concen: 3.29 ppbV
RT: 11.780 min Scan# 1442
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 43 Resp: 147899

Ion	Ratio	Lower	Upper
43	100		
57	52.8	41.0	61.6
100	23.2	21.4	32.2

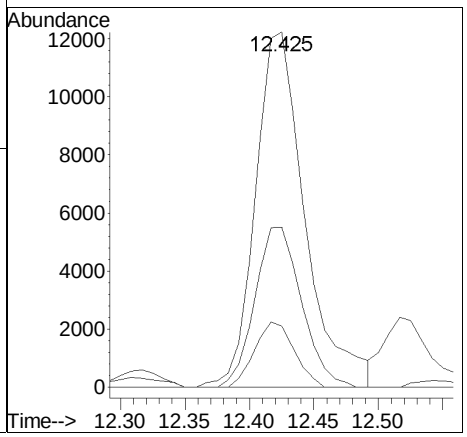


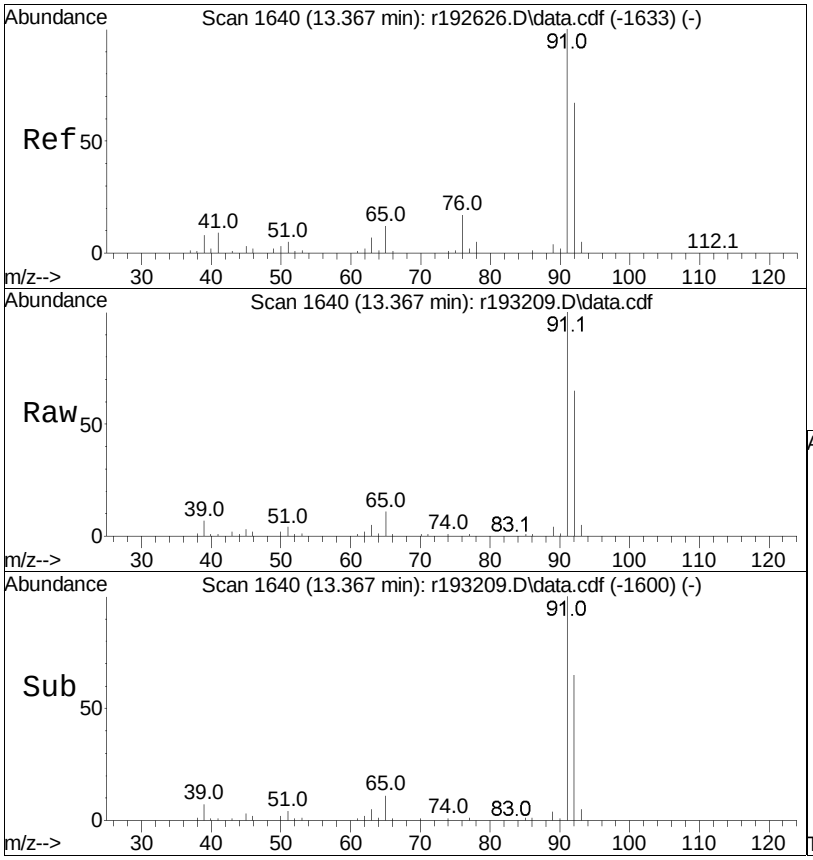


#64
4-methyl-2-pentanone
Concen: 0.68 ppbV
RT: 12.425 min Scan# 1527
Delta R.T. -0.008 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 43 Resp: 32766

Ion	Ratio	Lower	Upper
43	100		
58	45.1	32.9	49.3
100	17.3	15.4	23.2

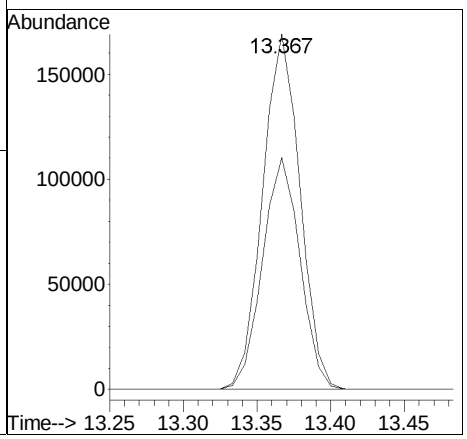


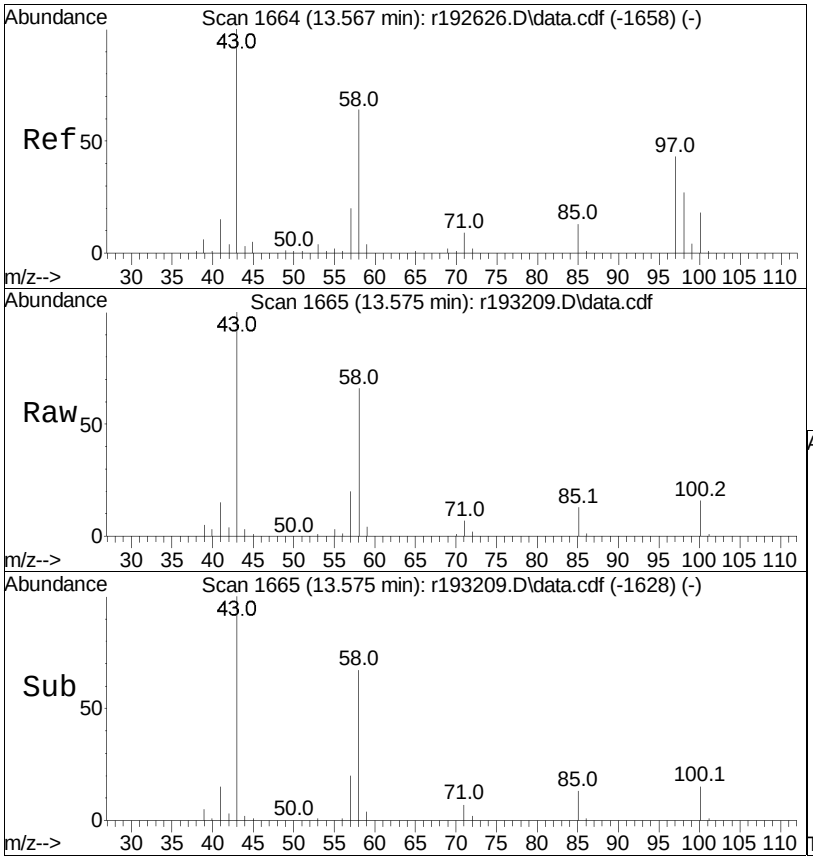


#68
toluene
Concen: 4.08 ppbV
RT: 13.367 min Scan# 1640
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 91 Resp: 298677

Ion	Ratio	Lower	Upper
91	100		
92	65.2	53.3	79.9

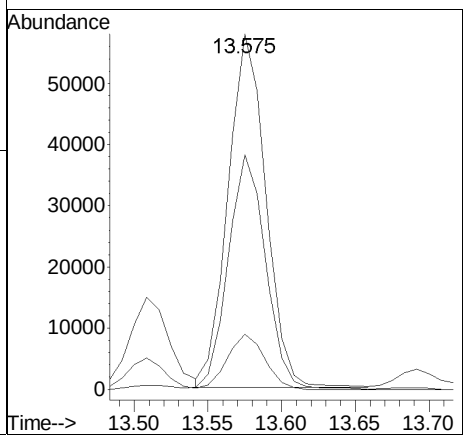


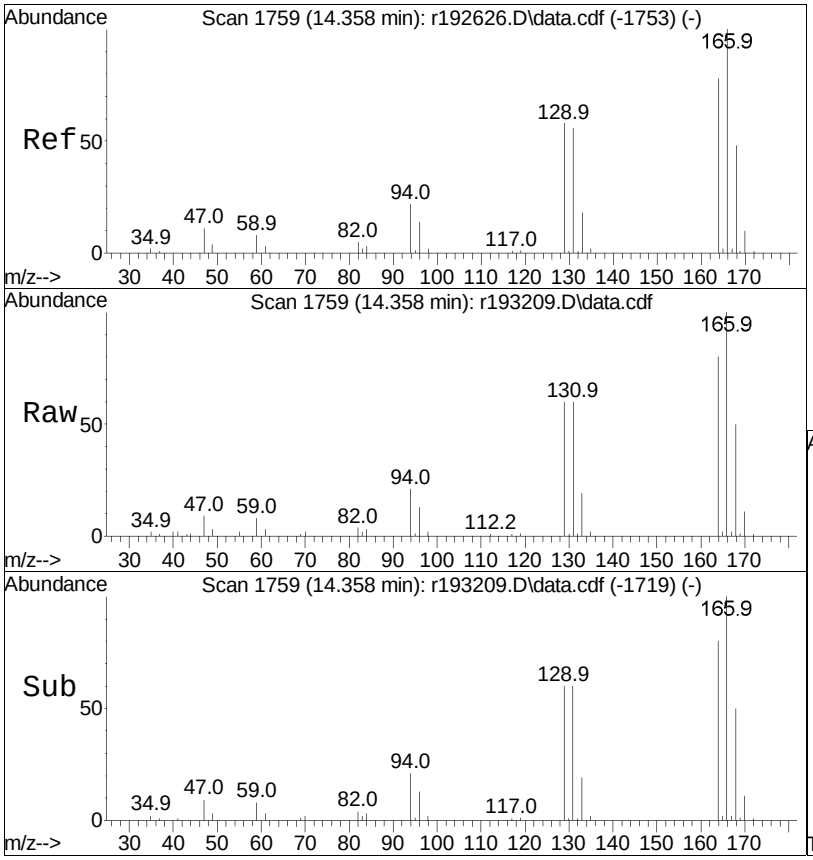


#72
2-hexanone
Concen: 2.42 ppbV
RT: 13.575 min Scan# 1665
Delta R.T. -0.025 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 43 Resp: 103089

Ion	Ratio	Lower	Upper
43	100		
58	66.1	62.6	94.0
100	15.5	26.5	39.7#

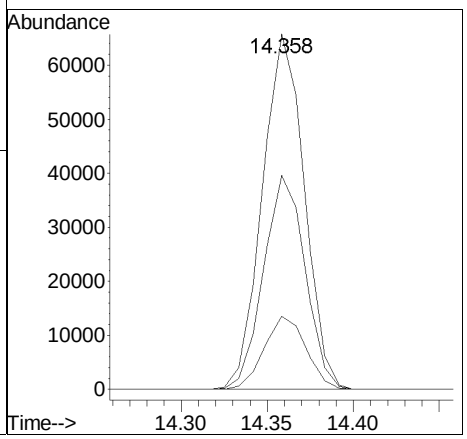


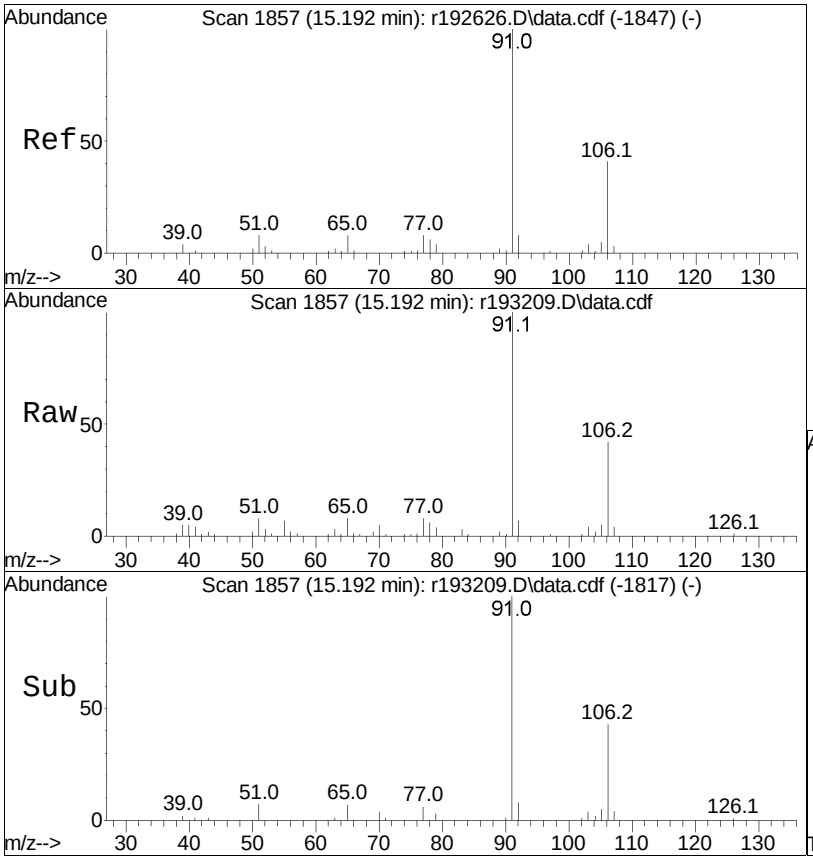


#78
tetrachloroethene
Concen: 3.47 ppbV
RT: 14.358 min Scan# 1759
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion:166 Resp: 111593

Ion	Ratio	Lower	Upper
166	100		
131	60.2	46.4	69.6
94	20.6	18.5	27.7

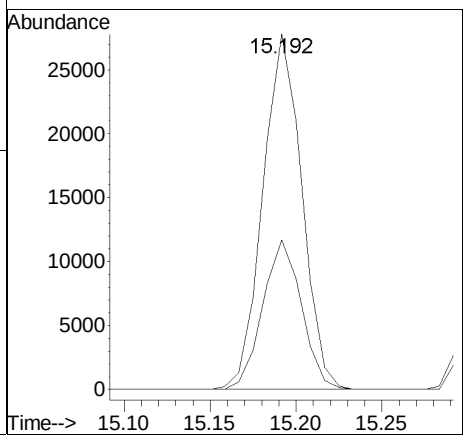


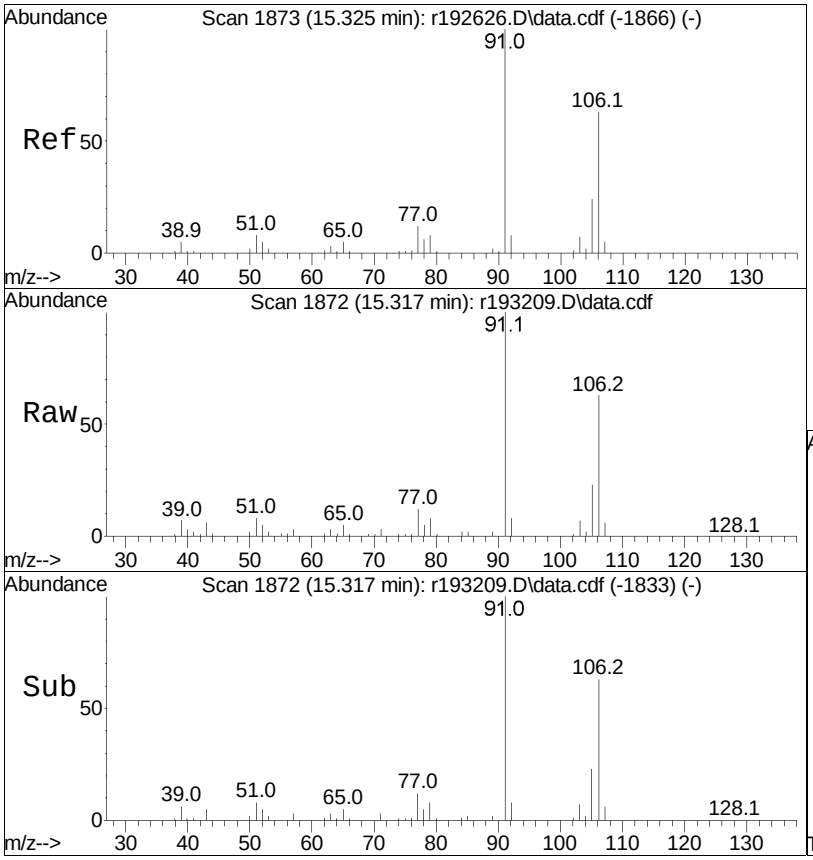


#81
ethylbenzene
Concen: 0.50 ppbV
RT: 15.192 min Scan# 1857
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 91 Resp: 43794

Ion	Ratio	Lower	Upper
91	100		
106	42.1	32.9	49.3

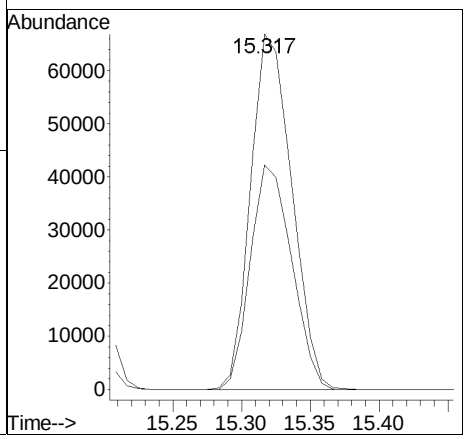


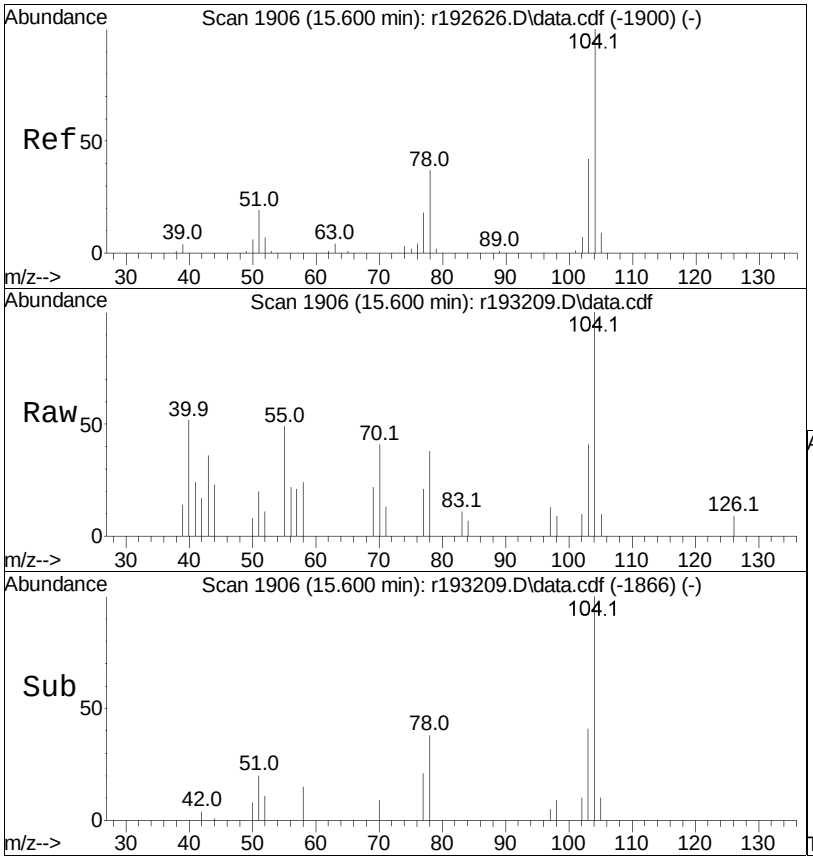


#83
m+p-xylene
Concen: 2.01 ppbV
RT: 15.317 min Scan# 1872
Delta R.T. -0.008 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 91 Resp: 139441

Ion	Ratio	Lower	Upper
91	100		
106	63.1	51.0	76.4

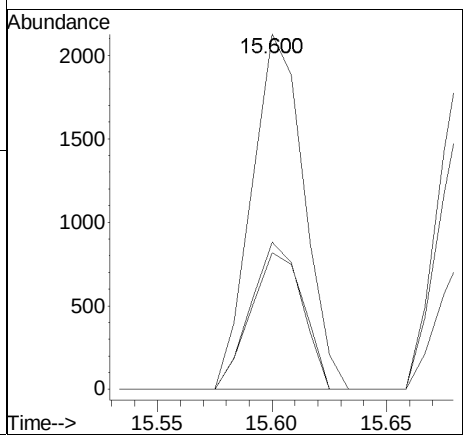


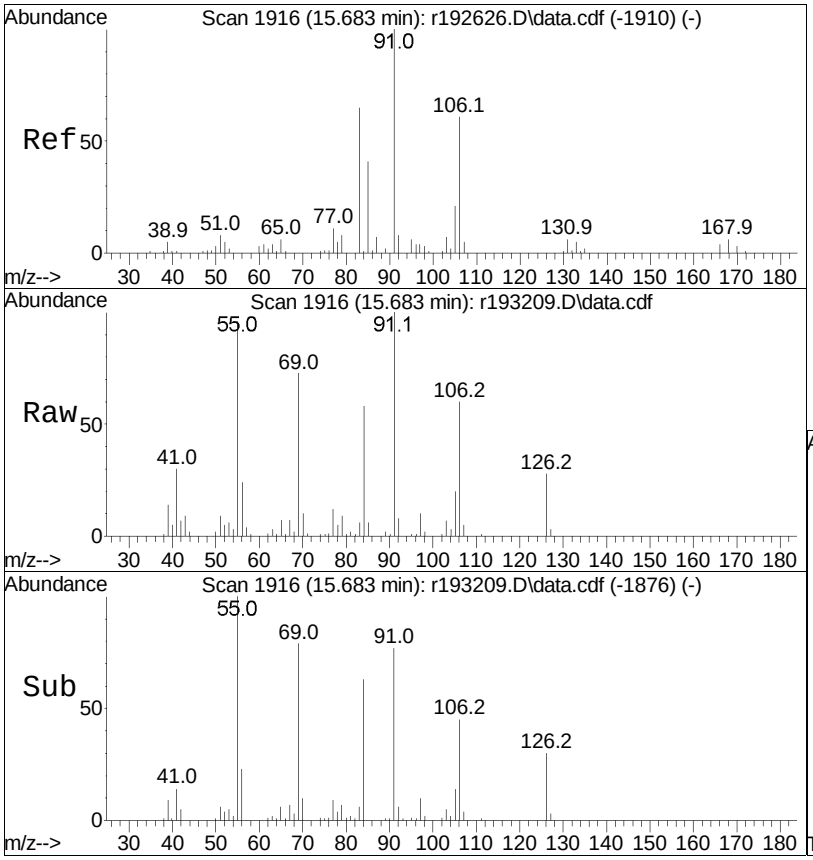


#85
styrene
Concen: 0.05 ppbV
RT: 15.600 min Scan# 1906
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion:104 Resp: 3372

Ion	Ratio	Lower	Upper
104	100		
103	41.4	33.4	50.0
78	38.5	30.6	46.0

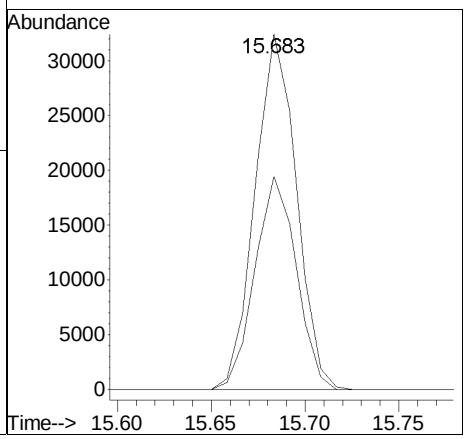


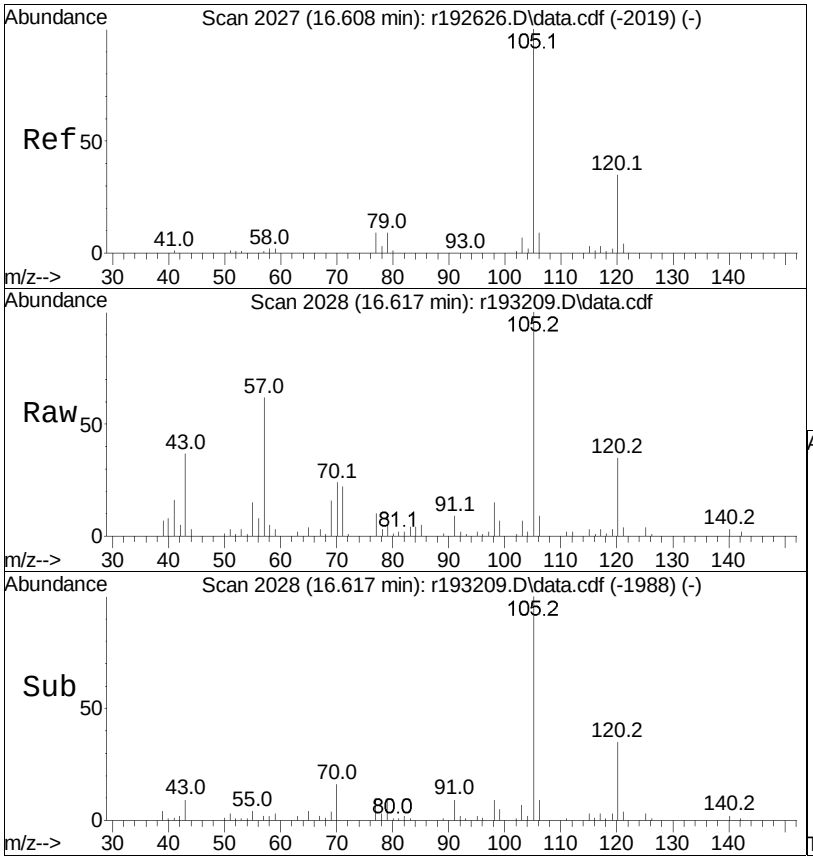


#87
o-xylene
Concen: 0.73 ppbV
RT: 15.683 min Scan# 1916
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion: 91 Resp: 49703

Ion	Ratio	Lower	Upper
91	100		
106	60.0	47.8	71.8

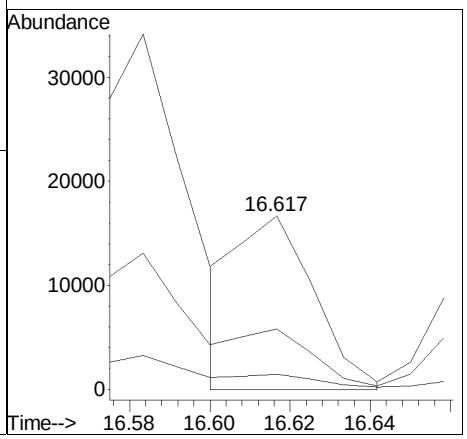


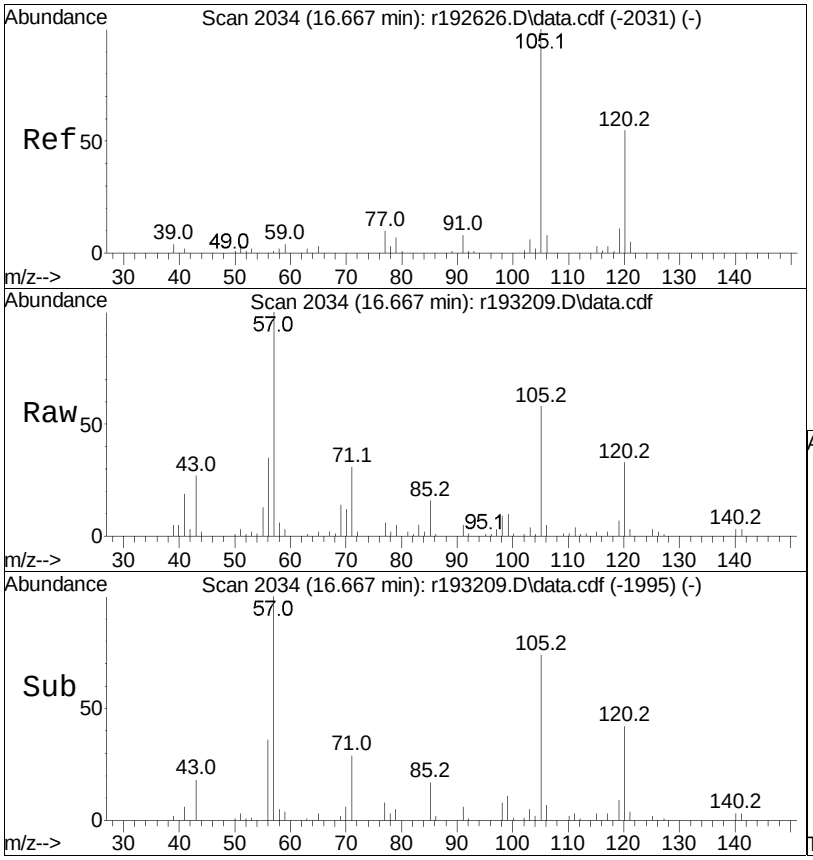


#96
4-ethyl toluene
Concen: 0.20 ppbV m
RT: 16.617 min Scan# 2028
Delta R.T. 0.000 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion:105 Resp: 22527

Ion	Ratio	Lower	Upper
105	100		
120	34.9	27.2	40.8
91	8.7	7.0	10.4

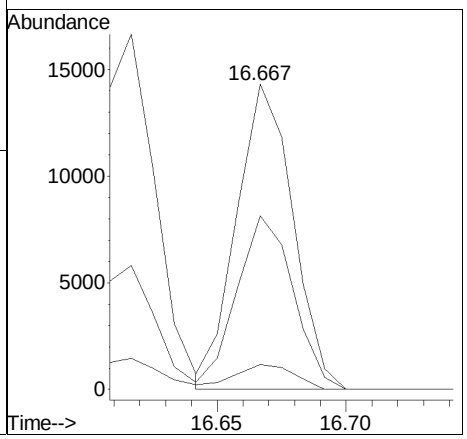


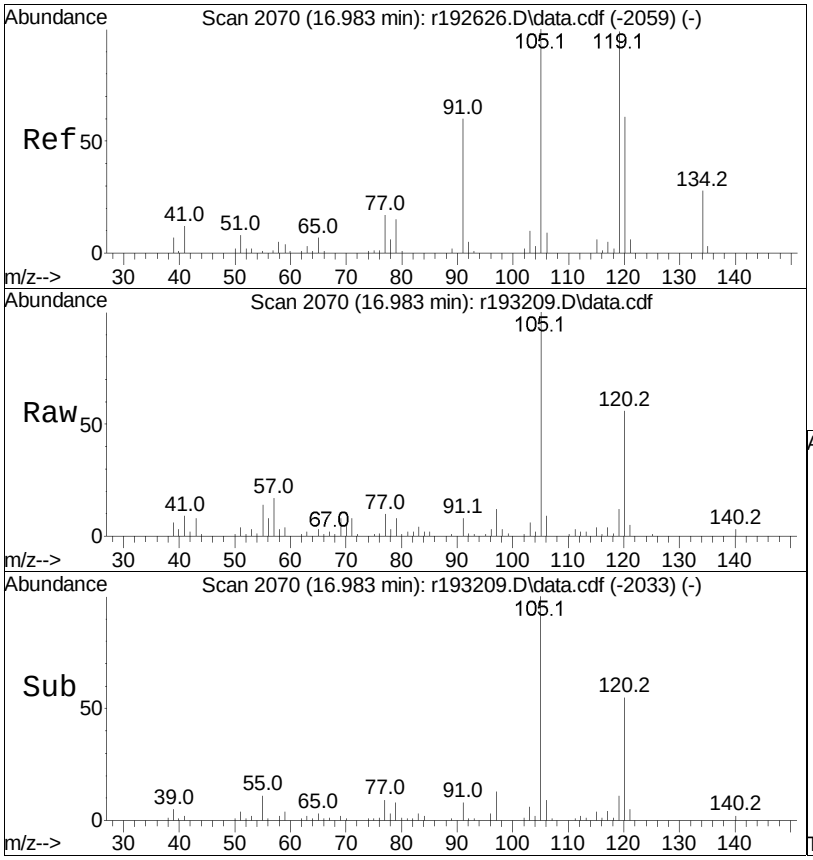


#97
1,3,5-trimethylbenzene
Concen: 0.24 ppbV
RT: 16.667 min Scan# 2034
Delta R.T. -0.008 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion:105 Resp: 21733

Ion	Ratio	Lower	Upper
105	100		
120	56.9	42.6	64.0
91	8.1	6.6	9.8

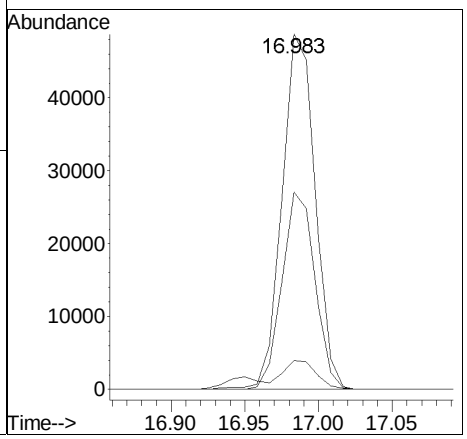




#99
1,2,4-trimethylbenzene
Concen: 0.89 ppbV
RT: 16.983 min Scan# 2070
Delta R.T. -0.008 min
Lab File: r193209.D
Acq: 21 Mar 2020 2:28 AM

Tgt Ion:105 Resp: 76194

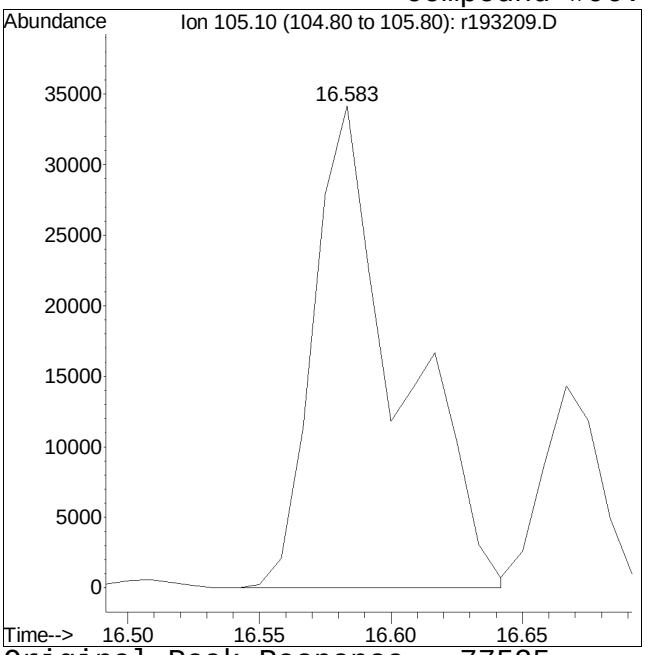
Ion	Ratio	Lower	Upper
105	100		
120	55.5	49.2	73.8
91	8.2	49.9	74.9#



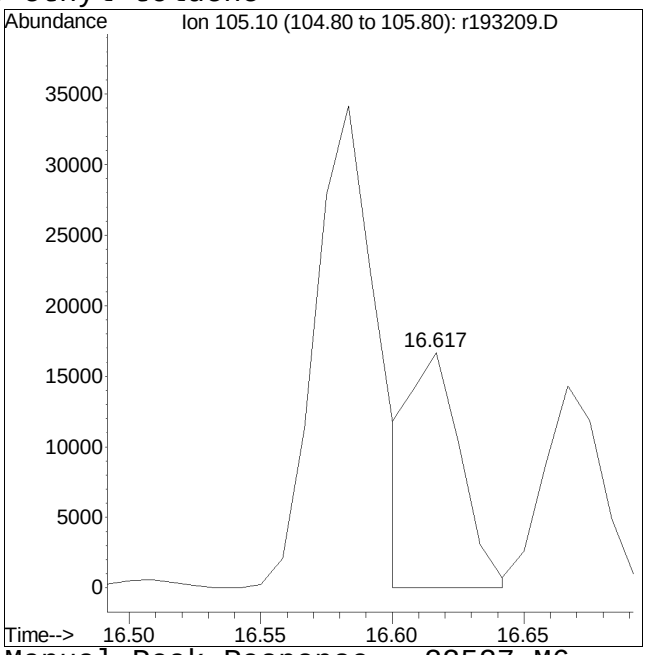
Manual Integration Report

Data Path : O:\Forensics\Data\Airlab19QMethod : TFS19_200224.M
Data File : r193209.D Operator : AIRLAB19:EW
Date Inj'd : 3/21/2020 0:2: 8 Instrument :
Sample : L2011723-02D,3,75,250 Quant Date : 3/21/2020 7:57 am

Compound #96: 4-ethyl toluene



Original Peak Response = 77525



Manual Peak Response = 22527 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193210.D
Acq On : 21 Mar 2020 3:04 AM
Operator : AIRLAB19:EW
Sample : L2011723-03D,3,40,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:43:23 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.775	49	296033	10.000	ppbV	0.00
Standard Area = 288364			Recovery = 102.66%			
43) 1,4-difluorobenzene	10.747	114	913325	10.000	ppbV	0.00
Standard Area = 940727			Recovery = 97.09%			
67) chlorobenzene-D5	14.875	54	112218	10.000	ppbV	0.00
Standard Area = 108860			Recovery = 103.08%			
System Monitoring Compounds						
Target Compounds						Qvalue
5) dichlorodifluoromethane	3.556	85	1115	0.067	ppbV	97
6) chloromethane	0.000		0	N.D.	d	
7) Freon-114	0.000		0	N.D.		
9) vinyl chloride	0.000		0	N.D.		
10) 1,3-butadiene	0.000		0	N.D.	d	
13) bromomethane	0.000		0	N.D.		
14) chloroethane	0.000		0	N.D.		
15) ethanol	4.936	31	12046	1.393	ppbV #	61
17) vinyl bromide	0.000		0	N.D.		
19) acetone	5.483	43	1088002	68.442	ppbV #	99
21) trichlorofluoromethane	5.690		0	N.D.		
22) isopropyl alcohol	5.770	45	31526	1.044	ppbV	99
26) 1,1-dichloroethene	0.000		0	N.D.		
27) tertiary butyl alcohol	6.438	59	21253	0.768	ppbV	96
28) methylene chloride	6.540		0	N.D.		
29) 3-chloropropene	0.000		0	N.D.	d	
30) carbon disulfide	6.840		0	N.D.		
31) Freon 113	6.822		0	N.D.		
32) trans-1,2-dichloroethene	7.533		0	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.		
34) MTBE	0.000		0	N.D.		
36) 2-butanone	8.133	43	159608	4.479	ppbV	95
37) cis-1,2-dichloroethene	8.600	61	191731	9.607	ppbV	96
38) Ethyl Acetate	0.000		0	N.D.		
39) chloroform	8.908	83	41339	1.670	ppbV	93
40) Tetrahydrofuran	9.325	42	17746	0.741	ppbV	98
42) 1,2-dichloroethane	0.000		0	N.D.		

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193210.D
Acq On : 21 Mar 2020 3:04 AM
Operator : AIRLAB19:EW
Sample : L2011723-03D,3,40,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:43:23 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) hexane	8.817	57	6528	0.195	ppbV #	26
48) 1,1,1-trichloroethane	0.000		0	N.D.		
50) benzene	10.400	78	10952	0.166	ppbV	99
52) carbon tetrachloride	0.000		0	N.D.		
53) cyclohexane	10.687	56	1939	0.053	ppbV #	92
56) 1,2-dichloropropane	0.000		0	N.D.		
57) bromodichloromethane	0.000		0	N.D.	d	
58) 1,4-dioxane	0.000		0	N.D.		
59) trichloroethene	11.487	130	50792	2.158	ppbV	96
60) 2,2,4-trimethylpentane	0.000		0	N.D.	d	
62) heptane	11.780	43	16465	0.403	ppbV	97
63) cis-1,3-dichloropropene	0.000		0	N.D.		
64) 4-methyl-2-pentanone	0.000		0	N.D.	d	
65) trans-1,3-dichloropropene	0.000		0	N.D.		
66) 1,1,2-trichloroethane	0.000		0	N.D.		
68) toluene	13.367	91	107408	1.572	ppbV	99
72) 2-hexanone	13.583	43	56738	1.429	ppbV #	79
74) dibromochloromethane	0.000		0	N.D.		
75) 1,2-dibromoethane	0.000		0	N.D.		
78) tetrachloroethene	14.358	166	1536096	51.163	ppbV	97
80) chlorobenzene	0.000		0	N.D.	d	
81) ethylbenzene	15.192	91	37803	0.461	ppbV	100
83) m+p-xylene	15.317	91	98318	1.522	ppbV	98
84) bromoform	0.000		0	N.D.		
85) styrene	15.600		0	N.D.		
86) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	d	
87) o-xylene	15.683	91	32862	0.518	ppbV	97
96) 4-ethyl toluene	16.617	105	11228M6	0.105	ppbV	
97) 1,3,5-trimethylbenzene	16.667	105	8187	0.095	ppbV #	92
99) 1,2,4-trimethylbenzene	16.983	105	23054	0.289	ppbV #	60
101) Benzyl Chloride	0.000		0	N.D.	d	
102) 1,3-dichlorobenzene	0.000		0	N.D.		
103) 1,4-dichlorobenzene	0.000		0	N.D.		
107) 1,2-dichlorobenzene	17.433		0	N.D.		
115) 1,2,4-trichlorobenzene	0.000		0	N.D.		
119) hexachlorobutadiene	0.000		0	N.D.		

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

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193210.D
Acq On : 21 Mar 2020 3:04 AM
Operator : AIRLAB19:EW
Sample : L2011723-03D,3,40,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:43:23 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

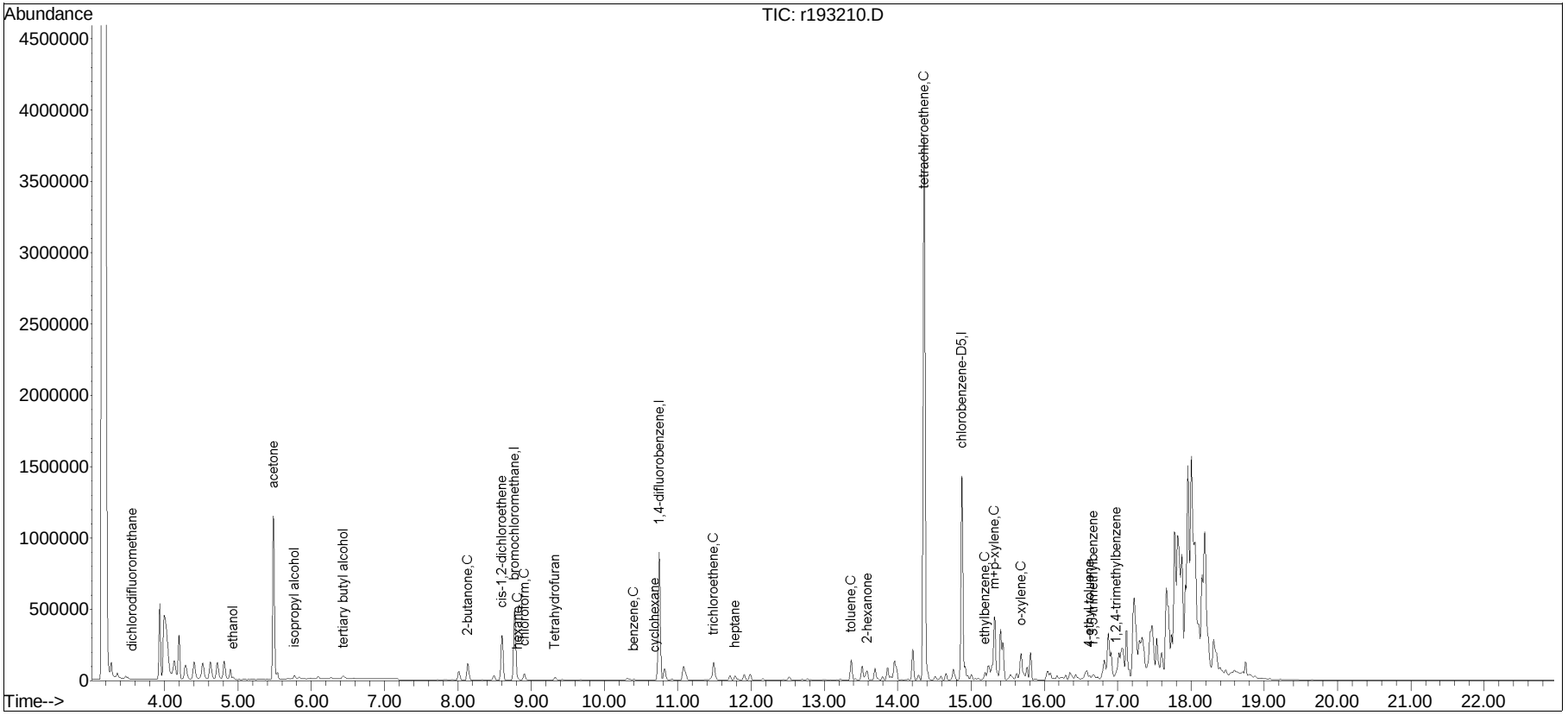
CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

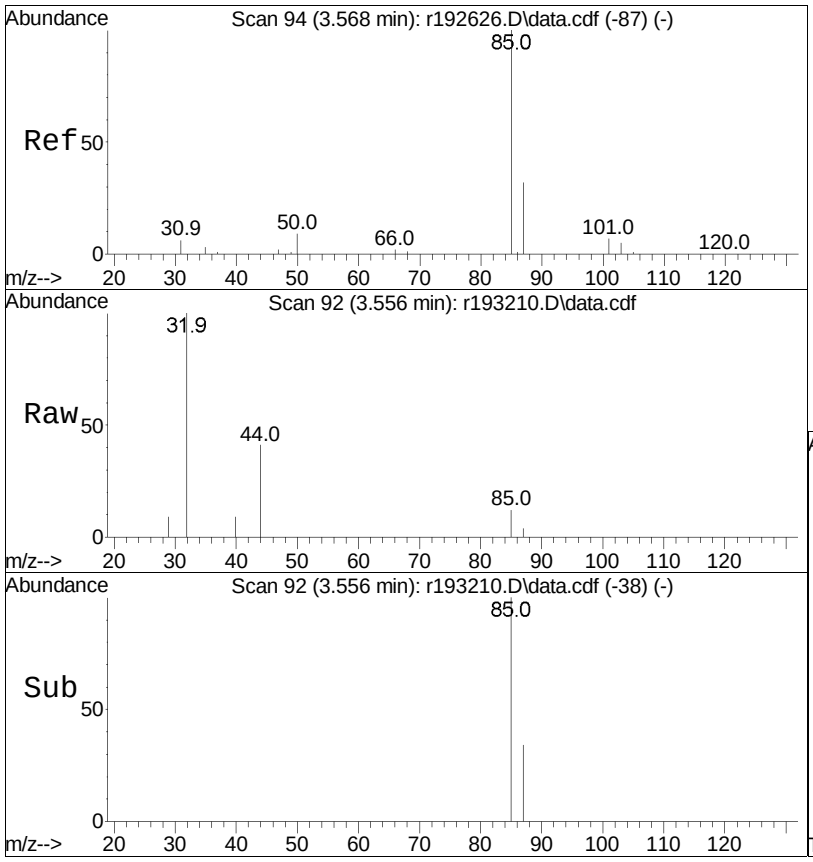
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Sub List : TO15-NY - .s\Data\Airlab19\2020\03\200320T\r193190.D

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193210.D
Acq On : 21 Mar 2020 3:04 AM
Operator : AIRLAB19:EW
Sample : L2011723-03D,3,40,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:43:23 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

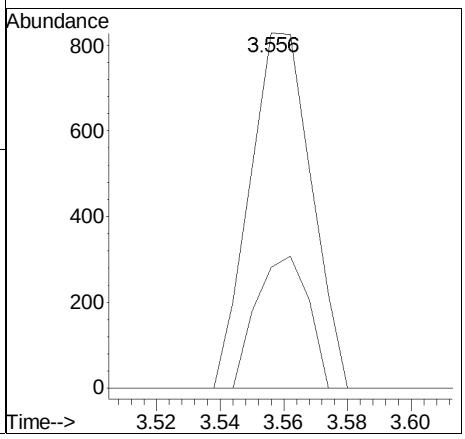


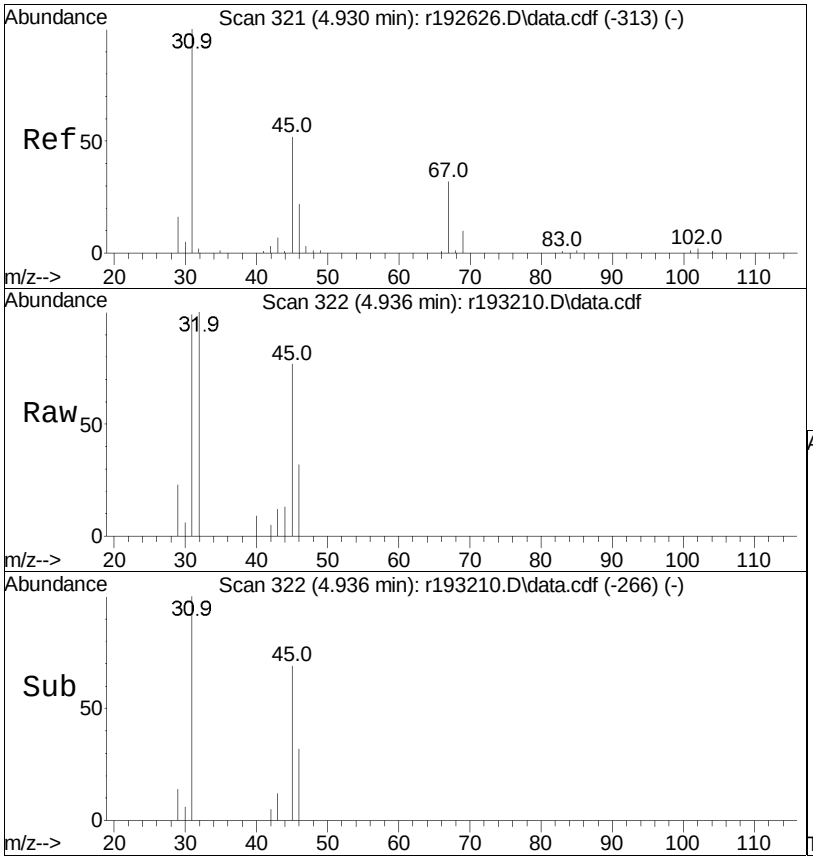


#5
dichlorodifluoromethane
Concen: 0.07 ppbV
RT: 3.556 min Scan# 92
Delta R.T. -0.006 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 85 Resp: 1115

Ion	Ratio	Lower	Upper
85	100		
87	34.1	25.9	38.9

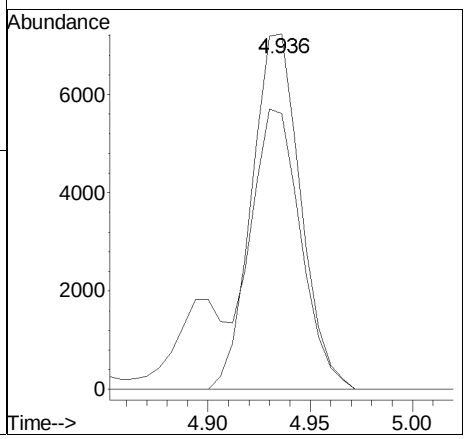


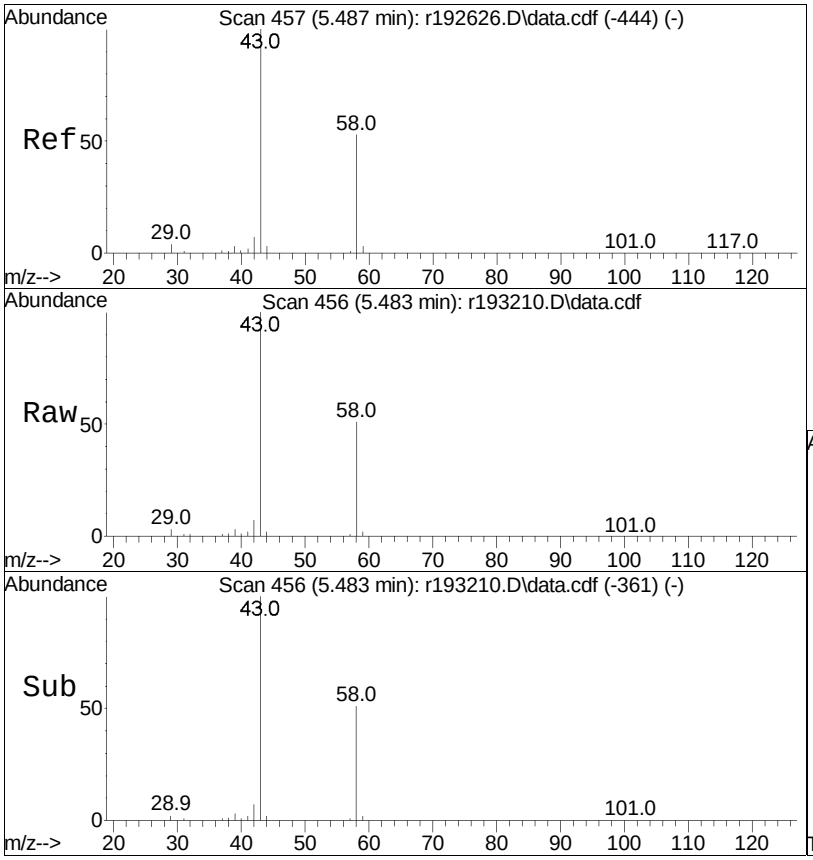


#15
ethanol
Concen: 1.39 ppbV
RT: 4.936 min Scan# 322
Delta R.T. 0.006 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 31 Resp: 12046

Ion	Ratio	Lower	Upper
31	100		
45	77.6	40.6	60.8#

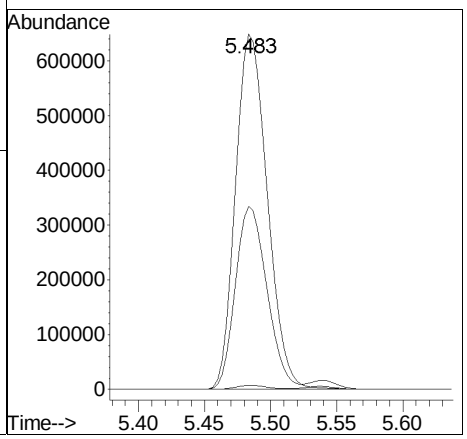


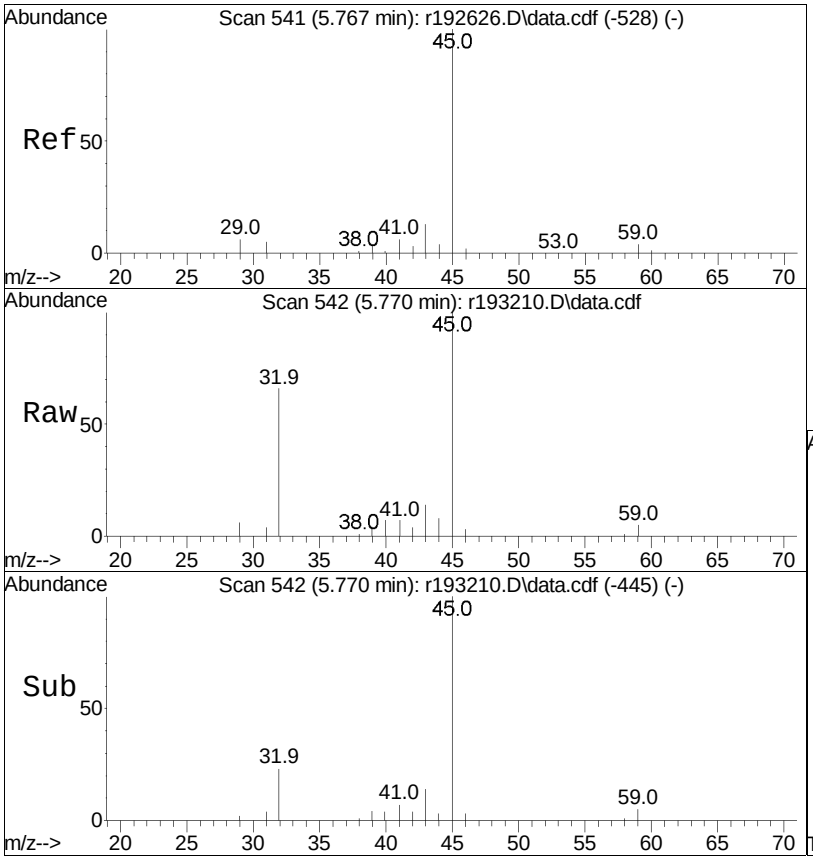


#19
acetone
Concen: 68.44 ppbV
RT: 5.483 min Scan# 456
Delta R.T. -0.013 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 43 Resp: 1088002

Ion	Ratio	Lower	Upper
43	100		
58	51.5	42.0	63.0
57	1.1	1.4	2.0#

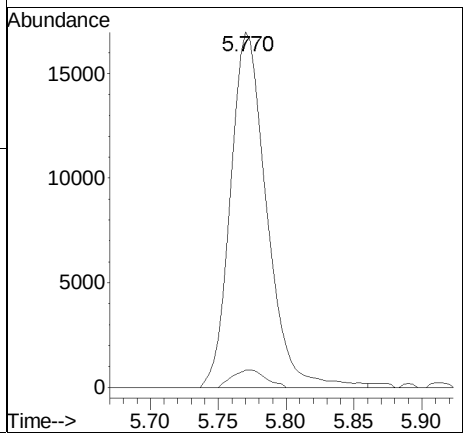


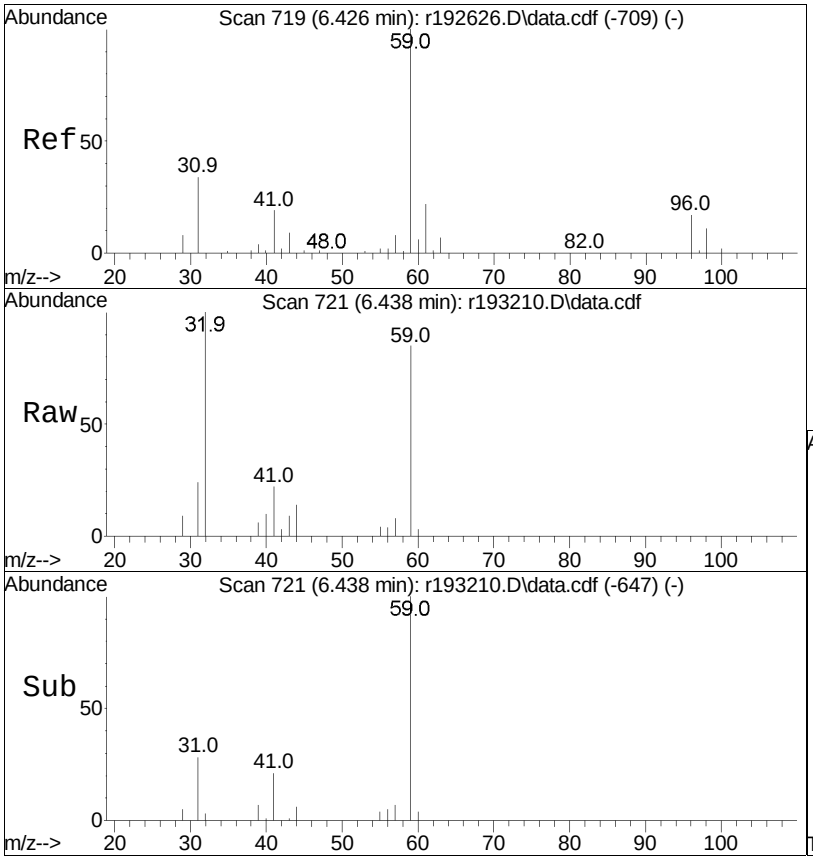


#22
isopropyl alcohol
Concen: 1.04 ppbV
RT: 5.770 min Scan# 542
Delta R.T. -0.007 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 45 Resp: 31526

Ion	Ratio	Lower	Upper
45	100		
59	4.8	3.7	5.5

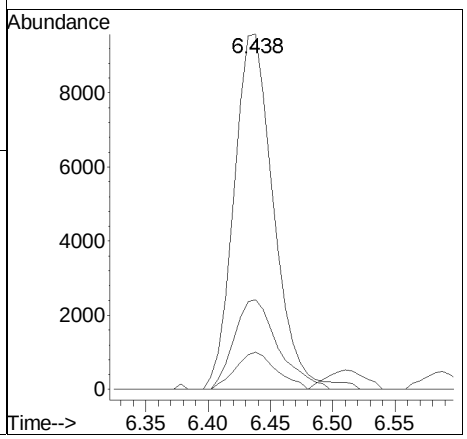


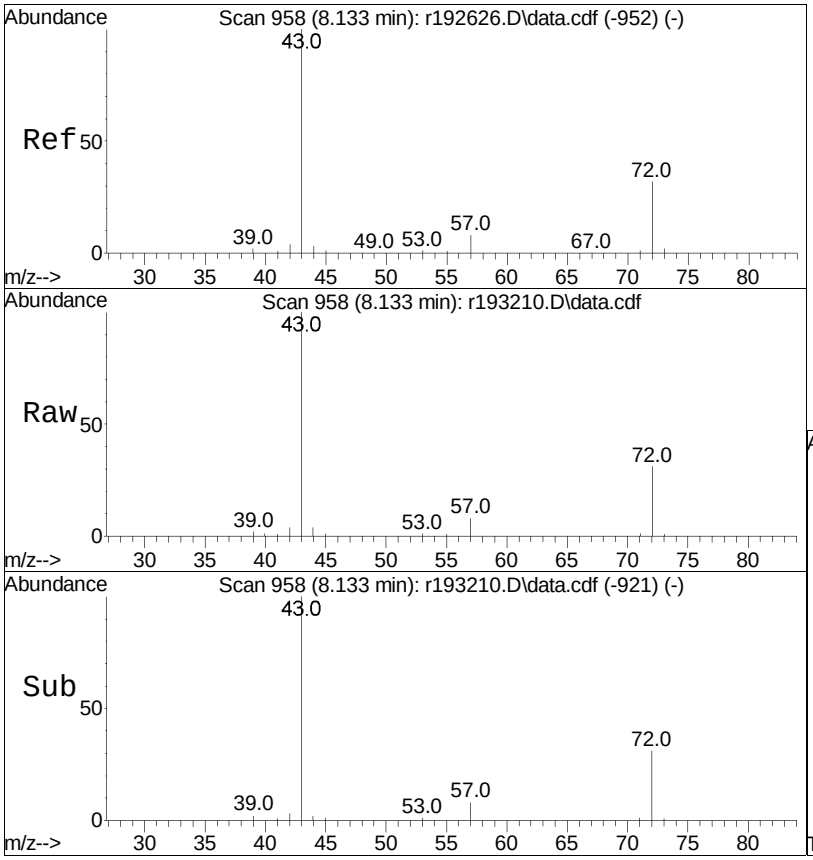


#27
tertiary butyl alcohol
Concen: 0.77 ppbV
RT: 6.438 min Scan# 721
Delta R.T. -0.012 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 59 Resp: 21253

Ion	Ratio	Lower	Upper
59	100		
41	25.3	18.8	28.2
43	10.5	9.8	14.8

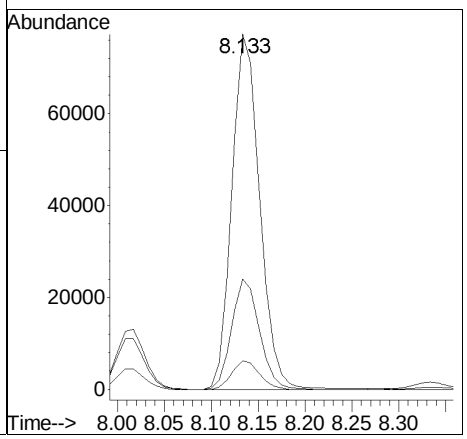


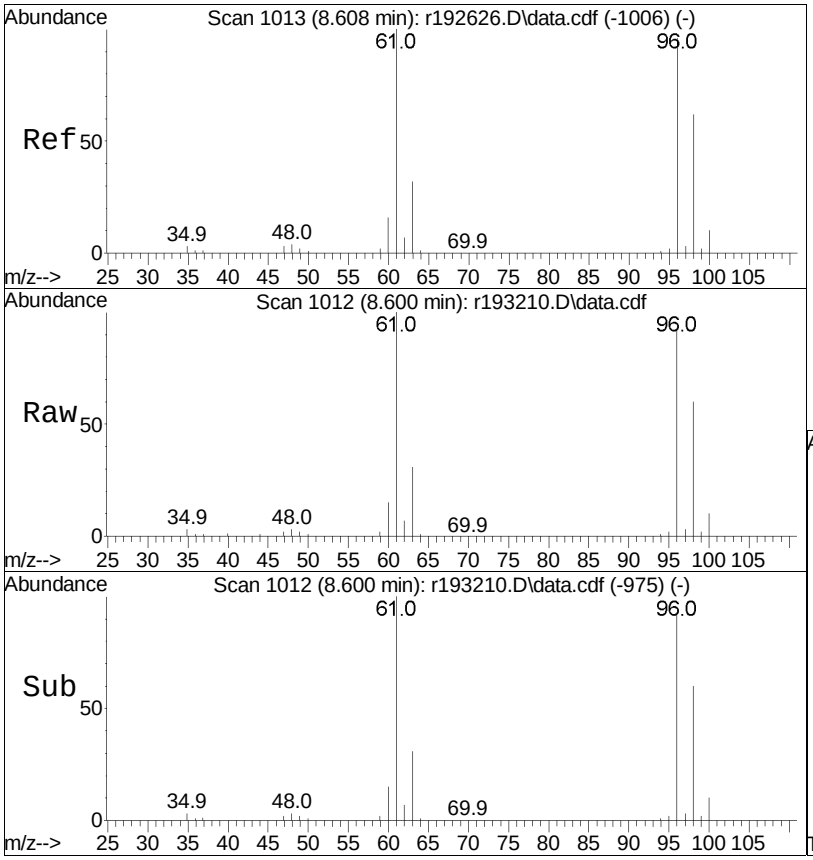


#36
2-butanone
Concen: 4.48 ppbV
RT: 8.133 min Scan# 958
Delta R.T. -0.025 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 43 Resp: 159608

Ion	Ratio	Lower	Upper
43	100		
72	31.1	27.7	41.5
57	8.1	6.3	9.5

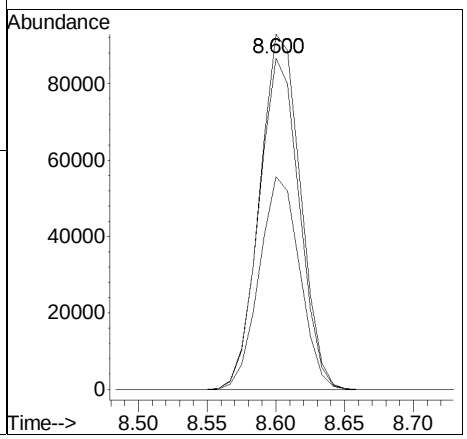


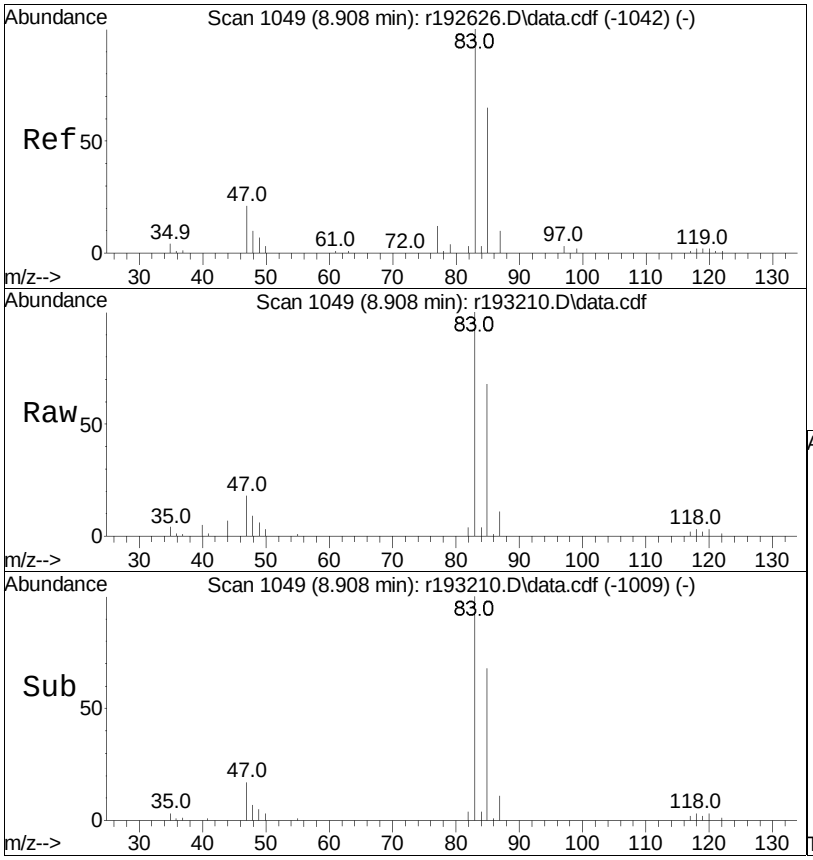


#37
cis-1,2-dichloroethene
Concen: 9.61 ppbV
RT: 8.600 min Scan# 1012
Delta R.T. -0.008 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 61 Resp: 191731

Ion	Ratio	Lower	Upper
61	100		
96	93.2	77.4	116.0
98	59.9	51.0	76.6

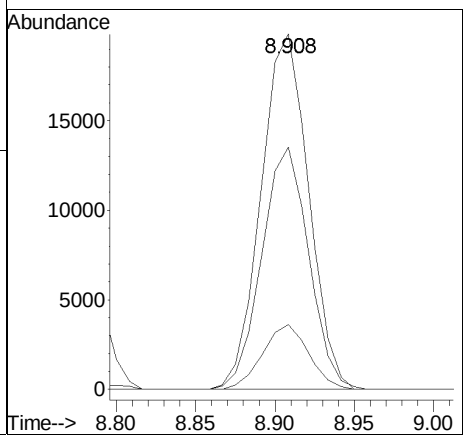


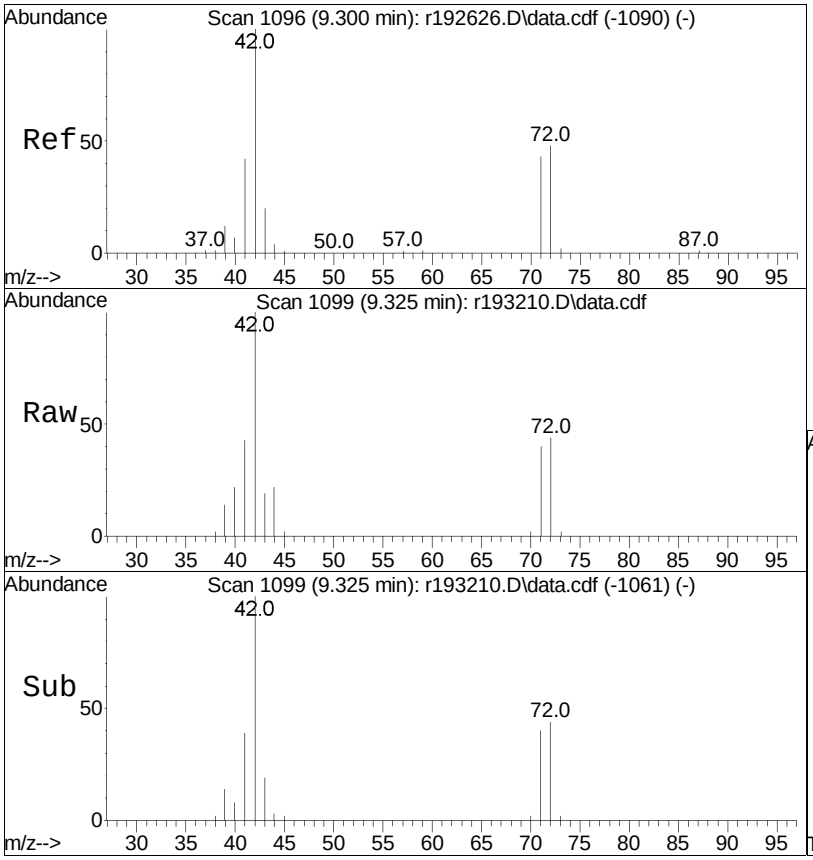


#39
chloroform
Concen: 1.67 ppbV
RT: 8.908 min Scan# 1049
Delta R.T. 0.000 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 83 Resp: 41339

Ion	Ratio	Lower	Upper
83	100		
85	68.2	50.1	75.1
47	18.2	17.6	26.4

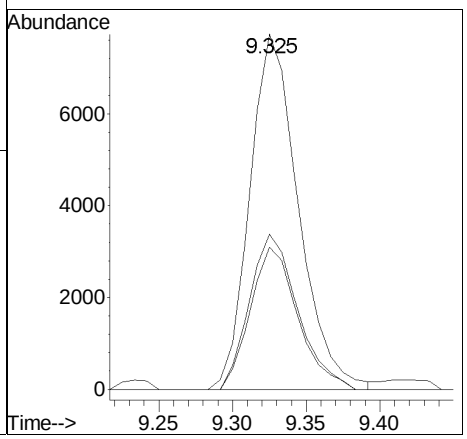


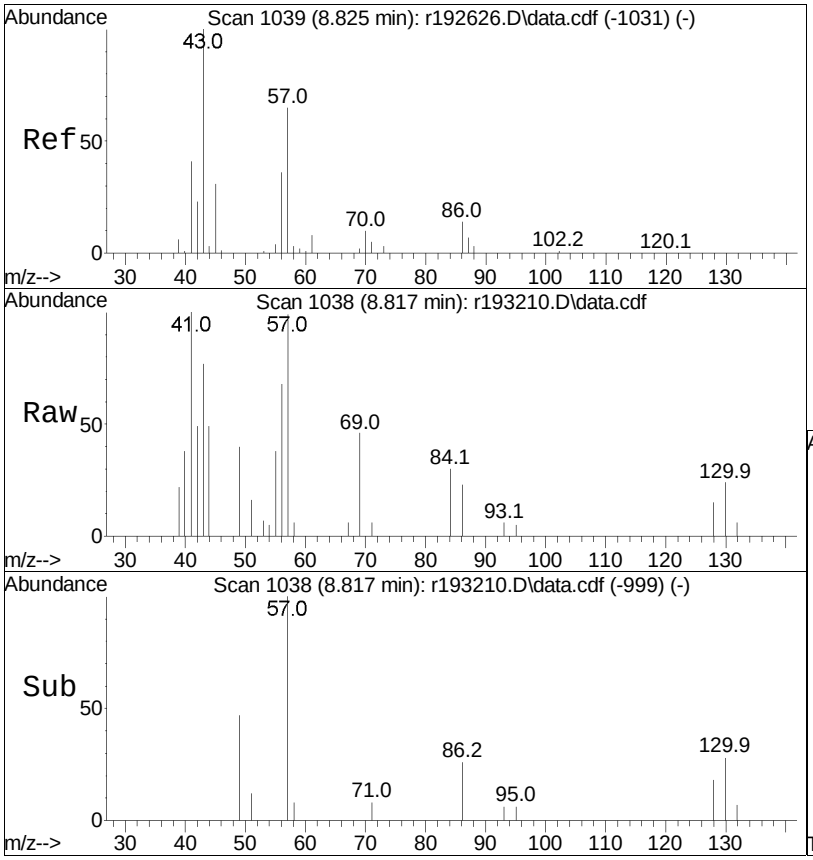


#40
Tetrahydrofuran
Concen: 0.74 ppbV
RT: 9.325 min Scan# 1099
Delta R.T. -0.017 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 42 Resp: 17746

Ion	Ratio	Lower	Upper
42	100		
71	40.0	32.5	48.7
72	43.7	33.7	50.5

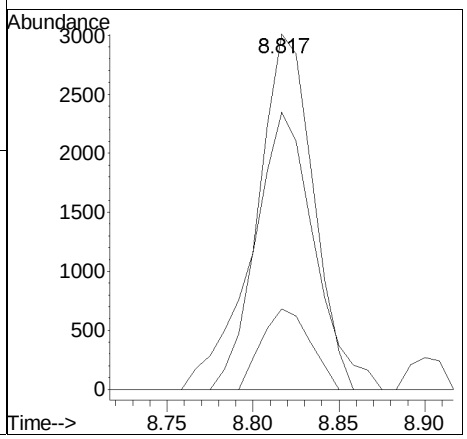


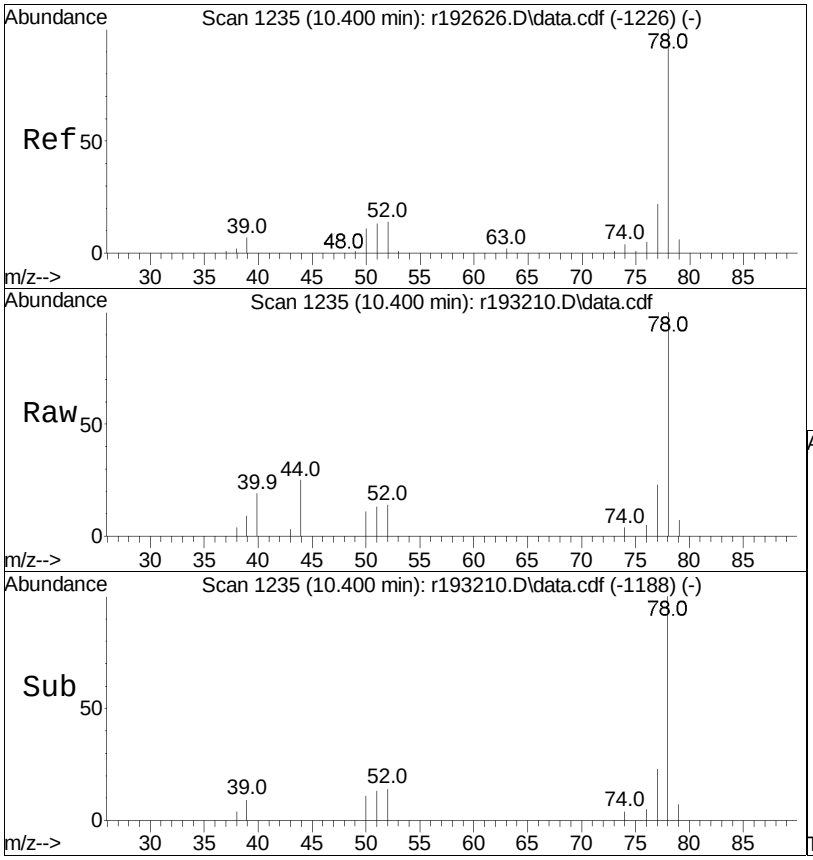


#44
hexane
Concen: 0.20 ppbV
RT: 8.817 min Scan# 1038
Delta R.T. -0.008 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 57 Resp: 6528

Ion	Ratio	Lower	Upper
57	100		
43	78.0	159.3	238.9#
86	22.7	15.7	23.5

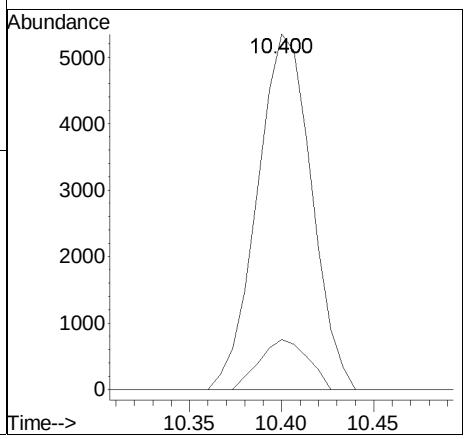


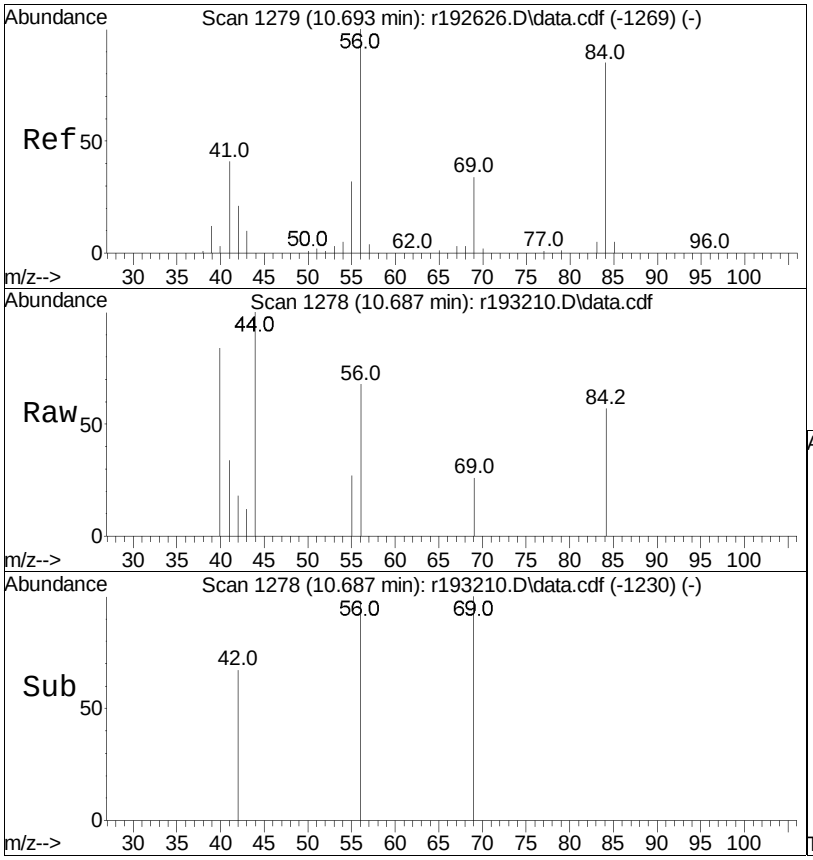


#50
benzene
Concen: 0.17 ppbV
RT: 10.400 min Scan# 1235
Delta R.T. 0.000 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 78 Resp: 10952

Ion	Ratio	Lower	Upper
78	100		
52	14.0	11.4	17.2

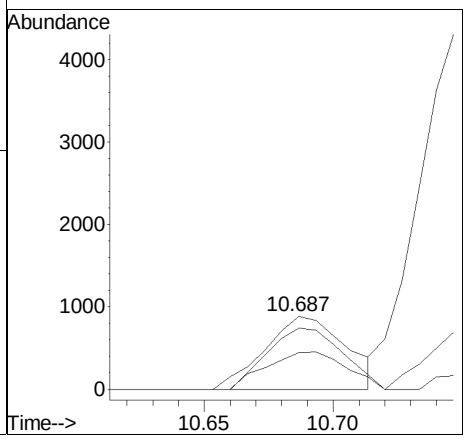


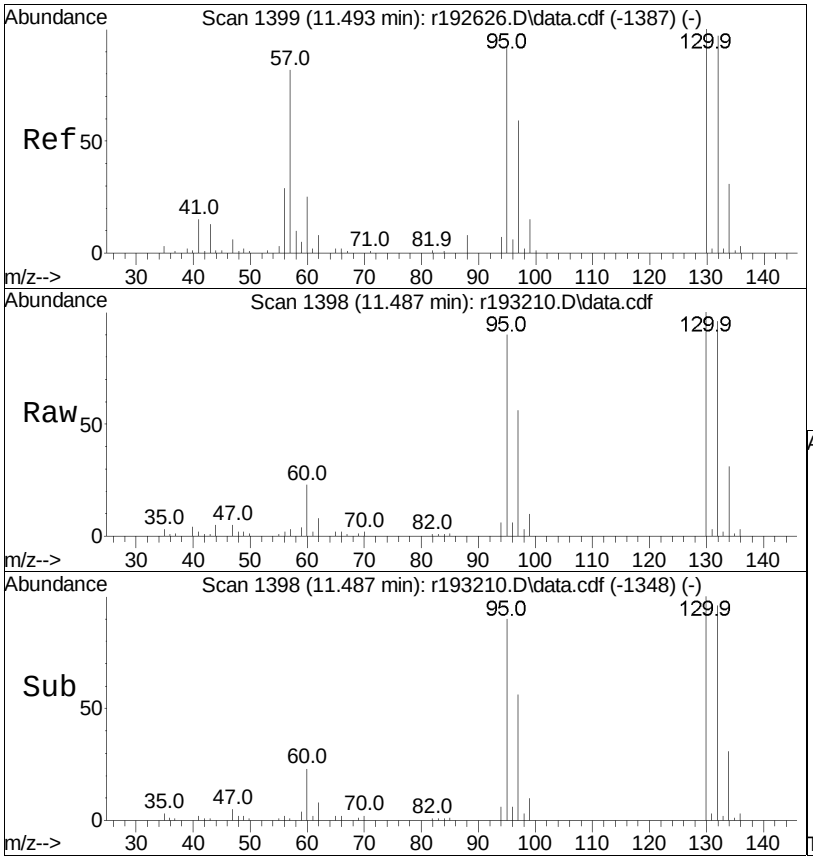


#53
cyclohexane
Concen: 0.05 ppbV
RT: 10.687 min Scan# 1278
Delta R.T. -0.007 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 56 Resp: 1939

Ion	Ratio	Lower	Upper
56	100		
84	84.1	69.8	104.6
41	50.5	32.1	48.1#

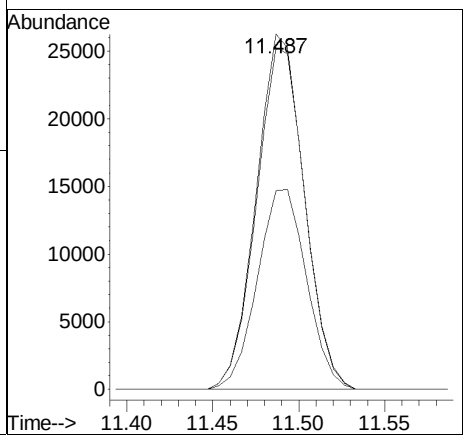


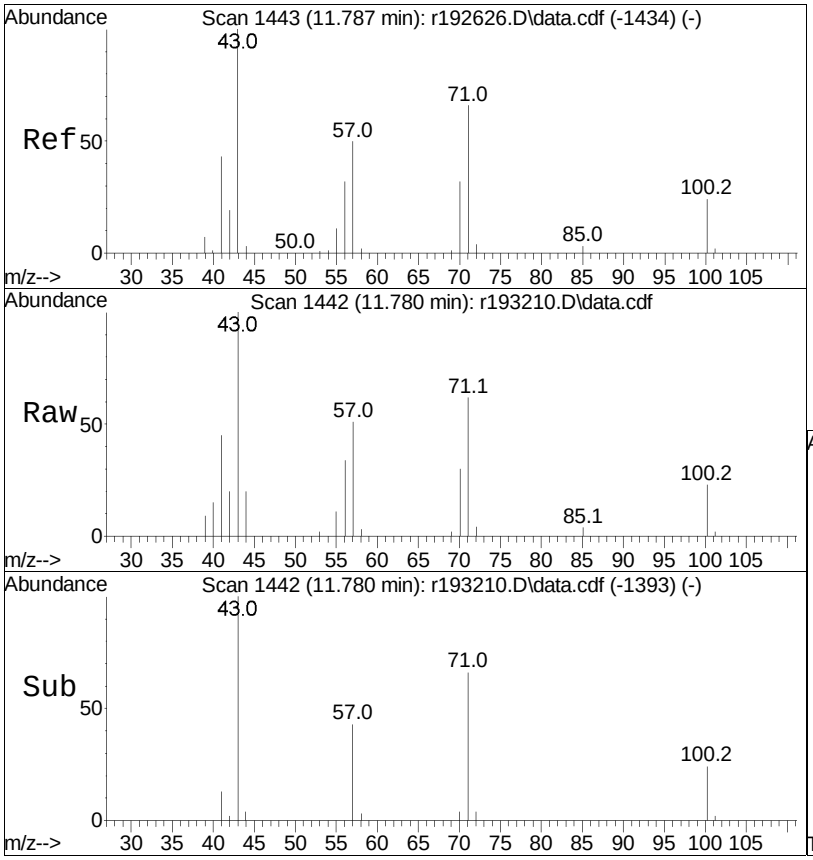


#59
trichloroethene
Concen: 2.16 ppbV
RT: 11.487 min Scan# 1398
Delta R.T. 0.000 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion:130 Resp: 50792

Ion	Ratio	Lower	Upper
130	100		
132	96.2	73.8	110.8
97	55.9	46.9	70.3

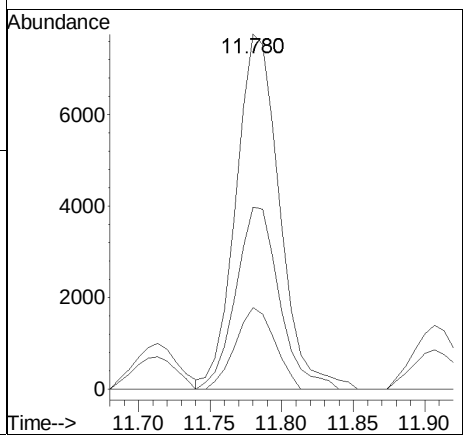


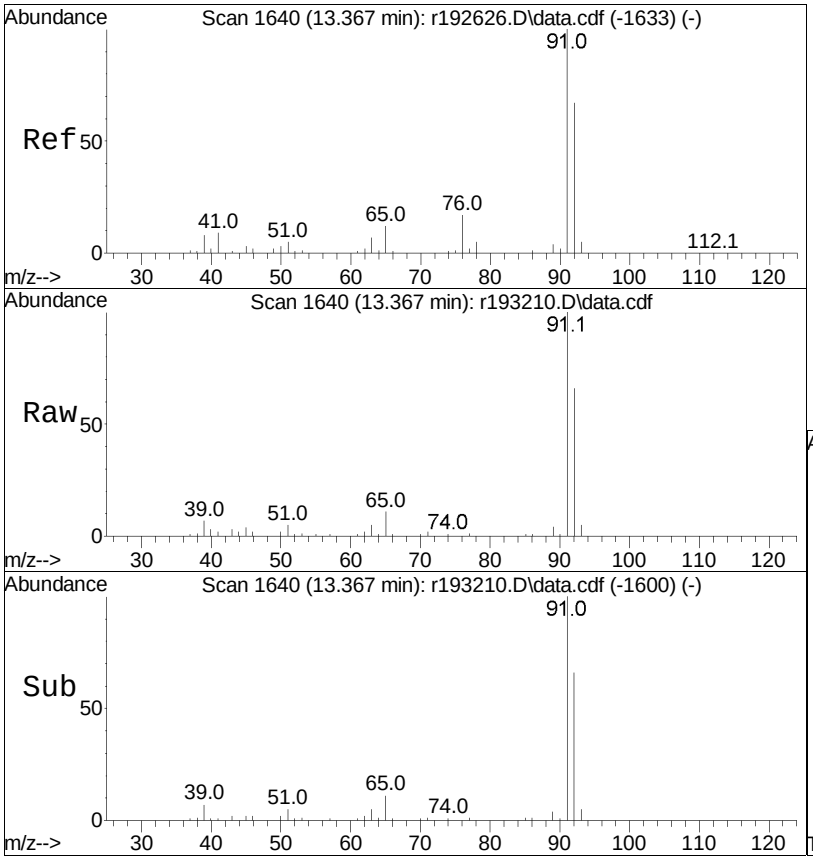


#62
heptane
Concen: 0.40 ppbV
RT: 11.780 min Scan# 1442
Delta R.T. 0.000 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 43 Resp: 16465

Ion	Ratio	Lower	Upper
43	100		
57	51.3	41.0	61.6
100	23.0	21.4	32.2

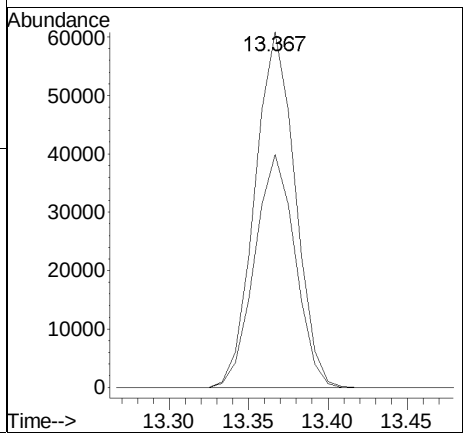


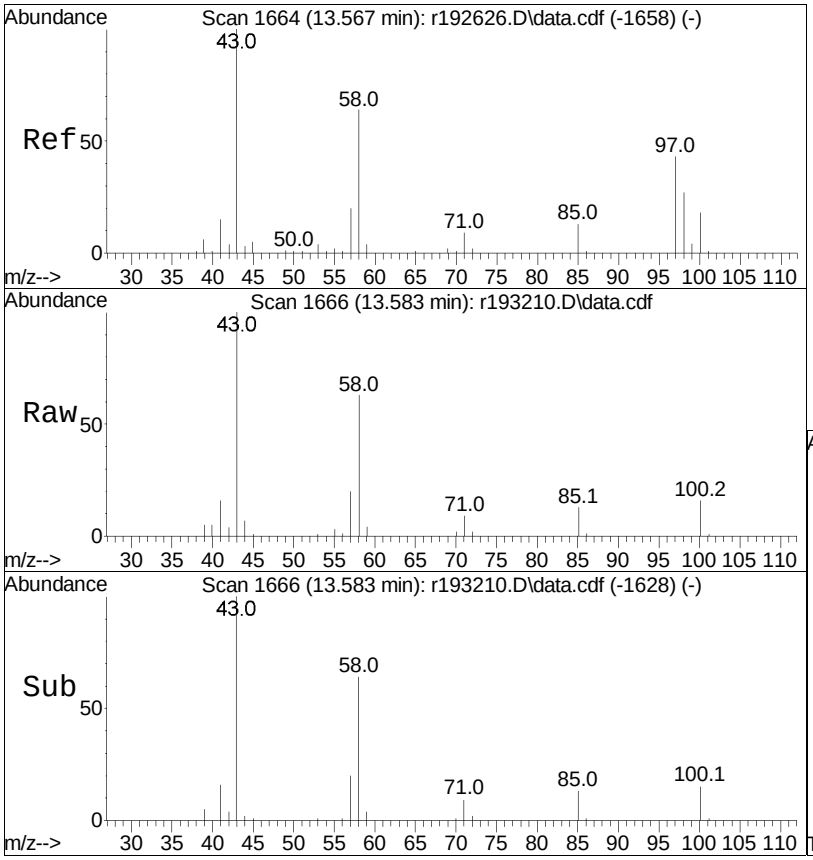


#68
toluene
Concen: 1.57 ppbV
RT: 13.367 min Scan# 1640
Delta R.T. 0.000 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 91 Resp: 107408

Ion	Ratio	Lower	Upper
91	100		
92	65.6	53.3	79.9

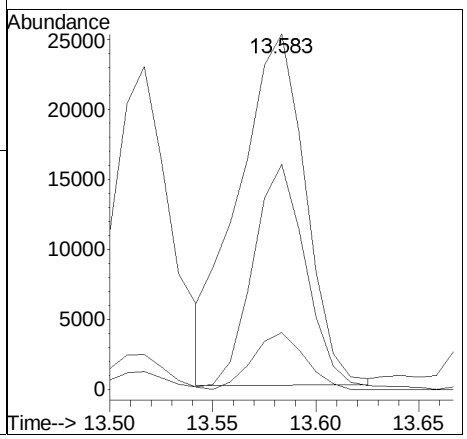


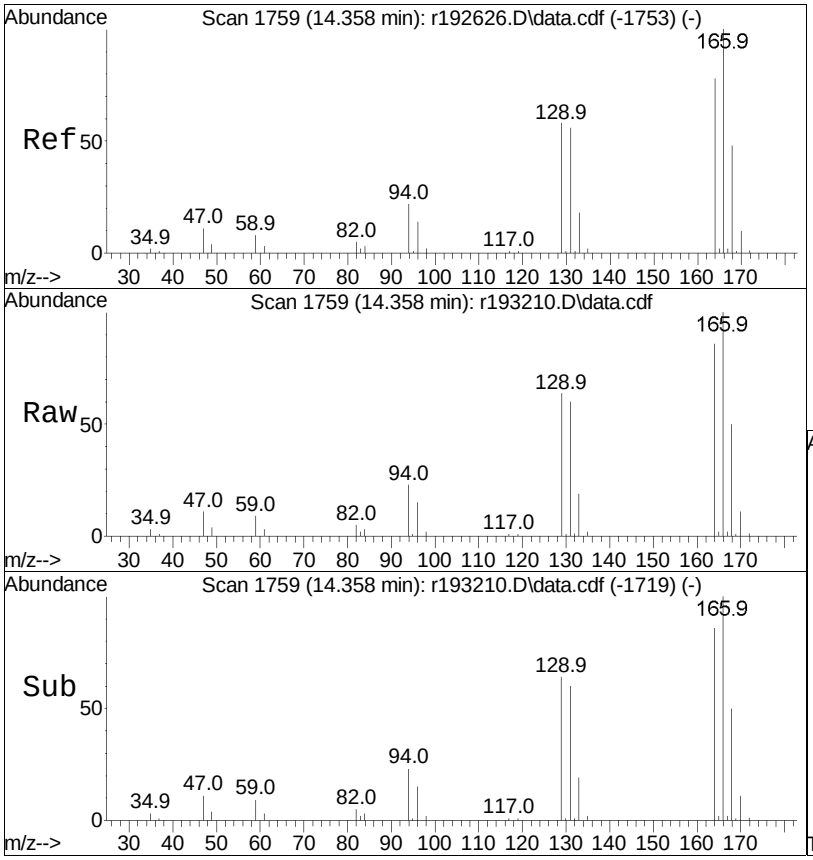


#72
2-hexanone
Concen: 1.43 ppbV
RT: 13.583 min Scan# 1666
Delta R.T. -0.017 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 43 Resp: 56738

Ion	Ratio	Lower	Upper
43	100		
58	63.3	62.6	94.0
100	16.0	26.5	39.7#

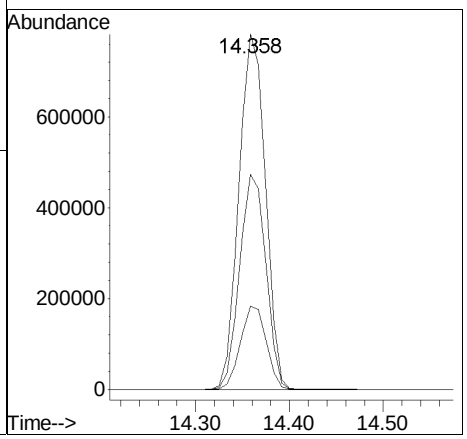


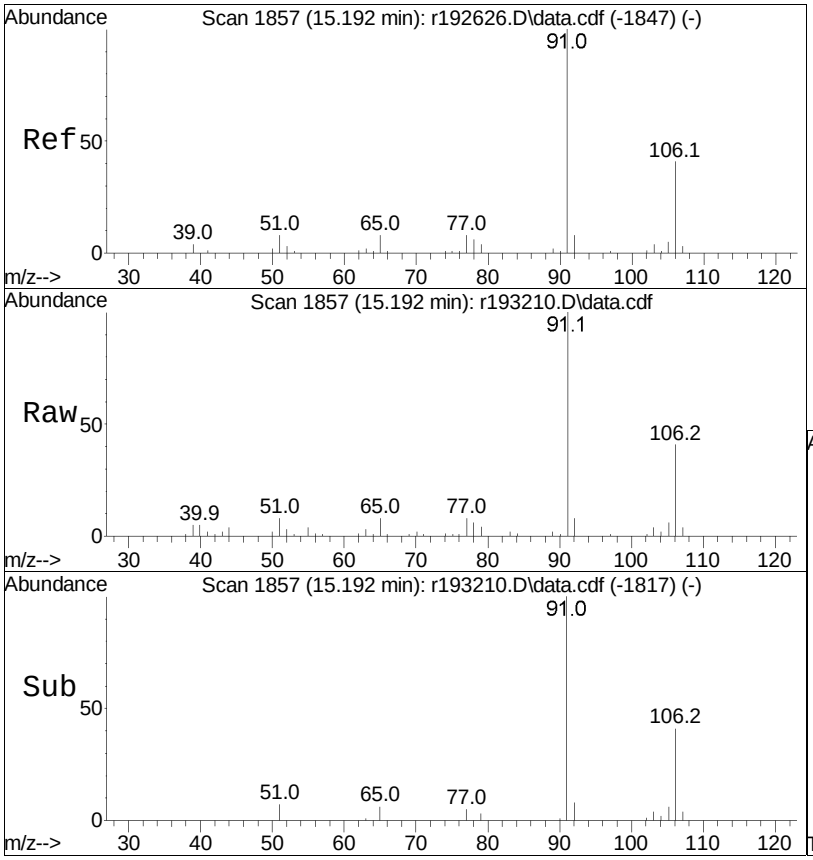


#78
tetrachloroethene
Concen: 51.16 ppbV
RT: 14.358 min Scan# 1759
Delta R.T. 0.000 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion:166 Resp: 1536096

Ion	Ratio	Lower	Upper
166	100		
131	60.5	46.4	69.6
94	23.4	18.5	27.7

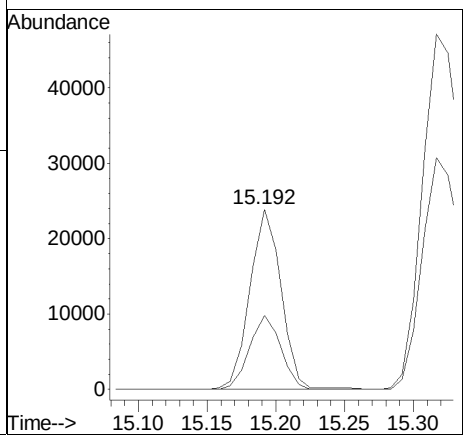


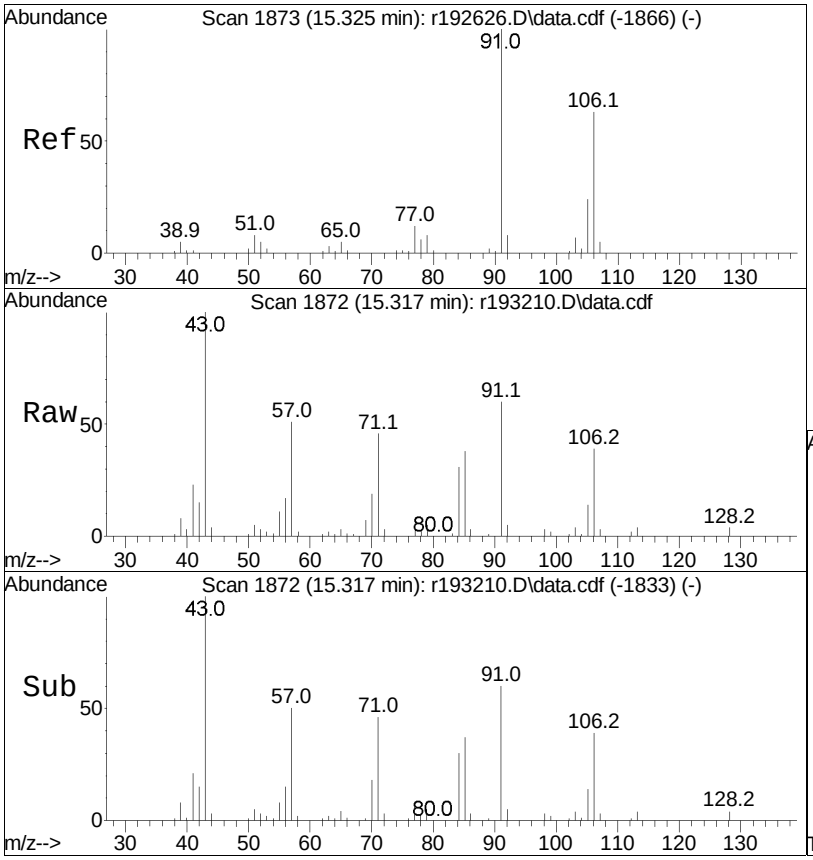


#81
ethylbenzene
Concen: 0.46 ppbV
RT: 15.192 min Scan# 1857
Delta R.T. 0.000 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 91 Resp: 37803

Ion	Ratio	Lower	Upper
91	100		
106	41.0	32.9	49.3

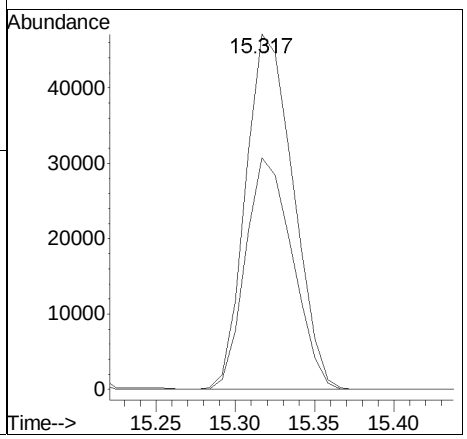


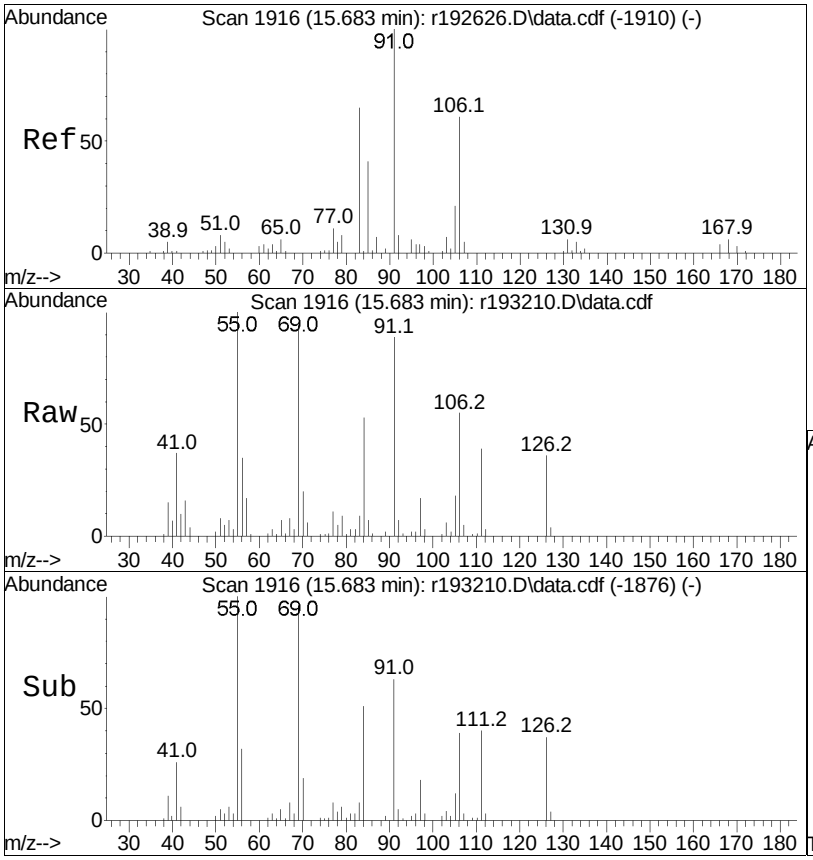


#83
m+p-xylene
Concen: 1.52 ppbV
RT: 15.317 min Scan# 1872
Delta R.T. -0.008 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 91 Resp: 98318

Ion	Ratio	Lower	Upper
91	100		
106	65.2	51.0	76.4

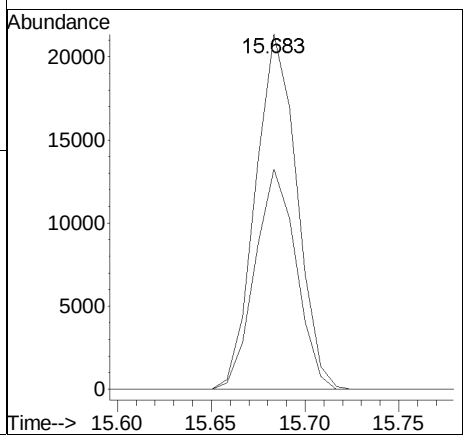


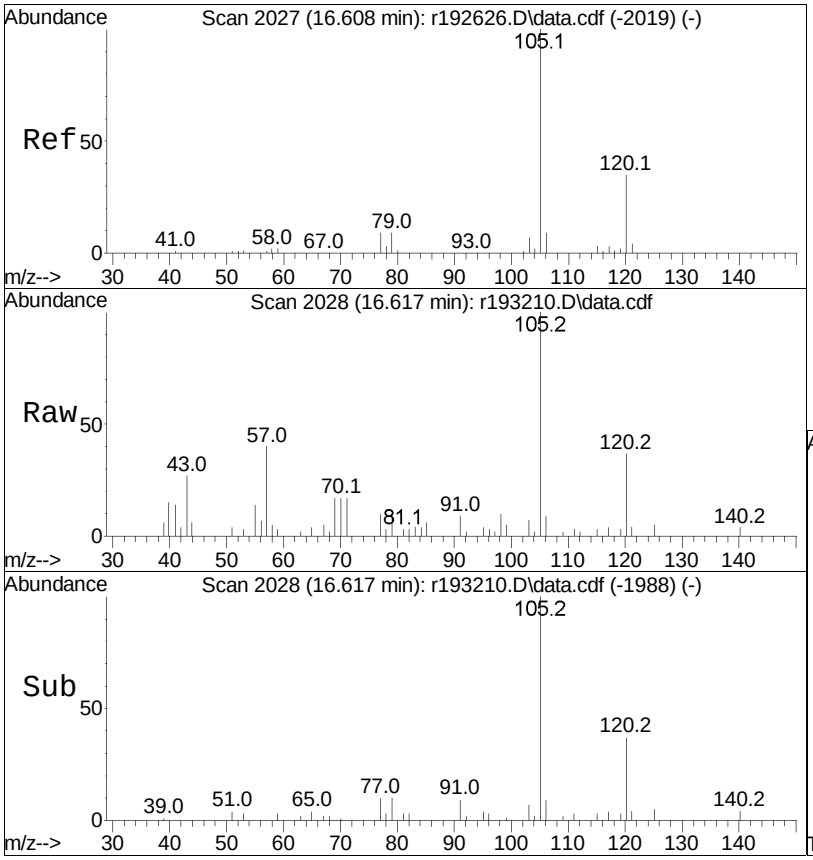


#87
o-xylene
Concen: 0.52 ppbV
RT: 15.683 min Scan# 1916
Delta R.T. 0.000 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion: 91 Resp: 32862

Ion	Ratio	Lower	Upper
91	100		
106	62.0	47.8	71.8

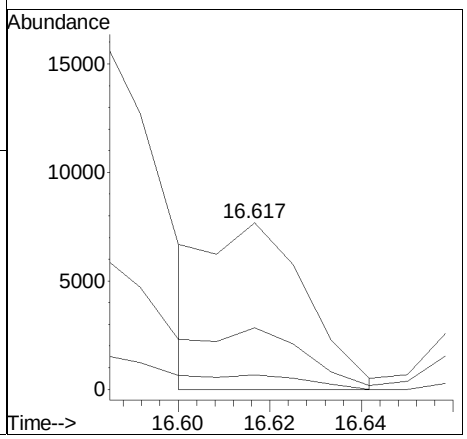


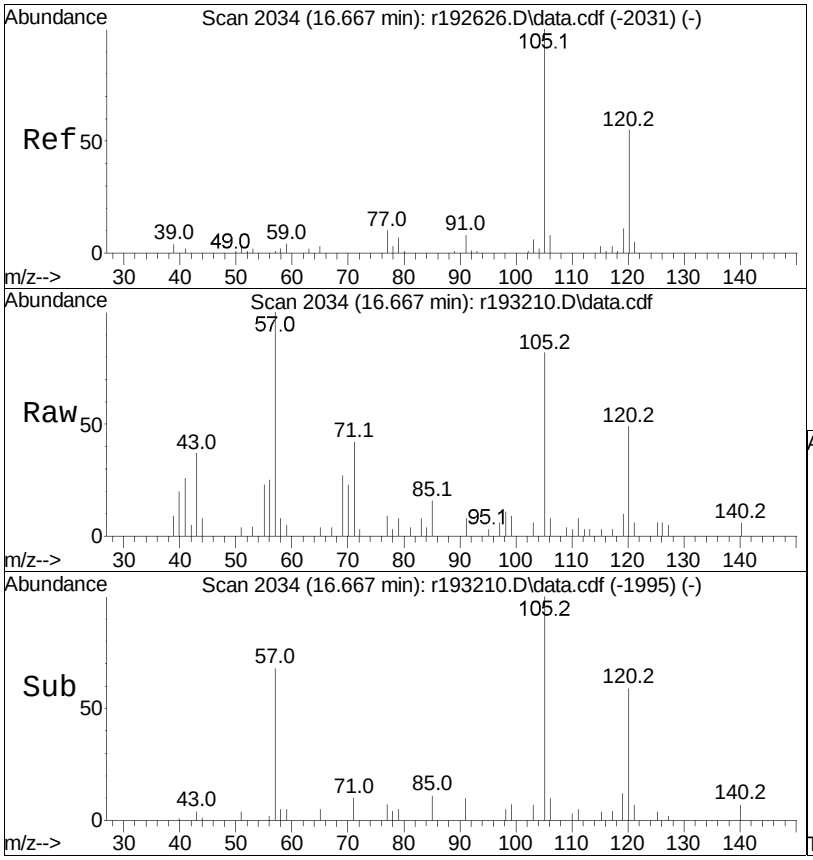


#96
4-ethyl toluene
Concen: 0.10 ppbV m
RT: 16.617 min Scan# 2028
Delta R.T. 0.000 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion:105 Resp: 11228

Ion	Ratio	Lower	Upper
105	100		
120	37.0	27.2	40.8
91	8.7	7.0	10.4

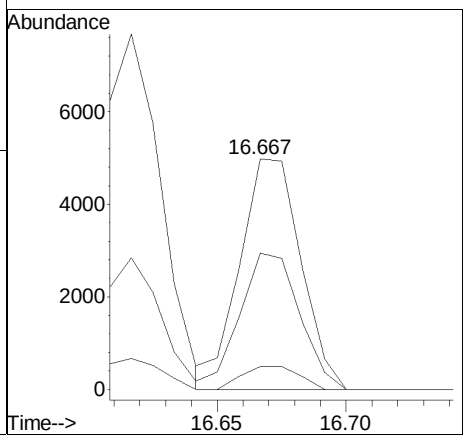


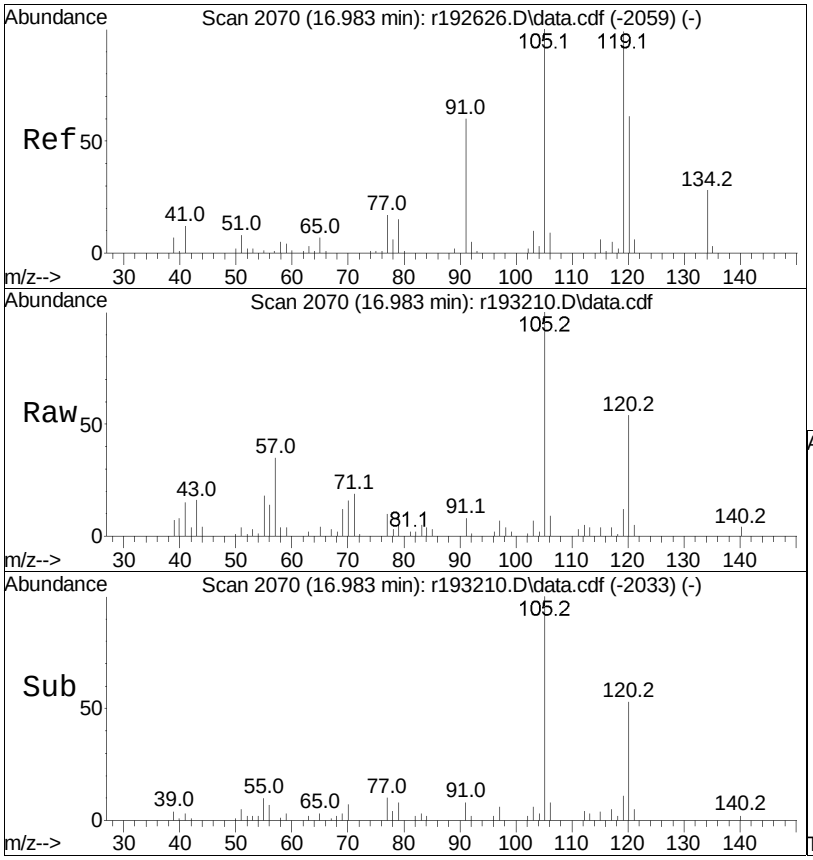


#97
1,3,5-trimethylbenzene
Concen: 0.09 ppbV
RT: 16.667 min Scan# 2034
Delta R.T. -0.008 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion:105 Resp: 8187

Ion	Ratio	Lower	Upper
105	100		
120	59.2	42.6	64.0
91	9.9	6.6	9.8#

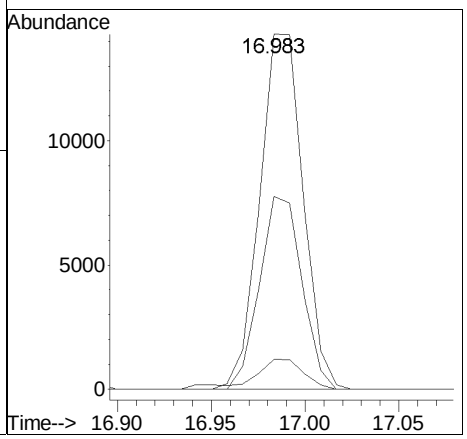




#99
1,2,4-trimethylbenzene
Concen: 0.29 ppbV
RT: 16.983 min Scan# 2070
Delta R.T. -0.008 min
Lab File: r193210.D
Acq: 21 Mar 2020 3:04 AM

Tgt Ion:105 Resp: 23054

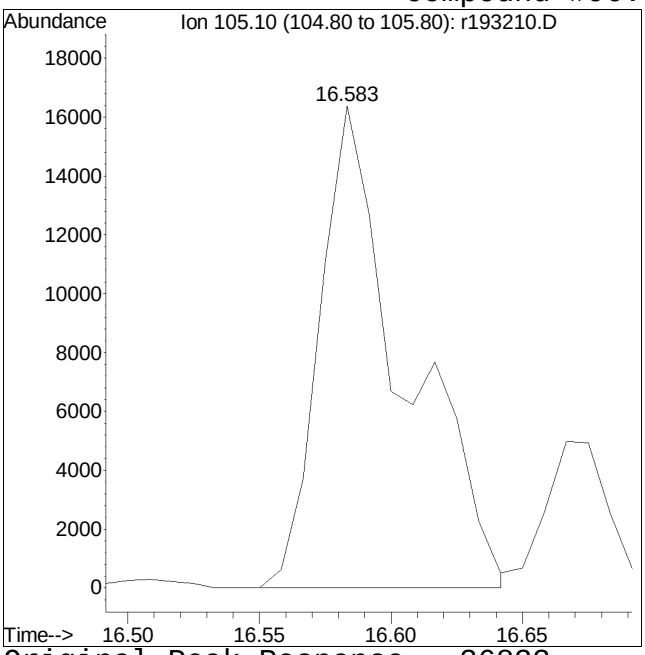
Ion	Ratio	Lower	Upper
105	100		
120	54.3	49.2	73.8
91	8.4	49.9	74.9#



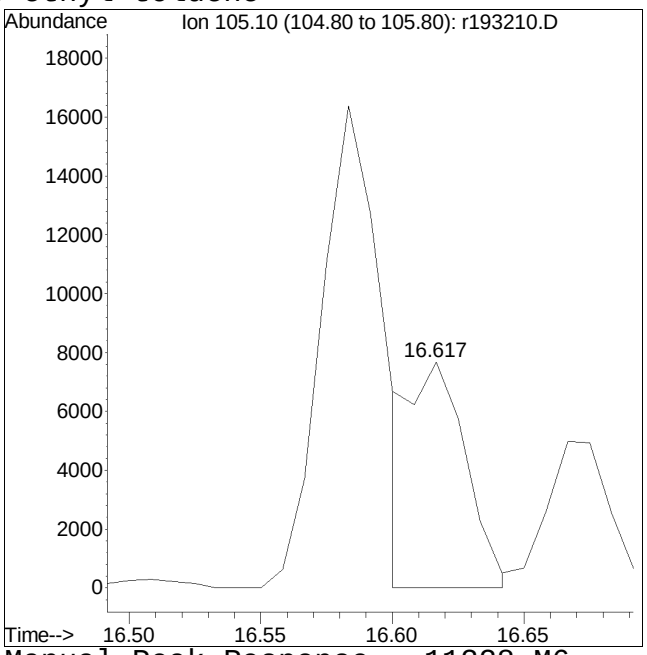
Manual Integration Report

Data Path : O:\Forensics\Data\Airlab19QMethod : TFS19_200224.M
Data File : r193210.D Operator : AIRLAB19:EW
Date Inj'd : 3/21/2020 0:3: 4 Instrument :
Sample : L2011723-03D,3,40,250 Quant Date : 3/21/2020 7:58 am

Compound #96: 4-ethyl toluene



Original Peak Response = 36833



Manual Peak Response = 11228 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193211.D
Acq On : 21 Mar 2020 3:40 AM
Operator : AIRLAB19:EW
Sample : L2011723-04D,3,100,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:45:17 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.775	49	324356	10.000	ppbV	0.00
Standard Area = 288364			Recovery = 112.48%			
43) 1,4-difluorobenzene	10.740	114	995276	10.000	ppbV	0.00
Standard Area = 940727			Recovery = 105.80%			
67) chlorobenzene-D5	14.875	54	122231	10.000	ppbV	0.00
Standard Area = 108860			Recovery = 112.28%			
System Monitoring Compounds						
Target Compounds						Qvalue
5) dichlorodifluoromethane	3.556	85	3534	0.194	ppbV	98
6) chloromethane	3.766	50	1397	0.120	ppbV	98
7) Freon-114	0.000		0	N.D.	d	
9) vinyl chloride	0.000		0	N.D.		
10) 1,3-butadiene	4.192	54	22450	1.804	ppbV #	1
13) bromomethane	0.000		0	N.D.		
14) chloroethane	0.000		0	N.D.		
15) ethanol	4.930	31	57925	6.112	ppbV #	66
17) vinyl bromide	0.000		0	N.D.		
19) acetone	5.483	43	5190456	298.002	ppbV #	100
21) trichlorofluoromethane	5.690	101	1608	0.084	ppbV	96
22) isopropyl alcohol	5.763	45	119124	3.600	ppbV	100
26) 1,1-dichloroethene	0.000		0	N.D.		
27) tertiary butyl alcohol	6.426	59	103346	3.407	ppbV #	97
28) methylene chloride	6.540		0	N.D.		
29) 3-chloropropene	0.000		0	N.D.	d	
30) carbon disulfide	6.840	76	6537	0.110	ppbV #	60
31) Freon 113	6.828		0	N.D.		
32) trans-1,2-dichloroethene	7.542		0	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.		
34) MTBE	0.000		0	N.D.	d	
36) 2-butanone	8.133	43	993849	25.457	ppbV	95
37) cis-1,2-dichloroethene	0.000		0	N.D.		
38) Ethyl Acetate	0.000		0	N.D.	d	
39) chloroform	8.908	83	5567	0.205	ppbV	95
40) Tetrahydrofuran	9.308	42	74834	2.853	ppbV	98
42) 1,2-dichloroethane	0.000		0	N.D.		

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193211.D
Acq On : 21 Mar 2020 3:40 AM
Operator : AIRLAB19:EW
Sample : L2011723-04D,3,100,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:45:17 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) hexane	8.825	57	21722	0.595	ppbV #	27
48) 1,1,1-trichloroethane	0.000		0	N.D.		
50) benzene	10.400	78	30477	0.423	ppbV	99
52) carbon tetrachloride	0.000		0	N.D.		
53) cyclohexane	10.687	56	4392	0.110	ppbV	96
56) 1,2-dichloropropane	0.000		0	N.D.		
57) bromodichloromethane	0.000		0	N.D.	d	
58) 1,4-dioxane	11.493		0	N.D.		
59) trichloroethene	11.487	130	2224	0.087	ppbV	93
60) 2,2,4-trimethylpentane	11.520	57	22014	0.191	ppbV #	92
62) heptane	11.780	43	41996	0.943	ppbV	97
63) cis-1,3-dichloropropene	0.000		0	N.D.		
64) 4-methyl-2-pentanone	12.417	43	8112	0.169	ppbV	94
65) trans-1,3-dichloropropene	0.000		0	N.D.		
66) 1,1,2-trichloroethane	0.000		0	N.D.		
68) toluene	13.367	91	207155	2.783	ppbV	97
72) 2-hexanone	13.575	43	246686	5.704	ppbV #	81
74) dibromochloromethane	0.000		0	N.D.		
75) 1,2-dibromoethane	0.000		0	N.D.		
78) tetrachloroethene	14.358	166	445228	13.615	ppbV	97
80) chlorobenzene	0.000		0	N.D.	d	
81) ethylbenzene	15.192	91	32341	0.362	ppbV	98
83) m+p-xylene	15.317	91	78329	1.113	ppbV	99
84) bromoform	0.000		0	N.D.		
85) styrene	15.600	104	3798	0.056	ppbV	99
86) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	d	
87) o-xylene	15.683	91	24848	0.360	ppbV	99
96) 4-ethyl toluene	16.583	105	13157M6	0.113	ppbV	
97) 1,3,5-trimethylbenzene	16.633	105	10609	0.113	ppbV	94
99) 1,2,4-trimethylbenzene	16.942	105	26668	0.307	ppbV #	61
101) Benzyl Chloride	0.000		0	N.D.	d	
102) 1,3-dichlorobenzene	17.117		0	N.D.		
103) 1,4-dichlorobenzene	17.117		0	N.D.		
107) 1,2-dichlorobenzene	17.383		0	N.D.		
115) 1,2,4-trichlorobenzene	0.000		0	N.D.		
119) hexachlorobutadiene	0.000		0	N.D.		

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

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193211.D
Acq On : 21 Mar 2020 3:40 AM
Operator : AIRLAB19:EW
Sample : L2011723-04D,3,100,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:45:17 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

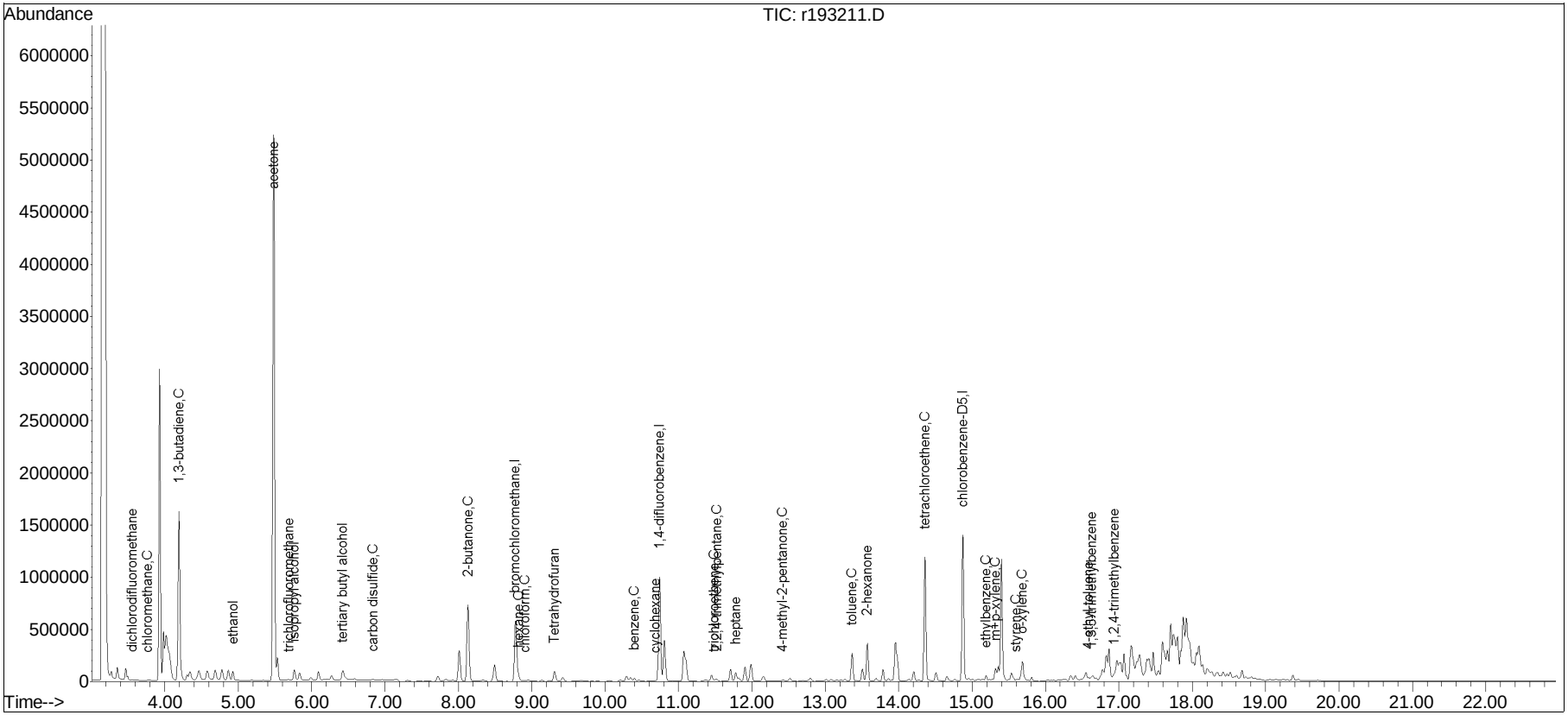
CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY - .

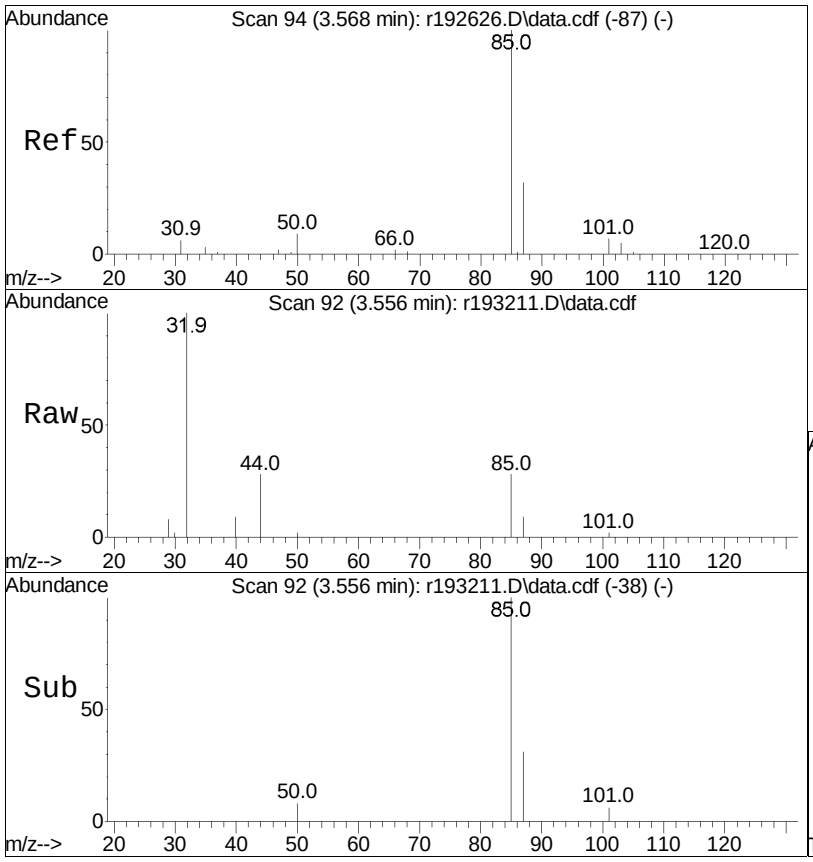
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Sub List : TO15-NY - .s\Data\Airlab19\2020\03\200320T\r193190.D

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193211.D
Acq On : 21 Mar 2020 3:40 AM
Operator : AIRLAB19:EW
Sample : L2011723-04D,3,100,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:45:17 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

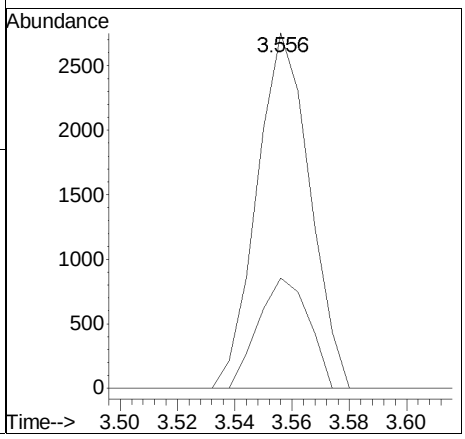


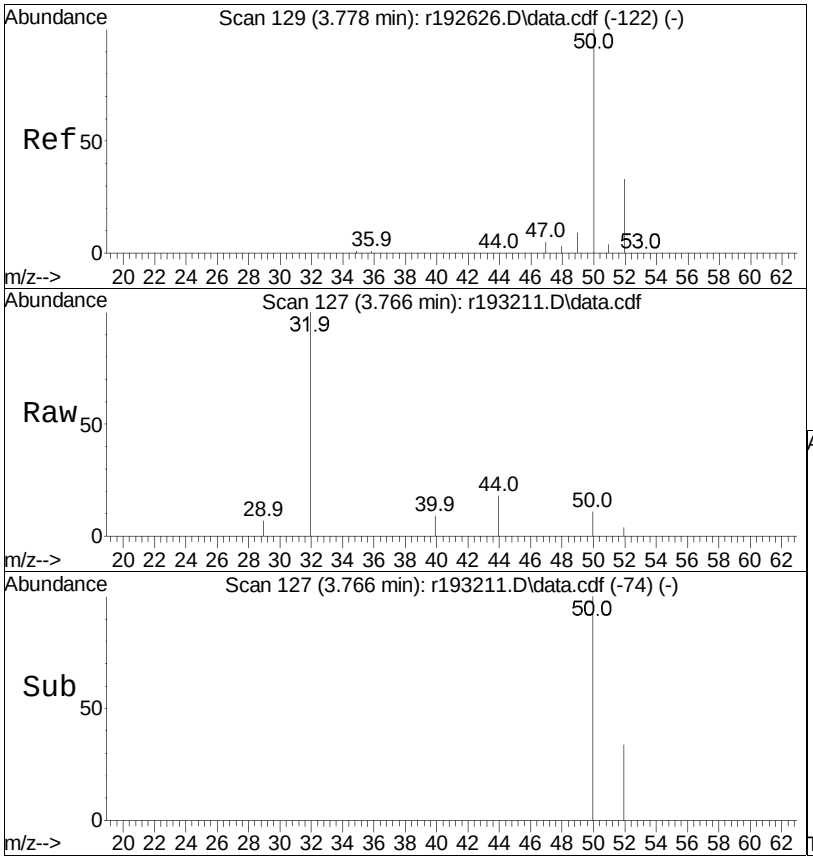


#5
dichlorodifluoromethane
Concen: 0.19 ppbV
RT: 3.556 min Scan# 92
Delta R.T. -0.006 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 85 Resp: 3534

Ion	Ratio	Lower	Upper
85	100		
87	31.1	25.9	38.9

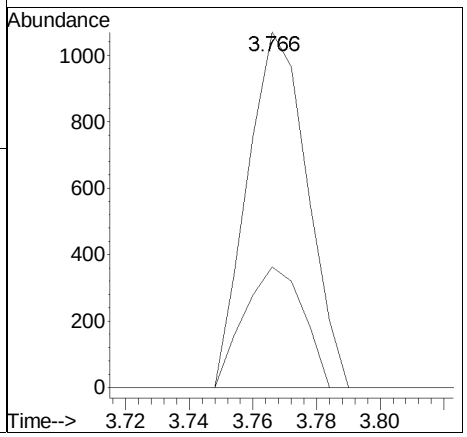


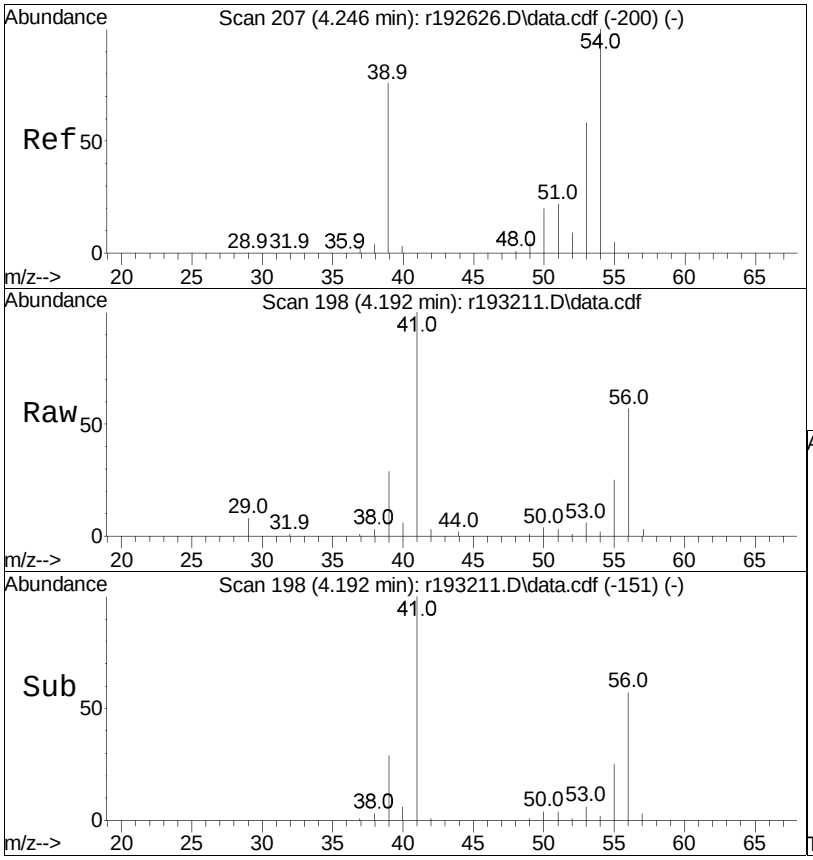


#6
chloromethane
Concen: 0.12 ppbV
RT: 3.766 min Scan# 127
Delta R.T. -0.012 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 50 Resp: 1397

Ion	Ratio	Lower	Upper
50	100		
52	33.9	26.3	39.5

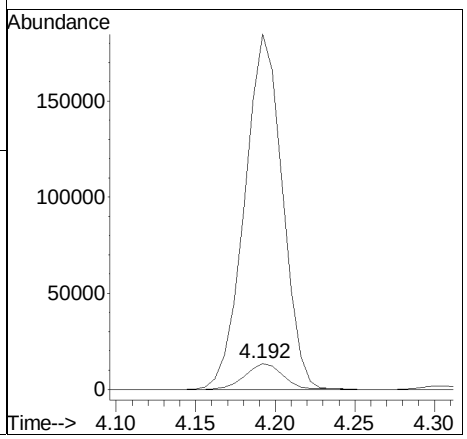


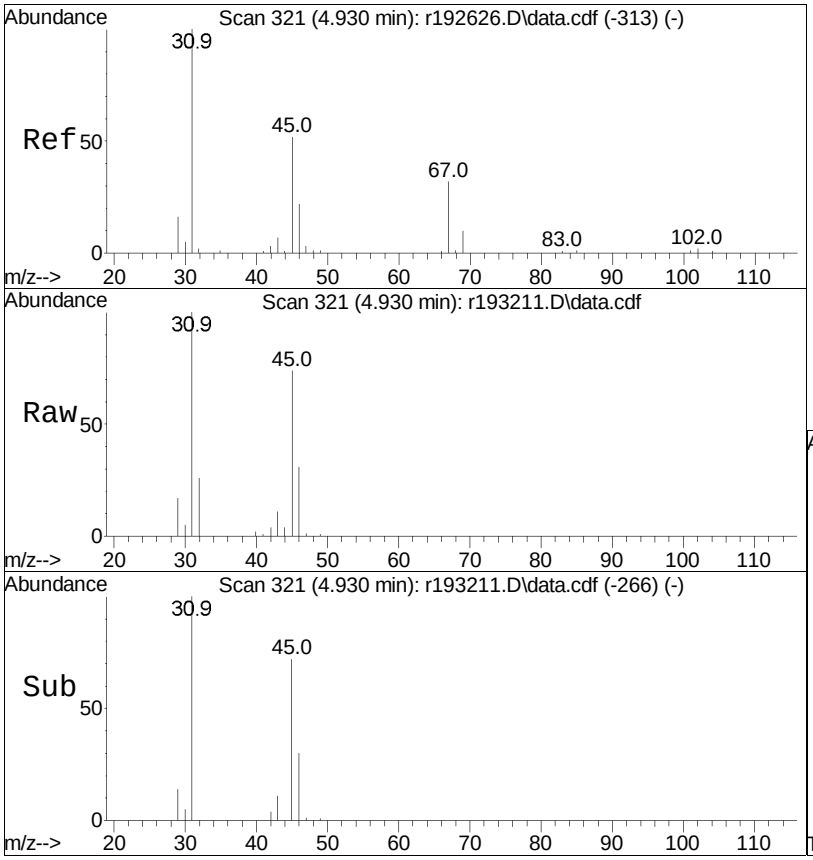


#10
1,3-butadiene
Concen: 1.80 ppbV
RT: 4.192 min Scan# 198
Delta R.T. -0.048 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 54 Resp: 22450

Ion	Ratio	Lower	Upper
54	100		
39	1376.1	65.3	97.9#

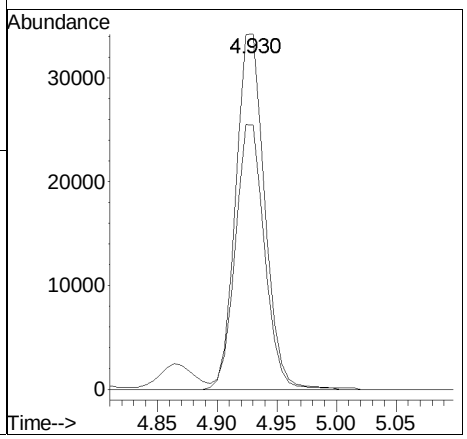


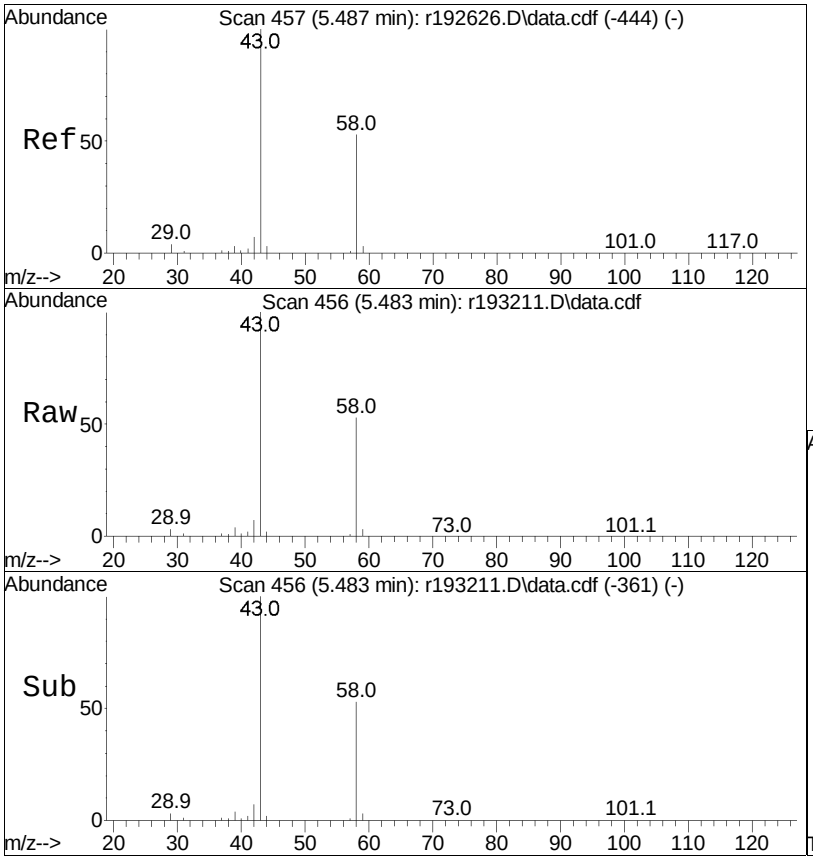


#15
ethanol
Concen: 6.11 ppbV
RT: 4.930 min Scan# 321
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 31 Resp: 57925

Ion	Ratio	Lower	Upper
31	100		
45	74.4	40.6	60.8#

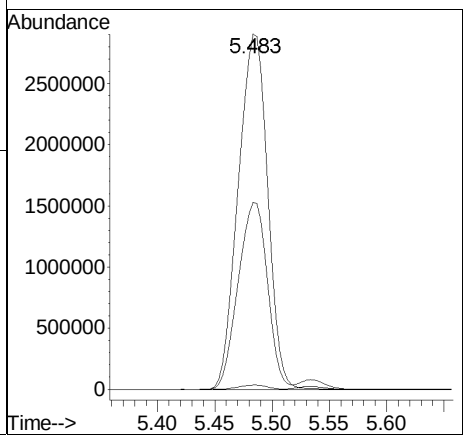


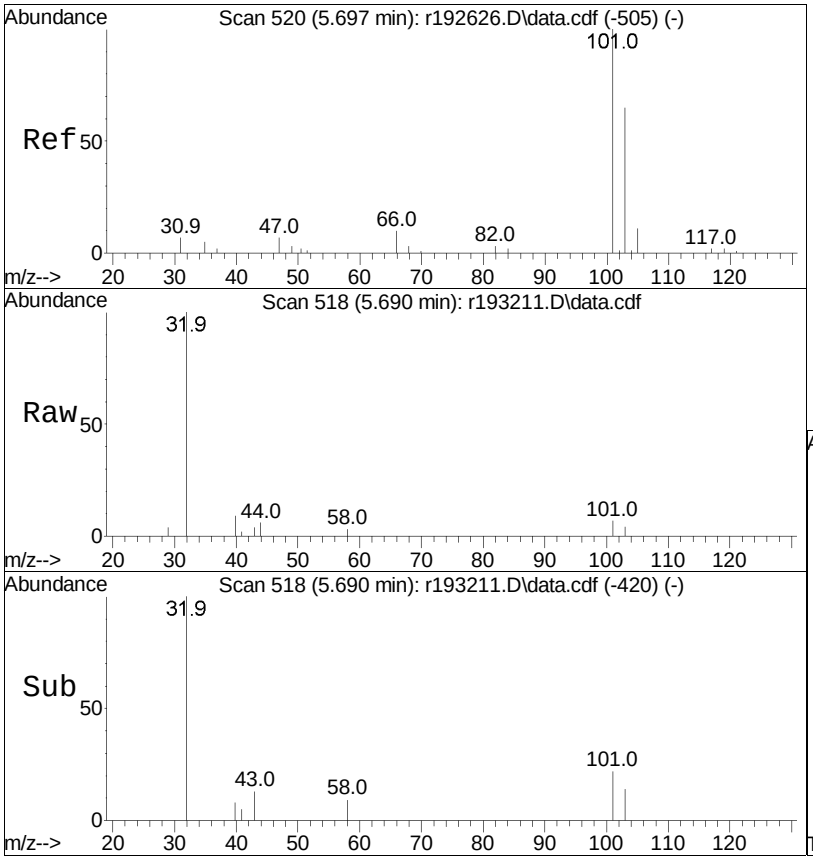


#19
acetone
Concen: 298.00 ppbV
RT: 5.483 min Scan# 456
Delta R.T. -0.013 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 43 Resp: 5190456

Ion	Ratio	Lower	Upper
43	100		
58	52.7	42.0	63.0
57	1.2	1.4	2.0#

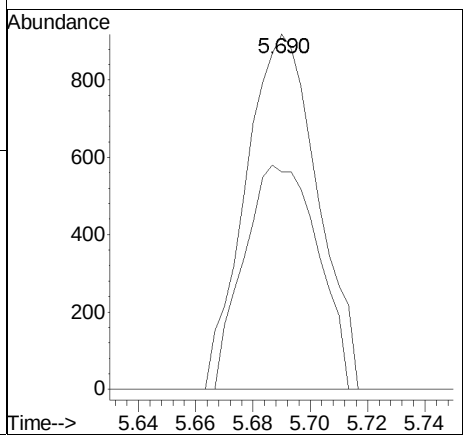


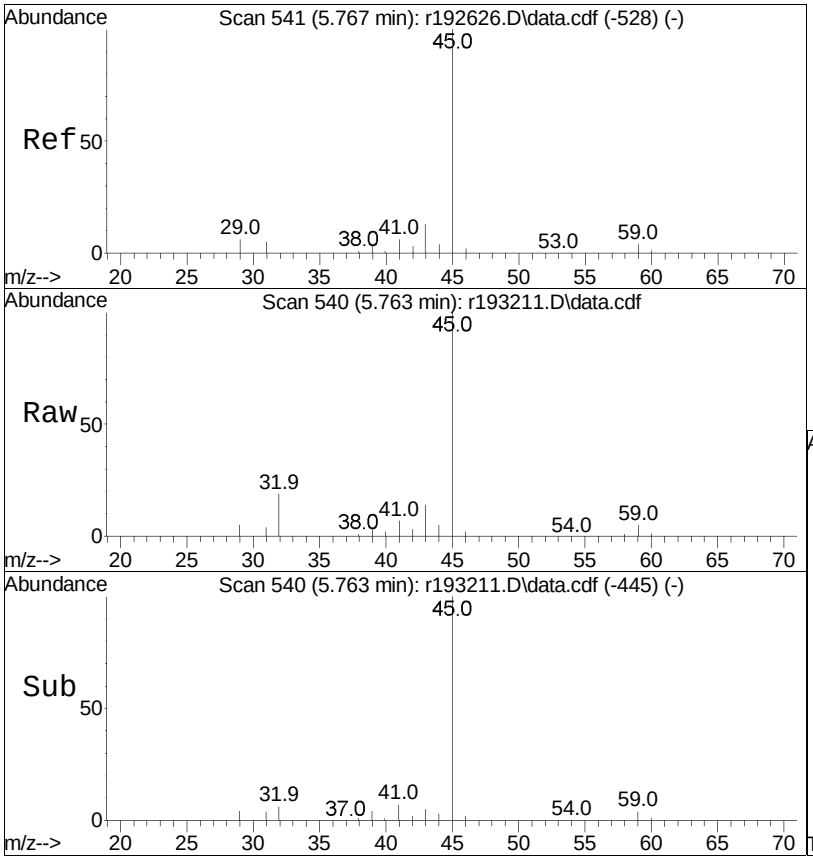


#21
trichlorofluoromethane
Concen: 0.08 ppbV
RT: 5.690 min Scan# 518
Delta R.T. -0.003 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion:101 Resp: 1608

Ion	Ratio	Lower	Upper
101	100		
103	61.2	51.4	77.2

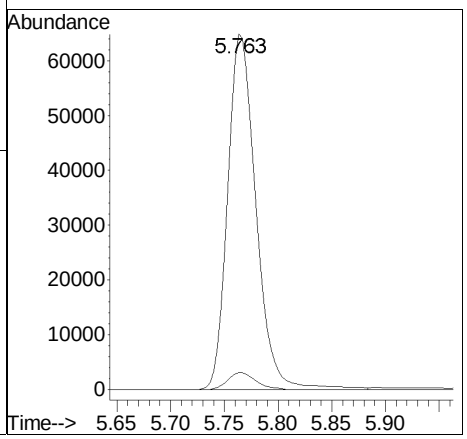


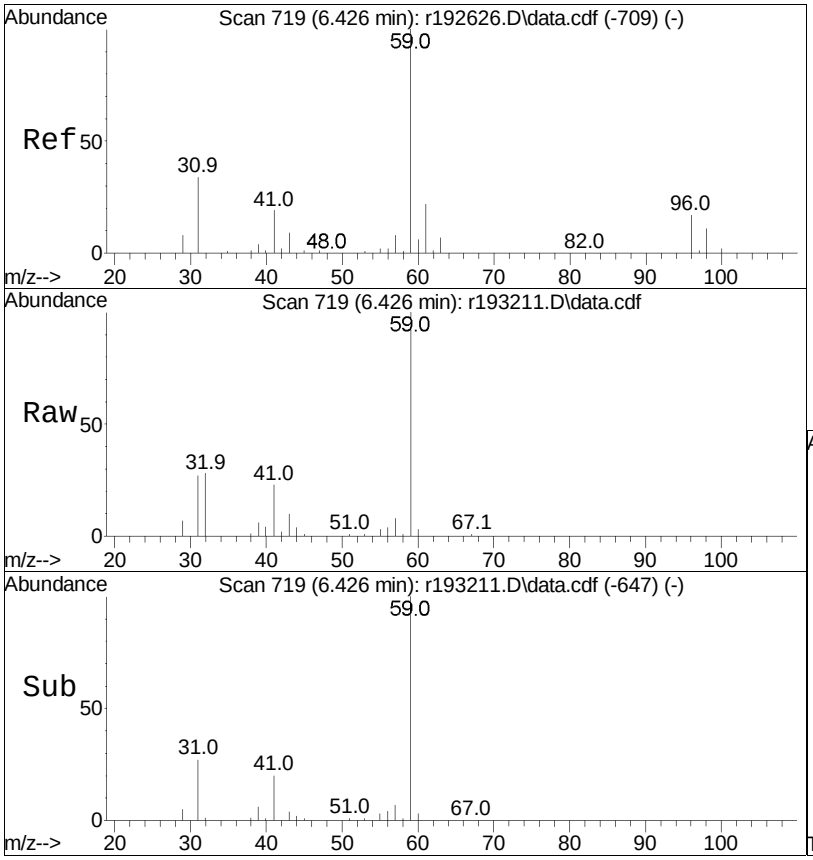


#22
isopropyl alcohol
Concen: 3.60 ppbV
RT: 5.763 min Scan# 540
Delta R.T. -0.013 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 45 Resp: 119124

Ion	Ratio	Lower	Upper
45	100		
59	4.7	3.7	5.5

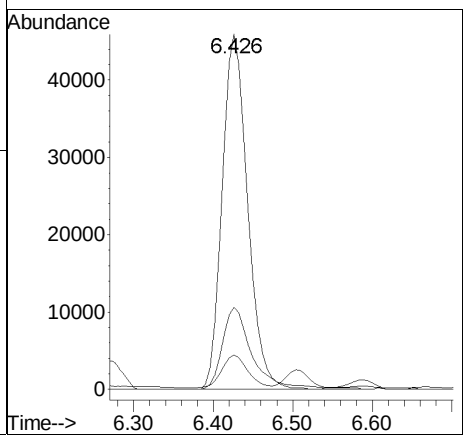


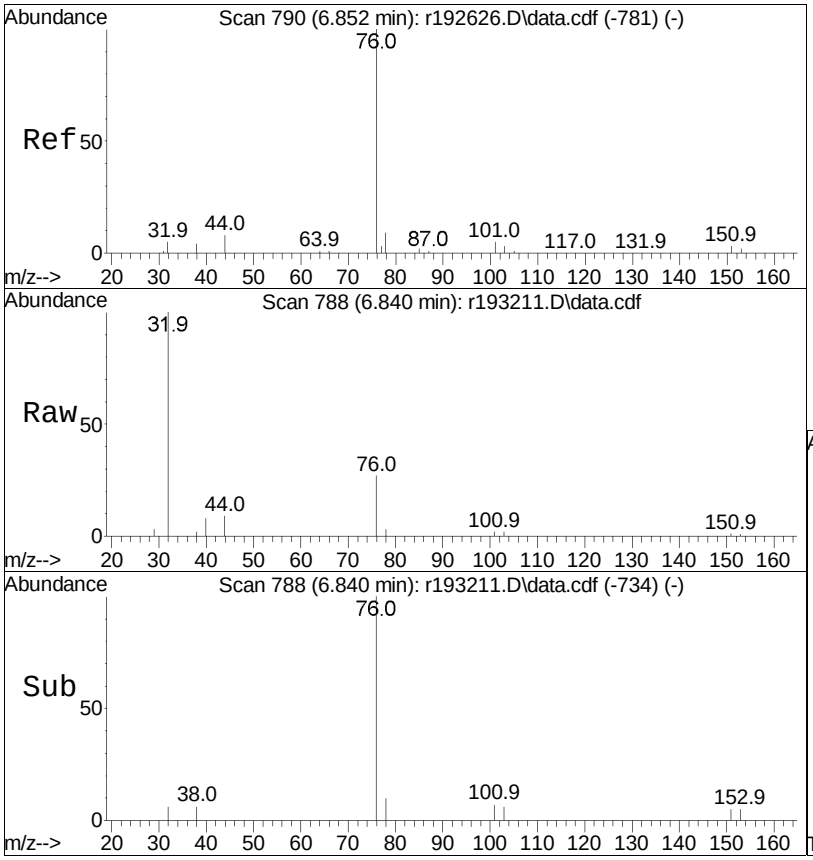


#27
tertiary butyl alcohol
Concen: 3.41 ppbV
RT: 6.426 min Scan# 719
Delta R.T. -0.024 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 59 Resp: 103346

Ion	Ratio	Lower	Upper
59	100		
41	23.1	18.8	28.2
43	9.7	9.8	14.8#

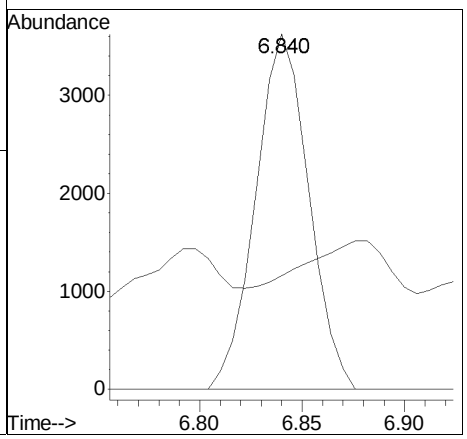


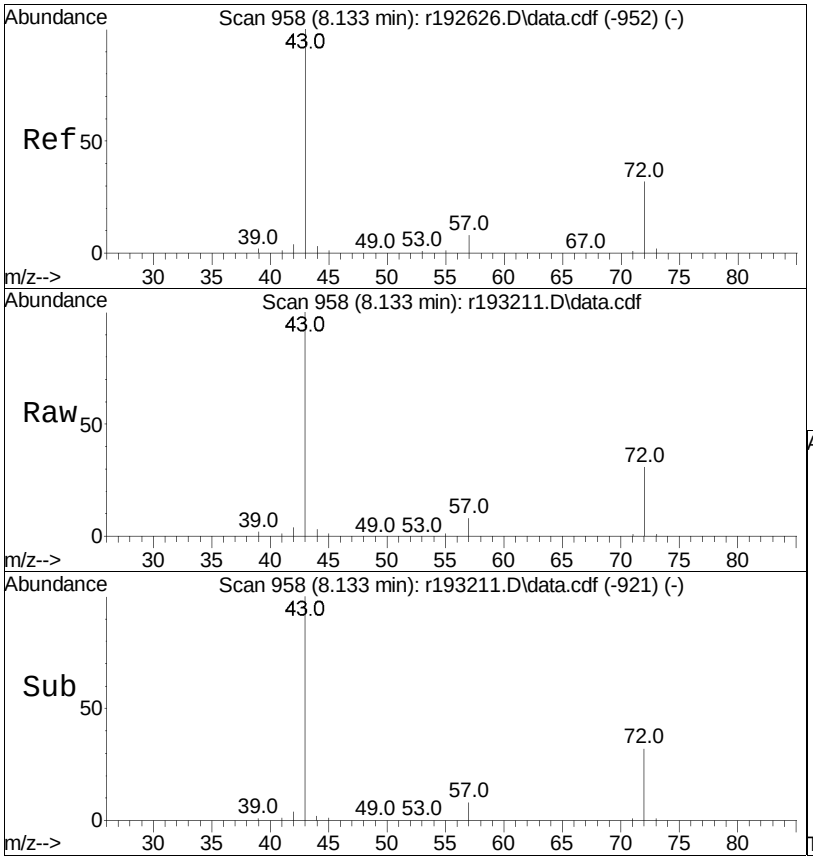


#30
carbon disulfide
Concen: 0.11 ppbV
RT: 6.840 min Scan# 788
Delta R.T. -0.006 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 76 Resp: 6537

Ion	Ratio	Lower	Upper
76	100		
44	32.0	12.3	18.5#

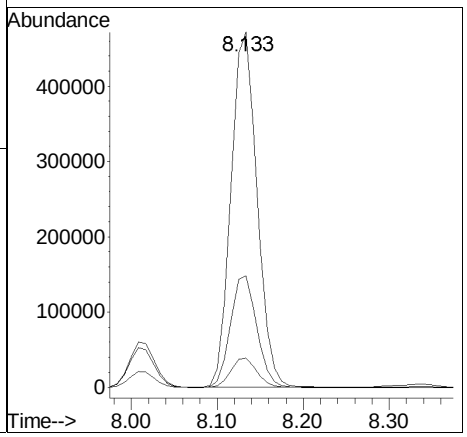


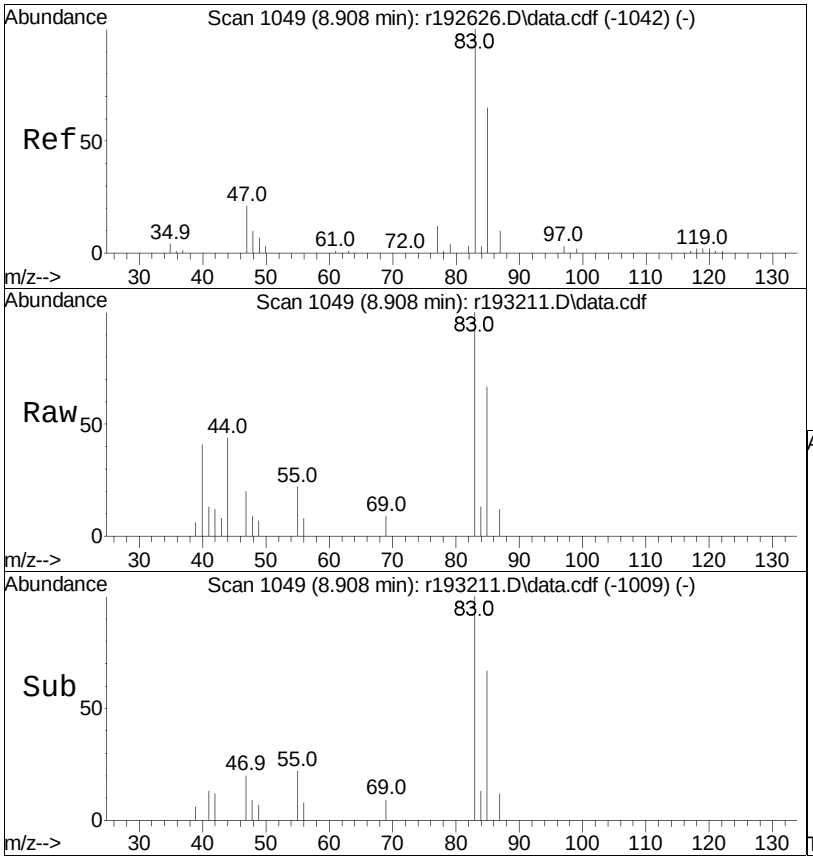


#36
2-butanone
Concen: 25.46 ppbV
RT: 8.133 min Scan# 958
Delta R.T. -0.025 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 43 Resp: 993849

Ion	Ratio	Lower	Upper
43	100		
72	31.5	27.7	41.5
57	8.3	6.3	9.5

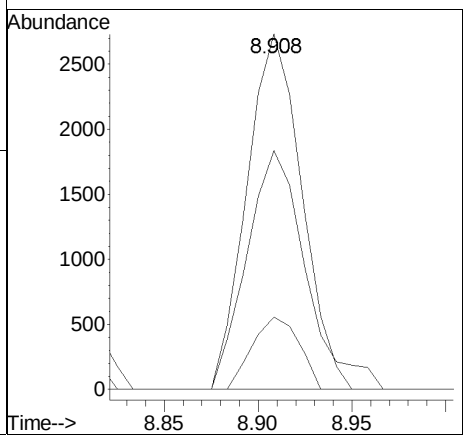


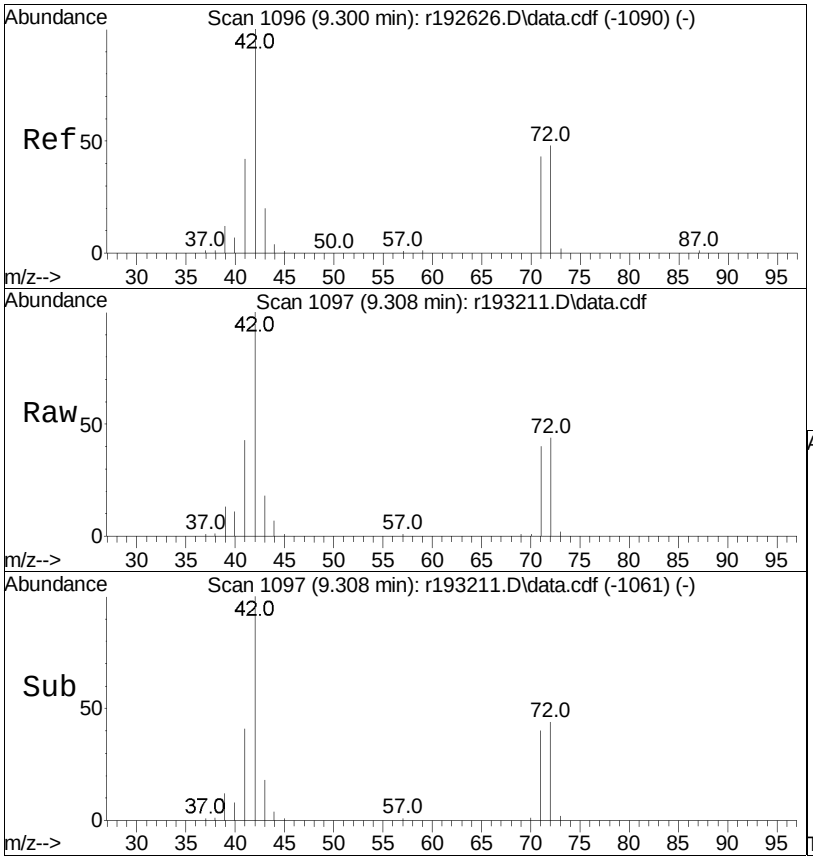


#39
chloroform
Concen: 0.21 ppbV
RT: 8.908 min Scan# 1049
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 83 Resp: 5567

Ion	Ratio	Lower	Upper
83	100		
85	67.2	50.1	75.1
47	20.4	17.6	26.4

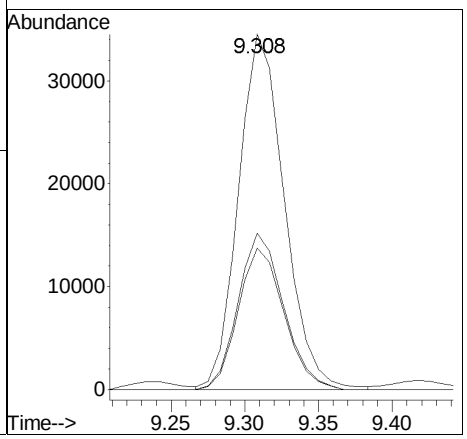


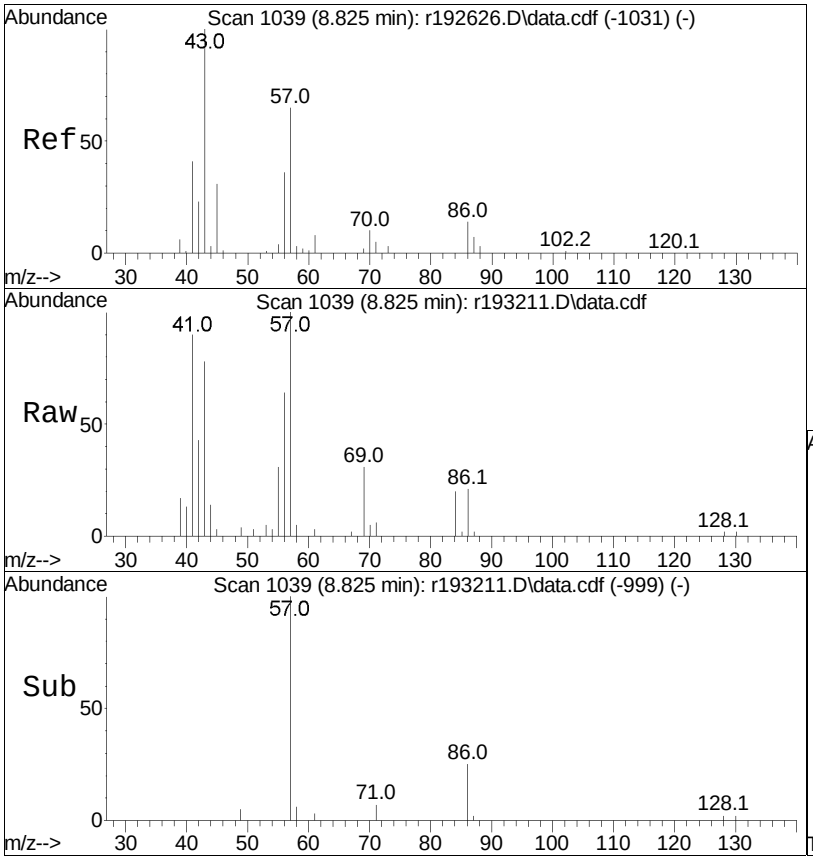


#40
Tetrahydrofuran
Concen: 2.85 ppbV
RT: 9.308 min Scan# 1097
Delta R.T. -0.033 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 42 Resp: 74834

Ion	Ratio	Lower	Upper
42	100		
71	39.8	32.5	48.7
72	44.0	33.7	50.5

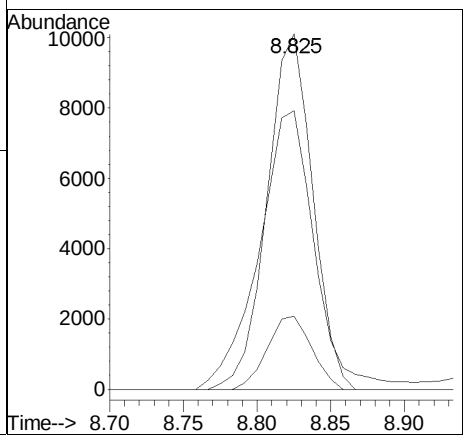


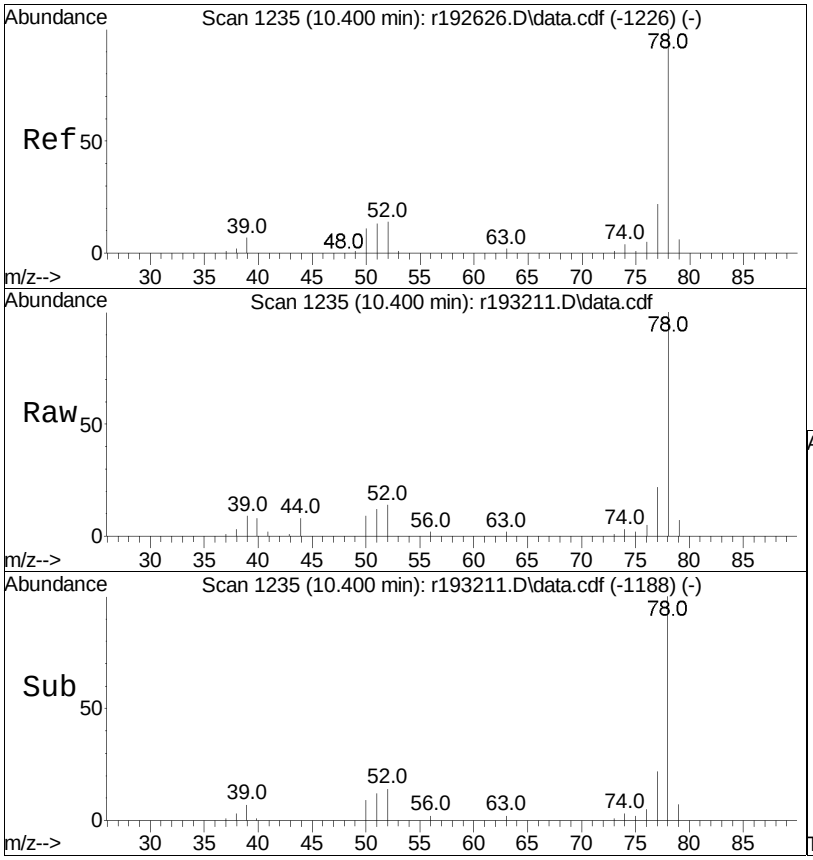


#44
hexane
Concen: 0.60 ppbV
RT: 8.825 min Scan# 1039
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 57 Resp: 21722

Ion	Ratio	Lower	Upper
57	100		
43	78.4	159.3	238.9#
86	20.6	15.7	23.5

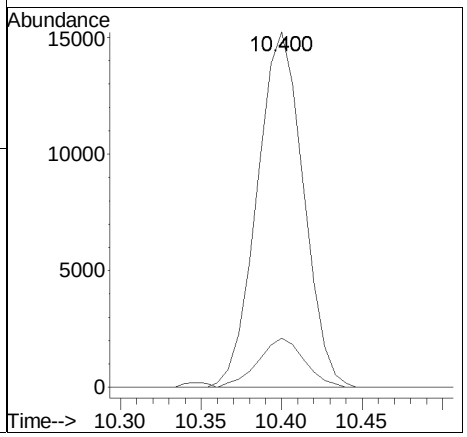


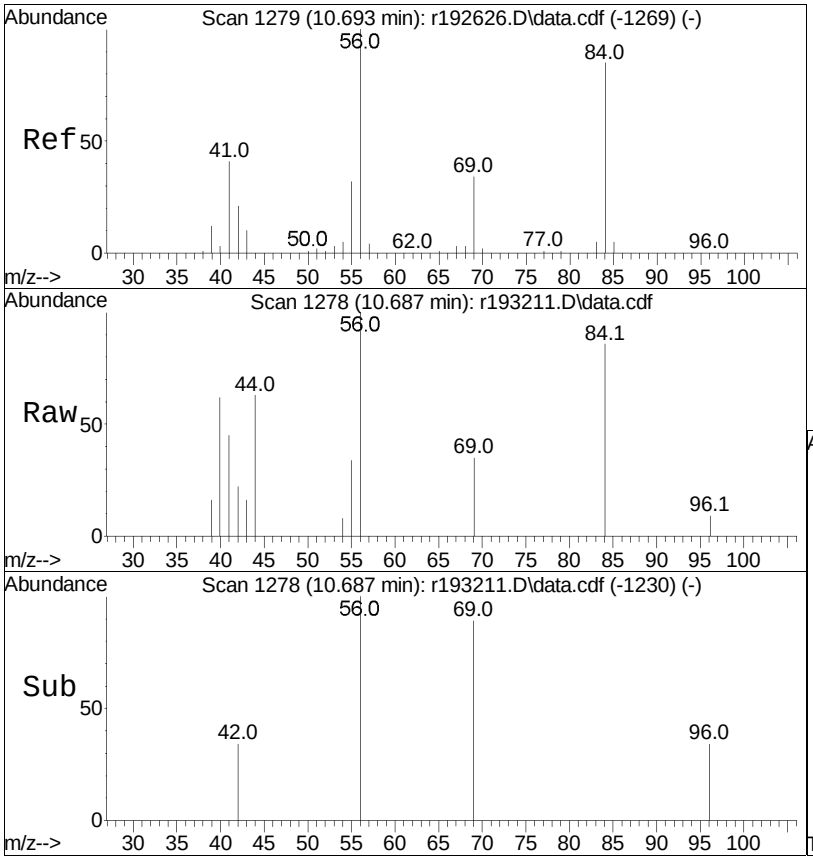


#50
benzene
Concen: 0.42 ppbV
RT: 10.400 min Scan# 1235
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 78 Resp: 30477

Ion	Ratio	Lower	Upper
78	100		
52	13.9	11.4	17.2

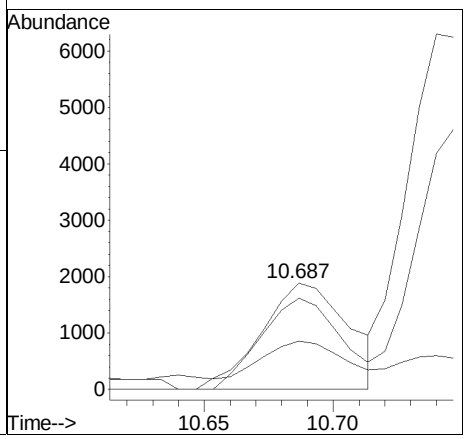


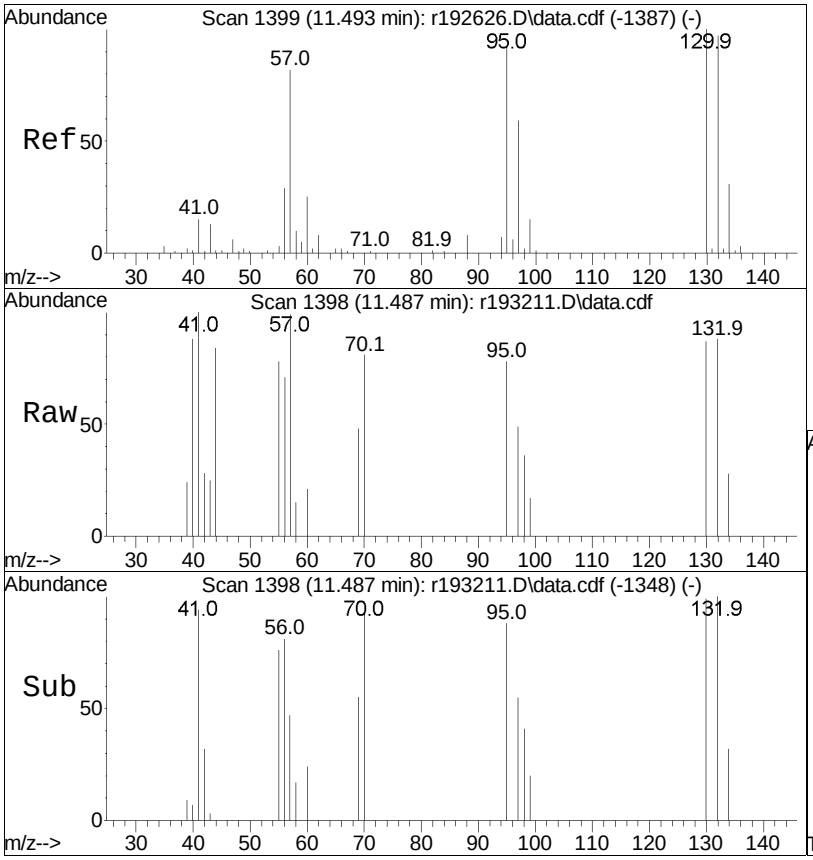


#53
cyclohexane
Concen: 0.11 ppbV
RT: 10.687 min Scan# 1278
Delta R.T. -0.007 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 56 Resp: 4392

Ion	Ratio	Lower	Upper
56	100		
84	85.8	69.8	104.6
41	45.5	32.1	48.1

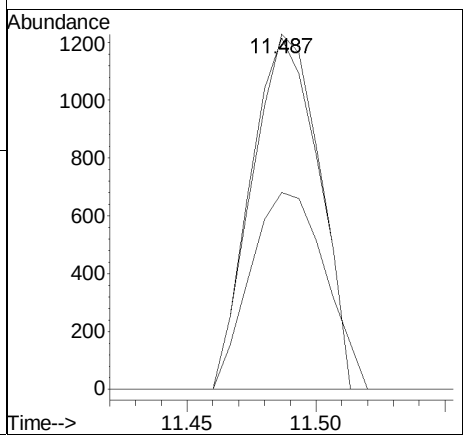


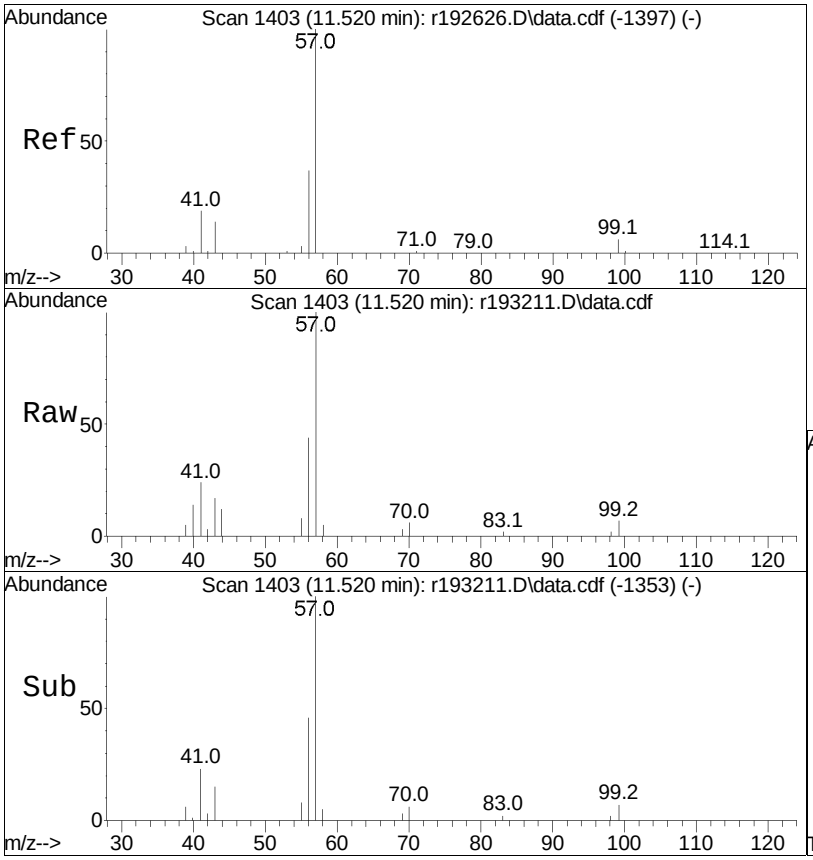


#59
trichloroethene
Concen: 0.09 ppbV
RT: 11.487 min Scan# 1398
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion:130 Resp: 2224

Ion	Ratio	Lower	Upper
130	100		
132	101.2	73.8	110.8
97	56.0	46.9	70.3

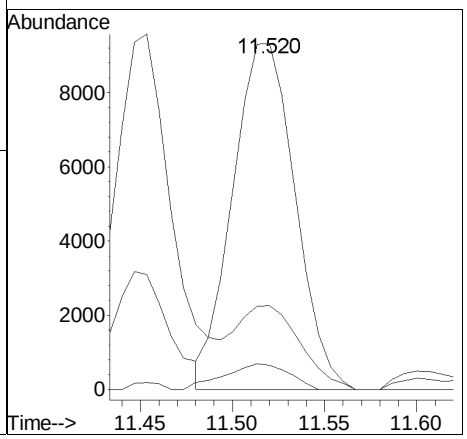


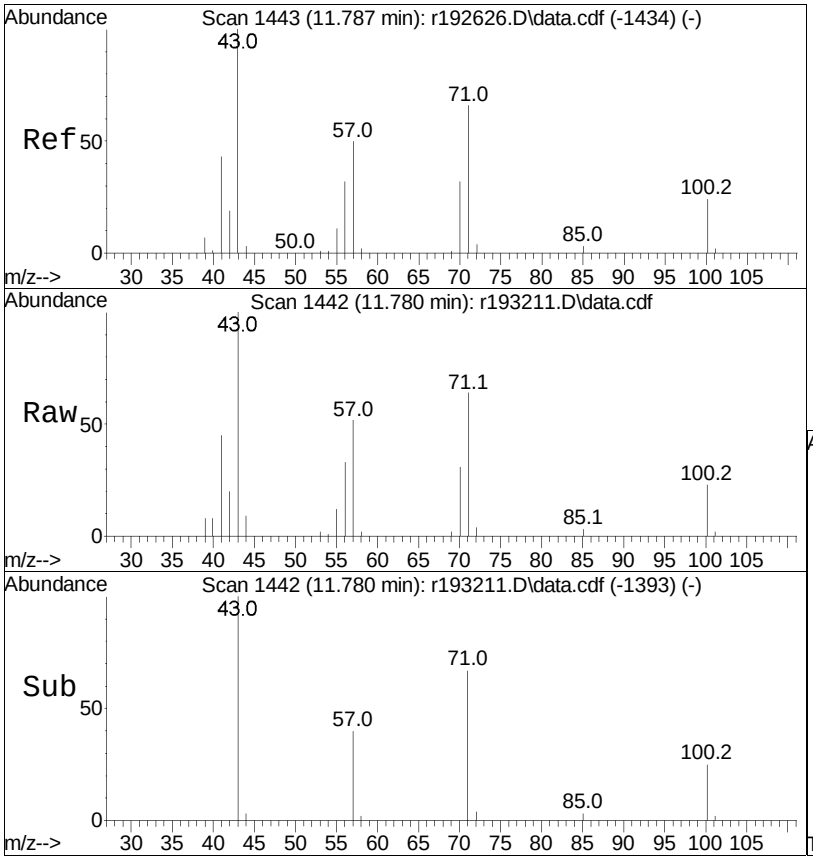


#60
2,2,4-trimethylpentane
Concen: 0.19 ppbV
RT: 11.520 min Scan# 1403
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 57 Resp: 22014

Ion	Ratio	Lower	Upper
57	100		
99	7.0	6.0	9.0
41	24.2	15.6	23.4#

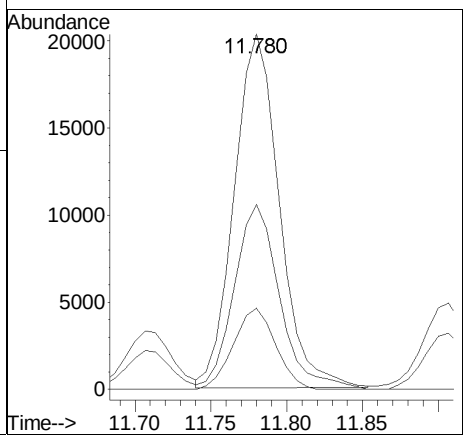


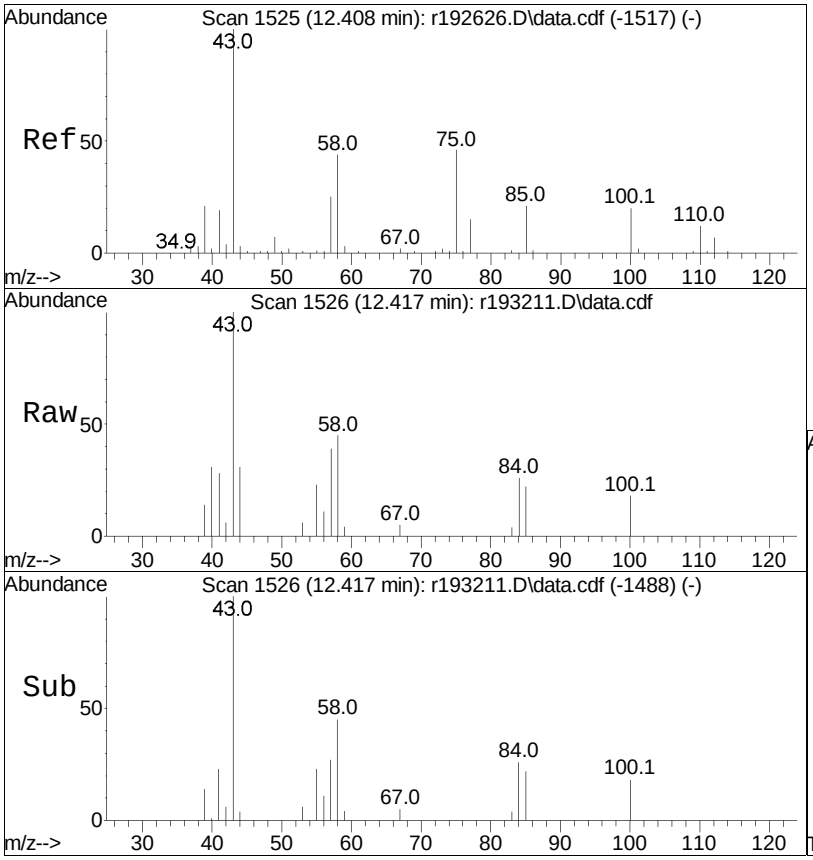


#62
heptane
Concen: 0.94 ppbV
RT: 11.780 min Scan# 1442
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 43 Resp: 41996

Ion	Ratio	Lower	Upper
43	100		
57	52.0	41.0	61.6
100	22.9	21.4	32.2

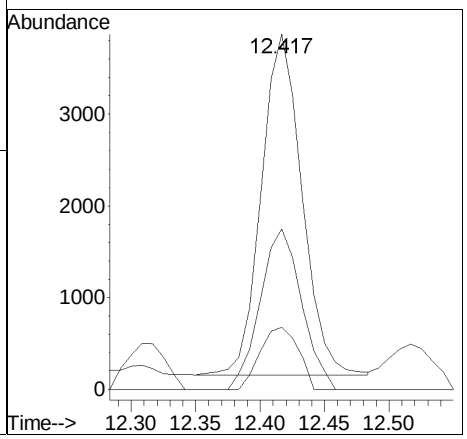


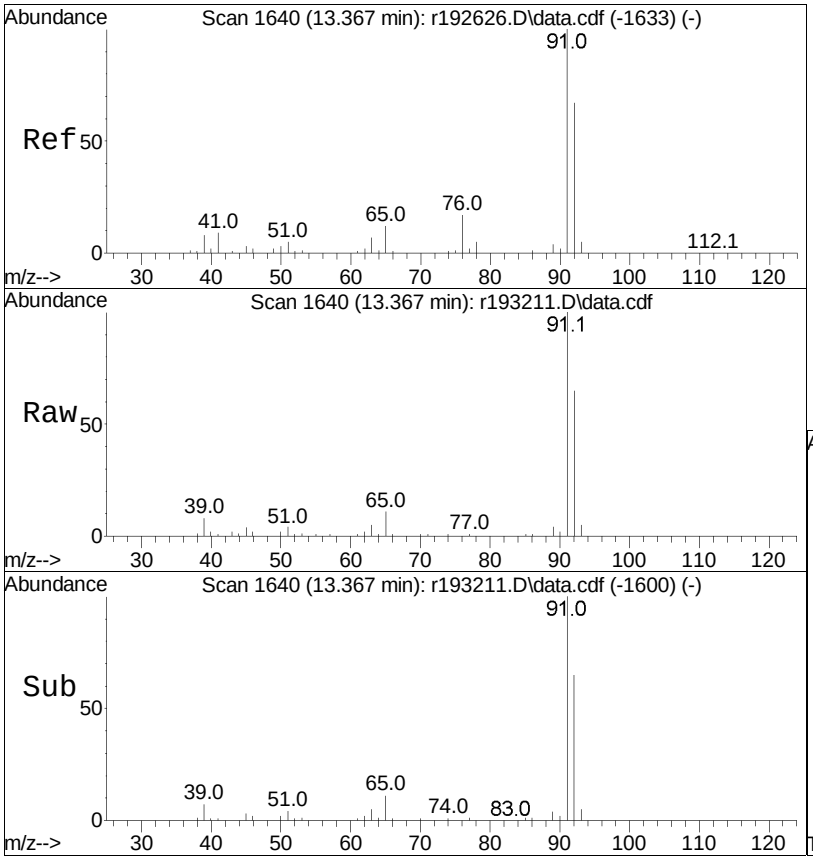


#64
4-methyl-2-pentanone
Concen: 0.17 ppbV
RT: 12.417 min Scan# 1526
Delta R.T. -0.017 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 43 Resp: 8112

Ion	Ratio	Lower	Upper
43	100		
58	45.2	32.9	49.3
100	17.5	15.4	23.2

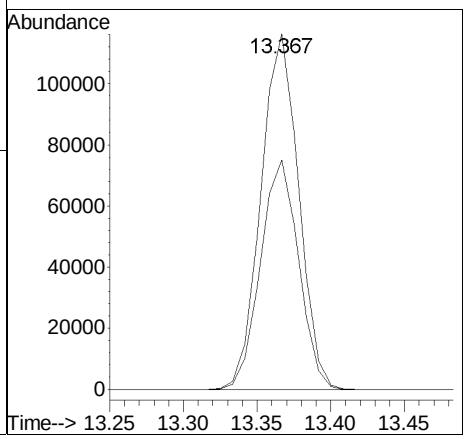


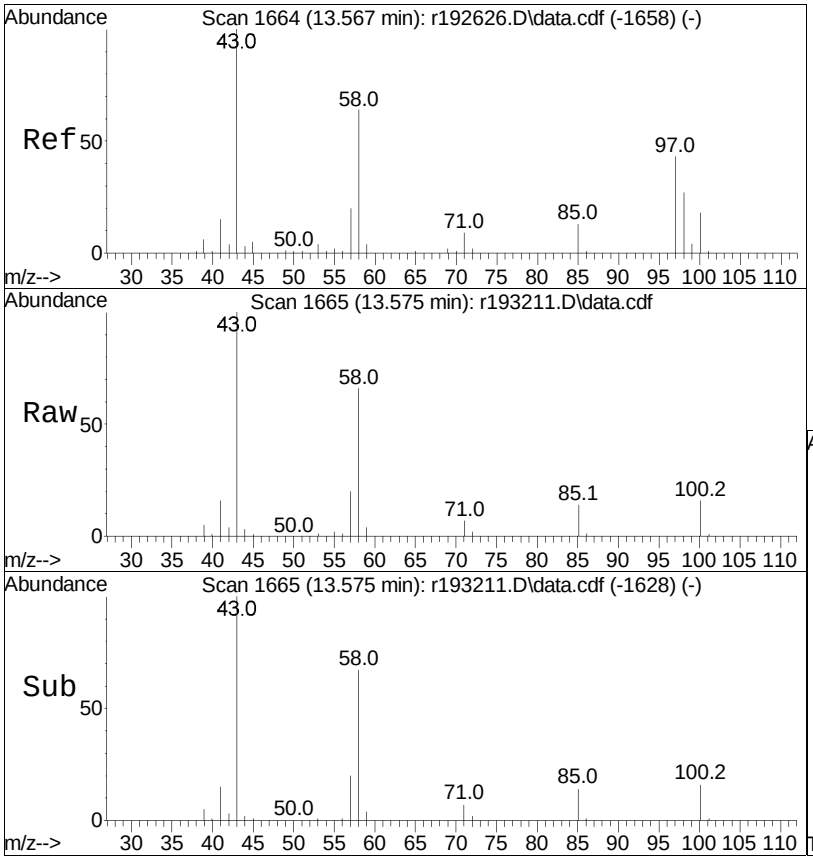


#68
toluene
Concen: 2.78 ppbV
RT: 13.367 min Scan# 1640
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 91 Resp: 207155

Ion	Ratio	Lower	Upper
91	100		
92	64.6	53.3	79.9

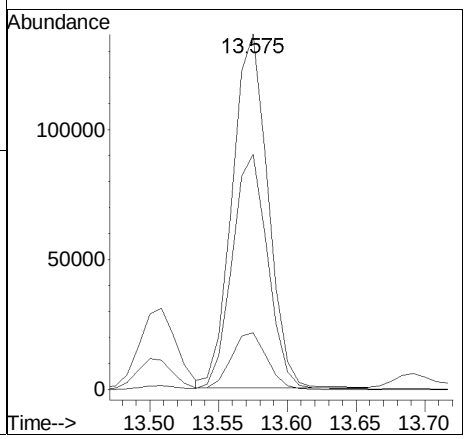


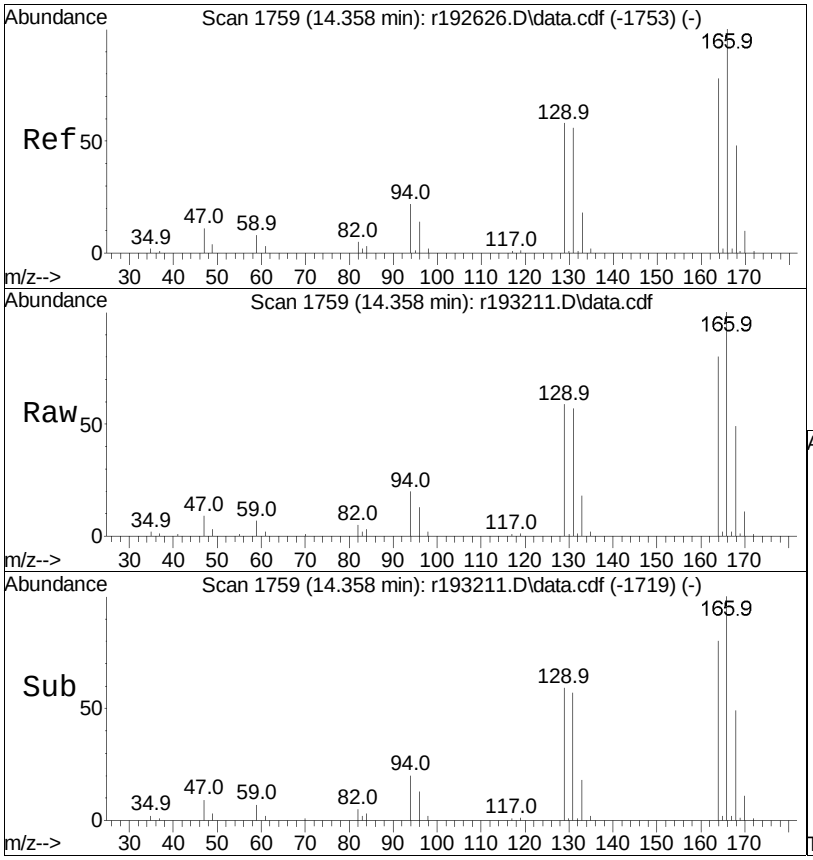


#72
2-hexanone
Concen: 5.70 ppbV
RT: 13.575 min Scan# 1665
Delta R.T. -0.025 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 43 Resp: 246686

Ion	Ratio	Lower	Upper
43	100		
58	66.1	62.6	94.0
100	16.0	26.5	39.7#

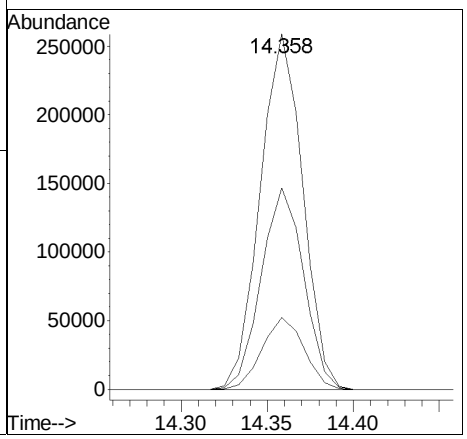


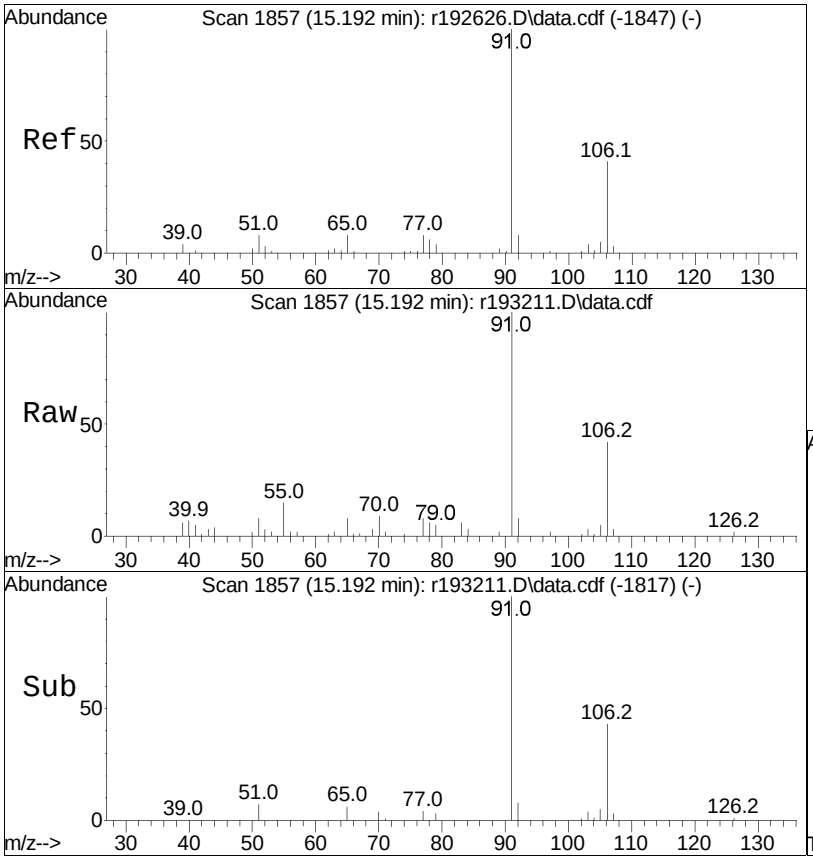


#78
tetrachloroethene
Concen: 13.61 ppbV
RT: 14.358 min Scan# 1759
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion:166 Resp: 445228

Ion	Ratio	Lower	Upper
166	100		
131	56.7	46.4	69.6
94	20.2	18.5	27.7

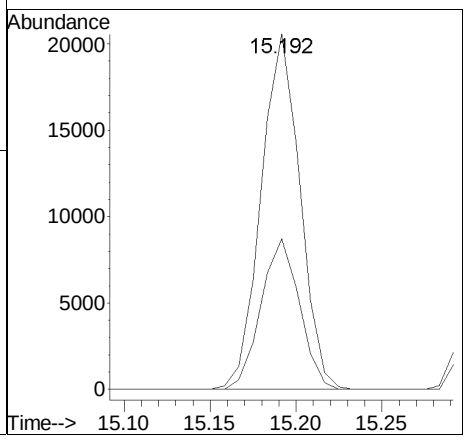


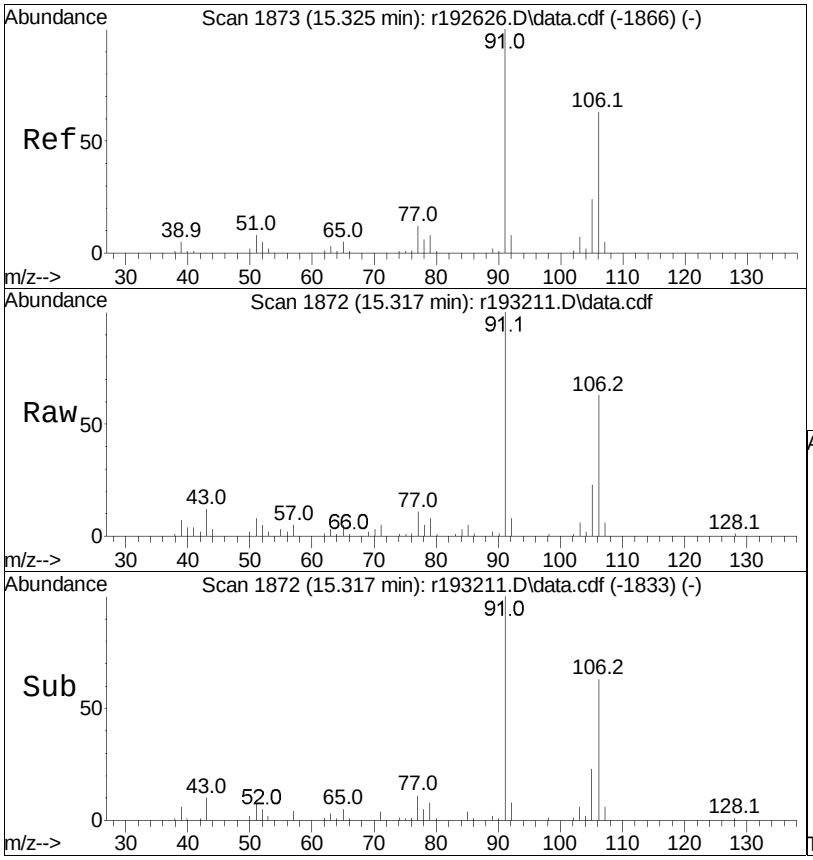


#81
ethylbenzene
Concen: 0.36 ppbV
RT: 15.192 min Scan# 1857
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 91 Resp: 32341

Ion	Ratio	Lower	Upper
91	100		
106	42.4	32.9	49.3

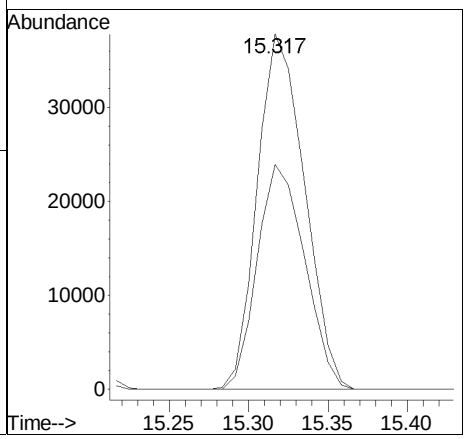


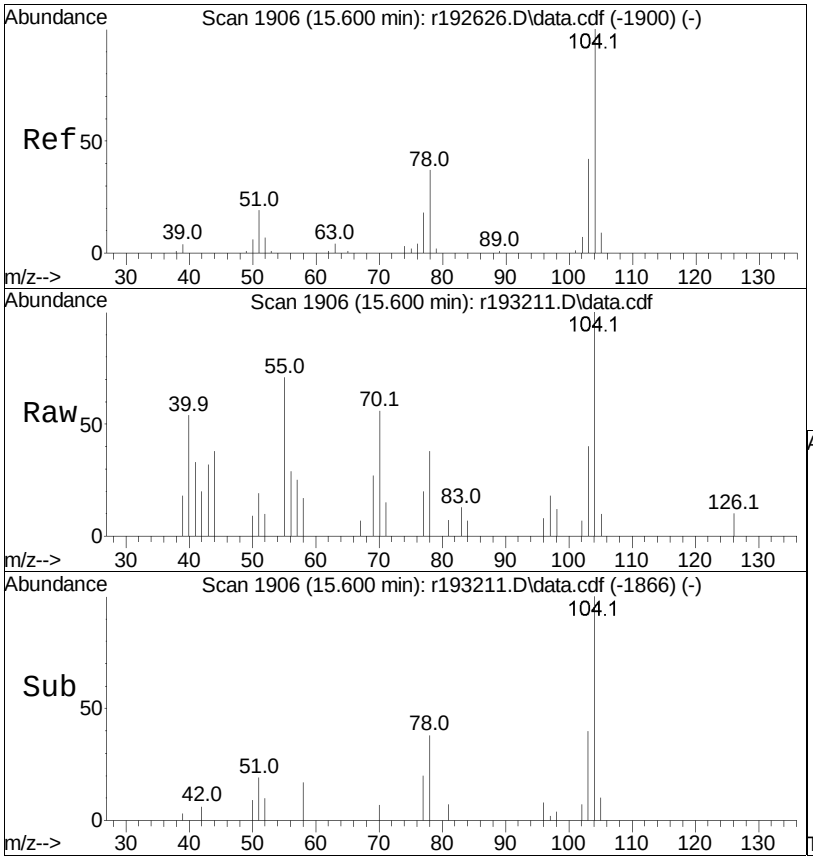


#83
m+p-xylene
Concen: 1.11 ppbV
RT: 15.317 min Scan# 1872
Delta R.T. -0.008 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 91 Resp: 78329

Ion	Ratio	Lower	Upper
91	100		
106	63.3	51.0	76.4

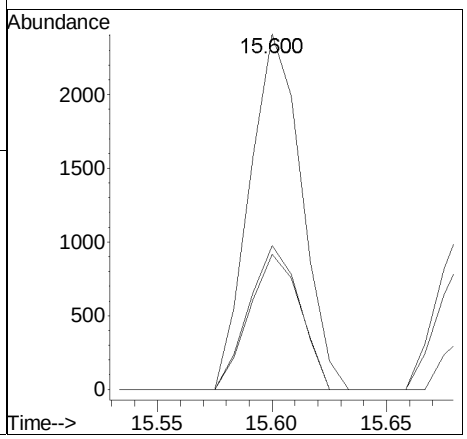


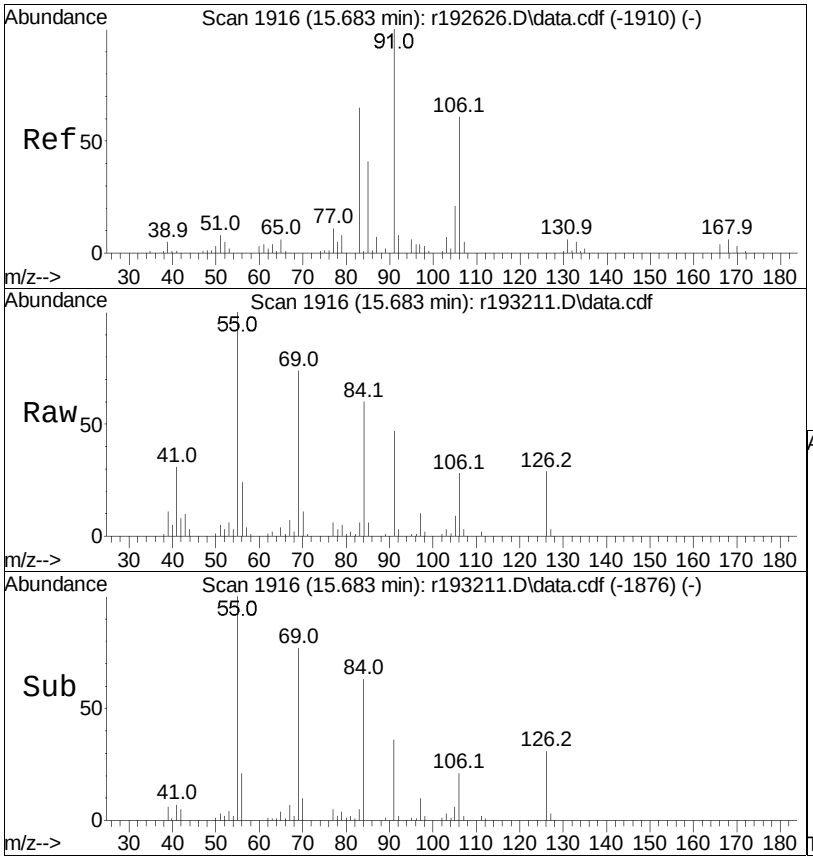


#85
styrene
Concen: 0.06 ppbV
RT: 15.600 min Scan# 1906
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion:104 Resp: 3798

Ion	Ratio	Lower	Upper
104	100		
103	40.5	33.4	50.0
78	38.0	30.6	46.0

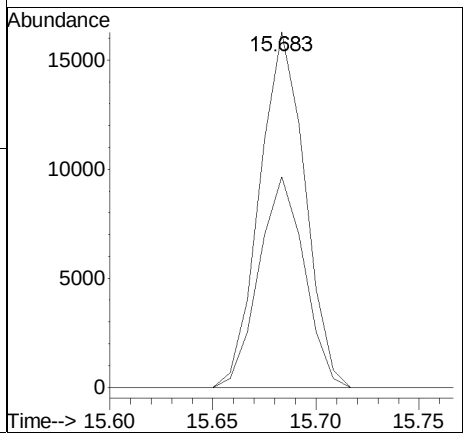


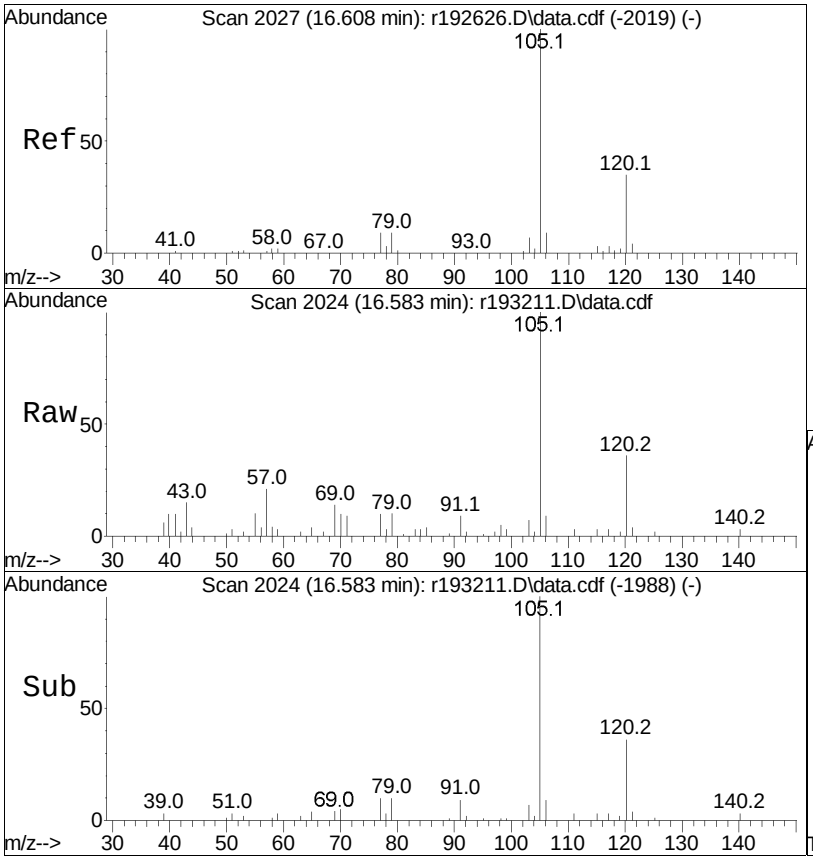


#87
o-xylene
Concen: 0.36 ppbV
RT: 15.683 min Scan# 1916
Delta R.T. 0.000 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion: 91 Resp: 24848

Ion	Ratio	Lower	Upper
91	100		
106	59.3	47.8	71.8

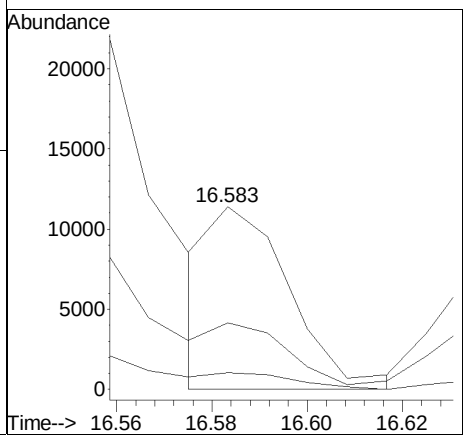


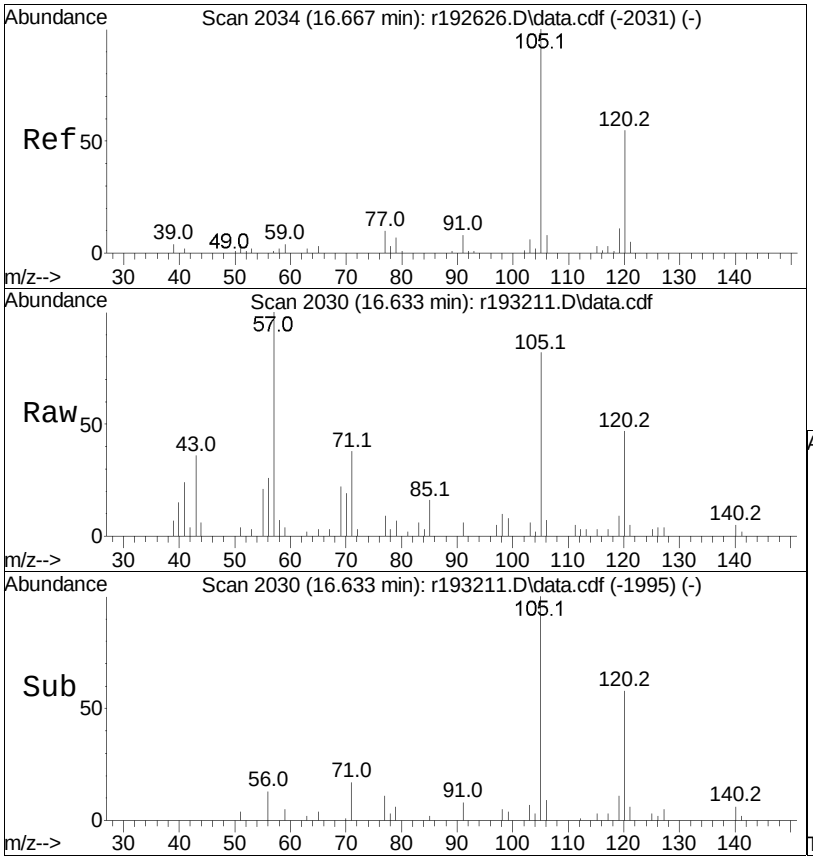


#96
4-ethyl toluene
Concen: 0.11 ppbV m
RT: 16.583 min Scan# 2024
Delta R.T. -0.033 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion:105 Resp: 13157

Ion	Ratio	Lower	Upper
105	100		
120	36.5	27.2	40.8
91	9.1	7.0	10.4

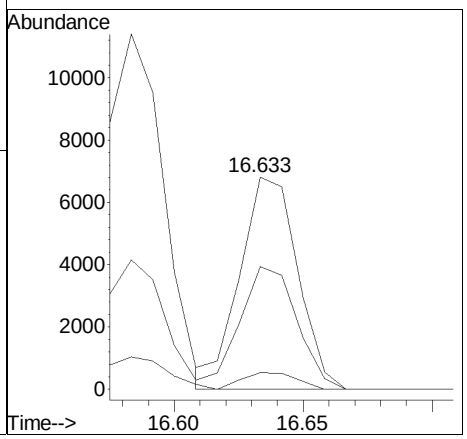


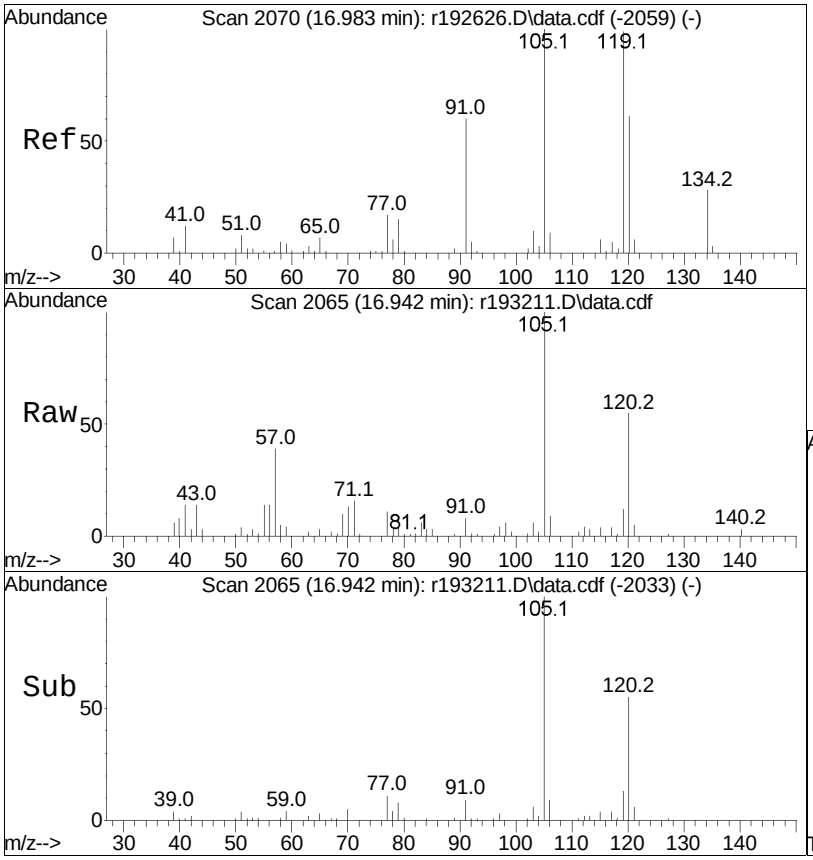


#97
1,3,5-trimethylbenzene
Concen: 0.11 ppbV
RT: 16.633 min Scan# 2030
Delta R.T. -0.042 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion:105 Resp: 10609

Ion	Ratio	Lower	Upper
105	100		
120	57.9	42.6	64.0
91	7.9	6.6	9.8

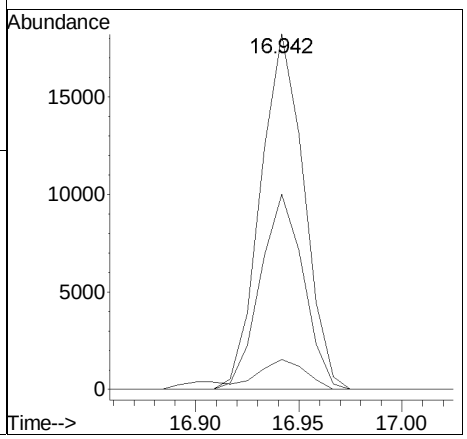




#99
1,2,4-trimethylbenzene
Concen: 0.31 ppbV
RT: 16.942 min Scan# 2065
Delta R.T. -0.050 min
Lab File: r193211.D
Acq: 21 Mar 2020 3:40 AM

Tgt Ion:105 Resp: 26668

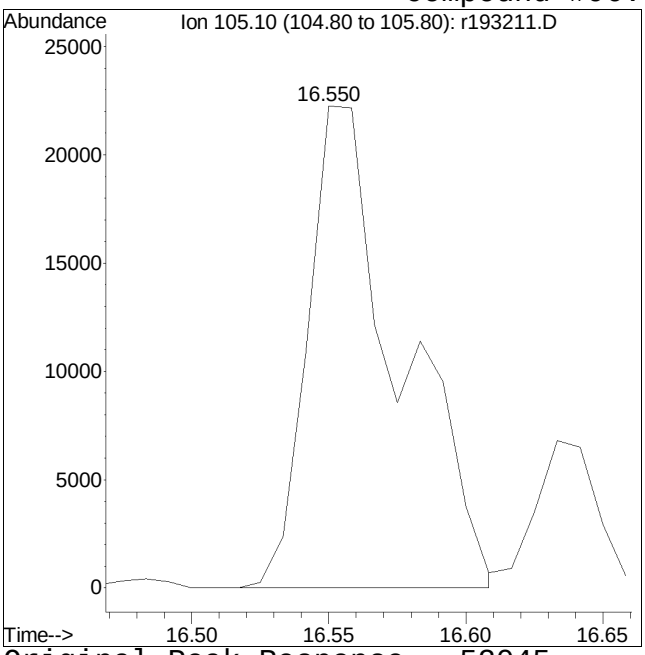
Ion	Ratio	Lower	Upper
105	100		
120	54.9	49.2	73.8
91	8.4	49.9	74.9#



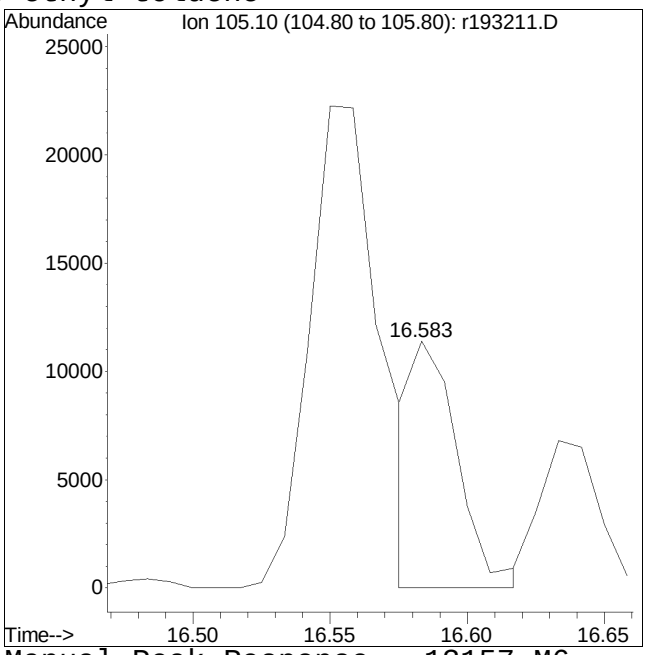
Manual Integration Report

Data Path : O:\Forensics\Data\Airlab19QMethod : TFS19_200224.M
Data File : r193211.D Operator : AIRLAB19:EW
Date Inj'd : 3/21/2020 0:3: 0 Instrument :
Sample : L2011723-04D,3,100,250 Quant Date : 3/21/2020 7:58 am

Compound #96: 4-ethyl toluene



Original Peak Response = 52045



Manual Peak Response = 13157 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Volatiles Standards Data

Initial Calibration

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRLAB19**	**Ical Ref**	**: ICAL16553**
Calibration dates	**: 02/25/20 02:44 02/25/20 07:28**		

Calibration Files
0.2 =r192622.D 0.5 =r192623.D 1.0 =r192624.D 5.0 =r192625.D 10 =r192626.D 20 =r192627.D
50 =r192628.D 100 =r192629.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
1)	I	bromochloromethane	----------ISTD----------									
2)		chlorodifluoromethane	0.715	0.677	0.674	0.606	0.593	0.655	0.564	0.521	0.6257	10.44
3)		propylene		0.478	0.452	0.406	0.397	0.429	0.371	0.343	0.4107	11.32
4)		propane		0.535	0.517	0.440	0.420	0.452	0.396	0.359	0.4458	14.10
5)		dichlorodifluoromethane	0.645	0.653	0.572	0.558	0.522	0.578	0.510	0.446	0.5604	12.32
6)	C	chloromethane	0.379	0.394	0.384	0.369	0.329	0.388	0.329	0.296	0.3584	9.98
7)		Freon-114	0.992	0.957	0.915	0.871	0.814	0.830	0.686	0.588	0.8316	16.42
8)	C	methanol			0.207	0.162	0.153	0.163	0.149	0.138	0.1621	14.74
9)	C	vinyl chloride	0.511	0.500	0.492	0.442	0.411	0.430	0.401	0.371	0.4449	11.53
10)	C	1,3-butadiene	0.410	0.422	0.414	0.374	0.369	0.390	0.357	0.333	0.3836	8.07
11)		butane	0.759	0.710	0.679	0.614	0.581	0.608	0.560	0.519	0.6287	12.87
12)	C	acetaldehyde		0.222	0.209	0.205	0.187	0.178	0.147	0.128	0.1822	18.81
13)	C	bromomethane	0.397	0.399	0.403	0.348	0.341	0.337	0.311	0.280	0.3520	12.74
14)	C	chloroethane	0.252	0.262	0.248	0.233	0.220	0.226	0.220	0.205	0.2332	8.28
15)		ethanol			0.346	0.307	0.284	0.302	0.271	0.244	0.2922	11.87
16)		dichlorofluoromethane	0.695	0.698	0.696	0.612	0.592	0.590	0.549	0.509	0.6177	11.70
17)	C	vinyl bromide	0.430	0.438	0.410	0.376	0.367	0.364	0.342	0.317	0.3806	11.17
18)	C	acrolein		0.225	0.228	0.201	0.199	0.198	0.194	0.184	0.2043	8.03
19)		acetone	0.620	0.584	0.565	0.547	0.515	0.646	0.428	0.391	0.5370	16.60
20)	C	acetonitrile	0.438	0.406	0.390	0.396	0.386	0.384	0.370	0.349	0.3898	6.65
21)		trichlorofluoromethane	0.568	0.557	0.551	0.626	0.660	0.656	0.617	0.474	0.5887	10.70
22)		isopropyl alcohol	1.360	1.185	1.094	1.020	0.932	0.962	0.860	0.748	1.0202	18.84
23)	C	acrylonitrile	0.568	0.562	0.540	0.496	0.499	0.502	0.496	0.471	0.5169	6.82
24)		pentane	1.210	1.158	1.152	1.045	1.013	1.018	0.923	0.823	1.0427	12.41
25)		ethyl ether	1.015	1.006	0.993	0.905	0.880	0.872	0.802	0.708	0.8976	11.97
26)	C	1,1-dichloroethene	0.769	0.758	0.745	0.684	0.660	0.650	0.612	0.549	0.6785	11.32
27)		tertiary butyl alcohol		1.052	1.011	0.954	0.850	0.941	0.913	0.827	0.9353	8.64
28)	C	methylene chloride		0.751	0.726	0.654	0.644	0.652	0.612	0.557	0.6565	9.99
29)	C	3-chloropropene	0.873	0.859	0.846	0.782	0.765	0.773	0.744	0.687	0.7911	8.06
30)	C	carbon disulfide	2.084	2.108	2.068	1.853	1.808	1.750	1.588	1.339	1.8247	14.73
31)		Freon 113	1.114	1.102	1.078	0.975	0.937	0.913	0.827	0.712	0.9571	14.77
32)		trans-1,2-dichloroethene	0.877	0.866	0.850	0.772	0.753	0.745	0.715	0.644	0.7778	10.48
33)	C	1,1-dichloroethane	1.040	1.049	1.020	0.946	0.923	0.911	0.884	0.808	0.9475	8.87
34)	C	MTBE	1.719	1.690	1.676	1.542	1.499	1.491	1.408	1.262	1.5360	10.20
35)	C	vinyl acetate			1.453	1.318	1.311	1.311	1.269	1.169	1.3050	7.01
36)	C	2-butanone		1.356	1.324	1.208	1.191	1.180	1.132	1.034	1.2036	9.13

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRLAB19**	**Ical Ref**	**: ICAL16553**
Calibration dates	**: 02/25/20 02:44 02/25/20 07:28**		

Calibration Files

0.2 =r192622.D 0.5 =r192623.D 1.0 =r192624.D 5.0 =r192625.D 10 =r192626.D 20 =r192627.D

50 =r192628.D 100 =r192629.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
37)		cis-1,2-dichloroethene	0.757	0.745	0.731	0.668	0.655	0.648	0.625	0.565	0.6741	9.79
38)		Ethyl Acetate	0.211	0.236	0.225	0.208	0.209	0.202	0.188	0.159	0.2048	11.52
39)	C	chloroform	0.935	0.954	0.941	0.841	0.810	0.795	0.752	0.663	0.8364	12.29
40)		Tetrahydrofuran	0.894	0.887	0.876	0.798	0.787	0.782	0.755	0.691	0.8088	8.87
41)		2,2-dichloropropane	0.783	0.773	0.766	0.702	0.681	0.660	0.629	0.557	0.6938	11.40
42)	C	1,2-dichloroethane	0.453	0.458	0.448	0.406	0.395	0.387	0.375	0.347	0.4086	9.93
43)	I	1,4-difluorobenzene	----------ISTD----------									
44)	C	hexane	0.434	0.423	0.421	0.379	0.364	0.358	0.304	0.249	0.3665	17.41
45)		diisopropyl ether	0.225	0.224	0.223	0.205	0.197	0.193	0.167	0.139	0.1966	15.55
46)		tert-butyl ethyl ether	0.649	0.645	0.643	0.586	0.568	0.560	0.499	0.437	0.5734	13.22
47)	s	1,2-dichloroethane-D4	0.128	0.129	0.129	0.130	0.128	0.130	0.121	0.114	0.1260	4.41
48)	C	1,1,1-trichloroethane	0.266	0.269	0.271	0.241	0.232	0.226	0.201	0.176	0.2353	14.60
49)		1,1-dichloropropene	0.334	0.319	0.315	0.292	0.281	0.281	0.250	0.218	0.2859	13.38
50)	C	benzene	0.831	0.819	0.808	0.736	0.713	0.708	0.630	0.542	0.7231	13.82
51)		thiophene	1.721	1.707	1.682	1.489	1.402	1.318	1.007	0.796	1.3902	24.47
52)	C	carbon tetrachloride	0.229	0.232	0.226	0.207	0.193	0.185	0.152	0.128	0.1939	19.61
53)		cyclohexane	0.462	0.446	0.444	0.406	0.399	0.394	0.349	0.308	0.4009	12.98
54)		tert-amyl methyl ether	0.675	0.695	0.694	0.635	0.616	0.613	0.544	0.474	0.6183	12.47
55)		dibromomethane	0.219	0.209	0.207	0.185	0.174	0.168	0.144	0.119	0.1782	19.25
56)	C	1,2-dichloropropane	0.263	0.262	0.261	0.236	0.230	0.226	0.200	0.172	0.2313	13.98
57)		bromodichloromethane	0.365	0.369	0.358	0.322	0.312	0.304	0.267	0.225	0.3153	16.03
58)	C	1,4-dioxane	0.186	0.180	0.186	0.168	0.158	0.165	0.146	0.120	0.1637	13.64
59)	C	trichloroethene	0.313	0.304	0.296	0.270	0.257	0.248	0.207	0.167	0.2577	19.58
60)	C	2,2,4-trimethylpentane	1.369	1.351	1.332	1.205	1.122	1.134	0.968	0.774	1.1569	17.89
61)		methyl methacrylate		0.329	0.323	0.335	0.325	0.292	0.260	0.227	0.2987	13.73
62)		heptane	0.518	0.501	0.511	0.463	0.446	0.441	0.377	0.320	0.4472	15.47
63)	C	cis-1,3-dichloropropene	0.399	0.389	0.392	0.358	0.348	0.335	0.287	0.244	0.3441	15.84
64)	C	4-methyl-2-pentanone		0.553	0.563	0.521	0.497	0.484	0.409	0.341	0.4811	16.62
65)		trans-1,3-dichloropropene	0.333	0.339	0.343	0.320	0.314	0.306	0.277	0.244	0.3095	10.96
66)	C	1,1,2-trichloroethane	0.281	0.286	0.285	0.263	0.250	0.246	0.219	0.184	0.2518	14.16
67)	I	chlorobenzene-D5	----------ISTD----------									
68)	C	toluene	7.251	7.097	6.908	6.288	6.056	5.799	5.061	4.253	6.0893	17.10
69)	s	toluene-D8	5.794	5.784	5.787	5.851	5.936	5.981	6.085	6.004	5.9027	1.95
70)		2-methylthiophene	2.222	2.194	2.176	1.891	1.717	1.501	1.116	0.848	1.7081	30.39#
71)		1,3-dichloropropane	3.211	3.222	3.170	2.948	2.850	2.752	2.461	2.152	2.8457	13.48
72)		2-hexanone	3.992	3.827	3.924	3.682	3.572	3.478	3.124	2.706	3.5382	12.31

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRLAB19**	**Ical Ref**	**: ICAL16553**
Calibration dates	**: 02/25/20 02:44 02/25/20 07:28**		

Calibration Files
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50 =r192628.D 100 =r192629.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
73)		3-methylthiophene	2.292	2.250	2.213	1.902	1.765	1.525	1.117	0.852	1.7396	31.02#
74)		dibromochloromethane	2.724	2.697	2.660	2.464	2.382	2.258	1.934	1.607	2.3405	16.96
75)	C	1,2-dibromoethane	3.145	3.223	3.137	2.904	2.824	2.726	2.399	2.041	2.8000	14.57
76)		butyl acetate		0.965	1.018	0.956	0.940	0.935	0.868	0.756	0.9196	9.21
77)		octane	3.017	2.813	2.829	2.598	2.516	2.431	2.149	1.814	2.5206	15.58
78)	C	tetrachloroethene	3.218	3.148	3.116	2.852	2.743	2.529	2.099	1.697	2.6754	20.26
79)		1,1,1,2-tetrachloroethane	2.074	1.984	2.030	1.849	1.751	1.643	1.350	1.089	1.7214	20.24
80)	C	chlorobenzene	5.657	5.656	5.583	5.130	4.898	4.661	3.945	3.183	4.8391	18.40
81)	C	ethylbenzene	8.473	8.419	8.319	7.736	7.477	6.938	6.072	4.993	7.3035	17.05
82)		2-ethylthiophene	2.313	2.340	2.275	1.950	1.750	1.474	1.069	0.800	1.7465	33.70#
83)	C	m+p-xylene	7.034	6.878	6.802	6.197	5.840	5.408	4.392	3.513	5.7578	21.97
84)	C	bromoform	3.045	3.008	3.108	2.833	2.638	2.433	2.019	1.592	2.5844	20.98
85)	C	styrene	6.332	6.369	6.384	5.835	5.656	5.437	4.675	3.892	5.5725	16.04
86)	C	1,1,2,2-tetrachloroethane	4.794	4.658	4.704	4.375	4.143	3.730	2.984	2.389	3.9723	22.14
87)	C	o-xylene	7.250	6.837	6.807	6.138	5.730	5.150	4.049	3.234	5.6491	25.21
88)		1,2,3-trichloropropane	3.710	3.760	3.683	3.481	3.343	3.233	2.878	2.454	3.3177	13.76
89)		nonane	5.554	5.402	5.359	4.893	4.682	4.399	3.696	3.125	4.6388	18.66
90)	s	bromofluorobenzene	3.720	3.685	3.661	3.725	3.775	3.858	4.064	4.015	3.8131	4.01
91)	C	isopropylbenzene	9.935	9.475	9.438	8.782	8.318	7.928	6.576	5.233	8.2108	19.55
92)		bromobenzene	5.167	5.069	4.994	4.650	4.503	4.341	3.671	3.027	4.4278	16.80
93)		2-chlorotoluene	2.556	2.663	2.714	2.480	2.410	2.208	1.738	1.441	2.2762	20.13
94)		n-propylbenzene	3.167	3.133	3.168	3.002	2.877	2.621	2.157	1.767	2.7364	19.08
95)		4-chlorotoluene	2.489	2.618	2.554	2.473	2.362	2.252	2.014	1.672	2.3042	13.86
96)		4-ethyl toluene	1.122	1.096	1.110	1.040	1.004	0.921	0.734	0.626	0.9565	19.35
97)		1,3,5-trimethylbenzene	8.937	8.916	9.259	8.432	7.961	7.149	5.906	4.929	7.6862	20.42
98)		tert-butylbenzene	8.944	8.584	8.729	7.914	7.383	6.238	4.801	4.011	7.0754	26.48
99)		1,2,4-trimethylbenzene	8.683	8.754	8.947	8.079	7.519	6.291	4.728	3.914	7.1144	27.20
100)		decane	6.490	6.422	6.583	6.325	6.132	5.695	4.677	4.061	5.7980	16.18
101)	C	Benzyl Chloride	5.816	5.870	6.235	6.417	6.379	5.863	4.862	4.394	5.7295	12.74
102)		1,3-dichlorobenzene	5.436	5.406	5.713	5.474	5.239	4.728	3.715	3.269	4.8724	18.57
103)	C	1,4-dichlorobenzene	5.450	5.480	5.475	5.221	5.069	4.454	3.504	2.699	4.6689	22.41
104)		sec-butylbenzene	1.249	1.241	1.262	1.168	1.097	0.960	0.742	0.611	1.0413	23.86
105)		1,2,3-trimethylbenzene	8.026	7.956	8.247	8.247	7.777	6.206	4.818	4.214	6.9365	23.63
106)		p-isopropyltoluene	1.096	1.044	1.061	0.991	0.938	0.803	0.621	0.512	0.8833	24.61
107)		1,2-dichlorobenzene	5.038	5.123	5.207	5.164	4.998	4.490	3.635	3.306	4.6203	16.21
108)		n-butylbenzene	8.679	8.457	8.778	8.449	8.250	7.214	5.835	5.285	7.6183	17.92

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRLAB19**	**Ical Ref**	**: ICAL16553**
Calibration dates	**: 02/25/20 02:44 02/25/20 07:28**		

Calibration Files
0.2 =r192622.D 0.5 =r192623.D 1.0 =r192624.D 5.0 =r192625.D 10 =r192626.D 20 =r192627.D
50 =r192628.D 100 =r192629.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
109)		indan	7.790	7.898	8.062	8.549	8.141	6.775	5.387	4.698	7.1625	19.74
110)		indene	6.210	6.115	6.146	6.544	6.574	5.578	4.564	4.181	5.7392	15.73
111)	C	1,2-dibromo-3-chloropropane	2.058	1.884	1.946	1.928	1.912	1.662	1.424	1.392	1.7758	14.21
112)		undecane	7.224	6.610	7.022	7.042	7.033	6.157	4.949	4.325	6.2951	17.30
113)		1,2,4,5-tetramethylbenzene	8.509	7.911	8.361	8.400	8.206	6.761	5.551	4.883	7.3227	19.44
114)		dodecane	6.360	6.364	7.176	7.854	7.805	5.382	4.450	3.548	6.1173	25.50
115)	C	1,2,4-trichlorobenzene	4.495	4.141	4.766	5.032	5.021	3.746	2.919	2.363	4.0604	24.35
116)		naphthalene	1.276	1.073	1.175	1.109	1.172	0.940	0.844	0.726	1.0393	17.96
117)		1,2,3-trichlorobenzene	4.074	4.135	4.811	4.995	5.221	3.917	3.709	3.141	4.2503	16.62
118)		benzothiophene	7.697	7.827	9.294	6.056	6.620	7.669	7.428	6.451	7.3802	13.78
119)	C	hexachlorobutadiene	4.112	3.721	4.285	4.328	4.192	3.034	2.511	2.047	3.5287	25.13
120)		2-methylnaphthalene			1.907	1.328	1.635	1.405	2.359	2.691	1.8874	28.81
121)		1-methylnaphthalene			2.979	3.085	3.508	2.381	3.602	3.955	3.2517	17.09

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRPIANO3**	**Ical Ref**	**: ICAL16594**
Calibration dates	**: 03/12/20 12:25 03/12/20 17:00**		

Calibration Files
0.2 =r38592.D 0.5 =r38593.D 1.0 =r38594.D 5.0 =r38595.D 10 =r38596.D 20 =r38597.D 50 =r38598.D
100 =r38599.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
1)	I	bromochloromethane	----------ISTD----------									
2)		chlorodifluoromethane	0.888	0.848	0.845	0.777	0.753	0.755	0.647	0.582	0.7618	13.70
3)		propylene		0.525	0.516	0.473	0.445	0.444	0.401	0.371	0.4536	12.41
4)		propane		0.720	0.695	0.615	0.598	0.602	0.520	0.464	0.6021	14.94
5)		dichlorodifluoromethane	1.087	1.070	1.064	0.949	0.911	0.886	0.677	0.587	0.9039	20.56
6)	C	chloromethane	0.476	0.479	0.470	0.423	0.410	0.411	0.347	0.308	0.4153	14.95
7)		Freon-114	1.364	1.336	1.313	1.169	1.110	1.075	0.802	0.631	1.0997	23.94
8)	C	methanol			0.256	0.214	0.205	0.202	0.173	0.153	0.2005	17.72
9)	C	vinyl chloride	0.547	0.536	0.526	0.482	0.468	0.485	0.432	0.400	0.4844	10.58
10)	C	1,3-butadiene	0.545	0.542	0.537	0.494	0.479	0.492	0.426	0.372	0.4857	12.58
11)		butane	0.856	0.825	0.803	0.724	0.701	0.701	0.579	0.516	0.7132	16.64
12)	C	acetaldehyde		0.281	0.266	0.253	0.237	0.199	0.150	0.124	0.2159	27.85
13)	C	bromomethane	0.444	0.456	0.447	0.401	0.393	0.404	0.351	0.312	0.4011	12.43
14)	C	chloroethane	0.279	0.274	0.268	0.240	0.235	0.244	0.220	0.210	0.2464	10.20
15)		ethanol			0.481	0.434	0.409	0.470	0.299	0.245	0.3895	24.70
16)		dichlorofluoromethane	0.853	0.854	0.839	0.764	0.740	0.770	0.607	0.542	0.7461	15.51
17)	C	vinyl bromide	0.513	0.520	0.507	0.467	0.458	0.525	0.375	0.321	0.4606	16.30
18)	C	acrolein		0.283	0.273	0.248	0.247	0.275	0.231	0.214	0.2531	10.03
19)		acetone	0.781	0.741	0.717	0.700	0.669	0.768	0.444	0.370	0.6487	23.87
20)	C	acetonitrile	0.493	0.451	0.443	0.405	0.395	0.501	0.335	0.310	0.4165	16.57
21)		trichlorofluoromethane	0.807	0.791	0.790	0.715	0.691	0.866	0.534	0.448	0.7053	20.54
22)		isopropyl alcohol	0.992	0.914	0.869	0.865	0.832	1.001	0.627	0.537	0.8294	19.99
23)	C	acrylonitrile	0.488	0.473	0.480	0.450	0.444	0.513	0.408	0.368	0.4528	10.34
24)		pentane	0.974	0.948	0.925	0.843	1.012	1.063	1.082	0.768	0.9516	11.22
25)		ethyl ether	1.007	0.992	0.988	0.978	0.988	1.162	1.209	0.785	1.0136	12.67
26)	C	1,1-dichloroethene	0.694	0.713	0.697	0.631	0.615	0.732	0.652	0.576	0.6638	8.13
27)		tertiary butyl alcohol		1.045	1.026	0.938	1.019	1.048	0.979	0.905	0.9940	5.57
28)	C	methylene chloride		0.641	0.632	0.595	0.661	0.680	0.617	0.546	0.6245	7.10
29)	C	3-chloropropene	0.911	0.895	0.878	0.816	0.808	0.818	0.745	0.681	0.8191	9.50
30)	C	carbon disulfide	2.016	2.024	2.020	1.869	1.838	1.839	1.617	1.378	1.8250	12.42
31)		Freon 113	1.089	1.082	1.063	0.972	0.959	0.969	0.845	0.719	0.9623	13.26
32)		trans-1,2-dichloroethene	0.839	0.845	0.837	0.784	0.777	0.786	0.710	0.643	0.7776	9.01
33)	C	1,1-dichloroethane	1.010	1.020	0.991	0.910	0.896	0.909	0.829	0.761	0.9158	9.89
34)	C	MTBE	1.763	1.763	1.752	1.632	1.613	1.608	1.393	1.160	1.5855	13.31
35)	C	vinyl acetate			1.431	1.375	1.370	1.399	1.261	1.121	1.3260	8.72
36)	C	2-butanone		1.401	1.375	1.262	1.231	1.243	1.113	0.985	1.2301	11.74

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRPIANO3**	**Ical Ref**	**: ICAL16594**
Calibration dates	**: 03/12/20 12:25 03/12/20 17:00**		

Calibration Files
0.2 =r38592.D 0.5 =r38593.D 1.0 =r38594.D 5.0 =r38595.D 10 =r38596.D 20 =r38597.D 50 =r38598.D
100 =r38599.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
37)		cis-1,2-dichloroethene	0.741	0.730	0.723	0.667	0.660	0.679	0.612	0.556	0.6710	9.43
38)		Ethyl Acetate		0.217	0.225	0.201	0.199	0.208	0.196	0.191	0.2053	5.79
39)	C	chloroform	1.077	1.089	1.077	0.989	0.976	1.002	0.857	0.701	0.9710	13.67
40)		Tetrahydrofuran	0.846	0.834	0.824	0.769	0.760	0.773	0.708	0.642	0.7696	8.94
41)		2,2-dichloropropane	0.933	0.941	0.923	0.874	0.857	0.839	0.689	0.533	0.8237	17.29
42)	C	1,2-dichloroethane	0.593	0.619	0.599	0.553	0.541	0.544	0.459	0.379	0.5359	14.96
43)	I	1,4-difluorobenzene	----------ISTD----------									
44)	C	hexane	0.421	0.405	0.399	0.377	0.368	0.377	0.336	0.285	0.3709	11.68
45)		diisopropyl ether	0.239	0.230	0.226	0.213	0.209	0.216	0.196	0.164	0.2117	10.99
46)		tert-butyl ethyl ether	0.661	0.656	0.653	0.622	0.608	0.621	0.552	0.481	0.6068	10.18
47)	s	1,2-dichloroethane-D4	0.181	0.180	0.180	0.179	0.176	0.167	0.152	0.129	0.1681	11.17
48)	C	1,1,1-trichloroethane	0.323	0.321	0.321	0.294	0.286	0.287	0.239	0.192	0.2829	16.23
49)		1,1-dichloropropene	0.341	0.324	0.328	0.312	0.304	0.305	0.264	0.219	0.2996	13.29
50)	C	benzene	0.837	0.796	0.790	0.722	0.710	0.735	0.649	0.554	0.7241	12.51
51)		thiophene	1.698	1.684	1.679	1.565	1.528	1.542	1.244	0.919	1.4824	18.24
52)	C	carbon tetrachloride	0.299	0.302	0.304	0.280	0.276	0.273	0.213	0.153	0.2627	20.16
53)		cyclohexane	0.432	0.427	0.426	0.400	0.393	0.410	0.379	0.347	0.4018	7.14
54)		tert-amyl methyl ether	0.700	0.707	0.694	0.657	0.649	0.645	0.550	0.454	0.6320	13.87
55)		dibromomethane	0.221	0.210	0.202	0.189	0.184	0.181	0.157	0.134	0.1847	15.38
56)	C	1,2-dichloropropane	0.247	0.243	0.236	0.219	0.215	0.221	0.198	0.176	0.2194	10.90
57)		bromodichloromethane	0.430	0.426	0.421	0.400	0.394	0.399	0.344	0.277	0.3864	13.41
58)	C	1,4-dioxane	0.175	0.178	0.174	0.166	0.164	0.170	0.163	0.139	0.1661	7.24
59)	C	trichloroethene	0.295	0.295	0.292	0.270	0.267	0.273	0.247	0.221	0.2698	9.63
60)	C	2,2,4-trimethylpentane	1.329	1.281	1.286	1.211	1.182	1.186	1.061	0.907	1.1805	11.71
61)		methyl methacrylate		0.341	0.335	0.374	0.371	0.326	0.290	0.243	0.3256	14.18
62)		heptane	0.525	0.514	0.508	0.483	0.468	0.471	0.406	0.337	0.4639	13.66
63)	C	cis-1,3-dichloropropene	0.384	0.385	0.384	0.356	0.356	0.361	0.317	0.265	0.3511	11.80
64)	C	4-methyl-2-pentanone		0.578	0.579	0.555	0.542	0.544	0.470	0.393	0.5229	13.01
65)		trans-1,3-dichloropropene	0.350	0.350	0.353	0.338	0.336	0.342	0.296	0.246	0.3265	11.35
66)	C	1,1,2-trichloroethane	0.265	0.265	0.265	0.240	0.236	0.243	0.217	0.192	0.2403	10.87
67)	I	chlorobenzene-D5	----------ISTD----------									
68)	C	toluene	5.739	5.464	5.507	4.986	4.888	5.088	4.600	4.327	5.0748	9.44
69)	s	toluene-D8	4.773	4.761	4.751	4.774	4.737	4.659	4.701	4.988	4.7680	2.04
70)		2-methylthiophene	1.725	1.731	1.717	1.555	1.487	1.429	1.088	0.815	1.4435	23.01
71)		1,3-dichloropropane	2.786	2.746	2.737	2.576	2.542	2.556	2.217	1.882	2.5051	12.36
72)		2-hexanone	3.323	3.368	3.419	3.281	3.207	3.087	2.331	1.812	2.9786	19.66

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRPIANO3**	**Ical Ref**	**: ICAL16594**
Calibration dates	**: 03/12/20 12:25 03/12/20 17:00**		

Calibration Files
0.2 =r38592.D 0.5 =r38593.D 1.0 =r38594.D 5.0 =r38595.D 10 =r38596.D 20 =r38597.D 50 =r38598.D
100 =r38599.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
73)		3-methylthiophene	1.755	1.755	1.756	1.596	1.521	1.455	1.065	0.777	1.4599	24.64
74)		dibromochloromethane	2.297	2.290	2.305	2.230	2.252	2.287	2.022	1.836	2.1898	7.78
75)	C	1,2-dibromoethane	2.562	2.586	2.590	2.397	2.390	2.519	2.240	2.045	2.4163	7.99
76)		butyl acetate		0.776	0.796	0.776	0.789	0.817	0.748	0.679	0.7689	5.85
77)		octane	2.245	2.269	2.236	2.173	2.158	2.292	2.123	1.916	2.1767	5.52
78)	C	tetrachloroethene	2.428	2.443	2.454	2.229	2.193	2.323	2.024	1.746	2.2300	11.00
79)		1,1,1,2-tetrachloroethane	1.904	1.809	1.792	1.684	1.665	1.671	1.453	1.258	1.6545	12.60
80)	C	chlorobenzene	4.413	4.353	4.336	3.997	3.975	4.275	3.758	3.247	4.0444	9.77
81)	C	ethylbenzene	6.599	6.599	6.591	6.027	5.941	6.192	5.480	4.924	6.0440	9.93
82)		2-ethylthiophene	1.852	1.867	1.871	1.694	1.609	1.509	1.077	0.780	1.5323	26.28
83)	C	m+p-xylene	5.593	5.503	5.510	5.035	4.964	5.125	4.297	3.556	4.9478	14.17
84)	C	bromoform	1.962	2.098	2.106	2.123	2.184	2.259	1.966	1.634	2.0414	9.43
85)	C	styrene	4.497	4.551	4.593	4.421	4.457	4.720	4.254	3.833	4.4157	6.15
86)	C	1,1,2,2-tetrachloroethane	3.769	3.877	3.849	3.566	3.539	3.706	2.991	2.330	3.4534	15.46
87)	C	o-xylene	5.513	5.519	5.507	5.052	4.943	5.031	4.052	3.169	4.8483	17.20
88)		1,2,3-trichloropropane	3.127	3.108	3.119	2.994	2.975	2.987	2.634	2.300	2.9055	10.04
89)		nonane	4.566	4.572	4.541	4.290	4.194	4.196	3.516	2.934	4.1011	14.25
90)	s	bromofluorobenzene	2.995	3.011	3.013	3.128	3.257	2.963	3.194	3.626	3.1483	6.97
91)	C	isopropylbenzene	7.755	7.655	7.764	7.262	7.134	7.132	6.061	5.149	6.9890	13.24
92)		bromobenzene	3.934	4.018	4.020	3.904	3.933	3.975	3.404	2.856	3.7555	11.05
93)		2-chlorotoluene	2.070	2.038	2.045	1.973	1.964	2.013	1.876	1.734	1.9642	5.65
94)		n-propylbenzene	2.279	2.338	2.336	2.262	2.294	2.414	2.240	1.925	2.2610	6.46
95)		4-chlorotoluene	1.927	1.932	1.980	1.895	1.913	1.962	1.858	1.764	1.9042	3.57
96)		4-ethyl toluene	8.447	8.520	8.597	8.276	8.118	8.142	6.762	5.587	7.8060	13.69
97)		1,3,5-trimethylbenzene	7.007	7.125	7.091	6.562	6.446	6.588	5.469	4.504	6.3491	14.43
98)		tert-butylbenzene	6.736	6.910	7.008	6.641	6.608	6.315	4.756	3.689	6.0829	19.74
99)		1,2,4-trimethylbenzene	6.655	6.931	7.032	6.403	6.296	6.022	4.482	3.439	5.9074	21.61
100)		decane	4.940	5.048	5.154	5.023	4.941	4.905	4.128	3.486	4.7030	12.43
101)	C	Benzyl Chloride	3.286	3.812	4.151	4.548	4.867	4.883	4.119	3.388	4.1315	14.89
102)		1,3-dichlorobenzene	3.847	3.980	4.024	3.728	3.724	3.935	3.216	2.628	3.6353	13.20
103)	C	1,4-dichlorobenzene	3.402	3.517	3.644	3.652	3.738	3.697	3.215	2.793	3.4571	9.25
104)		sec-butylbenzene	0.953	0.981	1.000	0.963	0.945	0.916	0.743	0.611	0.8890	15.49
105)		1,2,3-trimethylbenzene	6.010	6.155	6.270	6.729	6.582	5.423	4.090	3.158	5.5520	23.01
106)		p-isopropyltoluene	7.956	8.223	8.289	8.194	8.188	7.632	5.719	4.344	7.3183	20.13
107)		1,2-dichlorobenzene	3.562	3.696	3.735	3.524	3.543	3.649	3.195	2.822	3.4658	8.90
108)		n-butylbenzene	6.158	6.444	6.729	6.740	6.657	6.362	5.366	4.570	6.1281	12.61

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRPIANO3**	**Ical Ref**	**: ICAL16594**
Calibration dates	**: 03/12/20 12:25 03/12/20 17:00**		

Calibration Files
0.2 =r38592.D 0.5 =r38593.D 1.0 =r38594.D 5.0 =r38595.D 10 =r38596.D 20 =r38597.D 50 =r38598.D
100 =r38599.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
109)		indan	5.628	5.890	6.005	6.647	6.680	6.074	5.186	4.406	5.8144	12.95
110)		indene	3.927	4.328	4.529	5.263	5.344	4.928	4.361	3.810	4.5613	12.57
111)	C	1,2-dibromo-3-chloropropane	1.413	1.450	1.611	1.727	1.746	1.545	1.286	1.097	1.4843	14.91
112)		undecane	5.162	5.405	5.559	5.672	5.595	5.298	4.420	3.659	5.0962	13.79
113)		1,2,4,5-tetramethylbenzene	5.285	5.484	5.585	6.474	7.060	6.038	5.169	4.387	5.6853	14.56
114)		dodecane	4.553	5.044	5.329	6.159	6.086	5.118	4.429	3.699	5.0520	16.46
115)	C	1,2,4-trichlorobenzene	1.385	1.742	2.159	2.347	2.574	2.409	2.425	2.248	2.1609	18.52
116)		naphthalene	5.197	5.488	6.234	7.316	7.786	6.602	6.569	6.076	6.4086	13.50
117)		1,2,3-trichlorobenzene	1.921	2.141	2.423	2.858	3.077	2.597	2.545	2.301	2.4830	15.08
118)		benzothiophene	2.323	2.883	3.863	3.602	4.121	4.629	5.005	4.999	3.9279	24.75
119)	C	hexachlorobutadiene	3.029	3.112	3.118	2.897	2.832	2.561	2.145	1.743	2.6796	18.66
120)		2-methylnaphthalene			0.670	0.851	1.061	1.160	1.404	1.579	1.1208	30.16#
121)		1-methylnaphthalene			2.328	2.406	2.669	2.710	2.911	3.001	2.6707	9.99

Response Factor Report

Method Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Method File : TFS19_200224.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Tue Feb 25 10:21:39 2020
Response Via : Initial Calibration

Calibration Files
0.2 =r192622.D 0.5 =r192623.D 1.0 =r192624.D 5.0 =r192625.D 10 =r192626.D 20 =r192627.D
50 =r192628.D 100 =r192629.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
1)	I	bromochloromethane	ISTD									
2)		chlorodifluoromethane	0.715	0.677	0.674	0.606	0.593	0.655	0.564	0.521	0.6257	10.44
3)		propylene		0.478	0.452	0.406	0.397	0.429	0.371	0.343	0.4107	11.32
4)		propane		0.535	0.517	0.440	0.420	0.452	0.396	0.359	0.4458	14.10
5)		dichlorodifluoromethane	0.645	0.653	0.572	0.558	0.522	0.578	0.510	0.446	0.5604	12.32
6)	C	chloromethane	0.379	0.394	0.384	0.369	0.329	0.388	0.329	0.296	0.3584	9.98
7)		Freon-114	0.992	0.957	0.915	0.871	0.814	0.830	0.686	0.588	0.8316	16.42
8)	C	methanol			0.207	0.162	0.153	0.163	0.149	0.138	0.1621	14.74
9)	C	vinyl chloride	0.511	0.500	0.492	0.442	0.411	0.430	0.401	0.371	0.4449	11.53
10)	C	1,3-butadiene	0.410	0.422	0.414	0.374	0.369	0.390	0.357	0.333	0.3836	8.07
11)		butane	0.759	0.710	0.679	0.614	0.581	0.608	0.560	0.519	0.6287	12.87
12)	C	acetaldehyde		0.222	0.209	0.205	0.187	0.178	0.147	0.128	0.1822	18.81
13)	C	bromomethane	0.397	0.399	0.403	0.348	0.341	0.337	0.311	0.280	0.3520	12.74
14)	C	chloroethane	0.252	0.262	0.248	0.233	0.220	0.226	0.220	0.205	0.2332	8.28
15)		ethanol			0.346	0.307	0.284	0.302	0.271	0.244	0.2922	11.87
16)		dichlorofluoromethane	0.695	0.698	0.696	0.612	0.592	0.590	0.549	0.509	0.6177	11.70
17)	C	vinyl bromide	0.430	0.438	0.410	0.376	0.367	0.364	0.342	0.317	0.3806	11.17
18)	C	acrolein		0.225	0.228	0.201	0.199	0.198	0.194	0.184	0.2043	8.03
19)		acetone	0.620	0.584	0.565	0.547	0.515	0.646	0.428	0.391	0.5370	16.60
20)	C	acetonitrile	0.438	0.406	0.390	0.396	0.386	0.384	0.370	0.349	0.3898	6.65
21)		trichlorofluoromethane	0.568	0.557	0.551	0.626	0.660	0.656	0.617	0.474	0.5887	10.70
22)		isopropyl alcohol	1.360	1.185	1.094	1.020	0.932	0.962	0.860	0.748	1.0202	18.84
23)	C	acrylonitrile	0.568	0.562	0.540	0.496	0.499	0.502	0.496	0.471	0.5169	6.82
24)		pentane	1.210	1.158	1.152	1.045	1.013	1.018	0.923	0.823	1.0427	12.41
25)		ethyl ether	1.015	1.006	0.993	0.905	0.880	0.872	0.802	0.708	0.8976	11.97
26)	C	1,1-dichloroethene	0.769	0.758	0.745	0.684	0.660	0.650	0.612	0.549	0.6785	11.32
27)		tertiary butyl alcohol		1.052	1.011	0.954	0.850	0.941	0.913	0.827	0.9353	8.64
28)	C	methylene chloride		0.751	0.726	0.654	0.644	0.652	0.612	0.557	0.6565	9.99
29)	C	3-chloropropene	0.873	0.859	0.846	0.782	0.765	0.773	0.744	0.687	0.7911	8.06
30)	C	carbon disulfide	2.084	2.108	2.068	1.853	1.808	1.750	1.588	1.339	1.8247	14.73
31)		Freon 113	1.114	1.102	1.078	0.975	0.937	0.913	0.827	0.712	0.9571	14.77

Response Factor Report

Method Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Method File : TFS19_200224.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Tue Feb 25 10:21:39 2020
Response Via : Initial Calibration

Calibration Files
0.2 =r192622.D 0.5 =r192623.D 1.0 =r192624.D 5.0 =r192625.D 10 =r192626.D 20 =r192627.D
50 =r192628.D 100 =r192629.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
32)		trans-1,2-dichloroethene	0.877	0.866	0.850	0.772	0.753	0.745	0.715	0.644	0.7778	10.48
33)	C	1,1-dichloroethane	1.040	1.049	1.020	0.946	0.923	0.911	0.884	0.808	0.9475	8.87
34)	C	MTBE	1.719	1.690	1.676	1.542	1.499	1.491	1.408	1.262	1.5360	10.20
35)	C	vinyl acetate			1.453	1.318	1.311	1.311	1.269	1.169	1.3050	7.01
36)	C	2-butanone		1.356	1.324	1.208	1.191	1.180	1.132	1.034	1.2036	9.13
37)		cis-1,2-dichloroethene	0.757	0.745	0.731	0.668	0.655	0.648	0.625	0.565	0.6741	9.79
38)		Ethyl Acetate	0.211	0.236	0.225	0.208	0.209	0.202	0.188	0.159	0.2048	11.52
39)	C	chloroform	0.935	0.954	0.941	0.841	0.810	0.795	0.752	0.663	0.8364	12.29
40)		Tetrahydrofuran	0.894	0.887	0.876	0.798	0.787	0.782	0.755	0.691	0.8088	8.87
41)		2,2-dichloropropane	0.783	0.773	0.766	0.702	0.681	0.660	0.629	0.557	0.6938	11.40
42)	C	1,2-dichloroethane	0.453	0.458	0.448	0.406	0.395	0.387	0.375	0.347	0.4086	9.93
43)	I	1,4-difluorobenzene	----------ISTD----------									
44)	C	hexane	0.434	0.423	0.421	0.379	0.364	0.358	0.304	0.249	0.3665	17.41
45)		diisopropyl ether	0.225	0.224	0.223	0.205	0.197	0.193	0.167	0.139	0.1966	15.55
46)		tert-butyl ethyl ether	0.649	0.645	0.643	0.586	0.568	0.560	0.499	0.437	0.5734	13.22
47)	s	1,2-dichloroethane-D4	0.128	0.129	0.129	0.130	0.128	0.130	0.121	0.114	0.1260	4.41
48)	C	1,1,1-trichloroethane	0.266	0.269	0.271	0.241	0.232	0.226	0.201	0.176	0.2353	14.60
49)		1,1-dichloropropene	0.334	0.319	0.315	0.292	0.281	0.281	0.250	0.218	0.2859	13.38
50)	C	benzene	0.831	0.819	0.808	0.736	0.713	0.708	0.630	0.542	0.7231	13.82
51)		thiophene	1.721	1.707	1.682	1.489	1.402	1.318	1.007	0.796	1.3902	24.47
52)	C	carbon tetrachloride	0.229	0.232	0.226	0.207	0.193	0.185	0.152	0.128	0.1939	19.61
53)		cyclohexane	0.462	0.446	0.444	0.406	0.399	0.394	0.349	0.308	0.4009	12.98
54)		tert-amyl methyl ether	0.675	0.695	0.694	0.635	0.616	0.613	0.544	0.474	0.6183	12.47
55)		dibromomethane	0.219	0.209	0.207	0.185	0.174	0.168	0.144	0.119	0.1782	19.25
56)	C	1,2-dichloropropane	0.263	0.262	0.261	0.236	0.230	0.226	0.200	0.172	0.2313	13.98
57)		bromodichloromethane	0.365	0.369	0.358	0.322	0.312	0.304	0.267	0.225	0.3153	16.03
58)	C	1,4-dioxane	0.186	0.180	0.186	0.168	0.158	0.165	0.146	0.120	0.1637	13.64
59)	C	trichloroethene	0.313	0.304	0.296	0.270	0.257	0.248	0.207	0.167	0.2577	19.58
60)	C	2,2,4-trimethylpentane	1.369	1.351	1.332	1.205	1.122	1.134	0.968	0.774	1.1569	17.89
61)		methyl methacrylate		0.329	0.323	0.335	0.325	0.292	0.260	0.227	0.2987	13.73
62)		heptane	0.518	0.501	0.511	0.463	0.446	0.441	0.377	0.320	0.4472	15.47

Response Factor Report

Method Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Method File : TFS19_200224.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Tue Feb 25 10:21:39 2020
Response Via : Initial Calibration

Calibration Files
0.2 =r192622.D 0.5 =r192623.D 1.0 =r192624.D 5.0 =r192625.D 10 =r192626.D 20 =r192627.D
50 =r192628.D 100 =r192629.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
63)	C	cis-1,3-dichloropropene	0.399	0.389	0.392	0.358	0.348	0.335	0.287	0.244	0.3441	15.84
64)	C	4-methyl-2-pentanone		0.553	0.563	0.521	0.497	0.484	0.409	0.341	0.4811	16.62
65)		trans-1,3-dichloropropene	0.333	0.339	0.343	0.320	0.314	0.306	0.277	0.244	0.3095	10.96
66)	C	1,1,2-trichloroethane	0.281	0.286	0.285	0.263	0.250	0.246	0.219	0.184	0.2518	14.16
67)	I	chlorobenzene-D5	ISTD									
68)	C	toluene	7.251	7.097	6.908	6.288	6.056	5.799	5.061	4.253	6.0893	17.10
69)	s	toluene-D8	5.794	5.784	5.787	5.851	5.936	5.981	6.085	6.004	5.9027	1.95
70)		2-methylthiophene	2.222	2.194	2.176	1.891	1.717	1.501	1.116	0.848	1.7081	30.39#
71)		1,3-dichloropropane	3.211	3.222	3.170	2.948	2.850	2.752	2.461	2.152	2.8457	13.48
72)		2-hexanone	3.992	3.827	3.924	3.682	3.572	3.478	3.124	2.706	3.5382	12.31
73)		3-methylthiophene	2.292	2.250	2.213	1.902	1.765	1.525	1.117	0.852	1.7396	31.02#
74)		dibromochloromethane	2.724	2.697	2.660	2.464	2.382	2.258	1.934	1.607	2.3405	16.96
75)	C	1,2-dibromoethane	3.145	3.223	3.137	2.904	2.824	2.726	2.399	2.041	2.8000	14.57
76)		butyl acetate		0.965	1.018	0.956	0.940	0.935	0.868	0.756	0.9196	9.21
77)		octane	3.017	2.813	2.829	2.598	2.516	2.431	2.149	1.814	2.5206	15.58
78)	C	tetrachloroethene	3.218	3.148	3.116	2.852	2.743	2.529	2.099	1.697	2.6754	20.26
79)		1,1,1,2-tetrachloroethane	2.074	1.984	2.030	1.849	1.751	1.643	1.350	1.089	1.7214	20.24
80)	C	chlorobenzene	5.657	5.656	5.583	5.130	4.898	4.661	3.945	3.183	4.8391	18.40
81)	C	ethylbenzene	8.473	8.419	8.319	7.736	7.477	6.938	6.072	4.993	7.3035	17.05
82)		2-ethylthiophene	2.313	2.340	2.275	1.950	1.750	1.474	1.069	0.800	1.7465	33.70#
83)	C	m+p-xylene	7.034	6.878	6.802	6.197	5.840	5.408	4.392	3.513	5.7578	21.97
84)	C	bromoform	3.045	3.008	3.108	2.833	2.638	2.433	2.019	1.592	2.5844	20.98
85)	C	styrene	6.332	6.369	6.384	5.835	5.656	5.437	4.675	3.892	5.5725	16.04
86)	C	1,1,2,2-tetrachloroethane	4.794	4.658	4.704	4.375	4.143	3.730	2.984	2.389	3.9723	22.14
87)	C	o-xylene	7.250	6.837	6.807	6.138	5.730	5.150	4.049	3.234	5.6491	25.21
88)		1,2,3-trichloropropane	3.710	3.760	3.683	3.481	3.343	3.233	2.878	2.454	3.3177	13.76
89)		nonane	5.554	5.402	5.359	4.893	4.682	4.399	3.696	3.125	4.6388	18.66
90)	s	bromofluorobenzene	3.720	3.685	3.661	3.725	3.775	3.858	4.064	4.015	3.8131	4.01
91)	C	isopropylbenzene	9.935	9.475	9.438	8.782	8.318	7.928	6.576	5.233	8.2108	19.55
92)		bromobenzene	5.167	5.069	4.994	4.650	4.503	4.341	3.671	3.027	4.4278	16.80
93)		2-chlorotoluene	2.556	2.663	2.714	2.480	2.410	2.208	1.738	1.441	2.2762	20.13

Response Factor Report

Method Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Method File : TFS19_200224.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Tue Feb 25 10:21:39 2020
Response Via : Initial Calibration

Calibration Files
0.2 =r192622.D 0.5 =r192623.D 1.0 =r192624.D 5.0 =r192625.D 10 =r192626.D 20 =r192627.D
50 =r192628.D 100 =r192629.D

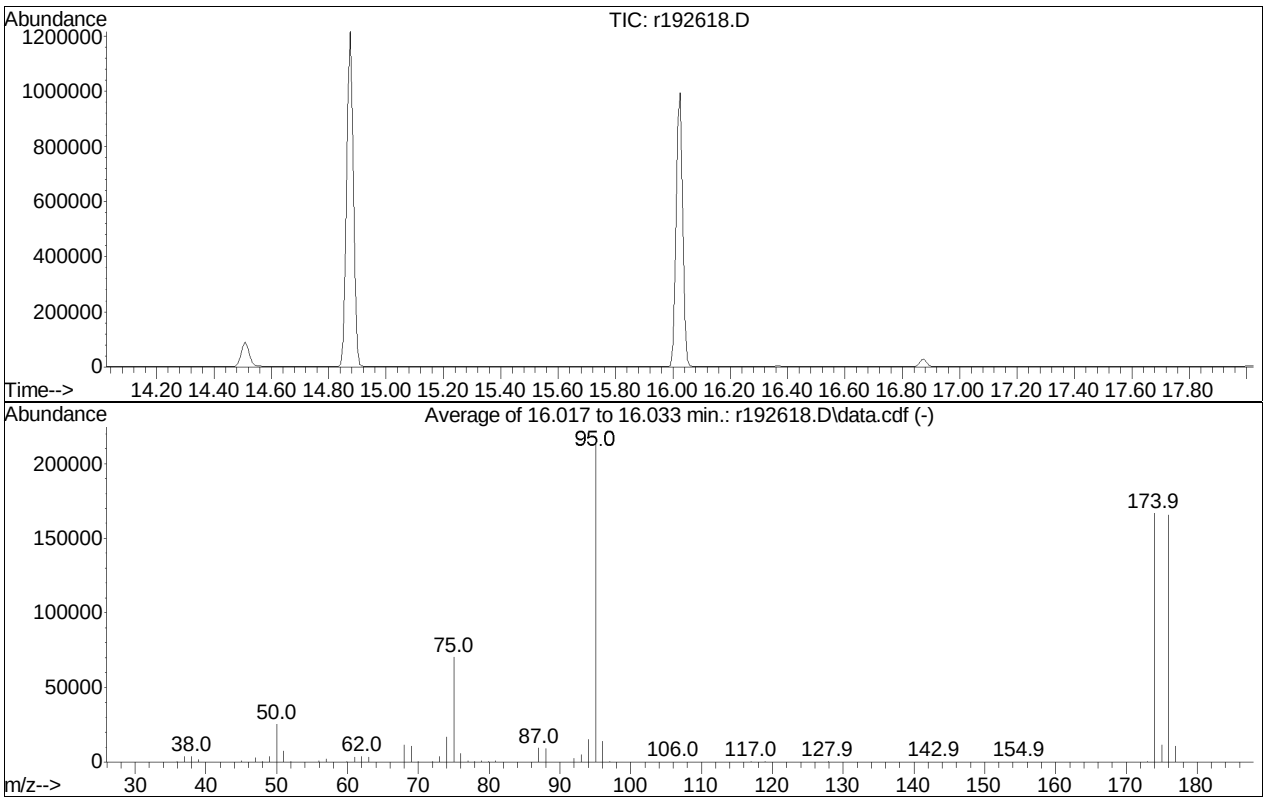
		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
94)		n-propylbenzene	3.167	3.133	3.168	3.002	2.877	2.621	2.157	1.767	2.7364	19.08
95)		4-chlorotoluene	2.489	2.618	2.554	2.473	2.362	2.252	2.014	1.672	2.3042	13.86
96)		4-ethyl toluene	1.122	1.096	1.110	1.040	1.004	0.921	0.734	0.626	0.9565	19.35
97)		1,3,5-trimethylbenzene	8.937	8.916	9.259	8.432	7.961	7.149	5.906	4.929	7.6862	20.42
98)		tert-butylbenzene	8.944	8.584	8.729	7.914	7.383	6.238	4.801	4.011	7.0754	26.48
99)		1,2,4-trimethylbenzene	8.683	8.754	8.947	8.079	7.519	6.291	4.728	3.914	7.1144	27.20
100)		decane	6.490	6.422	6.583	6.325	6.132	5.695	4.677	4.061	5.7980	16.18
101)	C	Benzyl Chloride	5.816	5.870	6.235	6.417	6.379	5.863	4.862	4.394	5.7295	12.74
102)		1,3-dichlorobenzene	5.436	5.406	5.713	5.474	5.239	4.728	3.715	3.269	4.8724	18.57
103)	C	1,4-dichlorobenzene	5.450	5.480	5.475	5.221	5.069	4.454	3.504	2.699	4.6689	22.41
104)		sec-butylbenzene	1.249	1.241	1.262	1.168	1.097	0.960	0.742	0.611	1.0413	23.86
105)		1,2,3-trimethylbenzene	8.026	7.956	8.247	8.247	7.777	6.206	4.818	4.214	6.9365	23.63
106)		p-isopropyltoluene	1.096	1.044	1.061	0.991	0.938	0.803	0.621	0.512	0.8833	24.61
107)		1,2-dichlorobenzene	5.038	5.123	5.207	5.164	4.998	4.490	3.635	3.306	4.6203	16.21
108)		n-butylbenzene	8.679	8.457	8.778	8.449	8.250	7.214	5.835	5.285	7.6183	17.92
109)		indan	7.790	7.898	8.062	8.549	8.141	6.775	5.387	4.698	7.1625	19.74
110)		indene	6.210	6.115	6.146	6.544	6.574	5.578	4.564	4.181	5.7392	15.73
111)	C	1,2-dibromo-3-chloropropane	2.058	1.884	1.946	1.928	1.912	1.662	1.424	1.392	1.7758	14.21
112)		undecane	7.224	6.610	7.022	7.042	7.033	6.157	4.949	4.325	6.2951	17.30
113)		1,2,4,5-tetramethylbenzene	8.509	7.911	8.361	8.400	8.206	6.761	5.551	4.883	7.3227	19.44
114)		dodecane	6.360	6.364	7.176	7.854	7.805	5.382	4.450	3.548	6.1173	25.50
115)	C	1,2,4-trichlorobenzene	4.495	4.141	4.766	5.032	5.021	3.746	2.919	2.363	4.0604	24.35
116)		naphthalene	1.276	1.073	1.175	1.109	1.172	0.940	0.844	0.726	1.0393	17.96
117)		1,2,3-trichlorobenzene	4.074	4.135	4.811	4.995	5.221	3.917	3.709	3.141	4.2503	16.62
118)		benzothiophene	7.697	7.827	9.294	6.056	6.620	7.669	7.428	6.451	7.3802	13.78
119)	C	hexachlorobutadiene	4.112	3.721	4.285	4.328	4.192	3.034	2.511	2.047	3.5287	25.13
120)		2-methylnaphthalene			1.907	1.328	1.635	1.405	2.359	2.691	1.8874	28.81
121)		1-methylnaphthalene			2.979	3.085	3.508	2.381	3.602	3.955	3.2517	17.09

(#) = Out of Range

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192618.D
Acq On : 25 Feb 2020 12:05 AM
Operator : AIRLAB19:RY
Sample : WG1344146-1,3,250,250
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Integration File: rteint.p

Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Tue Feb 25 10:21:39 2020



Spectrum Information: Average of 16.017 to 16.033 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	11.8	25292	PASS
75	95	30	66	33.0	70626	PASS
95	95	100	100	100.0	214080	PASS
96	95	5	9	6.5	13900	PASS
173	174	0.00	2	0.5	791	PASS
174	95	50	120	78.0	166925	PASS
175	174	4	9	7.0	11666	PASS
176	174	93	101	99.3	165677	PASS
177	176	5	9	6.5	10782	PASS

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192622.D
Acq On : 25 Feb 2020 2:44 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:09:36 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.78	49	309515	10.000	ppbV	0.00
Standard Area = 313159			Recovery = 98.84%			
43) 1,4-difluorobenzene	10.75	114	878467	10.000	ppbV	0.00
Standard Area = 892162			Recovery = 98.46%			
67) chlorobenzene-D5	14.88	54	115566	10.000	ppbV	0.00
Standard Area = 115842			Recovery = 99.76%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	9.55	65	112007	9.996	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.96%			
69) toluene-D8	13.28	98	669639	9.762	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 97.62%			
90) bromofluorobenzene	16.02	95	429960	9.854	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.54%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.44	51	4426	0.241	ppbV	98
3) propylene	3.48	41	3215M6	0.262	ppbV	
4) propane	3.50	29	4015M4	0.309	ppbV	
5) dichlorodifluoromethane	3.56	85	3992	0.247	ppbV	99
6) chloromethane	3.78	50	2344	0.230	ppbV	100
7) Freon-114	3.92	85	6139	0.244	ppbV	99
8) methanol	3.98	31	7067	1.493	ppbV #	1
9) vinyl chloride	4.07	62	3163	0.248	ppbV	99
10) 1,3-butadiene	4.24	54	2536	0.222	ppbV	94
11) butane	4.31	43	4699	0.261	ppbV	94
12) acetaldehyde	3.93	29	7510	1.299	ppbV	97
13) bromomethane	4.57	94	2460	0.233	ppbV	98
14) chloroethane	4.79	64	1561	0.229	ppbV	93
15) ethanol	4.93	31	12171	1.385	ppbV	98
16) dichlorofluoromethane	4.92	67	4302	0.235	ppbV	97
17) vinyl bromide	5.21	106	2661	0.234	ppbV	94
18) acrolein	5.34	56	1547	0.251	ppbV #	41
19) acetone	5.50	43	19196	1.204	ppbV #	99
20) acetonitrile	5.19	41	2711	0.227	ppbV #	42
21) trichlorofluoromethane	5.69	101	3518	0.172	ppbV	99
22) isopropyl alcohol	5.78	45	21042	0.729	ppbV	99
23) acrylonitrile	6.02	53	3517	0.228	ppbV	98
24) pentane	6.10	43	7489	0.239	ppbV	98

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192622.D
Acq On : 25 Feb 2020 2:44 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:09:36 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
25) ethyl ether	6.12	31	6285	0.231	ppbV		97
26) 1,1-dichloroethene	6.40	61	4760	0.233	ppbV		96
27) tertiary butyl alcohol	6.45	59	6643	0.253	ppbV	#	91
28) methylene chloride	6.53	49	4943	0.248	ppbV		99
29) 3-chloropropene	6.67	41	5405	0.228	ppbV		98
30) carbon disulfide	6.85	76	12903	0.231	ppbV	#	78
31) Freon 113	6.82	101	6893	0.238	ppbV		98
32) trans-1,2-dichloroethene	7.53	61	5430	0.233	ppbV		100
33) 1,1-dichloroethane	7.74	63	6436	0.225	ppbV		99
34) MTBE	7.81	73	10641	0.229	ppbV		98
35) vinyl acetate	7.90	43	9283	0.229	ppbV		98
36) 2-butanone	8.16	43	8400	0.228	ppbV		95
37) cis-1,2-dichloroethene	8.61	61	4683	0.231	ppbV		99
38) Ethyl Acetate	8.83	61	1309	0.203	ppbV		96
39) chloroform	8.91	83	5786	0.231	ppbV		97
40) Tetrahydrofuran	9.34	42	5537	0.227	ppbV		94
41) 2,2-dichloropropane	8.94	77	4848	0.230	ppbV		98
42) 1,2-dichloroethane	9.67	62	2807	0.229	ppbV		97
44) hexane	8.82	57	7623	0.238	ppbV	#	69
45) diisopropyl ether	8.81	87	3961	0.229	ppbV		88
46) tert-butyl ethyl ether	9.36	59	11401	0.228	ppbV		97
48) 1,1,1-trichloroethane	9.93	97	4680	0.229	ppbV		98
49) 1,1-dichloropropene	10.25	75	5860	0.238	ppbV		96
50) benzene	10.40	78	14594	0.233	ppbV		100
51) thiophene	10.54	84	30234	0.246	ppbV		99
52) carbon tetrachloride	10.56	117	4029	0.238	ppbV		93
53) cyclohexane	10.69	56	8120	0.232	ppbV		98
54) tert-amyl methyl ether	11.00	73	11863	0.219	ppbV		99
55) dibromomethane	11.22	93	3841	0.251	ppbV		98
56) 1,2-dichloropropane	11.25	63	4627	0.229	ppbV		99
57) bromodichloromethane	11.45	83	6407	0.234	ppbV		98
58) 1,4-dioxane	11.50	88	3262	0.234	ppbV	#	78
59) trichloroethene	11.49	130	5496	0.243	ppbV		97
60) 2,2,4-trimethylpentane	11.52	57	24044	0.244	ppbV		99
61) methyl methacrylate	11.67	41	5600	0.196	ppbV		100
62) heptane	11.78	43	9109	0.233	ppbV		97
63) cis-1,3-dichloropropene	12.40	75	7009	0.229	ppbV		98
64) 4-methyl-2-pentanone	12.43	43	10003	0.229	ppbV		96
65) trans-1,3-dichloropropene	12.93	75	5858	0.213	ppbV		94
66) 1,1,2-trichloroethane	13.10	97	4931	0.224	ppbV		98

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192622.D
Acq On : 25 Feb 2020 2:44 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:09:36 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) toluene	13.37	91	16760	0.239	ppbV		99
70) 2-methylthiophene	13.43	97	51352	0.259	ppbV		99
71) 1,3-dichloropropane	13.38	76	7422	0.225	ppbV		98
72) 2-hexanone	13.60	43	9226	0.223	ppbV	#	78
73) 3-methylthiophene	13.59	97	52982	0.260	ppbV		99
74) dibromochloromethane	13.76	129	6295	0.229	ppbV		98
75) 1,2-dibromoethane	13.98	107	7270	0.223	ppbV		98
76) butyl acetate	14.13	73	2439	0.225	ppbV		88
77) octane	14.21	85	6974	0.240	ppbV		97
78) tetrachloroethene	14.36	166	7438	0.235	ppbV		97
79) 1,1,1,2-tetrachloroethane	14.89	131	4794	0.237	ppbV		96
80) chlorobenzene	14.91	112	13076	0.231	ppbV		98
81) ethylbenzene	15.19	91	19584	0.227	ppbV		100
82) 2-ethylthiophene	15.23	97	53459	0.264	ppbV		97
83) m+p-xylene	15.32	91	32515	0.482	ppbV		100
84) bromoform	15.41	173	7037	0.231	ppbV		97
85) styrene	15.60	104	14635	0.224	ppbV		99
86) 1,1,2,2-tetrachloroethane	15.68	83	11081	0.231	ppbV		99
87) o-xylene	15.68	91	16757	0.253	ppbV		98
88) 1,2,3-trichloropropane	15.78	75	8575	0.222	ppbV		98
89) nonane	15.82	43	12838	0.237	ppbV		99
91) isopropylbenzene	16.12	105	22964	0.239	ppbV		96
92) bromobenzene	16.21	77	11942	0.229	ppbV		95
93) 2-chlorotoluene	16.50	126	5907	0.212	ppbV		94
94) n-propylbenzene	16.51	120	7321	0.220	ppbV		83
95) 4-chlorotoluene	16.55	126	5752	0.211	ppbV		96
96) 4-ethyl toluene	16.62	105	25926	0.223	ppbV		98
97) 1,3,5-trimethylbenzene	16.68	105	20657	0.225	ppbV		98
98) tert-butylbenzene	16.99	119	20673	0.242	ppbV		99
99) 1,2,4-trimethylbenzene	16.99	105	20069	0.231	ppbV		98
100) decane	17.03	57	15001	0.212	ppbV		97
101) Benzyl Chloride	17.11	91	13442	0.182	ppbV		99
102) 1,3-dichlorobenzene	17.13	146	12564	0.208	ppbV		99
103) 1,4-dichlorobenzene	17.18	146	12596	0.215	ppbV		99
104) sec-butylbenzene	17.19	105	28879	0.228	ppbV		100
105) 1,2,3-trimethylbenzene	17.32	105	18551	0.206	ppbV		96
106) p-isopropyltoluene	17.31	119	25332	0.234	ppbV		99
107) 1,2-dichlorobenzene	17.44	146	11645	0.202	ppbV		99
108) n-butylbenzene	17.63	91	20061	0.210	ppbV		99
109) indan	17.48	117	18006	0.191	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192622.D
Acq On : 25 Feb 2020 2:44 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:09:36 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	17.56	115	14353	0.189	ppbV	98
111) 1,2-dibromo-3-chloropr...	17.80	75	4757	0.215	ppbV	90
112) undecane	17.99	57	16696	0.205	ppbV	96
113) 1,2,4,5-tetramethylben...	18.23	119	19668	0.207	ppbV	99
114) dodecane	18.84	57	14701	0.163	ppbV	93
115) 1,2,4-trichlorobenzene	18.83	180	10389	0.179	ppbV	98
116) naphthalene	18.94	128	29490	0.218	ppbV	98
117) 1,2,3-trichlorobenzene	19.18	180	9417	0.156	ppbV	98
118) benzothiophene	19.00	134	17791	0.233	ppbV	100
119) hexachlorobutadiene	19.22	225	9504	0.196	ppbV	99
120) 2-methylnaphthalene	19.94	142	1977	0.105	ppbV	93
121) 1-methylnaphthalene	20.12	142	3544	0.087	ppbV #	94

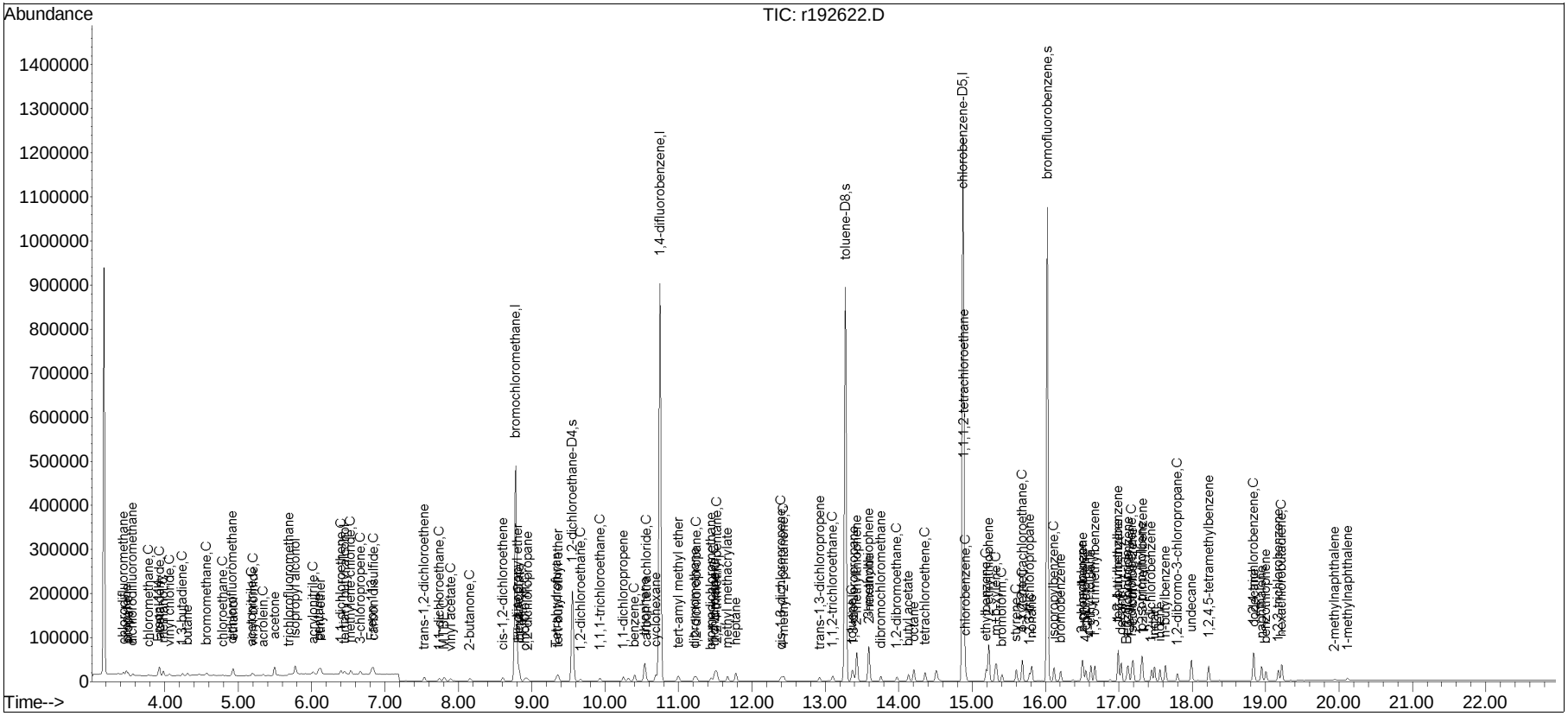
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192622.D
Acq On : 25 Feb 2020 2:44 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:09:36 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

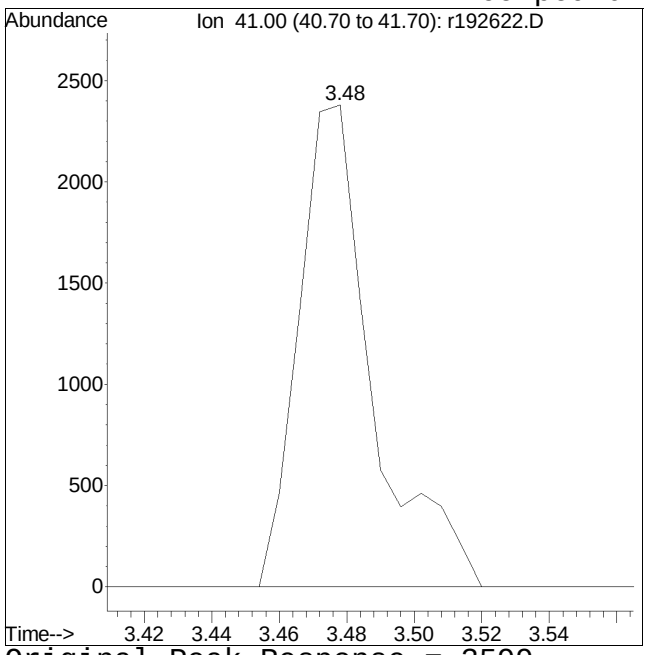
Sub List : Default - All compounds listed0\02\200224T_I\r192626.D



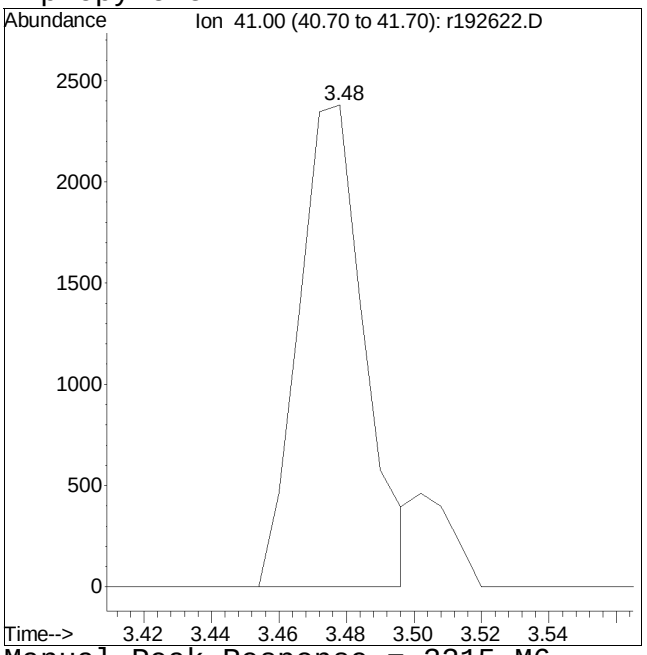
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192622.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:2: 4 Instrument :
Sample : ITO15-SIMSTD0.2 Quant Date : 2/25/2020 8:57 am

Compound #3: propylene



Original Peak Response = 3599



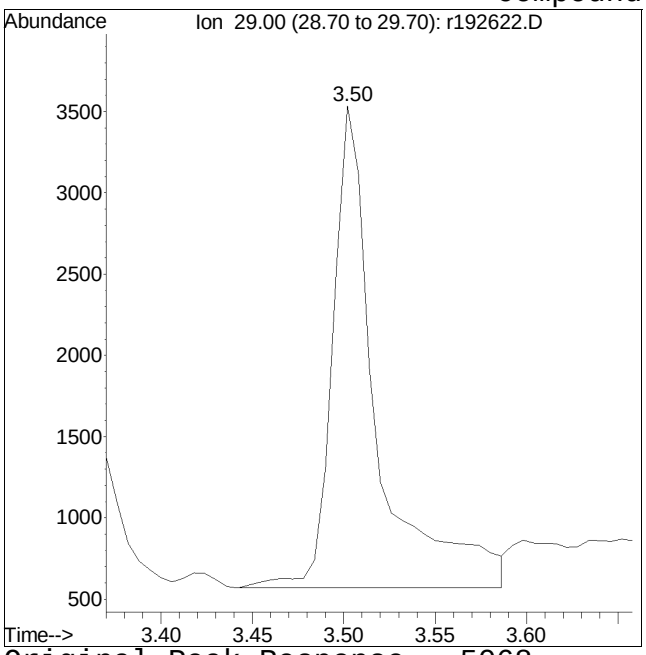
Manual Peak Response = 3215 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

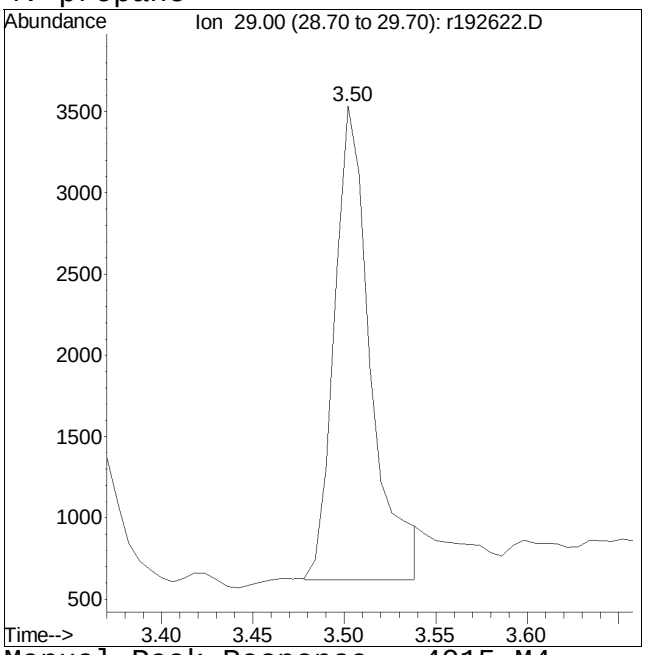
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192622.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:2: 4 Instrument :
Sample : ITO15-SIMSTD0.2 Quant Date : 2/25/2020 8:57 am

Compound #4: propane



Original Peak Response = 5068



Manual Peak Response = 4015 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192623.D
Acq On : 25 Feb 2020 3:24 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:11:31 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.78	49	329018	10.000	ppbV	0.00
Standard Area = 313159			Recovery = 105.06%			
43) 1,4-difluorobenzene	10.75	114	933900	10.000	ppbV	0.00
Standard Area = 892162			Recovery = 104.68%			
67) chlorobenzene-D5	14.88	54	122856	10.000	ppbV	0.00
Standard Area = 115842			Recovery = 106.05%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	9.56	65	120460	10.112	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.12%			
69) toluene-D8	13.28	98	710576	9.744	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 97.44%			
90) bromofluorobenzene	16.02	95	452704	9.760	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 97.60%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.44	51	11133	0.570	ppbV	99
3) propylene	3.48	41	7863M6	0.603	ppbV	
4) propane	3.50	29	8802	0.636	ppbV	96
5) dichlorodifluoromethane	3.57	85	10745	0.626	ppbV	97
6) chloromethane	3.78	50	6479	0.599	ppbV	99
7) Freon-114	3.92	85	15736	0.588	ppbV	99
8) methanol	3.98	31	17077	3.395	ppbV #	35
9) vinyl chloride	4.07	62	8232	0.608	ppbV	99
10) 1,3-butadiene	4.24	54	6940	0.572	ppbV	98
11) butane	4.31	43	11686	0.612	ppbV	99
12) acetaldehyde	3.93	29	18223	2.964	ppbV	98
13) bromomethane	4.58	94	6557	0.585	ppbV	97
14) chloroethane	4.79	64	4315	0.595	ppbV	97
15) ethanol	4.94	31	29796	3.191	ppbV	100
16) dichlorofluoromethane	4.92	67	11485	0.590	ppbV	97
17) vinyl bromide	5.21	106	7212	0.597	ppbV	96
18) acrolein	5.34	56	3706	0.565	ppbV #	76
19) acetone	5.50	43	48049	2.834	ppbV	97
20) acetonitrile	5.19	41	6675	0.526	ppbV	86
21) trichlorofluoromethane	5.70	101	9160	0.422	ppbV	99
22) isopropyl alcohol	5.78	45	48718	1.588	ppbV	99
23) acrylonitrile	6.02	53	9246	0.563	ppbV	96
24) pentane	6.10	43	19056	0.572	ppbV	99

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192623.D
Acq On : 25 Feb 2020 3:24 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:11:31 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
25) ethyl ether	6.13	31	16545	0.571	ppbV		96
26) 1,1-dichloroethene	6.40	61	12473	0.574	ppbV		98
27) tertiary butyl alcohol	6.44	59	17307	0.619	ppbV		96
28) methylene chloride	6.54	49	12349	0.582	ppbV		100
29) 3-chloropropene	6.67	41	14131	0.561	ppbV		99
30) carbon disulfide	6.85	76	34672	0.583	ppbV	#	92
31) Freon 113	6.83	101	18126	0.588	ppbV		99
32) trans-1,2-dichloroethene	7.54	61	14247	0.575	ppbV		99
33) 1,1-dichloroethane	7.75	63	17259	0.569	ppbV		99
34) MTBE	7.80	73	27805	0.564	ppbV		99
35) vinyl acetate	7.89	43	24338	0.564	ppbV		98
36) 2-butanone	8.15	43	22310	0.569	ppbV		100
37) cis-1,2-dichloroethene	8.61	61	12248	0.569	ppbV		98
38) Ethyl Acetate	8.82	61	3885	0.566	ppbV		87
39) chloroform	8.91	83	15699	0.589	ppbV		97
40) Tetrahydrofuran	9.33	42	14591	0.564	ppbV		97
41) 2,2-dichloropropane	8.94	77	12720	0.568	ppbV		99
42) 1,2-dichloroethane	9.67	62	7529	0.579	ppbV		97
44) hexane	8.82	57	19733	0.581	ppbV	#	57
45) diisopropyl ether	8.81	87	10474	0.571	ppbV		98
46) tert-butyl ethyl ether	9.36	59	30135	0.568	ppbV		99
48) 1,1,1-trichloroethane	9.93	97	12558	0.579	ppbV		98
49) 1,1-dichloropropene	10.25	75	14889	0.568	ppbV		98
50) benzene	10.40	78	38222	0.574	ppbV		99
51) thiophene	10.54	84	79711	0.609	ppbV		99
52) carbon tetrachloride	10.56	117	10816	0.600	ppbV		99
53) cyclohexane	10.69	56	20806	0.559	ppbV		99
54) tert-amyl methyl ether	10.99	73	32455	0.564	ppbV		99
55) dibromomethane	11.22	93	9773	0.600	ppbV		99
56) 1,2-dichloropropane	11.25	63	12215	0.569	ppbV		98
57) bromodichloromethane	11.45	83	17240	0.593	ppbV		98
58) 1,4-dioxane	11.49	88	8425	0.570	ppbV		86
59) trichloroethene	11.49	130	14210	0.592	ppbV		98
60) 2,2,4-trimethylpentane	11.52	57	63101	0.602	ppbV		100
61) methyl methacrylate	11.67	41	15368	0.506	ppbV		98
62) heptane	11.78	43	23400	0.562	ppbV		98
63) cis-1,3-dichloropropene	12.40	75	18167	0.560	ppbV		98
64) 4-methyl-2-pentanone	12.43	43	25836	0.557	ppbV		100
65) trans-1,3-dichloropropene	12.93	75	15826	0.540	ppbV		96
66) 1,1,2-trichloroethane	13.10	97	13369	0.572	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192623.D
Acq On : 25 Feb 2020 3:24 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:11:31 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) toluene	13.37	91	43597	0.586	ppbV		98
70) 2-methylthiophene	13.43	97	134783	0.639	ppbV		99
71) 1,3-dichloropropane	13.38	76	19791	0.565	ppbV		100
72) 2-hexanone	13.59	43	23509	0.536	ppbV	#	79
73) 3-methylthiophene	13.59	97	138200	0.637	ppbV		100
74) dibromochloromethane	13.76	129	16565	0.566	ppbV		99
75) 1,2-dibromoethane	13.98	107	19799	0.571	ppbV		98
76) butyl acetate	14.13	73	5927	0.513	ppbV		97
77) octane	14.21	85	17277	0.559	ppbV		97
78) tetrachloroethene	14.36	166	19338	0.574	ppbV		99
79) 1,1,1,2-tetrachloroethane	14.89	131	12186	0.566	ppbV		97
80) chlorobenzene	14.91	112	34742	0.577	ppbV		99
81) ethylbenzene	15.19	91	51718	0.563	ppbV		100
82) 2-ethylthiophene	15.23	97	143768	0.669	ppbV		96
83) m+p-xylene	15.32	91	84500	1.178	ppbV		100
84) bromoform	15.41	173	18476	0.570	ppbV		98
85) styrene	15.60	104	39126	0.563	ppbV		99
86) 1,1,2,2-tetrachloroethane	15.68	83	28616	0.562	ppbV		98
87) o-xylene	15.68	91	41996	0.597	ppbV		99
88) 1,2,3-trichloropropane	15.78	75	23099	0.562	ppbV		98
89) nonane	15.82	43	33185	0.577	ppbV		99
91) isopropylbenzene	16.12	105	58202	0.570	ppbV		99
92) bromobenzene	16.21	77	31135	0.563	ppbV		92
93) 2-chlorotoluene	16.49	126	16356	0.552	ppbV	#	53
94) n-propylbenzene	16.51	120	19247	0.545	ppbV		98
95) 4-chlorotoluene	16.54	126	16080	0.554	ppbV		97
96) 4-ethyl toluene	16.62	105	67338	0.546	ppbV		99
97) 1,3,5-trimethylbenzene	16.67	105	54769	0.560	ppbV		99
98) tert-butylbenzene	16.99	119	52729	0.581	ppbV		98
99) 1,2,4-trimethylbenzene	16.99	105	53776	0.582	ppbV		98
100) decane	17.03	57	39446	0.524	ppbV		96
101) Benzyl Chloride	17.11	91	36058	0.460	ppbV		99
102) 1,3-dichlorobenzene	17.13	146	33205	0.516	ppbV		99
103) 1,4-dichlorobenzene	17.18	146	33663	0.541	ppbV		99
104) sec-butylbenzene	17.19	105	76251	0.566	ppbV		98
105) 1,2,3-trimethylbenzene	17.32	105	48874	0.512	ppbV		95
106) p-isopropyltoluene	17.31	119	64149	0.557	ppbV		100
107) 1,2-dichlorobenzene	17.44	146	31471	0.513	ppbV		99
108) n-butylbenzene	17.63	91	51947	0.513	ppbV		99
109) indan	17.48	117	48515	0.485	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192623.D
Acq On : 25 Feb 2020 3:24 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:11:31 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	17.56	115	37563	0.465	ppbV	99
111) 1,2-dibromo-3-chloropr...	17.80	75	11573	0.493	ppbV	90
112) undecane	17.99	57	40604	0.470	ppbV	98
113) 1,2,4,5-tetramethylben...	18.23	119	48596	0.482	ppbV	97
114) dodecane	18.84	57	39090	0.408	ppbV	93
115) 1,2,4-trichlorobenzene	18.83	180	25436	0.412	ppbV	96
116) naphthalene	18.94	128	65927	0.458	ppbV	100
117) 1,2,3-trichlorobenzene	19.18	180	25399	0.396	ppbV	98
118) benzothiophene	19.01	134	48081	0.591	ppbV	99
119) hexachlorobutadiene	19.22	225	22857	0.444	ppbV	100
120) 2-methylnaphthalene	19.94	142	8213	0.409	ppbV	95
121) 1-methylnaphthalene	20.12	142	13615	0.316	ppbV	98

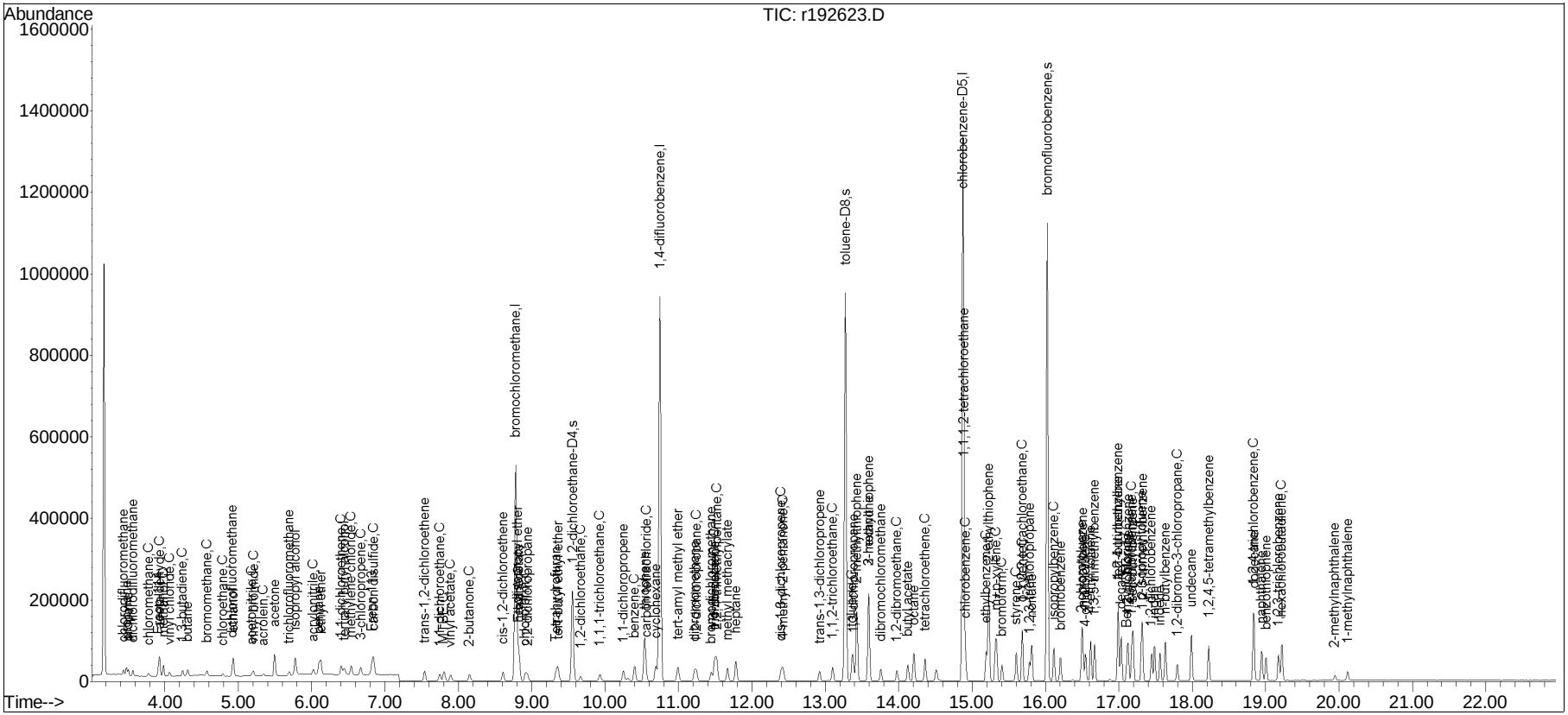
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192623.D
Acq On : 25 Feb 2020 3:24 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:11:31 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

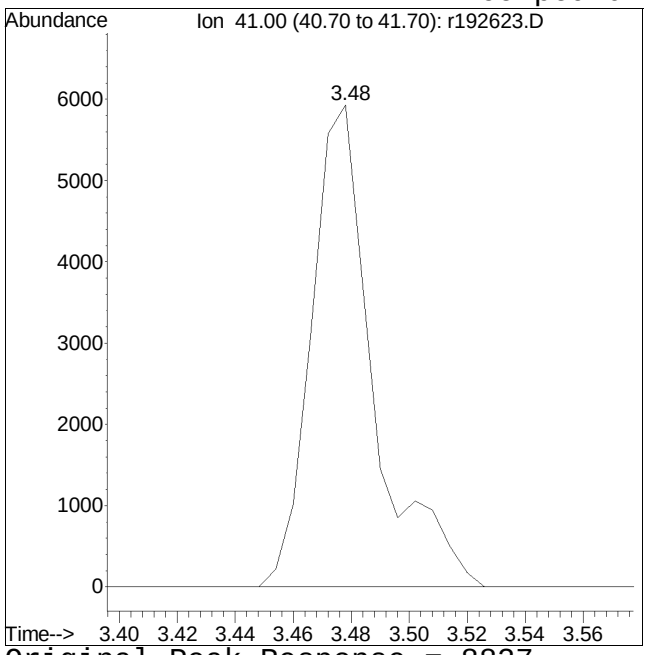
Sub List : Default - All compounds listed0\02\200224T_I\r192626.D



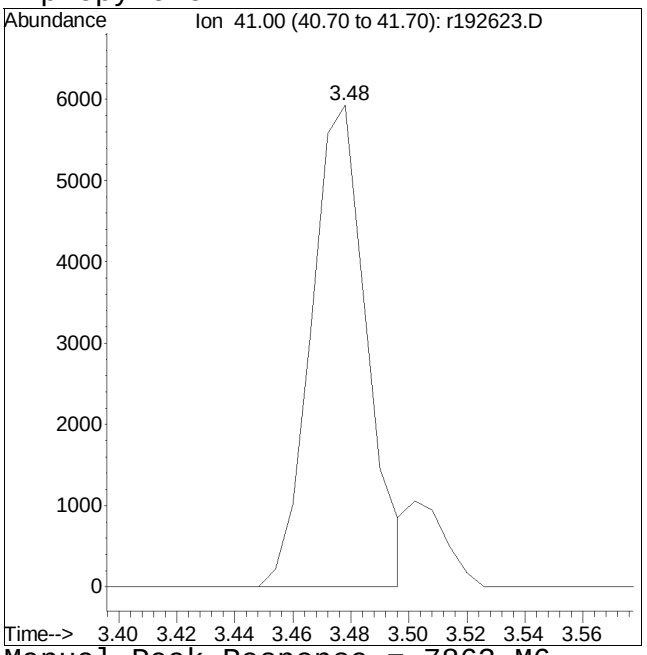
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192623.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:3: 4 Instrument :
Sample : ITO15-SIMSTD0.5 Quant Date : 2/25/2020 8:57 am

Compound #3: propylene



Original Peak Response = 8827



Manual Peak Response = 7863 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192624.D
Acq On : 25 Feb 2020 4:06 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:13:28 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.78	49	313016	10.000	ppbV	0.00
Standard Area = 313159			Recovery = 99.95%			
43) 1,4-difluorobenzene	10.75	114	883036	10.000	ppbV	0.00
Standard Area = 892162			Recovery = 98.98%			
67) chlorobenzene-D5	14.88	54	116619	10.000	ppbV	0.00
Standard Area = 115842			Recovery = 100.67%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	9.56	65	114160	10.135	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.35%			
69) toluene-D8	13.28	98	674831	9.749	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 97.49%			
90) bromofluorobenzene	16.02	95	426954	9.697	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 96.97%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.44	51	21101	1.136	ppbV	99
3) propylene	3.48	41	14142M6	1.139	ppbV	
4) propane	3.50	29	16195M4	1.231	ppbV	
5) dichlorodifluoromethane	3.57	85	17911	1.096	ppbV	99
6) chloromethane	3.78	50	12035	1.170	ppbV	97
7) Freon-114	3.92	85	28644	1.124	ppbV	100
8) methanol	3.98	31	32393	6.768	ppbV #	66
9) vinyl chloride	4.07	62	15407	1.196	ppbV	99
10) 1,3-butadiene	4.25	54	12968	1.123	ppbV	99
11) butane	4.31	43	21239	1.169	ppbV	99
12) acetaldehyde	3.93	29	32703	5.591	ppbV	97
13) bromomethane	4.58	94	12621	1.184	ppbV	100
14) chloroethane	4.79	64	7749	1.123	ppbV	100
15) ethanol	4.93	31	54097	6.089	ppbV	100
16) dichlorofluoromethane	4.92	67	21792	1.177	ppbV	100
17) vinyl bromide	5.21	106	12848	1.117	ppbV	98
18) acrolein	5.34	56	7148	1.146	ppbV #	88
19) acetone	5.49	43	88422	5.482	ppbV	99
20) acetonitrile	5.19	41	12215	1.011	ppbV	87
21) trichlorofluoromethane	5.69	101	17251	0.835	ppbV	96
22) isopropyl alcohol	5.77	45	85639	2.934	ppbV	99
23) acrylonitrile	6.02	53	16910	1.082	ppbV	99
24) pentane	6.10	43	36047	1.137	ppbV	99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192624.D
Acq On : 25 Feb 2020 4:06 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:13:28 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) ethyl ether	6.12	31	31083	1.128	ppbV	99
26) 1,1-dichloroethene	6.40	61	23320	1.128	ppbV	99
27) tertiary butyl alcohol	6.43	59	31635	1.190	ppbV	98
28) methylene chloride	6.54	49	22712	1.126	ppbV	100
29) 3-chloropropene	6.67	41	26484	1.106	ppbV	99
30) carbon disulfide	6.85	76	64739	1.144	ppbV	97
31) Freon 113	6.82	101	33746	1.151	ppbV	99
32) trans-1,2-dichloroethene	7.53	61	26618	1.129	ppbV	99
33) 1,1-dichloroethane	7.74	63	31912	1.105	ppbV	99
34) MTBE	7.80	73	52476	1.119	ppbV	99
35) vinyl acetate	7.89	43	45474	1.108	ppbV	100
36) 2-butanone	8.14	43	41458	1.112	ppbV	98
37) cis-1,2-dichloroethene	8.61	61	22891	1.117	ppbV	98
38) Ethyl Acetate	8.82	61	7050	1.079	ppbV	89
39) chloroform	8.91	83	29453	1.161	ppbV	97
40) Tetrahydrofuran	9.32	42	27428	1.114	ppbV	96
41) 2,2-dichloropropane	8.94	77	23968	1.124	ppbV	98
42) 1,2-dichloroethane	9.67	62	14020	1.133	ppbV	98
44) hexane	8.82	57	37205	1.158	ppbV #	60
45) diisopropyl ether	8.81	87	19681	1.134	ppbV	98
46) tert-butyl ethyl ether	9.35	59	56737	1.130	ppbV	99
48) 1,1,1-trichloroethane	9.93	97	23972	1.169	ppbV	100
49) 1,1-dichloropropene	10.25	75	27785	1.121	ppbV	98
50) benzene	10.40	78	71330	1.134	ppbV	100
51) thiophene	10.54	84	148522	1.200	ppbV	99
52) carbon tetrachloride	10.56	117	19977	1.172	ppbV	98
53) cyclohexane	10.69	56	39191	1.114	ppbV	98
54) tert-amyl methyl ether	10.99	73	61275	1.126	ppbV	99
55) dibromomethane	11.22	93	18266	1.186	ppbV	99
56) 1,2-dichloropropane	11.25	63	23051	1.136	ppbV	99
57) bromodichloromethane	11.45	83	31646	1.150	ppbV	99
58) 1,4-dioxane	11.48	88	16382	1.171	ppbV	99
59) trichloroethene	11.49	130	26162	1.153	ppbV	98
60) 2,2,4-trimethylpentane	11.52	57	117625	1.187	ppbV	99
61) methyl methacrylate	11.67	41	28486	0.992	ppbV	99
62) heptane	11.78	43	45164	1.148	ppbV	99
63) cis-1,3-dichloropropene	12.39	75	34602	1.127	ppbV	97
64) 4-methyl-2-pentanone	12.42	43	49689	1.132	ppbV	98
65) trans-1,3-dichloropropene	12.92	75	30260	1.092	ppbV	100
66) 1,1,2-trichloroethane	13.10	97	25181	1.139	ppbV	99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192624.D
Acq On : 25 Feb 2020 4:06 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:13:28 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) toluene	13.37	91	80566	1.141	ppbV		97
70) 2-methylthiophene	13.43	97	253801	1.268	ppbV		100
71) 1,3-dichloropropane	13.38	76	36972	1.112	ppbV		98
72) 2-hexanone	13.58	43	45759	1.098	ppbV	#	85
73) 3-methylthiophene	13.59	97	258063	1.254	ppbV		99
74) dibromochloromethane	13.76	129	31016	1.117	ppbV		100
75) 1,2-dibromoethane	13.98	107	36589	1.111	ppbV		99
76) butyl acetate	14.12	73	11867	1.083	ppbV		95
77) octane	14.21	85	32993	1.125	ppbV		99
78) tetrachloroethene	14.36	166	36337	1.136	ppbV		99
79) 1,1,1,2-tetrachloroethane	14.89	131	23679	1.160	ppbV		97
80) chlorobenzene	14.91	112	65106	1.140	ppbV		99
81) ethylbenzene	15.19	91	97012	1.113	ppbV		99
82) 2-ethylthiophene	15.23	97	265337	1.300	ppbV		98
83) m+p-xylene	15.32	91	158640	2.329	ppbV		98
84) bromoform	15.41	173	36249	1.178	ppbV		97
85) styrene	15.60	104	74445	1.129	ppbV		99
86) 1,1,2,2-tetrachloroethane	15.68	83	54854	1.135	ppbV		100
87) o-xylene	15.68	91	79378	1.188	ppbV		99
88) 1,2,3-trichloropropane	15.78	75	42951	1.102	ppbV		99
89) nonane	15.82	43	62494	1.145	ppbV		97
91) isopropylbenzene	16.11	105	110067	1.135	ppbV		98
92) bromobenzene	16.20	77	58245	1.109	ppbV		99
93) 2-chlorotoluene	16.48	126	31650	1.126	ppbV	#	45
94) n-propylbenzene	16.50	120	36947	1.101	ppbV		98
95) 4-chlorotoluene	16.54	126	29788	1.081	ppbV		97
96) 4-ethyl toluene	16.61	105	129430	1.105	ppbV		99
97) 1,3,5-trimethylbenzene	16.67	105	107979	1.163	ppbV		98
98) tert-butylbenzene	16.98	119	101792	1.182	ppbV		99
99) 1,2,4-trimethylbenzene	16.98	105	104339	1.190	ppbV		98
100) decane	17.02	57	76774	1.074	ppbV		96
101) Benzyl Chloride	17.11	91	72713	0.977	ppbV		98
102) 1,3-dichlorobenzene	17.13	146	66620	1.090	ppbV		99
103) 1,4-dichlorobenzene	17.18	146	63844	1.080	ppbV		98
104) sec-butylbenzene	17.19	105	147147	1.150	ppbV		99
105) 1,2,3-trimethylbenzene	17.32	105	96178	1.060	ppbV		100
106) p-isopropyltoluene	17.31	119	123790	1.131	ppbV		100
107) 1,2-dichlorobenzene	17.44	146	60726	1.042	ppbV		99
108) n-butylbenzene	17.63	91	102364	1.064	ppbV		98
109) indan	17.48	117	94016	0.990	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192624.D
Acq On : 25 Feb 2020 4:06 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:13:28 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	17.56	115	71678	0.935	ppbV	99
111) 1,2-dibromo-3-chloropr...	17.79	75	22692	1.018	ppbV	100
112) undecane	17.98	57	81886	0.998	ppbV	97
113) 1,2,4,5-tetramethylben...	18.23	119	97504	1.019	ppbV	98
114) dodecane	18.83	57	83682	0.919	ppbV	94
115) 1,2,4-trichlorobenzene	18.83	180	55585	0.949	ppbV	97
116) naphthalene	18.94	128	137026	1.003	ppbV	100
117) 1,2,3-trichlorobenzene	19.18	180	56109	0.922	ppbV	98
118) benzothiophene	19.00	134	108382	1.404	ppbV	100
119) hexachlorobutadiene	19.22	225	49973	1.022	ppbV	97
120) 2-methylnaphthalene	19.94	142	22243	1.167	ppbV	99
121) 1-methylnaphthalene	20.12	142	34736	0.849	ppbV	98

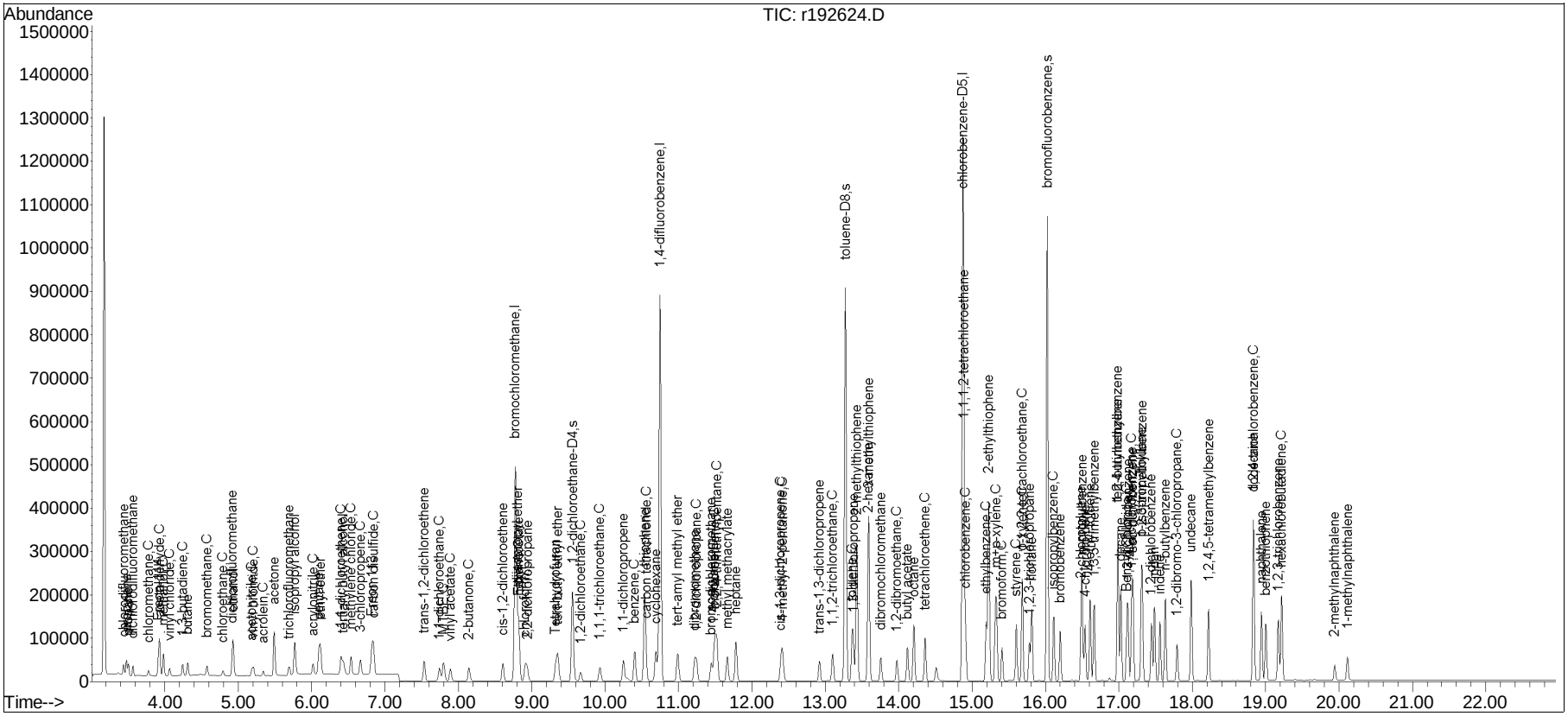
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192624.D
Acq On : 25 Feb 2020 4:06 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:13:28 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

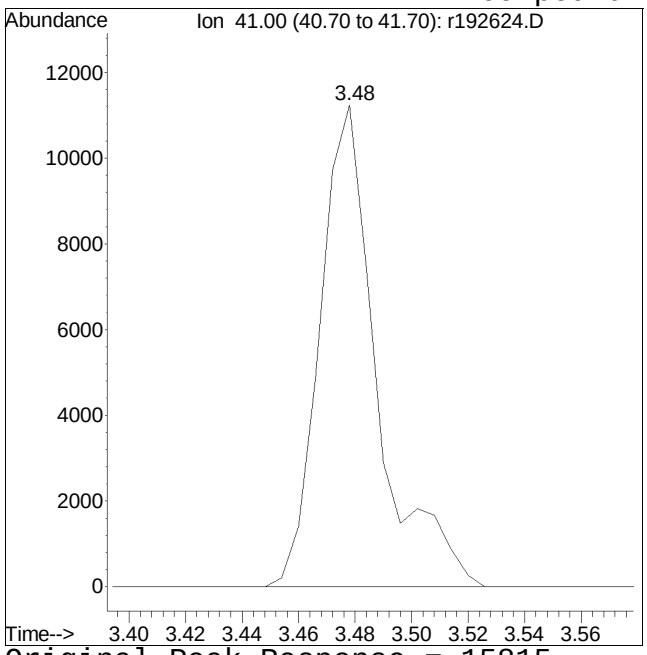
Sub List : Default - All compounds listed0\02\200224T_I\r192626.D



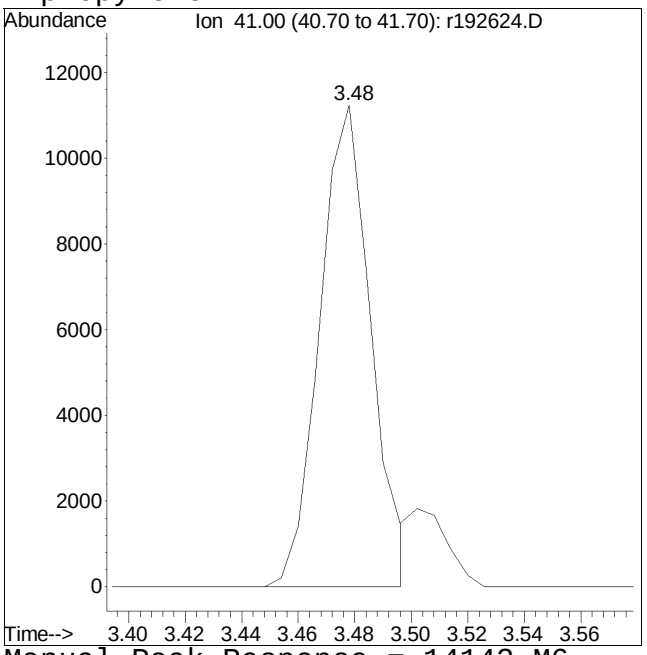
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192624.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:4: 6 Instrument :
Sample : ITO15-SIMSTD1.0 Quant Date : 2/25/2020 8:57 am

Compound #3: propylene



Original Peak Response = 15815



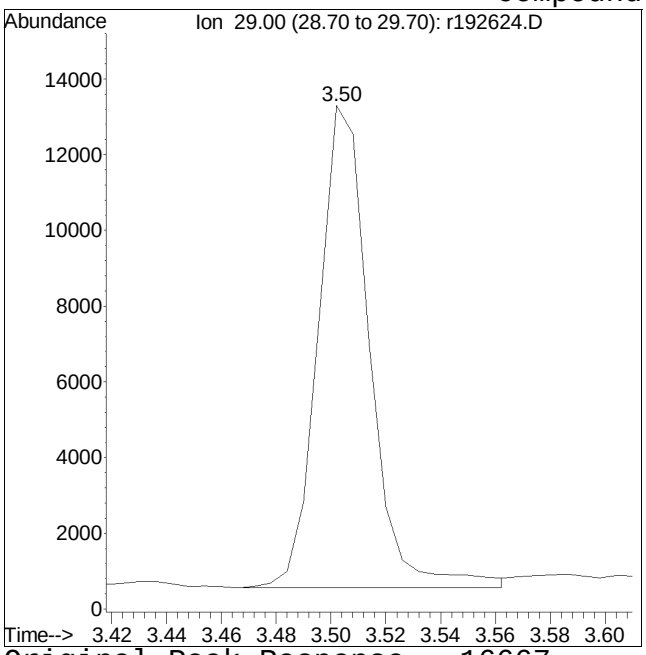
Manual Peak Response = 14142 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

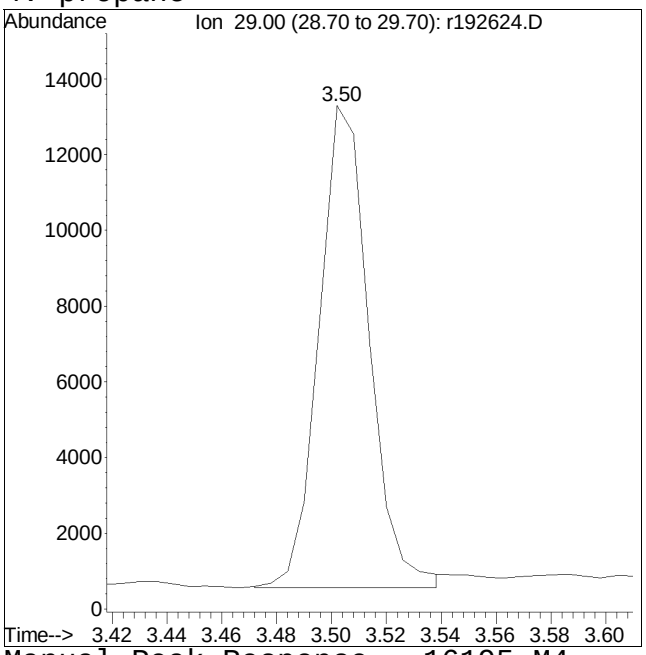
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192624.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:4: 6 Instrument :
Sample : ITO15-SIMSTD1.0 Quant Date : 2/25/2020 8:57 am

Compound #4: propane



Original Peak Response = 16667



Manual Peak Response = 16195 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192625.D
Acq On : 25 Feb 2020 4:46 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:14:56 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.78	49	323977	10.000	ppbV	0.00
Standard Area = 313159			Recovery = 103.45%			
43) 1,4-difluorobenzene	10.75	114	915938	10.000	ppbV	0.00
Standard Area = 892162			Recovery = 102.66%			
67) chlorobenzene-D5	14.88	54	119525	10.000	ppbV	0.00
Standard Area = 115842			Recovery = 103.18%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	9.55	65	118914	10.178	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.78%			
69) toluene-D8	13.28	98	699321	9.857	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.57%			
90) bromofluorobenzene	16.02	95	445208	9.866	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.66%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.44	51	98191	5.108	ppbV	100
3) propylene	3.48	41	65702M6	5.113	ppbV	
4) propane	3.50	29	71195	5.227	ppbV	99
5) dichlorodifluoromethane	3.57	85	90376	5.344	ppbV	99
6) chloromethane	3.78	50	59731	5.608	ppbV	100
7) Freon-114	3.92	85	141144	5.352	ppbV	99
8) methanol	3.98	31	131539	26.554	ppbV	95
9) vinyl chloride	4.07	62	71605	5.372	ppbV	100
10) 1,3-butadiene	4.25	54	60551	5.064	ppbV	99
11) butane	4.31	43	99477	5.289	ppbV	100
12) acetaldehyde	3.93	29	166146	27.445	ppbV	99
13) bromomethane	4.58	94	56334	5.106	ppbV	99
14) chloroethane	4.79	64	37717	5.281	ppbV	99
15) ethanol	4.93	31	248571	27.033	ppbV	99
16) dichlorofluoromethane	4.92	67	99190	5.176	ppbV	99
17) vinyl bromide	5.21	106	60833	5.110	ppbV	99
18) acrolein	5.34	56	32500	5.036	ppbV	98
19) acetone	5.49	43	443038	26.539	ppbV	99
20) acetonitrile	5.19	41	64084	5.125	ppbV	98
21) trichlorofluoromethane	5.70	101	101377	4.738	ppbV	99
22) isopropyl alcohol	5.77	45	413142	13.676	ppbV	100
23) acrylonitrile	6.02	53	80378	4.970	ppbV	100
24) pentane	6.10	43	169313	5.161	ppbV	99

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192625.D
Acq On : 25 Feb 2020 4:46 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:14:56 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) ethyl ether	6.12	31	146639	5.144	ppbV	99
26) 1,1-dichloroethene	6.40	61	110811	5.179	ppbV	100
27) tertiary butyl alcohol	6.43	59	154464	5.612	ppbV	99
28) methylene chloride	6.54	49	106010	5.078	ppbV	100
29) 3-chloropropene	6.67	41	126637	5.108	ppbV	99
30) carbon disulfide	6.85	76	300188	5.125	ppbV	99
31) Freon 113	6.83	101	157941	5.205	ppbV	99
32) trans-1,2-dichloroethene	7.54	61	125082	5.127	ppbV	100
33) 1,1-dichloroethane	7.75	63	153171	5.125	ppbV	99
34) MTBE	7.79	73	249780	5.144	ppbV	100
35) vinyl acetate	7.89	43	213427	5.024	ppbV	100
36) 2-butanone	8.13	43	195617	5.070	ppbV	99
37) cis-1,2-dichloroethene	8.61	61	108283	5.106	ppbV	99
38) Ethyl Acetate	8.82	61	33690	4.983	ppbV	84
39) chloroform	8.91	83	136152	5.188	ppbV	97
40) Tetrahydrofuran	9.31	42	129249	5.071	ppbV	99
41) 2,2-dichloropropane	8.94	77	113686	5.151	ppbV	99
42) 1,2-dichloroethane	9.66	62	65751	5.136	ppbV	99
44) hexane	8.82	57	173373	5.201	ppbV	85
45) diisopropyl ether	8.80	87	93709	5.205	ppbV	96
46) tert-butyl ethyl ether	9.35	59	268405	5.156	ppbV	98
48) 1,1,1-trichloroethane	9.93	97	110368	5.189	ppbV	99
49) 1,1-dichloropropene	10.25	75	133522	5.194	ppbV	99
50) benzene	10.40	78	337143	5.166	ppbV	100
51) thiophene	10.53	84	682060	5.312	ppbV	99
52) carbon tetrachloride	10.55	117	94632	5.351	ppbV	97
53) cyclohexane	10.69	56	186059	5.097	ppbV	100
54) tert-amyl methyl ether	10.98	73	290774	5.154	ppbV	100
55) dibromomethane	11.22	93	84771	5.305	ppbV	99
56) 1,2-dichloropropane	11.24	63	108061	5.133	ppbV	100
57) bromodichloromethane	11.45	83	147694	5.176	ppbV	98
58) 1,4-dioxane	11.47	88	77003	5.307	ppbV	99
59) trichloroethene	11.49	130	123540	5.249	ppbV	99
60) 2,2,4-trimethylpentane	11.52	57	551886	5.369	ppbV	99
61) methyl methacrylate	11.66	41	153252	5.146	ppbV	100
62) heptane	11.78	43	212154	5.197	ppbV	99
63) cis-1,3-dichloropropene	12.39	75	164097	5.153	ppbV	100
64) 4-methyl-2-pentanone	12.41	43	238414	5.237	ppbV	99
65) trans-1,3-dichloropropene	12.92	75	146541	5.098	ppbV	99
66) 1,1,2-trichloroethane	13.10	97	120259	5.246	ppbV	98

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192625.D
Acq On : 25 Feb 2020 4:46 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:14:56 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) toluene	13.37	91	375815	5.192	ppbV	99
70) 2-methylthiophene	13.43	97	1130178	5.509	ppbV	100
71) 1,3-dichloropropane	13.38	76	176151	5.171	ppbV	99
72) 2-hexanone	13.57	43	220042	5.153	ppbV	100
73) 3-methylthiophene	13.59	97	1136968	5.389	ppbV	99
74) dibromochloromethane	13.76	129	147262	5.173	ppbV	99
75) 1,2-dibromoethane	13.98	107	173541	5.141	ppbV	98
76) butyl acetate	14.11	73	57160	5.088	ppbV	98
77) octane	14.21	85	155247	5.163	ppbV	99
78) tetrachloroethene	14.36	166	170447	5.198	ppbV	99
79) 1,1,1,2-tetrachloroethane	14.89	131	110530	5.281	ppbV	99
80) chlorobenzene	14.91	112	306571	5.236	ppbV	99
81) ethylbenzene	15.19	91	462345	5.173	ppbV	100
82) 2-ethylthiophene	15.23	97	1165578	5.571	ppbV	98
83) m+p-xylene	15.32	91	740662	10.611	ppbV	99
84) bromoform	15.41	173	169294	5.369	ppbV	97
85) styrene	15.60	104	348722	5.158	ppbV	99
86) 1,1,2,2-tetrachloroethane	15.68	83	261469	5.280	ppbV	100
87) o-xylene	15.68	91	366803	5.356	ppbV	99
88) 1,2,3-trichloropropane	15.78	75	208032	5.206	ppbV	100
89) nonane	15.81	43	292417	5.225	ppbV	98
91) isopropylbenzene	16.12	105	524860	5.279	ppbV	98
92) bromobenzene	16.20	77	277925	5.163	ppbV	99
93) 2-chlorotoluene	16.49	126	148218	5.145	ppbV	71
94) n-propylbenzene	16.50	120	179379	5.217	ppbV	81
95) 4-chlorotoluene	16.54	126	147773	5.233	ppbV	99
96) 4-ethyl toluene	16.62	105	621337	5.176	ppbV	99
97) 1,3,5-trimethylbenzene	16.67	105	503928	5.296	ppbV	99
98) tert-butylbenzene	16.98	119	472960	5.360	ppbV	100
99) 1,2,4-trimethylbenzene	16.98	105	482824	5.373	ppbV	99
100) decane	17.02	57	377972	5.157	ppbV	99
101) Benzyl Chloride	17.11	91	383493	5.030	ppbV	99
102) 1,3-dichlorobenzene	17.13	146	327117	5.224	ppbV	99
103) 1,4-dichlorobenzene	17.18	146	311999	5.150	ppbV	99
104) sec-butylbenzene	17.19	105	697750	5.320	ppbV	99
105) 1,2,3-trimethylbenzene	17.32	105	492841	5.302	ppbV	98
106) p-isopropyltoluene	17.31	119	591972	5.279	ppbV	100
107) 1,2-dichlorobenzene	17.44	146	308608	5.166	ppbV	100
108) n-butylbenzene	17.63	91	504930	5.121	ppbV	100
109) indan	17.48	117	510883	5.250	ppbV	99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192625.D
Acq On : 25 Feb 2020 4:46 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:14:56 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	17.56	115	391092	4.977	ppbV	99
111) 1,2-dibromo-3-chloropr...	17.79	75	115209	5.041	ppbV	96
112) undecane	17.98	57	420873	5.007	ppbV	99
113) 1,2,4,5-tetramethylben...	18.22	119	501994	5.118	ppbV	100
114) dodecane	18.83	57	469392	5.032	ppbV	98
115) 1,2,4-trichlorobenzene	18.82	180	300743	5.011	ppbV	99
116) naphthalene	18.94	128	662617	4.732	ppbV	100
117) 1,2,3-trichlorobenzene	19.17	180	298498	4.783	ppbV	99
118) benzothiophene	19.00	134	361937	4.574	ppbV	100
119) hexachlorobutadiene	19.22	225	258676	5.163	ppbV	99
120) 2-methylnaphthalene	19.94	142	79336	4.061	ppbV	95
121) 1-methylnaphthalene	20.11	142	184370	4.397	ppbV	99

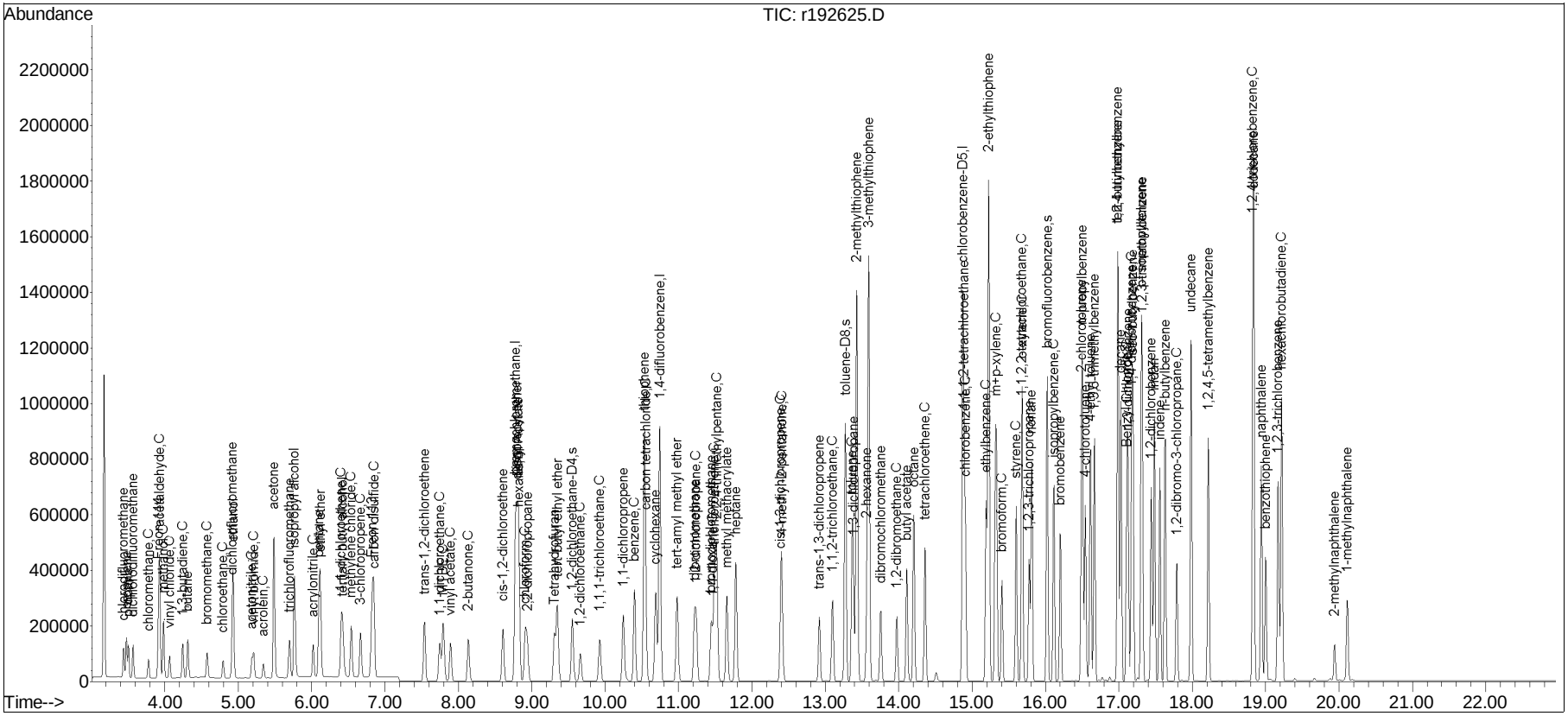
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192625.D
Acq On : 25 Feb 2020 4:46 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:14:56 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

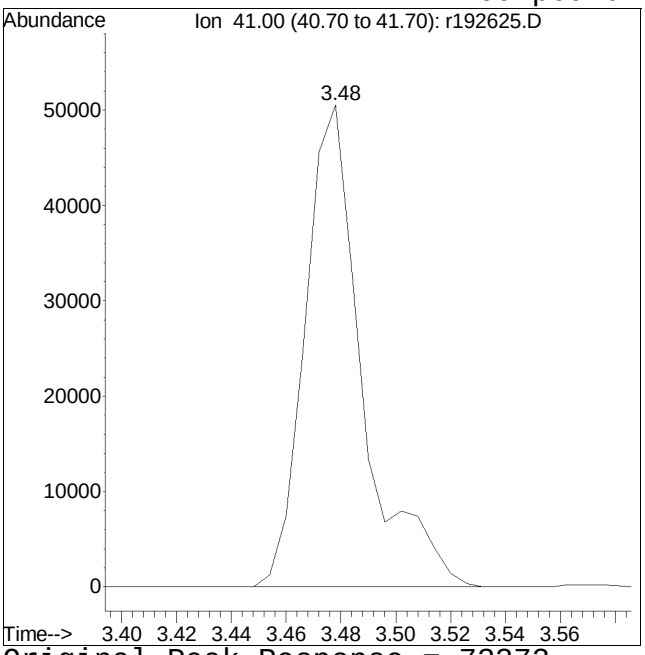
Sub List : Default - All compounds listed0\02\200224T_I\r192626.D



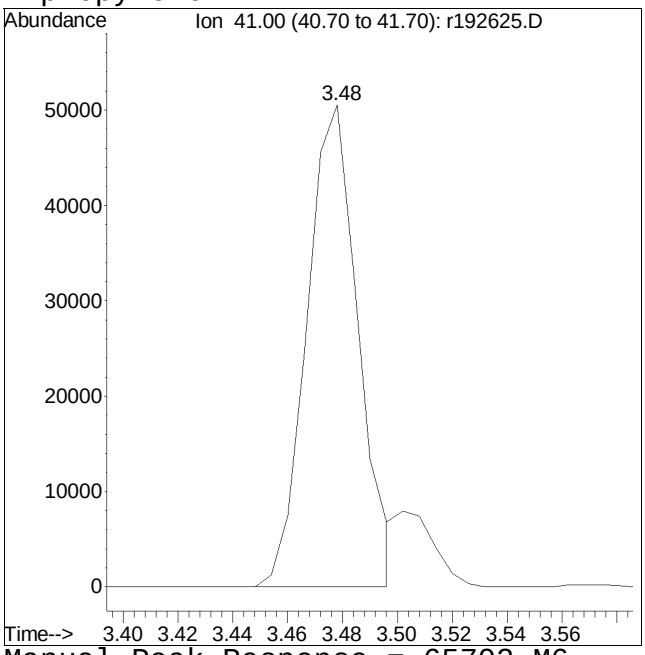
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192625.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:4: 6 Instrument :
Sample : ITO15-SIMSTD5.0 Quant Date : 2/25/2020 8:57 am

Compound #3: propylene



Original Peak Response = 73372



Manual Peak Response = 65702 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192626.D
Acq On : 25 Feb 2020 5:28 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 08:55:41 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Wed Dec 04 12:54:37 2019
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) bromochloromethane	8.78	49	313159	10.000	ppbV		-0.03
Standard Area = 313159			Recovery = 100.00%				
43) 1,4-difluorobenzene	10.75	114	892162	10.000	ppbV		-0.03
Standard Area = 892162			Recovery = 100.00%				
67) chlorobenzene-D5	14.88	54	115842	10.000	ppbV		-0.02
Standard Area = 115842			Recovery = 100.00%				
System Monitoring Compounds							
47) 1,2-dichloroethane-D4	9.55	65	113798	7.660	ppbV		-0.03
Spiked Amount 10.000	Range 70 - 130		Recovery = 76.60%				
69) toluene-D8	13.28	98	687587	9.233	ppbV		-0.03
Spiked Amount 10.000	Range 70 - 130		Recovery = 92.33%				
90) bromofluorobenzene	16.02	95	437358	8.862	ppbV		-0.02
Spiked Amount 10.000	Range 70 - 130		Recovery = 88.62%				
Target Compounds							Qvalue
2) chlorodifluoromethane	3.44	51	185794	10.222	ppbV	#	92
3) propylene	3.48	41	124215M6	8.346	ppbV		
4) propane	3.50	29	131658	11.164	ppbV	#	81
5) dichlorodifluoromethane	3.57	85	163456	8.519	ppbV		99
6) chloromethane	3.78	50	102951	8.715	ppbV		96
7) Freon-114	3.92	85	254923	9.052	ppbV		97
8) methanol	3.98	31	239410	51.497	ppbV		95
9) vinyl chloride	4.07	62	128831	9.245	ppbV		97
10) 1,3-butadiene	4.25	54	115573	9.471	ppbV		90
11) butane	4.31	43	181819	7.181	ppbV	#	97
12) acetaldehyde	3.93	29	292583	54.552	ppbV	#	76
13) bromomethane	4.58	94	106646	8.748	ppbV		98
14) chloroethane	4.80	64	69029	8.587	ppbV		98
15) ethanol	4.93	31	444402	52.584	ppbV	#	73
16) dichlorofluoromethane	4.92	67	185242	7.799	ppbV		99
17) vinyl bromide	5.21	106	115075	8.379	ppbV		99
18) acrolein	5.34	56	62382	9.143	ppbV		98
19) acetone	5.49	43	806811	36.724	ppbV	#	83
20) acetonitrile	5.19	41	120878	8.570	ppbV		97
21) trichlorofluoromethane	5.70	101	206817	8.606	ppbV		100
22) isopropyl alcohol	5.77	45	730026	19.071	ppbV		98
23) acrylonitrile	6.02	53	156332	9.998	ppbV		99
24) pentane	6.10	43	317115	7.455	ppbV	#	92

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192626.D
Acq On : 25 Feb 2020 5:28 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 08:55:41 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Wed Dec 04 12:54:37 2019
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) ethyl ether	6.12	31	275571	12.583	ppbV #	74
26) 1,1-dichloroethene	6.41	61	206831	8.203	ppbV	93
27) tertiary butyl alcohol	6.43	59	266071	7.593	ppbV	93
28) methylene chloride	6.54	49	201786	10.209	ppbV	90
29) 3-chloropropene	6.67	41	239643	7.319	ppbV #	89
30) carbon disulfide	6.85	76	566220	9.782	ppbV #	94
31) Freon 113	6.83	101	293297	9.061	ppbV	97
32) trans-1,2-dichloroethene	7.54	61	235798	8.321	ppbV	95
33) 1,1-dichloroethane	7.74	63	288894	8.169	ppbV	99
34) MTBE	7.79	73	469368	8.703	ppbV	95
35) vinyl acetate	7.89	43	410640	8.053	ppbV	96
36) 2-butanone	8.13	43	372946	8.001	ppbV	92
37) cis-1,2-dichloroethene	8.61	61	204983	8.317	ppbV	93
38) Ethyl Acetate	8.81	61	65358	9.205	ppbV	70
39) chloroform	8.91	83	253697	8.764	ppbV	98
40) Tetrahydrofuran	9.30	42	246371	7.720	ppbV #	87
41) 2,2-dichloropropane	8.93	77	213317	8.098	ppbV	90
42) 1,2-dichloroethane	9.66	62	123754	6.936	ppbV #	87
44) hexane	8.82	57	324685	10.827	ppbV #	72
45) diisopropyl ether	8.80	87	175371	9.761	ppbV	99
46) tert-butyl ethyl ether	9.34	59	507094	9.636	ppbV	98
48) 1,1,1-trichloroethane	9.93	97	207168	8.540	ppbV	98
49) 1,1-dichloropropene	10.25	75	250391	9.907	ppbV #	89
50) benzene	10.40	78	635708	10.981	ppbV	99
51) thiophene	10.54	84	1250600	10.493	ppbV	99
52) carbon tetrachloride	10.55	117	172271	8.690	ppbV #	96
53) cyclohexane	10.69	56	355565	10.975	ppbV #	89
54) tert-amyl methyl ether	10.98	73	549579	9.837	ppbV	93
55) dibromomethane	11.22	93	155660	9.220	ppbV	100
56) 1,2-dichloropropane	11.25	63	205044	9.664	ppbV	97
57) bromodichloromethane	11.45	83	277952	9.877	ppbV	96
58) 1,4-dioxane	11.47	88	141324	9.660	ppbV	97
59) trichloroethene	11.49	130	229244	9.985	ppbV	96
60) 2,2,4-trimethylpentane	11.52	57	1001262M6	10.408	ppbV	
61) methyl methacrylate	11.66	41	290093	8.978	ppbV #	82
62) heptane	11.79	43	397590	9.156	ppbV	93
63) cis-1,3-dichloropropene	12.39	75	310172	10.683	ppbV #	86
64) 4-methyl-2-pentanone	12.41	43	443432	9.420	ppbV	91
65) trans-1,3-dichloropropene	12.92	75	279964	10.146	ppbV #	91
66) 1,1,2-trichloroethane	13.10	97	223277	10.069	ppbV	93

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192626.D
Acq On : 25 Feb 2020 5:28 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 08:55:41 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Wed Dec 04 12:54:37 2019
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) toluene	13.37	91	701515	9.507	ppbV		97
70) 2-methylthiophene	13.43	97	1988447	9.782	ppbV		99
71) 1,3-dichloropropane	13.38	76	330184	9.866	ppbV	#	81
72) 2-hexanone	13.57	43	413836	8.563	ppbV		88
73) 3-methylthiophene	13.59	97	2044645	9.856	ppbV		98
74) dibromochloromethane	13.76	129	275896	9.263	ppbV		98
75) 1,2-dibromoethane	13.98	107	327140	10.126	ppbV		99
76) butyl acetate	14.11	73	108889	9.811	ppbV		80
77) octane	14.21	85	291410	9.373	ppbV		91
78) tetrachloroethene	14.36	166	317798	9.480	ppbV		96
79) 1,1,1,2-tetrachloroethane	14.89	131	202833	8.925	ppbV		100
80) chlorobenzene	14.91	112	567426	9.889	ppbV		100
81) ethylbenzene	15.19	91	866191	9.584	ppbV		96
82) 2-ethylthiophene	15.23	97	2027772	9.393	ppbV		97
83) m+p-xylene	15.32	91	1352950	18.839	ppbV		91
84) bromoform	15.41	173	305601	9.491	ppbV		97
85) styrene	15.60	104	655191	10.418	ppbV		97
86) 1,1,2,2-tetrachloroethane	15.68	83	479981	10.644	ppbV		96
87) o-xylene	15.68	91	663728	9.458	ppbV		95
88) 1,2,3-trichloropropane	15.78	75	387256	9.852	ppbV	#	95
89) nonane	15.82	43	542372	8.748	ppbV		86
91) isopropylbenzene	16.11	105	963584	9.985	ppbV		99
92) bromobenzene	16.20	77	521684	10.013	ppbV		94
93) 2-chlorotoluene	16.49	126	279205	9.846	ppbV		91
94) n-propylbenzene	16.50	120	333229	9.816	ppbV		96
95) 4-chlorotoluene	16.54	126	273670	9.567	ppbV		91
96) 4-ethyl toluene	16.61	105	1163432	10.669	ppbV		98
97) 1,3,5-trimethylbenzene	16.67	105	922248	10.372	ppbV		99
98) tert-butylbenzene	16.98	119	855260	9.506	ppbV		100
99) 1,2,4-trimethylbenzene	16.98	105	870980	10.656	ppbV		95
100) decane	17.02	57	710351	10.194	ppbV		90
101) Benzyl Chloride	17.11	91	738978	9.770	ppbV		97
102) 1,3-dichlorobenzene	17.13	146	606906	10.720	ppbV		98
103) 1,4-dichlorobenzene	17.18	146	587198	10.680	ppbV		96
104) sec-butylbenzene	17.19	105	1271163	10.529	ppbV		99
105) 1,2,3-trimethylbenzene	17.32	105	900882	11.070	ppbV		99
106) p-isopropyltoluene	17.31	119	1086871	9.607	ppbV		98
107) 1,2-dichlorobenzene	17.44	146	579002	10.802	ppbV		97
108) n-butylbenzene	17.63	91	955685	9.738	ppbV		96
109) indan	17.48	117	943080	10.651	ppbV		98

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192626.D
Acq On : 25 Feb 2020 5:28 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 08:55:41 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Wed Dec 04 12:54:37 2019
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	17.56	115	761568	10.443	ppbV	100
111) 1,2-dibromo-3-chloropr...	17.79	75	221519	9.688	ppbV	96
112) undecane	17.99	57	814742	10.480	ppbV	94
113) 1,2,4,5-tetramethylben...	18.23	119	950550	7.812	ppbV	98
114) dodecane	18.84	57	904153	11.894	ppbV	89
115) 1,2,4-trichlorobenzene	18.83	180	581624	11.690	ppbV	98
116) naphthalene	18.95	128	1357250	10.601	ppbV	98
117) 1,2,3-trichlorobenzene	19.18	180	604812	11.452	ppbV	99
118) benzothiophene	19.01	134	766863	6.768	ppbV	99
119) hexachlorobutadiene	19.23	225	485592	10.646	ppbV	98
120) 2-methylnaphthalene	19.95	142	189361	10.862	ppbV	97
121) 1-methylnaphthalene	20.12	142	406430	17.099	ppbV	97

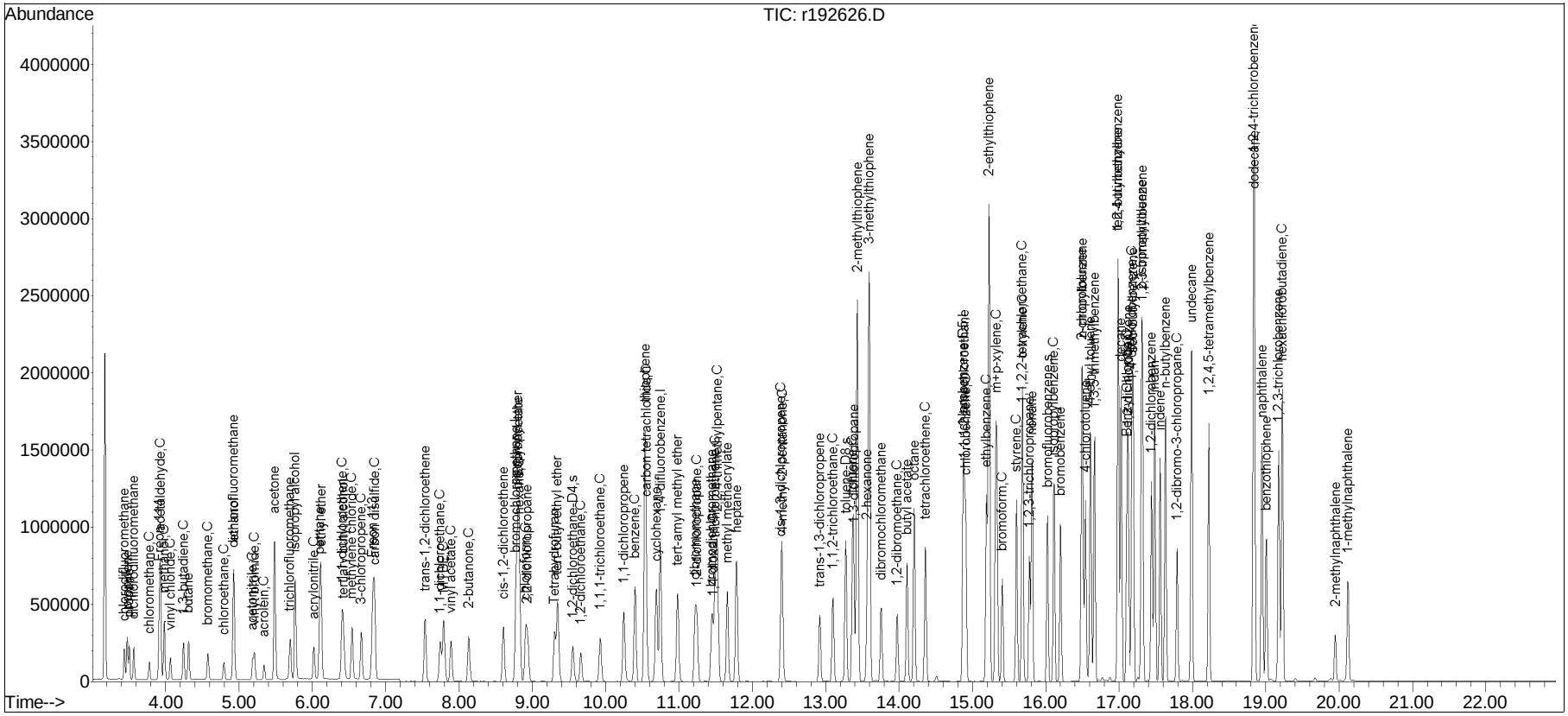
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192626.D
Acq On : 25 Feb 2020 5:28 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 08:55:41 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Wed Dec 04 12:54:37 2019
Response via : Initial Calibration

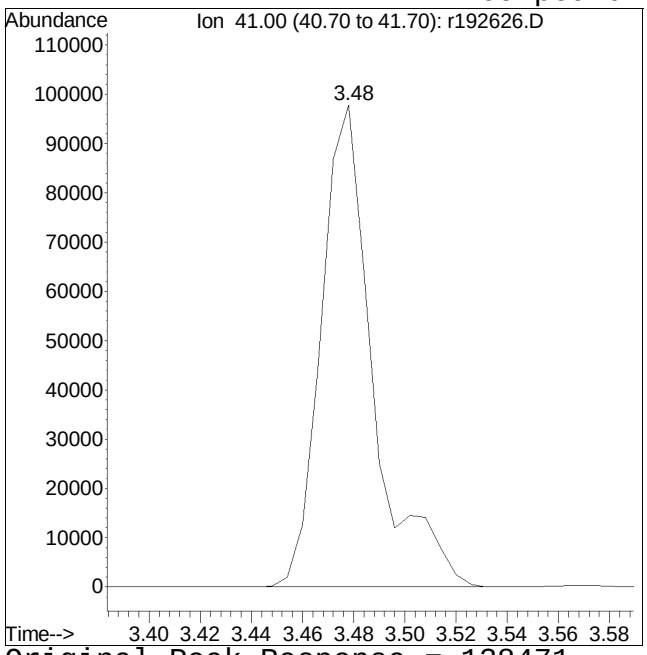
Sub List : Default - All compounds listed0\02\200224T_I\r192626.D



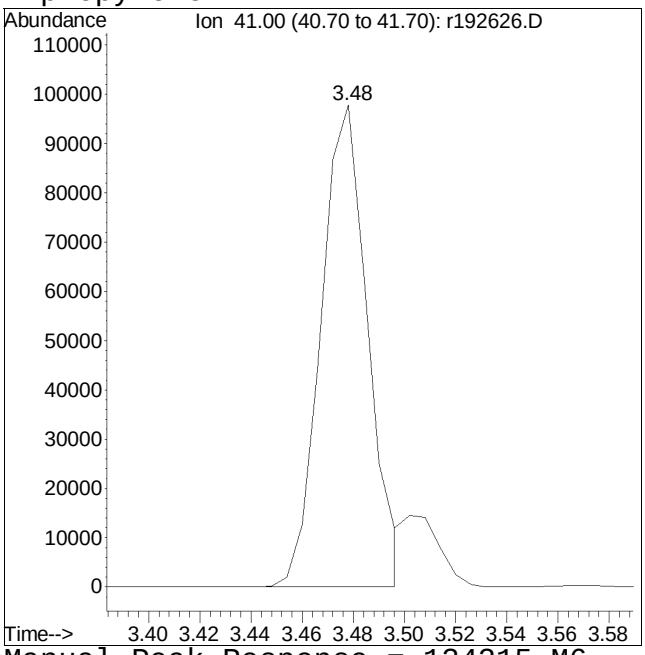
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192626.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:5: 8 Instrument :
Sample : ITO15-SIMSTD010 Quant Date : 2/25/2020 8:54 am

Compound #3: propylene



Original Peak Response = 138471



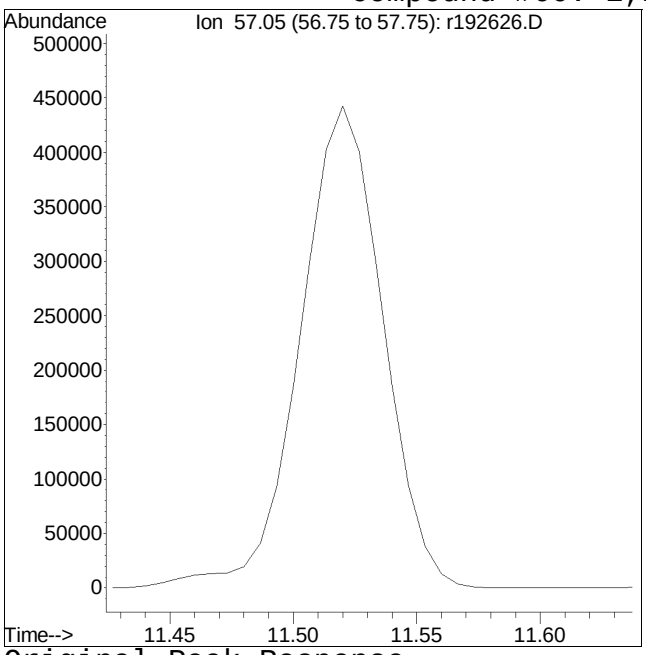
Manual Peak Response = 124215 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

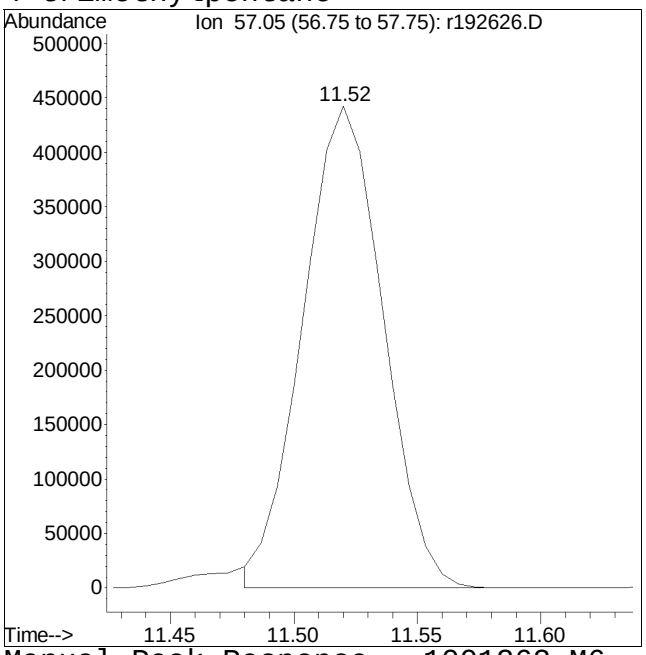
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192626.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:5: 8 Instrument :
Sample : ITO15-SIMSTD010 Quant Date : 2/25/2020 8:54 am

Compound #60: 2,2,4-trimethylpentane



Original Peak Response =



Manual Peak Response = 1001262 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192627.D
Acq On : 25 Feb 2020 6:07 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD020
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:16:58 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.78	49	341458	10.000	ppbV	0.00
Standard Area = 313159			Recovery = 109.04%			
43) 1,4-difluorobenzene	10.74	114	961114	10.000	ppbV	0.00
Standard Area = 892162			Recovery = 107.73%			
67) chlorobenzene-D5	14.88	54	124449	10.000	ppbV	0.00
Standard Area = 115842			Recovery = 107.43%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	9.55	65	124643	10.167	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.67%			
69) toluene-D8	13.28	98	744343	10.077	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.77%			
90) bromofluorobenzene	16.02	95	480119	10.218	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.18%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.44	51	447261	22.078	ppbV	99
3) propylene	3.47	41	293021M6	21.635	ppbV	
4) propane	3.50	29	308948	21.521	ppbV	98
5) dichlorodifluoromethane	3.56	85	394607	22.141	ppbV	100
6) chloromethane	3.77	50	264997	23.607	ppbV	100
7) Freon-114	3.92	85	567062	20.401	ppbV	99
8) methanol	3.98	31	558079	106.893	ppbV	96
9) vinyl chloride	4.06	62	293623	20.902	ppbV	99
10) 1,3-butadiene	4.24	54	266579	21.154	ppbV	99
11) butane	4.31	43	415027	20.935	ppbV	100
12) acetaldehyde	3.93	29	607442	95.204	ppbV	96
13) bromomethane	4.58	94	230307	19.806	ppbV	100
14) chloroethane	4.79	64	154452	20.521	ppbV	99
15) ethanol	4.92	31	1029988	106.281	ppbV	99
16) dichlorofluoromethane	4.92	67	403257	19.965	ppbV	99
17) vinyl bromide	5.21	106	248434	19.800	ppbV	95
18) acrolein	5.34	56	135554	19.929	ppbV	99
19) acetone	5.48	43	2204914	125.319	ppbV	99
20) acetonitrile	5.18	41	262185	19.892	ppbV	99
21) trichlorofluoromethane	5.70	101	447859	19.860	ppbV	99
22) isopropyl alcohol	5.76	45	1642082	51.573	ppbV	100
23) acrylonitrile	6.02	53	343034	20.124	ppbV	99
24) pentane	6.10	43	694909	20.097	ppbV	99

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192627.D
Acq On : 25 Feb 2020 6:07 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD020
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:16:58 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) ethyl ether	6.12	31	595312	19.812	ppbV	99
26) 1,1-dichloroethene	6.40	61	443937	19.685	ppbV	99
27) tertiary butyl alcohol	6.42	59	642568	22.149	ppbV	100
28) methylene chloride	6.54	49	445554	20.251	ppbV	99
29) 3-chloropropene	6.67	41	527710	20.196	ppbV	100
30) carbon disulfide	6.85	76	1195010	19.356	ppbV	100
31) Freon 113	6.82	101	623515	19.497	ppbV	98
32) trans-1,2-dichloroethene	7.54	61	508578	19.781	ppbV	100
33) 1,1-dichloroethane	7.74	63	622452	19.760	ppbV	100
34) MTBE	7.79	73	1018432	19.900	ppbV	100
35) vinyl acetate	7.89	43	895127	19.992	ppbV	100
36) 2-butanone	8.13	43	805706	19.813	ppbV	99
37) cis-1,2-dichloroethene	8.61	61	442665	19.805	ppbV	100
38) Ethyl Acetate	8.81	61	138192	19.392	ppbV	90
39) chloroform	8.91	83	542944	19.628	ppbV	98
40) Tetrahydrofuran	9.30	42	534125	19.883	ppbV	99
41) 2,2-dichloropropane	8.93	77	450626	19.374	ppbV	100
42) 1,2-dichloroethane	9.66	62	264202	19.580	ppbV	99
44) hexane	8.82	57	688586	19.686	ppbV	91
45) diisopropyl ether	8.80	87	370328	19.602	ppbV	98
46) tert-butyl ethyl ether	9.34	59	1076494	19.706	ppbV	100
48) 1,1,1-trichloroethane	9.93	97	433835	19.439	ppbV	98
49) 1,1-dichloropropene	10.25	75	540204	20.027	ppbV	99
50) benzene	10.40	78	1360423	19.865	ppbV	100
51) thiophene	10.54	84	2533021	18.801	ppbV	100
52) carbon tetrachloride	10.55	117	354680	19.111	ppbV	99
53) cyclohexane	10.69	56	757124	19.766	ppbV	100
54) tert-amyl methyl ether	10.98	73	1179199	19.917	ppbV	99
55) dibromomethane	11.22	93	323537	19.294	ppbV	100
56) 1,2-dichloropropane	11.24	63	433667	19.633	ppbV	99
57) bromodichloromethane	11.45	83	584994	19.537	ppbV	99
58) 1,4-dioxane	11.46	88	317235	20.837	ppbV	99
59) trichloroethene	11.49	130	476748	19.305	ppbV	99
60) 2,2,4-trimethylpentane	11.52	57	2180240	20.213	ppbV	100
61) methyl methacrylate	11.66	41	560925	17.949	ppbV	99
62) heptane	11.78	43	847181	19.779	ppbV	99
63) cis-1,3-dichloropropene	12.39	75	643908	19.270	ppbV	98
64) 4-methyl-2-pentanone	12.40	43	929778	19.464	ppbV	99
65) trans-1,3-dichloropropene	12.92	75	588423	19.510	ppbV	99
66) 1,1,2-trichloroethane	13.10	97	473238	19.675	ppbV	99

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192627.D
Acq On : 25 Feb 2020 6:07 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD020
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:16:58 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) toluene	13.37	91	1443273	19.151	ppbV	99
70) 2-methylthiophene	13.43	97	3735550	17.487	ppbV	100
71) 1,3-dichloropropane	13.38	76	685064	19.313	ppbV	99
72) 2-hexanone	13.57	43	865647	19.471	ppbV	100
73) 3-methylthiophene	13.59	97	3794633	17.275	ppbV	100
74) dibromochloromethane	13.76	129	561993	18.961	ppbV	99
75) 1,2-dibromoethane	13.98	107	678569	19.308	ppbV	99
76) butyl acetate	14.11	73	232629	19.886	ppbV	99
77) octane	14.21	85	604952	19.324	ppbV	99
78) tetrachloroethene	14.36	166	629513	18.439	ppbV	98
79) 1,1,1,2-tetrachloroethane	14.89	131	409013	18.770	ppbV	99
80) chlorobenzene	14.91	112	1160172	19.032	ppbV	100
81) ethylbenzene	15.19	91	1726934	18.558	ppbV	97
82) 2-ethylthiophene	15.23	97	3667928	16.837	ppbV	98
83) m+p-xylene	15.32	91	2691902	37.041	ppbV	98
84) bromoform	15.41	173	605494	18.443	ppbV	98
85) styrene	15.60	104	1353287	19.226	ppbV	99
86) 1,1,2,2-tetrachloroethane	15.68	83	928417	18.005	ppbV	100
87) o-xylene	15.68	91	1281753	17.976	ppbV	99
88) 1,2,3-trichloropropane	15.78	75	804680	19.342	ppbV	100
89) nonane	15.82	43	1094852	18.790	ppbV	98
91) isopropylbenzene	16.12	105	1973305	19.062	ppbV	98
92) bromobenzene	16.21	77	1080428	19.278	ppbV	100
93) 2-chlorotoluene	16.50	126	549631	18.324	ppbV	81
94) n-propylbenzene	16.51	120	652336	18.222	ppbV	100
95) 4-chlorotoluene	16.55	126	560450	19.063	ppbV	97
96) 4-ethyl toluene	16.62	105	2291945	18.337	ppbV	99
97) 1,3,5-trimethylbenzene	16.68	105	1779293	17.959	ppbV	98
98) tert-butylbenzene	16.99	119	1552507	16.897	ppbV	100
99) 1,2,4-trimethylbenzene	16.99	105	1565811	16.734	ppbV	99
100) decane	17.03	57	1417559	18.576	ppbV	98
101) Benzyl Chloride	17.11	91	1459224	18.381	ppbV	98
102) 1,3-dichlorobenzene	17.13	146	1176791	18.049	ppbV	99
103) 1,4-dichlorobenzene	17.18	146	1108586	17.574	ppbV	100
104) sec-butylbenzene	17.19	105	2389211	17.496	ppbV	99
105) 1,2,3-trimethylbenzene	17.32	105	1544673	15.960	ppbV	98
106) p-isopropyltoluene	17.31	119	1999243	17.122	ppbV	98
107) 1,2-dichlorobenzene	17.44	146	1117563	17.967	ppbV	100
108) n-butylbenzene	17.63	91	1795592	17.489	ppbV	95
109) indan	17.48	117	1686266	16.644	ppbV	100

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192627.D
Acq On : 25 Feb 2020 6:07 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD020
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:16:58 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	17.56	115	1388414	16.970	ppbV	98
111) 1,2-dibromo-3-chloropr...	17.78	75	413708	17.384	ppbV	95
112) undecane	17.98	57	1532419	17.508	ppbV	98
113) 1,2,4,5-tetramethylben...	18.22	119	1682921	16.480	ppbV	100
114) dodecane	18.83	57	1339652	13.792	ppbV	98
115) 1,2,4-trichlorobenzene	18.82	180	932390	14.922	ppbV	99
116) naphthalene	18.94	128	2339532	16.045	ppbV	100
117) 1,2,3-trichlorobenzene	19.17	180	974870	15.004	ppbV	100
118) benzothiophene	19.00	134	1908697	23.168	ppbV	100
119) hexachlorobutadiene	19.22	225	755063	14.474	ppbV	96
120) 2-methylnaphthalene	19.93	142	349663	17.188	ppbV	98
121) 1-methylnaphthalene	20.11	142	592552	13.571	ppbV	99

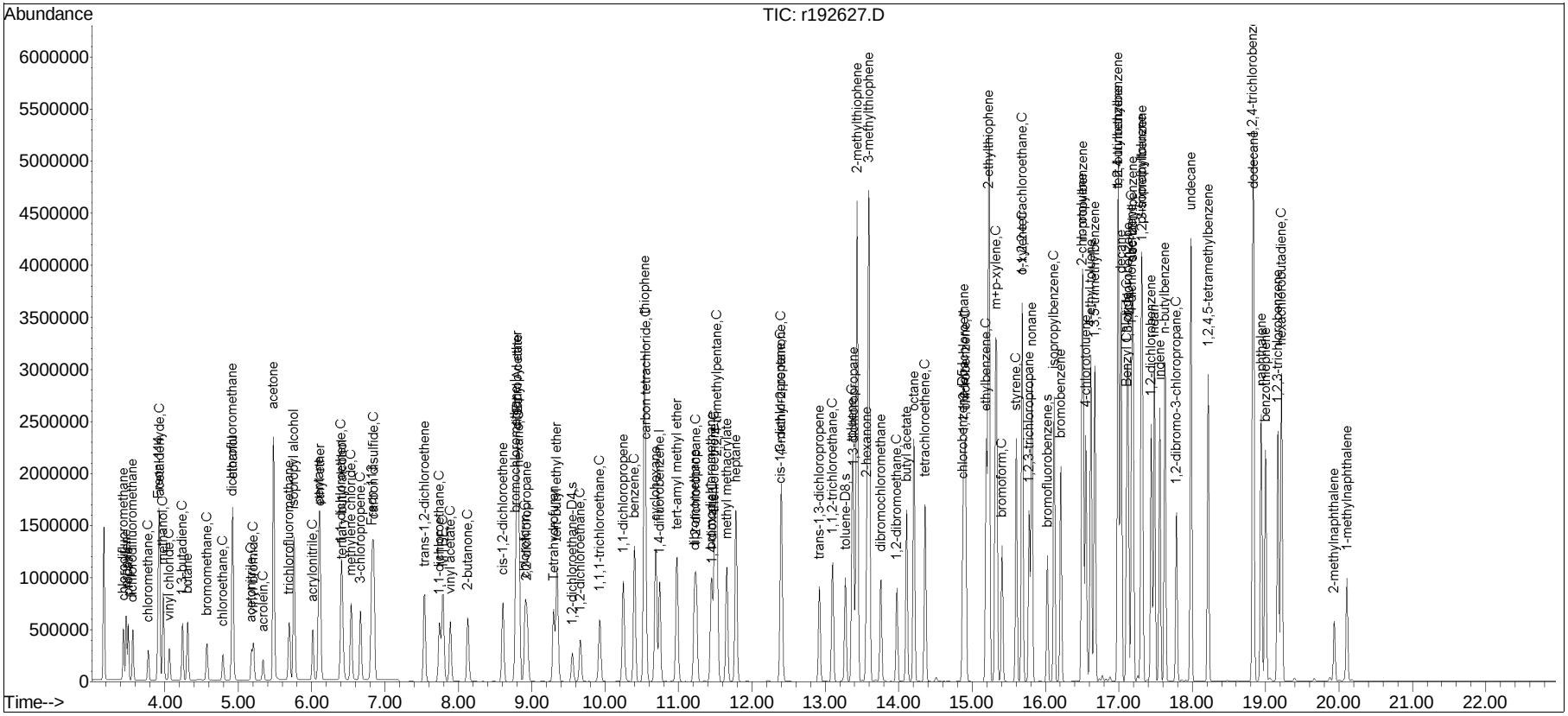
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192627.D
Acq On : 25 Feb 2020 6:07 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD020
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:16:58 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

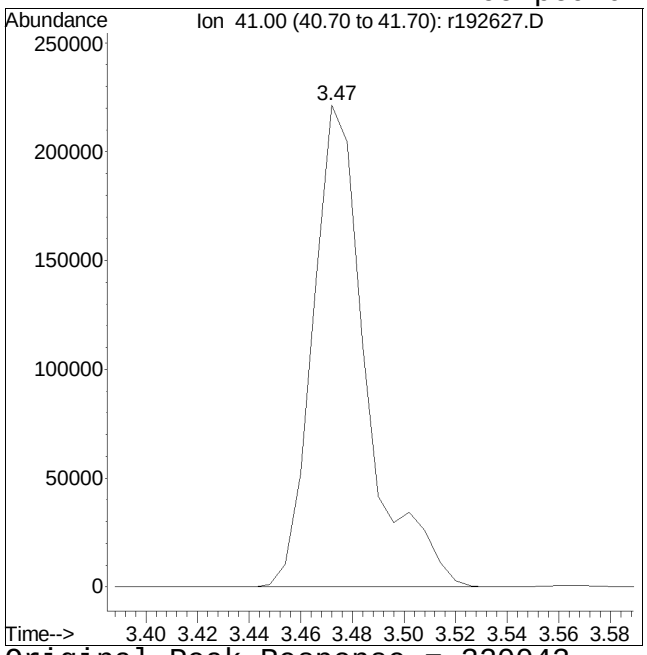
Sub List : Default - All compounds listed0\02\200224T_I\r192626.D



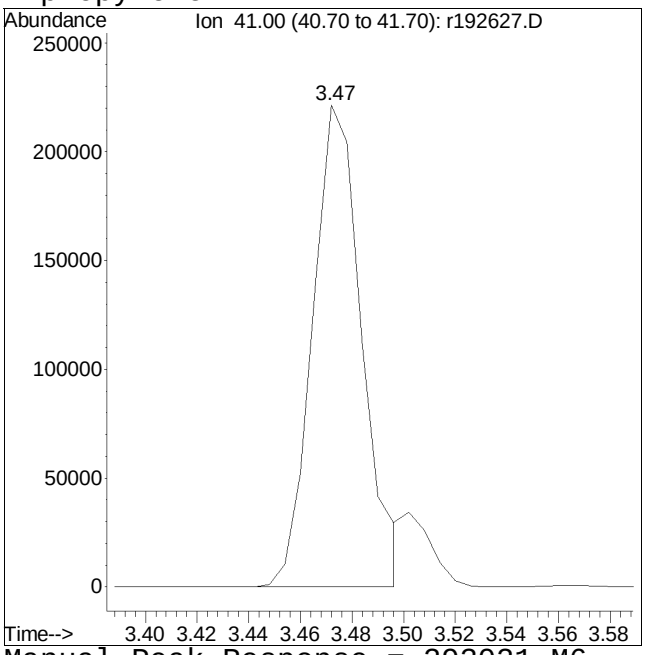
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192627.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:6: 7 Instrument :
Sample : ITO15-SIMSTD020 Quant Date : 2/25/2020 8:57 am

Compound #3: propylene



Original Peak Response = 320043



Manual Peak Response = 293021 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192628.D
Acq On : 25 Feb 2020 6:46 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD050
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:18:44 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.78	49	312030	10.000	ppbV	0.00
Standard Area = 313159			Recovery = 99.64%			
43) 1,4-difluorobenzene	10.75	114	941952	10.000	ppbV	0.00
Standard Area = 892162			Recovery = 105.58%			
67) chlorobenzene-D5	14.88	54	118440	10.000	ppbV	0.00
Standard Area = 115842			Recovery = 102.24%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	9.55	65	113785	9.470	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 94.70%			
69) toluene-D8	13.28	98	720661	10.251	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.51%			
90) bromofluorobenzene	16.02	95	481396	10.765	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 107.65%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.44	51	880328	47.553	ppbV	99
3) propylene	3.48	41	578319M6	46.726	ppbV	
4) propane	3.50	29	618260	47.129	ppbV	99
5) dichlorodifluoromethane	3.57	85	795290	48.831	ppbV	99
6) chloromethane	3.78	50	513371	50.046	ppbV	99
7) Freon-114	3.92	85	1069756	42.116	ppbV	98
8) methanol	3.98	31	1163706	243.916	ppbV	96
9) vinyl chloride	4.07	62	625922	48.761	ppbV	100
10) 1,3-butadiene	4.24	54	557033	48.372	ppbV	98
11) butane	4.31	43	873725	48.229	ppbV	100
12) acetaldehyde	3.93	29	1148738	197.020	ppbV	99
13) bromomethane	4.58	94	484880	45.631	ppbV	100
14) chloroethane	4.79	64	342722	49.829	ppbV	99
15) ethanol	4.94	31	2117121	239.061	ppbV	100
16) dichlorofluoromethane	4.92	67	855832	46.368	ppbV	99
17) vinyl bromide	5.21	106	533969	46.570	ppbV	98
18) acrolein	5.34	56	302819	48.718	ppbV	99
19) acetone	5.49	43	3338531	207.645	ppbV	97
20) acetonitrile	5.19	41	577833	47.976	ppbV	99
21) trichlorofluoromethane	5.70	101	962715	46.718	ppbV	99
22) isopropyl alcohol	5.77	45	3355477	115.325	ppbV	99
23) acrylonitrile	6.02	53	774450	49.718	ppbV	99
24) pentane	6.10	43	1440362	45.585	ppbV	99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192628.D
Acq On : 25 Feb 2020 6:46 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD050
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:18:44 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) ethyl ether	6.12	31	1250717	45.551	ppbV	98
26) 1,1-dichloroethene	6.40	61	954602	46.321	ppbV	99
27) tertiary butyl alcohol	6.43	59	1424410	53.729	ppbV	99
28) methylene chloride	6.54	49	954137	47.456	ppbV	99
29) 3-chloropropene	6.67	41	1160436	48.599	ppbV	100
30) carbon disulfide	6.85	76	2477346	43.911	ppbV	100
31) Freon 113	6.83	101	1290086	44.145	ppbV	99
32) trans-1,2-dichloroethene	7.54	61	1115159	47.464	ppbV	99
33) 1,1-dichloroethane	7.75	63	1379002	47.907	ppbV	99
34) MTBE	7.79	73	2196373	46.964	ppbV	99
35) vinyl acetate	7.89	43	1979150	48.371	ppbV	99
36) 2-butanone	8.13	43	1766267	47.531	ppbV	98
37) cis-1,2-dichloroethene	8.61	61	974603	47.718	ppbV	99
38) Ethyl Acetate	8.81	61	292871	44.972	ppbV	78
39) chloroform	8.91	83	1172803	46.396	ppbV	97
40) Tetrahydrofuran	9.29	42	1177653	47.973	ppbV	98
41) 2,2-dichloropropane	8.94	77	980818	46.146	ppbV	99
42) 1,2-dichloroethane	9.66	62	585099	47.450	ppbV	99
44) hexane	8.82	57	1433972	41.831	ppbV	91
45) diisopropyl ether	8.80	87	785910	42.445	ppbV	87
46) tert-butyl ethyl ether	9.34	59	2347918	43.854	ppbV	100
48) 1,1,1-trichloroethane	9.93	97	948582	43.368	ppbV	98
49) 1,1-dichloropropene	10.25	75	1175225	44.455	ppbV	98
50) benzene	10.40	78	2964880	44.174	ppbV	100
51) thiophene	10.54	84	4741712	35.911	ppbV	98
52) carbon tetrachloride	10.56	117	715650	39.346	ppbV	97
53) cyclohexane	10.69	56	1643417	43.777	ppbV	99
54) tert-amyl methyl ether	10.98	73	2563416	44.178	ppbV	100
55) dibromomethane	11.22	93	679842	41.366	ppbV	99
56) 1,2-dichloropropane	11.25	63	943782	43.595	ppbV	99
57) bromodichloromethane	11.45	83	1255264	42.774	ppbV	100
58) 1,4-dioxane	11.46	88	688877	46.168	ppbV	99
59) trichloroethene	11.49	130	975199	40.291	ppbV	99
60) 2,2,4-trimethylpentane	11.52	57	4557372	43.110	ppbV	100
61) methyl methacrylate	11.66	41	1225181	40.002	ppbV	98
62) heptane	11.79	43	1777451	42.343	ppbV	97
63) cis-1,3-dichloropropene	12.40	75	1353998	41.346	ppbV	95
64) 4-methyl-2-pentanone	12.41	43	1927198	41.164	ppbV	97
65) trans-1,3-dichloropropene	12.93	75	1303850	44.110	ppbV	97
66) 1,1,2-trichloroethane	13.10	97	1031241	43.745	ppbV	99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192628.D
Acq On : 25 Feb 2020 6:46 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD050
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:18:44 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) toluene	13.37	91	2997108	41.786	ppbV		100
70) 2-methylthiophene	13.44	97	6609247	32.509	ppbV		99
71) 1,3-dichloropropane	13.39	76	1457232	43.166	ppbV		99
72) 2-hexanone	13.57	43	1850229	43.729	ppbV		97
73) 3-methylthiophene	13.60	97	6615551	31.646	ppbV		99
74) dibromochloromethane	13.76	129	1145247	40.600	ppbV		98
75) 1,2-dibromoethane	13.98	107	1420658	42.474	ppbV		100
76) butyl acetate	14.11	73	513999	46.169	ppbV		95
77) octane	14.21	85	1272375	42.705	ppbV		95
78) tetrachloroethene	14.36	166	1243295	38.264	ppbV		99
79) 1,1,1,2-tetrachloroethane	14.89	131	799205	38.538	ppbV		99
80) chlorobenzene	14.92	112	2336124	40.267	ppbV		99
81) ethylbenzene	15.19	91	3595729	40.601	ppbV		96
82) 2-ethylthiophene	15.23	97	6329001	30.527	ppbV	#	95
83) m+p-xylene	15.33	91	5201701	75.208	ppbV		97
84) bromoform	15.41	173	1195648	38.266	ppbV		97
85) styrene	15.60	104	2768327	41.325	ppbV		99
86) 1,1,2,2-tetrachloroethane	15.68	83	1767241	36.011	ppbV		100
87) o-xylene	15.69	91	2397848	35.335	ppbV		96
88) 1,2,3-trichloropropane	15.78	75	1704279	43.044	ppbV		98
89) nonane	15.82	43	2188890	39.472	ppbV		96
91) isopropylbenzene	16.12	105	3894455	39.530	ppbV		98
92) bromobenzene	16.21	77	2174142	40.761	ppbV		98
93) 2-chlorotoluene	16.49	126	1029131	36.051	ppbV	#	34
94) n-propylbenzene	16.51	120	1277348	37.492	ppbV		78
95) 4-chlorotoluene	16.55	126	1192602	42.622	ppbV		97
96) 4-ethyl toluene	16.62	105	4346102	36.536	ppbV		97
97) 1,3,5-trimethylbenzene	16.67	105	3497391	37.091	ppbV		94
98) tert-butylbenzene	16.99	119	2842991	32.512	ppbV		98
99) 1,2,4-trimethylbenzene	16.99	105	2799795	31.440	ppbV		99
100) decane	17.03	57	2769455	38.132	ppbV		97
101) Benzyl Chloride	17.11	91	2879059	38.105	ppbV		97
102) 1,3-dichlorobenzene	17.13	146	2200059	35.455	ppbV		99
103) 1,4-dichlorobenzene	17.18	146	2074875	34.560	ppbV		99
104) sec-butylbenzene	17.19	105	4395450	33.820	ppbV		98
105) 1,2,3-trimethylbenzene	17.32	105	2853346	30.978	ppbV		98
106) p-isopropyltoluene	17.31	119	3674877	33.070	ppbV		98
107) 1,2-dichlorobenzene	17.44	146	2152519	36.361	ppbV		99
108) n-butylbenzene	17.63	91	3455314	35.362	ppbV		97
109) indan	17.48	117	3190275	33.086	ppbV		100

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192628.D
Acq On : 25 Feb 2020 6:46 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD050
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:18:44 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
110) indene	17.56	115	2703019	34.714	ppbV		100
111) 1,2-dibromo-3-chloropr...	17.79	75	843325	37.235	ppbV		97
112) undecane	17.98	57	2930634	35.181	ppbV	#	97
113) 1,2,4,5-tetramethylben...	18.23	119	3287191	33.823	ppbV		99
114) dodecane	18.84	57	2635035	28.504	ppbV		97
115) 1,2,4-trichlorobenzene	18.83	180	1728492	29.066	ppbV		95
116) naphthalene	18.95	128	4996254	36.004	ppbV		99
117) 1,2,3-trichlorobenzene	19.18	180	2196260	35.517	ppbV		99
118) benzothiophene	19.01	134	4398584	56.100	ppbV		99
119) hexachlorobutadiene	19.23	225	1487192	29.955	ppbV		96
120) 2-methylnaphthalene	19.94	142	1396985	72.155	ppbV		97
121) 1-methylnaphthalene	20.12	142	2133052	51.331	ppbV		98

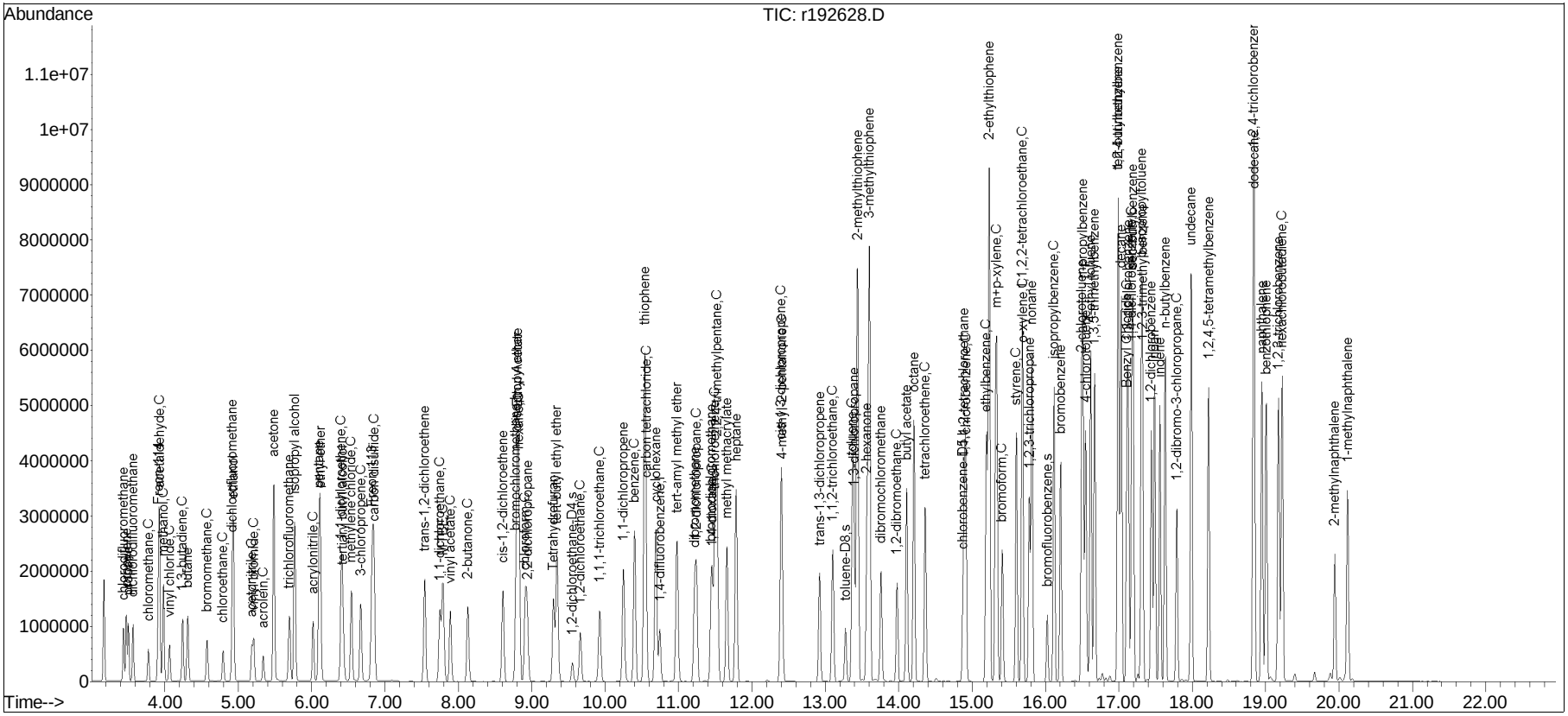
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192628.D
Acq On : 25 Feb 2020 6:46 AM
Operator : AIRLAB19:RY
Sample : ITO15-SIMSTD050
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:18:44 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

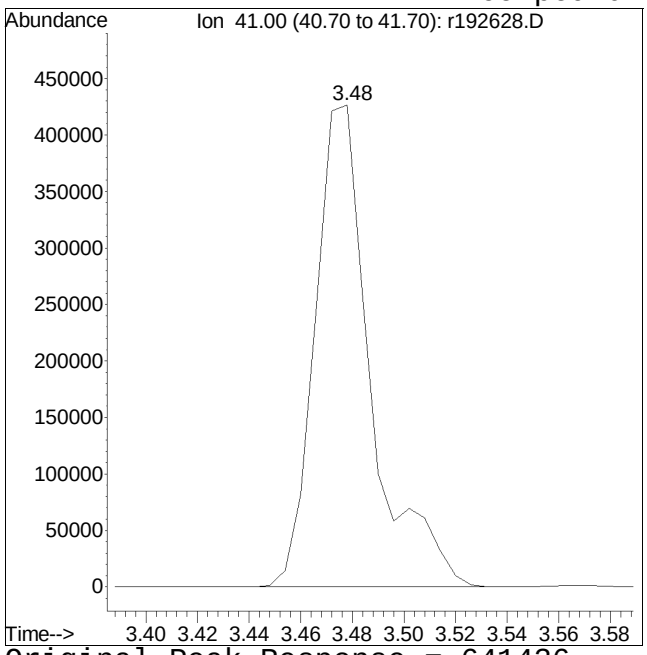
Sub List : Default - All compounds listed0\02\200224T_I\r192626.D



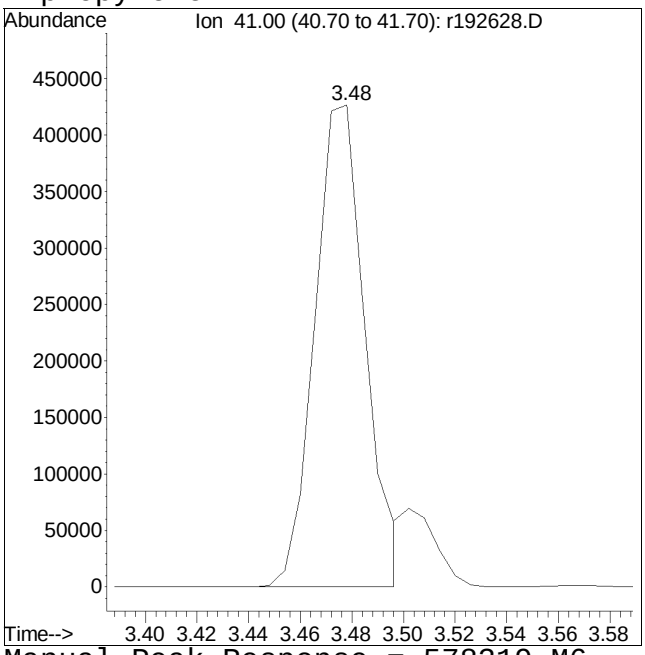
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192628.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:6: 6 Instrument :
Sample : ITO15-SIMSTD050 Quant Date : 2/25/2020 8:57 am

Compound #3: propylene



Original Peak Response = 641436



Manual Peak Response = 578319 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192629.D
Acq On : 25 Feb 2020 7:28 AM
Operator : AIRLAB19:RY
Sample : ITO15-LLSTD100
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:20:58 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.78	49	280976	10.000	ppbV	0.00
Standard Area = 313159			Recovery = 89.72%			
43) 1,4-difluorobenzene	10.75	114	868932	10.000	ppbV	0.00
Standard Area = 892162			Recovery = 97.40%			
67) chlorobenzene-D5	14.88	54	106304	10.000	ppbV	0.00
Standard Area = 115842			Recovery = 91.77%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	9.55	65	99331	8.962	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 89.62%			
69) toluene-D8	13.28	98	638294	10.116	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.16%			
90) bromofluorobenzene	16.02	95	426847	10.635	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 106.35%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.44	51	1464962	87.880	ppbV	99
3) propylene	3.47	41	963788M6	86.478	ppbV	
4) propane	3.50	29	1010024	85.503	ppbV	98
5) dichlorodifluoromethane	3.56	85	1252468	85.401	ppbV	100
6) chloromethane	3.77	50	831725	90.042	ppbV	98
7) Freon-114	3.91	85	1653315	72.284	ppbV	98
8) methanol	3.98	31	1936693	450.800	ppbV	95
9) vinyl chloride	4.06	62	1042231	90.165	ppbV	100
10) 1,3-butadiene	4.24	54	935654	90.231	ppbV	95
11) butane	4.31	43	1458945	89.432	ppbV	99
12) acetaldehyde	3.93	29	1791391	341.198	ppbV	98
13) bromomethane	4.58	94	787400	82.290	ppbV	98
14) chloroethane	4.79	64	575483	92.917	ppbV	100
15) ethanol	4.94	31	3423732	429.328	ppbV	99
16) dichlorofluoromethane	4.92	67	1431277	86.115	ppbV	99
17) vinyl bromide	5.21	106	890815	86.278	ppbV	97
18) acrolein	5.34	56	516448	92.271	ppbV	100
19) acetone	5.49	43	5487473	379.024	ppbV	92
20) acetonitrile	5.19	41	980380	90.395	ppbV	99
21) trichlorofluoromethane	5.70	101	1332517	71.810	ppbV	99
22) isopropyl alcohol	5.77	45	5254813	200.565	ppbV	98
23) acrylonitrile	6.02	53	1323170	94.333	ppbV	99
24) pentane	6.10	43	2312923	81.291	ppbV	98

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192629.D
Acq On : 25 Feb 2020 7:28 AM
Operator : AIRLAB19:RY
Sample : ITO15-LLSTD100
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:20:58 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) ethyl ether	6.12	31	1989885	80.480	ppbV	96
26) 1,1-dichloroethene	6.40	61	1543343	83.165	ppbV	100
27) tertiary butyl alcohol	6.43	59	2324137	97.355	ppbV	99
28) methylene chloride	6.54	49	1563945	86.383	ppbV	97
29) 3-chloropropene	6.67	41	1931470	89.829	ppbV	99
30) carbon disulfide	6.85	76	3761475	74.040	ppbV	100
31) Freon 113	6.82	101	1999794	75.993	ppbV	98
32) trans-1,2-dichloroethene	7.53	61	1810158	85.560	ppbV	99
33) 1,1-dichloroethane	7.74	63	2270366	87.590	ppbV	100
34) MTBE	7.78	73	3546617	84.216	ppbV	98
35) vinyl acetate	7.89	43	3285386	89.170	ppbV	98
36) 2-butanone	8.13	43	2906303	86.854	ppbV	97
37) cis-1,2-dichloroethene	8.61	61	1586949	86.286	ppbV	99
38) Ethyl Acetate	8.82	61	445768	76.016	ppbV	78
39) chloroform	8.92	83	1864265	81.901	ppbV	98
40) Tetrahydrofuran	9.29	42	1942174	87.861	ppbV	99
41) 2,2-dichloropropane	8.94	77	1565018	81.769	ppbV	97
42) 1,2-dichloroethane	9.67	62	975549	87.859	ppbV	99
44) hexane	8.82	57	2166064	68.496	ppbV	92
45) diisopropyl ether	8.80	87	1210417	70.866	ppbV	82
46) tert-butyl ethyl ether	9.34	59	3798473	76.909	ppbV	98
48) 1,1,1-trichloroethane	9.93	97	1525066	75.583	ppbV	96
49) 1,1-dichloropropene	10.25	75	1891687	77.569	ppbV	96
50) benzene	10.41	78	4709545	76.064	ppbV	99
51) thiophene	10.55	84	6918473	56.800	ppbV	97
52) carbon tetrachloride	10.57	117	1109245	66.111	ppbV	98
53) cyclohexane	10.69	56	2678908	77.356	ppbV	98
54) tert-amyl methyl ether	10.98	73	4114450	76.867	ppbV	99
55) dibromomethane	11.23	93	1033087	68.142	ppbV	97
56) 1,2-dichloropropane	11.25	63	1497807	75.001	ppbV	99
57) bromodichloromethane	11.45	83	1957157	72.296	ppbV	99
58) 1,4-dioxane	11.47	88	1043762	75.830	ppbV	97
59) trichloroethene	11.49	130	1446982	64.807	ppbV	98
60) 2,2,4-trimethylpentane	11.53	57	6724565	68.956	ppbV	99
61) methyl methacrylate	11.67	41	1976786	69.965	ppbV	98
62) heptane	11.79	43	2779181	71.769	ppbV	95
63) cis-1,3-dichloropropene	12.40	75	2122416	70.256	ppbV	93
64) 4-methyl-2-pentanone	12.41	43	2966885	68.696	ppbV	96
65) trans-1,3-dichloropropene	12.93	75	2119097	77.715	ppbV	96
66) 1,1,2-trichloroethane	13.11	97	1603138	73.720	ppbV	99

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192629.D
Acq On : 25 Feb 2020 7:28 AM
Operator : AIRLAB19:RY
Sample : ITO15-LLSTD100
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:20:58 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) toluene	13.38	91	4521265	70.233	ppbV		100
70) 2-methylthiophene	13.44	97	9014012	49.399	ppbV	#	99
71) 1,3-dichloropropane	13.40	76	2287177	75.485	ppbV		98
72) 2-hexanone	13.57	43	2876654	75.749	ppbV		96
73) 3-methylthiophene	13.61	97	9061478M3	48.294	ppbV		
74) dibromochloromethane	13.76	129	1708209	67.470	ppbV		97
75) 1,2-dibromoethane	13.98	107	2169871	72.280	ppbV		100
76) butyl acetate	14.11	73	803732	80.435	ppbV		94
77) octane	14.21	85	1927954	72.096	ppbV		96
78) tetrachloroethene	14.37	166	1804450	61.874	ppbV		94
79) 1,1,1,2-tetrachloroethane	14.90	131	1158141	62.221	ppbV		97
80) chlorobenzene	14.92	112	3383670	64.982	ppbV		98
81) ethylbenzene	15.20	91	5307549	66.772	ppbV		94
82) 2-ethylthiophene	15.24	97	8502892	45.695	ppbV	#	93
83) m+p-xylene	15.33	91	7469360	120.323	ppbV		97
84) bromoform	15.42	173	1692161	60.340	ppbV		98
85) styrene	15.61	104	4137569	68.817	ppbV		99
86) 1,1,2,2-tetrachloroethane	15.68	83	2539748	57.661	ppbV		99
87) o-xylene	15.69	91	3437459	56.437	ppbV		95
88) 1,2,3-trichloropropane	15.78	75	2608253	73.395	ppbV	#	97
89) nonane	15.82	43	3322026	66.746	ppbV		99
91) isopropylbenzene	16.12	105	5562575	62.908	ppbV		96
92) bromobenzene	16.21	77	3217663	67.212	ppbV		97
93) 2-chlorotoluene	16.48	126	1532073	59.796	ppbV	#	14
94) n-propylbenzene	16.51	120	1878037	61.415	ppbV	#	58
95) 4-chlorotoluene	16.54	126	1777294	70.770	ppbV		94
96) 4-ethyl toluene	16.61	105	6651047	62.297	ppbV		96
97) 1,3,5-trimethylbenzene	16.67	105	5240001	61.916	ppbV		96
98) tert-butylbenzene	16.99	119	4263954	54.329	ppbV		95
99) 1,2,4-trimethylbenzene	16.99	105	4161267	52.064	ppbV		98
100) decane	17.03	57	4316598	66.219	ppbV		98
101) Benzyl Chloride	17.11	91	4671443	68.887	ppbV		97
102) 1,3-dichlorobenzene	17.13	146	3475464	62.403	ppbV		96
103) 1,4-dichlorobenzene	17.18	146	2869524	53.253	ppbV		97
104) sec-butylbenzene	17.20	105	6494806	55.678	ppbV		99
105) 1,2,3-trimethylbenzene	17.32	105	4479874	54.189	ppbV		100
106) p-isopropyltoluene	17.31	119	5441852	54.561	ppbV		99
107) 1,2-dichlorobenzene	17.45	146	3514914	66.153	ppbV		94
108) n-butylbenzene	17.63	91	5618426	64.064	ppbV		97
109) indan	17.49	117	4994055	57.706	ppbV		99

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192629.D
Acq On : 25 Feb 2020 7:28 AM
Operator : AIRLAB19:RY
Sample : ITO15-LLSTD100
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:20:58 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
110) indene	17.57	115	4444967	63.603	ppbV		98
111) 1,2-dibromo-3-chloropr...	17.79	75	1480212	72.816	ppbV		94
112) undecane	17.99	57	4597349	61.490	ppbV		98
113) 1,2,4,5-tetramethylben...	18.23	119	5190321	59.503	ppbV		98
114) dodecane	18.83	57	3771388	45.454	ppbV		86
115) 1,2,4-trichlorobenzene	18.82	180	2512011	47.065	ppbV	#	93
116) naphthalene	18.94	128	7722818	62.006	ppbV		97
117) 1,2,3-trichlorobenzene	19.17	180	3338635	60.154	ppbV		93
118) benzothiophene	19.00	134	6858122	97.455	ppbV	#	97
119) hexachlorobutadiene	19.22	225	2175648	48.824	ppbV	#	94
120) 2-methylnaphthalene	19.93	142	2860554	164.618	ppbV		99
121) 1-methylnaphthalene	20.10	142	4204782	112.739	ppbV		98

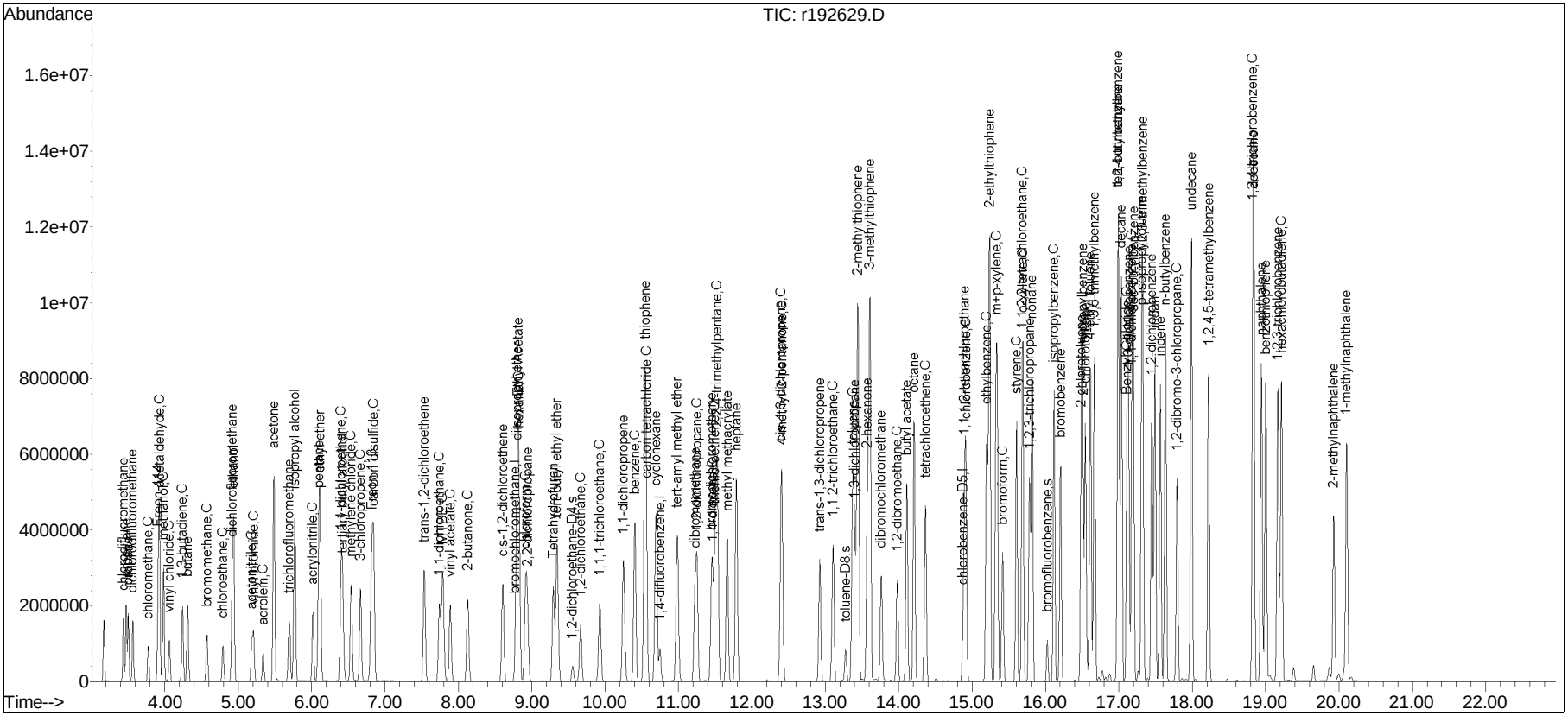
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192629.D
Acq On : 25 Feb 2020 7:28 AM
Operator : AIRLAB19:RY
Sample : ITO15-LLSTD100
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:20:58 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 08:56:41 2020
Response via : Initial Calibration

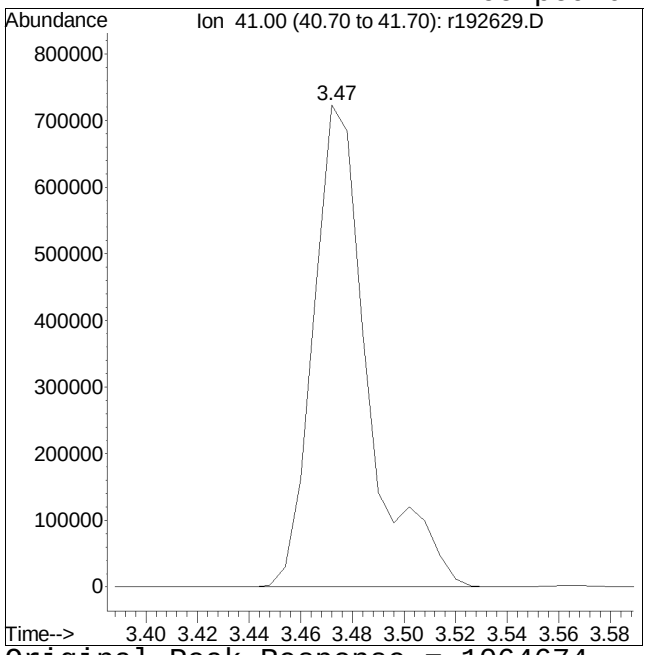
Sub List : Default - All compounds listed0\02\200224T_I\r192626.D



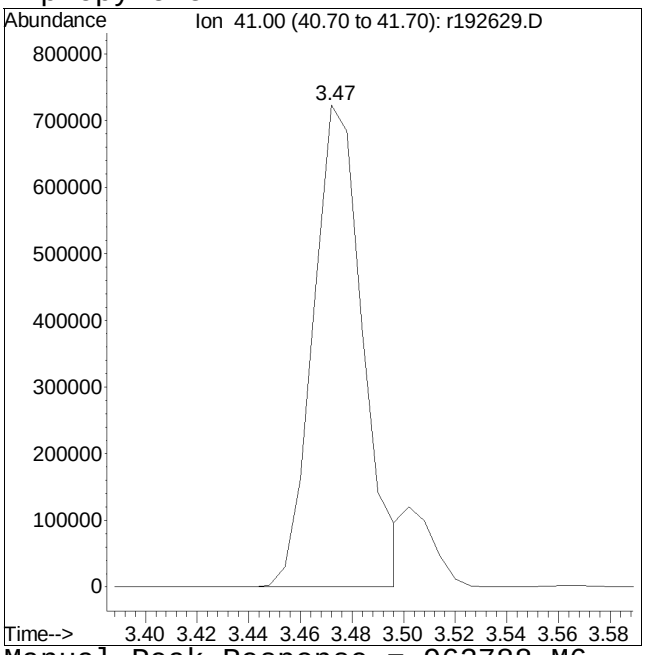
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192629.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:7: 8 Instrument :
Sample : ITO15-LLSTD100 Quant Date : 2/25/2020 8:57 am

Compound #3: propylene



Original Peak Response = 1064674



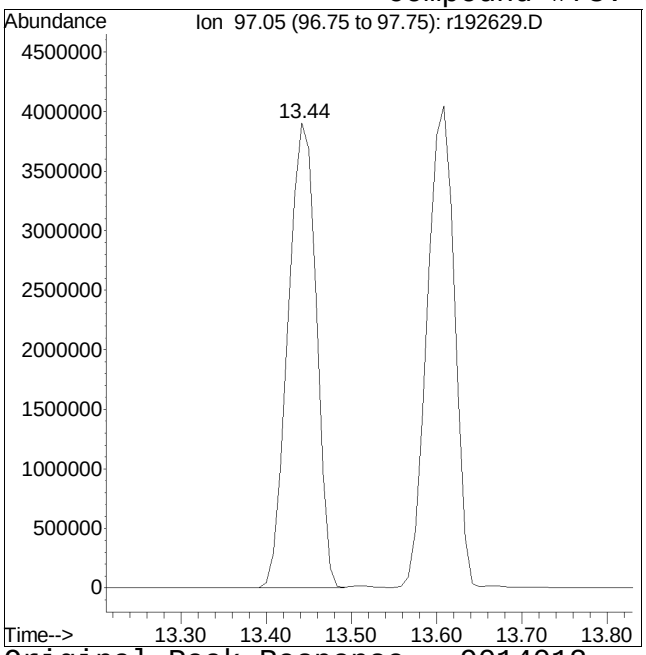
Manual Peak Response = 963788 M6

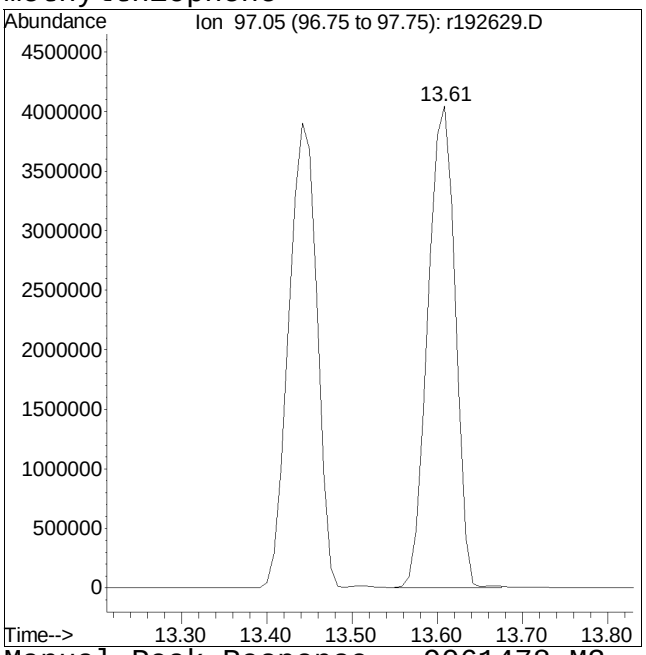
M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192629.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:7: 8 Instrument :
Sample : ITO15-LLSTD100 Quant Date : 2/25/2020 8:57 am

Compound #73: 3-methylthiophene





Original Peak Response = 9014012 Manual Peak Response = 9061478 M3
M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192632.D
Acq On : 25 Feb 2020 10:32 AM
Operator : AIRLAB19:RY
Sample : CTO15-LLSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:59:57 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	bromochloromethane	1.000	1.000	0.0	96	0.00
2		chlorodifluoromethane	0.626	0.535	14.5	86	0.00
3		propylene	0.411	0.428	-4.1	103	0.00
4		propane	0.446	0.375	15.9	85	0.00
5		dichlorodifluoromethane	0.560	0.507	9.5	93	0.00
6	C	chloromethane	0.358	0.320	10.6	93	0.00
7		Freon-114	0.832	0.781	6.1	92	0.00
8	C	methanol	0.162	0.167	-3.1	104	0.00
9	C	vinyl chloride	0.445	0.399	10.3	93	0.00
10	C	1,3-butadiene	0.384	0.375	2.3	97	0.00
11		butane	0.629	0.544	13.5	89	0.00
13	C	bromomethane	0.352	0.324	8.0	91	0.00
14	C	chloroethane	0.233	0.219	6.0	95	0.00
15		ethanol	0.292	0.269	7.9	91	0.00
16		dichlorofluoromethane	0.618	0.534	13.6	86	0.00
17	C	vinyl bromide	0.381	0.345	9.4	90	0.00
18	C	acrolein	0.204	0.177	13.2	85	0.00
19		acetone	0.537	0.435	19.0	81	-0.01
20	C	acetonitrile	0.390	0.357	8.5	88	0.00
21		trichlorofluoromethane	0.589	0.637	-8.1	92	0.00
22		isopropyl alcohol	1.020	0.807	20.9	83	-0.01
23	C	acrylonitrile	0.517	0.485	6.2	93	0.00
24		pentane	1.043	0.939	10.0	89	0.00
25		ethyl ether	0.898	0.825	8.1	90	0.00
26	C	1,1-dichloroethene	0.678	0.662	2.4	96	0.00
27		tertiary butyl alcohol	0.935	0.817	12.6	92	-0.02
28	C	methylene chloride	0.657	0.656	0.2	97	0.00
29	C	3-chloropropene	0.791	0.821	-3.8	103	0.00
30	C	carbon disulfide	1.825	1.725	5.5	91	0.00
31		Freon 113	0.957	0.947	1.0	97	0.00
32		trans-1,2-dichloroethene	0.778	0.736	5.4	93	0.00
33	C	1,1-dichloroethane	0.947	0.913	3.6	95	0.00
34	C	MTBE	1.536	1.505	2.0	96	-0.02
35	C	vinyl acetate	1.305	1.256	3.8	92	0.00
36	C	2-butanone	1.204	1.186	1.5	95	-0.03
37		cis-1,2-dichloroethene	0.674	0.662	1.8	97	0.00
38		Ethyl Acetate	0.205	0.218	-6.3	100	-0.02
39	C	chloroform	0.836	0.829	0.8	98	0.00
40		Tetrahydrofuran	0.809	0.774	4.3	94	-0.03

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192632.D
Acq On : 25 Feb 2020 10:32 AM
Operator : AIRLAB19:RY
Sample : CTO15-LLSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:59:57 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41		2,2-dichloropropane	0.694	0.613	11.7	86	0.00
42	C	1,2-dichloroethane	0.409	0.379	7.3	92	0.00
43	I	1,4-difluorobenzene	1.000	1.000	0.0	95	0.00
44	C	hexane	0.367	0.373	-1.6	97	0.00
45		diisopropyl ether	0.197	0.187	5.1	91	0.00
46		tert-butyl ethyl ether	0.573	0.526	8.2	88	0.00
47	s	1,2-dichloroethane-D4	0.126	0.120	4.8	89	0.00
48	C	1,1,1-trichloroethane	0.235	0.227	3.4	93	0.00
49		1,1-dichloropropene	0.286	0.274	4.2	93	0.00
50	C	benzene	0.723	0.723	0.0	97	0.00
52	C	carbon tetrachloride	0.194	0.200	-3.1	98	0.00
53		cyclohexane	0.401	0.418	-4.2	100	0.00
54		tert-amyl methyl ether	0.618	0.586	5.2	90	-0.01
55		dibromomethane	0.178	0.166	6.7	91	0.00
56	C	1,2-dichloropropane	0.231	0.235	-1.7	97	0.00
57		bromodichloromethane	0.315	0.319	-1.3	98	0.00
58	C	1,4-dioxane	0.164	0.167	-1.8	100	-0.04
59	C	trichloroethene	0.258	0.262	-1.6	97	0.00
60	C	2,2,4-trimethylpentane	1.157	1.207	-4.3	102	0.00
61		methyl methacrylate	0.299	0.227	24.1	66	0.00
62		heptane	0.447	0.456	-2.0	97	0.00
63	C	cis-1,3-dichloropropene	0.344	0.371	-7.8	101	0.00
64	C	4-methyl-2-pentanone	0.481	0.510	-6.0	98	-0.03
65		trans-1,3-dichloropropene	0.309	0.285	7.8	87	0.00
66	C	1,1,2-trichloroethane	0.252	0.263	-4.4	100	0.00
67	I	chlorobenzene-D5	1.000	1.000	0.0	94	0.00
68	C	toluene	6.089	6.177	-1.4	96	0.00
69	s	toluene-D8	5.903	5.891	0.2	94	0.00
71		1,3-dichloropropane	2.846	2.697	5.2	89	0.00
72		2-hexanone	3.538	3.821	-8.0	101	-0.03
74		dibromochloromethane	2.341	2.461	-5.1	97	0.00
75	C	1,2-dibromoethane	2.800	2.930	-4.6	98	0.00
76		butyl acetate	0.920	0.877	4.7	88	-0.03
77		octane	2.521	2.415	4.2	90	0.00
78	C	tetrachloroethene	2.675	2.784	-4.1	96	0.00
79		1,1,1,2-tetrachloroethane	1.721	1.621	5.8	87	0.00
80	C	chlorobenzene	4.839	5.126	-5.9	99	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192632.D
Acq On : 25 Feb 2020 10:32 AM
Operator : AIRLAB19:RY
Sample : CTO15-LLSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:59:57 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	C	ethylbenzene	7.303	7.575	-3.7	95	0.00
83	C	m+p-xylene	5.758	5.982	-3.9	97	0.00
84	C	bromoform	2.584	2.758	-6.7	99	0.00
85	C	styrene	5.572	5.864	-5.2	98	0.00
86	C	1,1,2,2-tetrachloroethane	3.972	4.303	-8.3	98	0.00
87	C	o-xylene	5.649	5.828	-3.2	96	0.00
88		1,2,3-trichloropropane	3.318	3.181	4.1	90	0.00
89		nonane	4.639	4.377	5.6	88	0.00
90	s	bromofluorobenzene	3.813	3.688	3.3	92	0.00
91	C	isopropylbenzene	8.211	8.144	0.8	92	0.00
92		bromobenzene	4.428	4.321	2.4	90	0.00
93		2-chlorotoluene	2.276	2.227	2.2	87	-0.02
94		n-propylbenzene	2.736	2.765	-1.1	91	0.00
95		4-chlorotoluene	2.304	2.296	0.3	92	0.00
96		4-ethyl toluene	9.565	10.120	-5.8	95	0.00
97		1,3,5-trimethylbenzene	7.686	8.209	-6.8	97	-0.02
98		tert-butylbenzene	7.075	7.002	1.0	89	0.00
99		1,2,4-trimethylbenzene	7.114	7.607	-6.9	95	0.00
100		decane	5.798	5.805	-0.1	89	0.00
101	C	Benzyl Chloride	5.729	6.246	-9.0	92	0.00
102		1,3-dichlorobenzene	4.872	5.374	-10.3	97	0.00
103	C	1,4-dichlorobenzene	4.669	5.057	-8.3	94	0.00
104		sec-butylbenzene	10.413	10.549	-1.3	91	0.00
106		p-isopropyltoluene	8.833	8.303	6.0	83	0.00
107		1,2-dichlorobenzene	4.620	5.095	-10.3	96	0.00
108		n-butylbenzene	7.618	7.877	-3.4	90	0.00
111	C	1,2-dibromo-3-chloropropane	1.776	1.723	3.0	85	0.00
112		undecane	6.295	6.516	-3.5	87	0.00
114		dodecane	6.117	6.450	-5.4	78	0.00
115	C	1,2,4-trichlorobenzene	4.060	4.981	-22.7	94	0.00
116		naphthalene	10.393	10.404	-0.1	84	0.00
117		1,2,3-trichlorobenzene	4.250	4.669	-9.9	84	0.00
119	C	hexachlorobutadiene	3.529	3.927	-11.3	88	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192632.D
Acq On : 25 Feb 2020 10:32 AM
Operator : AIRLAB19:RY
Sample : CTO15-LLSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:59:57 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default-ICV-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.78	49	299243	10.000	ppbV	0.00
Standard Area = 313159			Recovery = 95.56%			
43) 1,4-difluorobenzene	10.75	114	848827	10.000	ppbV	0.00
Standard Area = 892162			Recovery = 95.14%			
67) chlorobenzene-D5	14.88	54	109184	10.000	ppbV	0.00
Standard Area = 115842			Recovery = 94.25%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	9.55	65	101802	9.519	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 95.19%			
69) toluene-D8	13.28	98	643252	9.981	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.81%			
90) bromofluorobenzene	16.02	95	402624	9.671	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 96.71%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.44	51	160220	8.557	ppbV	97
3) propylene	3.48	41	128203M6	10.432	ppbV	
4) propane	3.50	29	112164	8.408	ppbV #	91
5) dichlorodifluoromethane	3.57	85	151616	9.041	ppbV	100
6) chloromethane	3.78	50	95707	8.923	ppbV	100
7) Freon-114	3.92	85	233732	9.392	ppbV	98
8) methanol	3.98	31	250054	51.542	ppbV #	1
9) vinyl chloride	4.07	62	119453	8.973	ppbV	99
10) 1,3-butadiene	4.25	54	112123	9.767	ppbV	96
11) butane	4.31	43	162665	8.646	ppbV	95
13) bromomethane	4.58	94	96973	9.207	ppbV	100
14) chloroethane	4.79	64	65658	9.407	ppbV	94
15) ethanol	4.93	31	402905	46.081	ppbV	99
16) dichlorofluoromethane	4.92	67	159679	8.639	ppbV	97
17) vinyl bromide	5.21	106	103314	9.071	ppbV	94
18) acrolein	5.34	56	53048	8.679	ppbV #	48
19) acetone	5.48	43	651144	40.522	ppbV #	99
20) acetonitrile	5.19	41	106739	9.150	ppbV #	58
21) trichlorofluoromethane	5.70	101	190501	10.814	ppbV	98
22) isopropyl alcohol	5.76	45	603547	19.770	ppbV	100
23) acrylonitrile	6.02	53	145282	9.392	ppbV	98
24) pentane	6.10	43	281012	9.006	ppbV	99
25) ethyl ether	6.12	31	247022	9.197	ppbV	97

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192632.D
Acq On : 25 Feb 2020 10:32 AM
Operator : AIRLAB19:RY
Sample : CTO15-LLSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:59:57 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default-ICV-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
26) 1,1-dichloroethene	6.40	61	198033	9.754	ppbV		94
27) tertiary butyl alcohol	6.43	59	244580	8.739	ppbV	#	91
28) methylene chloride	6.54	49	196205	9.987	ppbV		99
29) 3-chloropropene	6.67	41	245743	10.380	ppbV		97
30) carbon disulfide	6.85	76	516140	9.452	ppbV	#	81
31) Freon 113	6.83	101	283441	9.897	ppbV		99
32) trans-1,2-dichloroethene	7.54	61	220296	9.465	ppbV		99
33) 1,1-dichloroethane	7.74	63	273081	9.632	ppbV		99
34) MTBE	7.79	73	450457	9.800	ppbV		99
35) vinyl acetate	7.89	43	375759	9.622	ppbV		98
36) 2-butanone	8.13	43	354860	9.852	ppbV		97
37) cis-1,2-dichloroethene	8.61	61	198070	9.819	ppbV		99
38) Ethyl Acetate	8.82	61	65154	10.632	ppbV		88
39) chloroform	8.91	83	248156	9.915	ppbV		98
40) Tetrahydrofuran	9.31	42	231750	9.575	ppbV		93
41) 2,2-dichloropropane	8.94	77	183572	8.842	ppbV		97
42) 1,2-dichloroethane	9.67	62	113459	9.278	ppbV		96
44) hexane	8.82	57	316422	10.170	ppbV		80
45) diisopropyl ether	8.80	87	159139	9.537	ppbV		94
46) tert-butyl ethyl ether	9.35	59	446325	9.171	ppbV		98
48) 1,1,1-trichloroethane	9.93	97	192487	9.636	ppbV		96
49) 1,1-dichloropropene	10.25	75	232673	9.586	ppbV		95
50) benzene	10.41	78	613642	9.997	ppbV		100
52) carbon tetrachloride	10.56	117	169669	10.310	ppbV	#	90
53) cyclohexane	10.69	56	354574	10.419	ppbV		99
54) tert-amyl methyl ether	10.99	73	497070	9.471	ppbV		98
55) dibromomethane	11.22	93	141240	9.336	ppbV		97
56) 1,2-dichloropropane	11.25	63	199269	10.151	ppbV		99
57) bromodichloromethane	11.45	83	271180	10.132	ppbV		99
58) 1,4-dioxane	11.46	88	141566	10.188	ppbV	#	79
59) trichloroethene	11.49	130	222103	10.153	ppbV		98
60) 2,2,4-trimethylpentane	11.52	57	1024677	10.435	ppbV		98
61) methyl methacrylate	11.66	41	192636	7.598	ppbV		98
62) heptane	11.79	43	387005	10.194	ppbV		98
63) cis-1,3-dichloropropene	12.39	75	314575	10.771	ppbV		98
64) 4-methyl-2-pentanone	12.41	43	433285	10.609	ppbV		94
65) trans-1,3-dichloropropene	12.92	75	242198	9.220	ppbV		95
66) 1,1,2-trichloroethane	13.10	97	222971	10.431	ppbV		98
68) toluene	13.37	91	674393	10.144	ppbV		100
71) 1,3-dichloropropane	13.38	76	294501	9.478	ppbV		97

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192632.D
Acq On : 25 Feb 2020 10:32 AM
Operator : AIRLAB19:RY
Sample : CTO15-LLSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:59:57 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default-ICV-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
72) 2-hexanone	13.57	43	417197	10.800	ppbV #	81
74) dibromochloromethane	13.76	129	268745	10.516	ppbV	97
75) 1,2-dibromoethane	13.98	107	319880	10.463	ppbV	97
76) butyl acetate	14.11	73	95718	9.533	ppbV	88
77) octane	14.21	85	263669	9.581	ppbV	98
78) tetrachloroethene	14.36	166	303918	10.404	ppbV	98
79) 1,1,1,2-tetrachloroethane	14.89	131	176971	9.416	ppbV	96
80) chlorobenzene	14.91	112	559644	10.592	ppbV	98
81) ethylbenzene	15.19	91	827026	10.371	ppbV	99
83) m+p-xylene	15.32	91	1306182	20.777	ppbV	99
84) bromoform	15.41	173	301091	10.670	ppbV	97
85) styrene	15.60	104	640293	10.524	ppbV	99
86) 1,1,2,2-tetrachloroethane	15.68	83	469854	10.833	ppbV	98
87) o-xylene	15.68	91	636367	10.317	ppbV	96
88) 1,2,3-trichloropropane	15.78	75	347295	9.587	ppbV	97
89) nonane	15.81	43	477906	9.436	ppbV	95
91) isopropylbenzene	16.11	105	889166	9.918	ppbV	96
92) bromobenzene	16.20	77	471821	9.759	ppbV	96
93) 2-chlorotoluene	16.48	126	243144	9.783	ppbV #	39
94) n-propylbenzene	16.50	120	301909	10.105	ppbV	74
95) 4-chlorotoluene	16.54	126	250666	9.964	ppbV	97
96) 4-ethyl toluene	16.61	105	1104966	10.580	ppbV	99
97) 1,3,5-trimethylbenzene	16.66	105	896314	10.680	ppbV	95
98) tert-butylbenzene	16.98	119	764512	9.896	ppbV	99
99) 1,2,4-trimethylbenzene	16.98	105	830529	10.692	ppbV	94
100) decane	17.02	57	633814	10.012	ppbV	96
101) Benzyl Chloride	17.11	91	681921	10.901	ppbV	98
102) 1,3-dichlorobenzene	17.13	146	586728	11.029	ppbV	100
103) 1,4-dichlorobenzene	17.18	146	552133	10.831	ppbV	98
104) sec-butylbenzene	17.19	105	1151791	10.131	ppbV	99
106) p-isopropyltoluene	17.30	119	906581	9.400	ppbV	96
107) 1,2-dichlorobenzene	17.44	146	556254	11.027	ppbV	99
108) n-butylbenzene	17.63	91	860019	10.339	ppbV	99
111) 1,2-dibromo-3-chloropr...	17.79	75	188171	9.705	ppbV	89
112) undecane	17.98	57	711452	10.351	ppbV	96
114) dodecane	18.83	57	704231	10.544	ppbV	93
115) 1,2,4-trichlorobenzene	18.82	180	543832	12.267	ppbV	96
116) naphthalene	18.94	128	1135908	10.010	ppbV	97
117) 1,2,3-trichlorobenzene	19.17	180	509754	10.985	ppbV	94
119) hexachlorobutadiene	19.22	225	428804	11.130	ppbV	98

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192632.D
Acq On : 25 Feb 2020 10:32 AM
Operator : AIRLAB19:RY
Sample : CTO15-LLSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:59:57 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\02\200224T_I\r192626.D
Sub List : Default-ICV-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

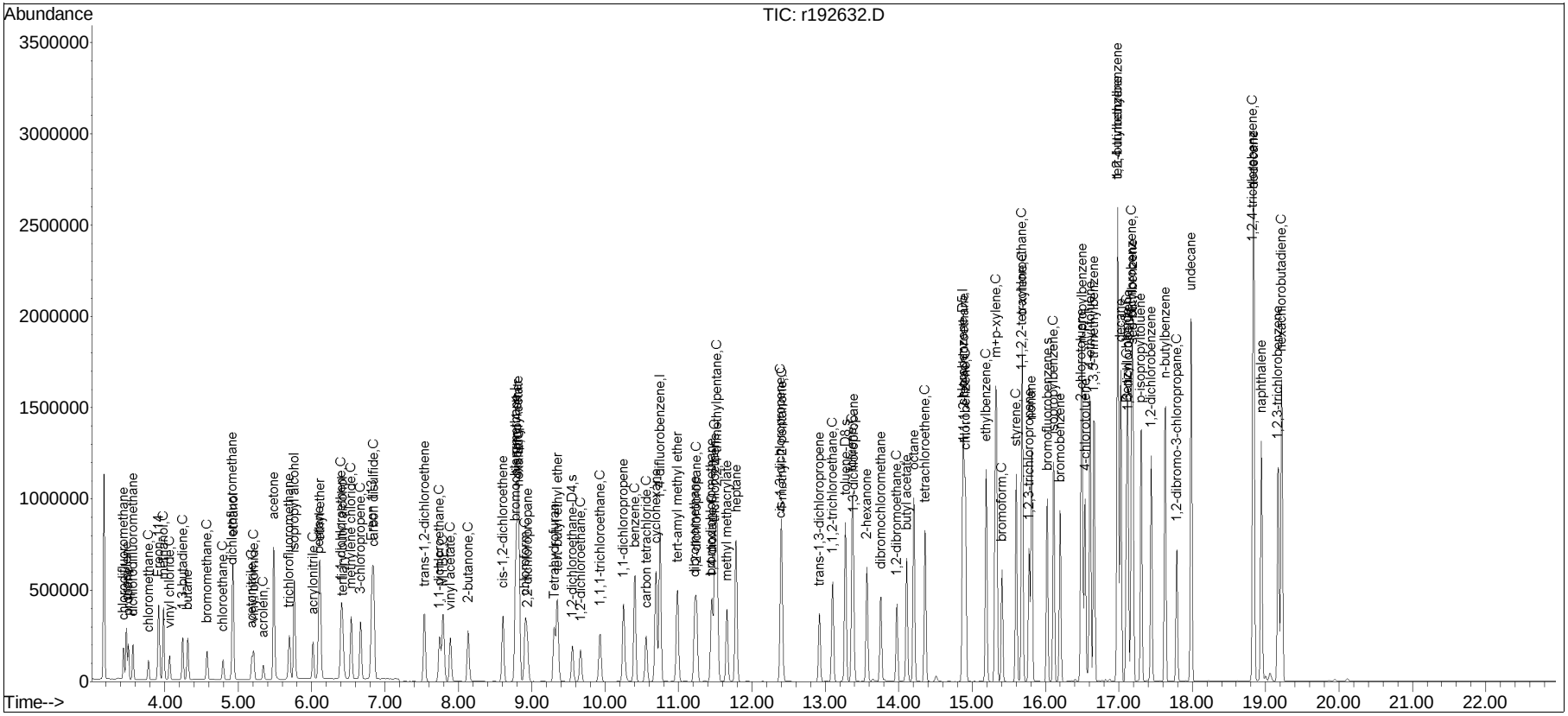
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\02\200224T_I\
Data File : r192632.D
Acq On : 25 Feb 2020 10:32 AM
Operator : AIRLAB19:RY
Sample : CTO15-LLSTD010
Misc : WG1344146
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Feb 25 10:59:57 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\02\200224T_I\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

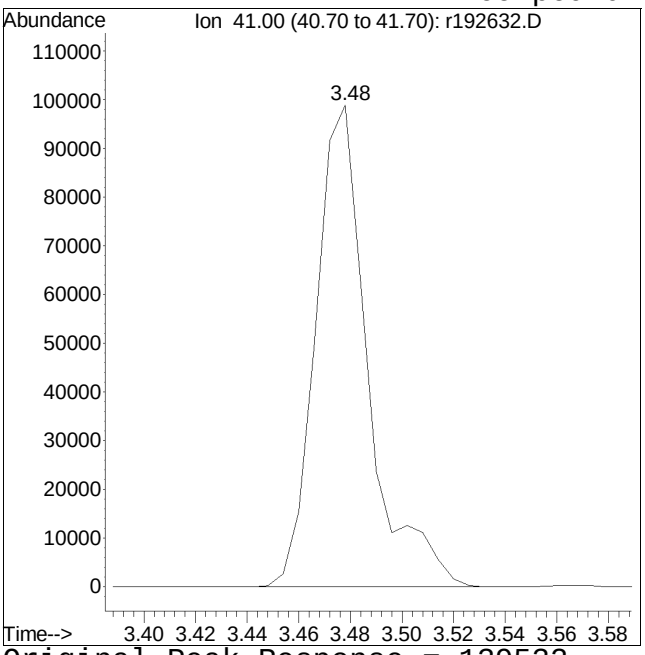
Sub List : Default-ICV-AP2 - All compounds listed224T_I\r192626.D



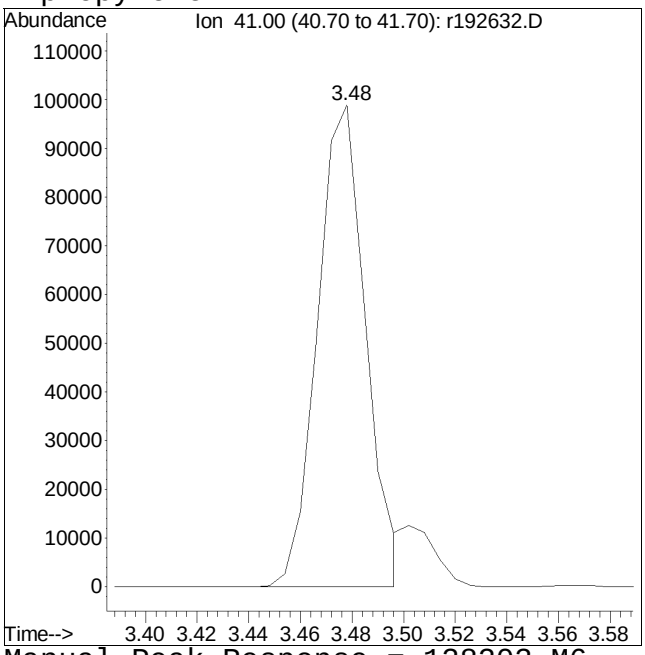
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airlab19\QMethod : TFS19_200224.M
Data File : r192632.D Operator : AIRLAB19:RY
Date Inj'd : 2/25/2020 0:0: 2 Instrument :
Sample : CTO15-LLSTD010 Quant Date : 2/25/2020 10:59 am

Compound #3: propylene



Original Peak Response = 139532



Manual Peak Response = 128203 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Response Factor Report

Method Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Method File : TFS3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 17:27:58 2020
Response Via : Initial Calibration

Calibration Files
0.2 =r38592.D 0.5 =r38593.D 1.0 =r38594.D 5.0 =r38595.D 10 =r38596.D 20 =r38597.D 50 =r38598.D
100 =r38599.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
1)	I	bromochloromethane	ISTD									
2)		chlorodifluoromethane	0.888	0.848	0.845	0.777	0.753	0.755	0.647	0.582	0.7618	13.70
3)		propylene		0.525	0.516	0.473	0.445	0.444	0.401	0.371	0.4536	12.41
4)		propane		0.720	0.695	0.615	0.598	0.602	0.520	0.464	0.6021	14.94
5)		dichlorodifluoromethane	1.087	1.070	1.064	0.949	0.911	0.886	0.677	0.587	0.9039	20.56
6)	C	chloromethane	0.476	0.479	0.470	0.423	0.410	0.411	0.347	0.308	0.4153	14.95
7)		Freon-114	1.364	1.336	1.313	1.169	1.110	1.075	0.802	0.631	1.0997	23.94
8)	C	methanol			0.256	0.214	0.205	0.202	0.173	0.153	0.2005	17.72
9)	C	vinyl chloride	0.547	0.536	0.526	0.482	0.468	0.485	0.432	0.400	0.4844	10.58
10)	C	1,3-butadiene	0.545	0.542	0.537	0.494	0.479	0.492	0.426	0.372	0.4857	12.58
11)		butane	0.856	0.825	0.803	0.724	0.701	0.701	0.579	0.516	0.7132	16.64
12)	C	acetaldehyde		0.281	0.266	0.253	0.237	0.199	0.150	0.124	0.2159	27.85
13)	C	bromomethane	0.444	0.456	0.447	0.401	0.393	0.404	0.351	0.312	0.4011	12.43
14)	C	chloroethane	0.279	0.274	0.268	0.240	0.235	0.244	0.220	0.210	0.2464	10.20
15)		ethanol			0.481	0.434	0.409	0.470	0.299	0.245	0.3895	24.70
16)		dichlorofluoromethane	0.853	0.854	0.839	0.764	0.740	0.770	0.607	0.542	0.7461	15.51
17)	C	vinyl bromide	0.513	0.520	0.507	0.467	0.458	0.525	0.375	0.321	0.4606	16.30
18)	C	acrolein		0.283	0.273	0.248	0.247	0.275	0.231	0.214	0.2531	10.03
19)		acetone	0.781	0.741	0.717	0.700	0.669	0.768	0.444	0.370	0.6487	23.87
20)	C	acetonitrile	0.493	0.451	0.443	0.405	0.395	0.501	0.335	0.310	0.4165	16.57
21)		trichlorofluoromethane	0.807	0.791	0.790	0.715	0.691	0.866	0.534	0.448	0.7053	20.54
22)		isopropyl alcohol	0.992	0.914	0.869	0.865	0.832	1.001	0.627	0.537	0.8294	19.99
23)	C	acrylonitrile	0.488	0.473	0.480	0.450	0.444	0.513	0.408	0.368	0.4528	10.34
24)		pentane	0.974	0.948	0.925	0.843	1.012	1.063	1.082	0.768	0.9516	11.22
25)		ethyl ether	1.007	0.992	0.988	0.978	0.988	1.162	1.209	0.785	1.0136	12.67
26)	C	1,1-dichloroethene	0.694	0.713	0.697	0.631	0.615	0.732	0.652	0.576	0.6638	8.13
27)		tertiary butyl alcohol		1.045	1.026	0.938	1.019	1.048	0.979	0.905	0.9940	5.57
28)	C	methylene chloride		0.641	0.632	0.595	0.661	0.680	0.617	0.546	0.6245	7.10
29)	C	3-chloropropene	0.911	0.895	0.878	0.816	0.808	0.818	0.745	0.681	0.8191	9.50
30)	C	carbon disulfide	2.016	2.024	2.020	1.869	1.838	1.839	1.617	1.378	1.8250	12.42
31)		Freon 113	1.089	1.082	1.063	0.972	0.959	0.969	0.845	0.719	0.9623	13.26

Response Factor Report

Method Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Method File : TFS3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 17:27:58 2020
Response Via : Initial Calibration

Calibration Files
0.2 =r38592.D 0.5 =r38593.D 1.0 =r38594.D 5.0 =r38595.D 10 =r38596.D 20 =r38597.D 50 =r38598.D
100 =r38599.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
32)		trans-1,2-dichloroethene	0.839	0.845	0.837	0.784	0.777	0.786	0.710	0.643	0.7776	9.01
33)	C	1,1-dichloroethane	1.010	1.020	0.991	0.910	0.896	0.909	0.829	0.761	0.9158	9.89
34)	C	MTBE	1.763	1.763	1.752	1.632	1.613	1.608	1.393	1.160	1.5855	13.31
35)	C	vinyl acetate			1.431	1.375	1.370	1.399	1.261	1.121	1.3260	8.72
36)	C	2-butanone		1.401	1.375	1.262	1.231	1.243	1.113	0.985	1.2301	11.74
37)		cis-1,2-dichloroethene	0.741	0.730	0.723	0.667	0.660	0.679	0.612	0.556	0.6710	9.43
38)		Ethyl Acetate		0.217	0.225	0.201	0.199	0.208	0.196	0.191	0.2053	5.79
39)	C	chloroform	1.077	1.089	1.077	0.989	0.976	1.002	0.857	0.701	0.9710	13.67
40)		Tetrahydrofuran	0.846	0.834	0.824	0.769	0.760	0.773	0.708	0.642	0.7696	8.94
41)		2,2-dichloropropane	0.933	0.941	0.923	0.874	0.857	0.839	0.689	0.533	0.8237	17.29
42)	C	1,2-dichloroethane	0.593	0.619	0.599	0.553	0.541	0.544	0.459	0.379	0.5359	14.96
43)	I	1,4-difluorobenzene	----------ISTD----------									
44)	C	hexane	0.421	0.405	0.399	0.377	0.368	0.377	0.336	0.285	0.3709	11.68
45)		diisopropyl ether	0.239	0.230	0.226	0.213	0.209	0.216	0.196	0.164	0.2117	10.99
46)		tert-butyl ethyl ether	0.661	0.656	0.653	0.622	0.608	0.621	0.552	0.481	0.6068	10.18
47)	s	1,2-dichloroethane-D4	0.181	0.180	0.180	0.179	0.176	0.167	0.152	0.129	0.1681	11.17
48)	C	1,1,1-trichloroethane	0.323	0.321	0.321	0.294	0.286	0.287	0.239	0.192	0.2829	16.23
49)		1,1-dichloropropene	0.341	0.324	0.328	0.312	0.304	0.305	0.264	0.219	0.2996	13.29
50)	C	benzene	0.837	0.796	0.790	0.722	0.710	0.735	0.649	0.554	0.7241	12.51
51)		thiophene	1.698	1.684	1.679	1.565	1.528	1.542	1.244	0.919	1.4824	18.24
52)	C	carbon tetrachloride	0.299	0.302	0.304	0.280	0.276	0.273	0.213	0.153	0.2627	20.16
53)		cyclohexane	0.432	0.427	0.426	0.400	0.393	0.410	0.379	0.347	0.4018	7.14
54)		tert-amyl methyl ether	0.700	0.707	0.694	0.657	0.649	0.645	0.550	0.454	0.6320	13.87
55)		dibromomethane	0.221	0.210	0.202	0.189	0.184	0.181	0.157	0.134	0.1847	15.38
56)	C	1,2-dichloropropane	0.247	0.243	0.236	0.219	0.215	0.221	0.198	0.176	0.2194	10.90
57)		bromodichloromethane	0.430	0.426	0.421	0.400	0.394	0.399	0.344	0.277	0.3864	13.41
58)	C	1,4-dioxane	0.175	0.178	0.174	0.166	0.164	0.170	0.163	0.139	0.1661	7.24
59)	C	trichloroethene	0.295	0.295	0.292	0.270	0.267	0.273	0.247	0.221	0.2698	9.63
60)	C	2,2,4-trimethylpentane	1.329	1.281	1.286	1.211	1.182	1.186	1.061	0.907	1.1805	11.71
61)		methyl methacrylate		0.341	0.335	0.374	0.371	0.326	0.290	0.243	0.3256	14.18
62)		heptane	0.525	0.514	0.508	0.483	0.468	0.471	0.406	0.337	0.4639	13.66

Response Factor Report

Method Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Method File : TFS3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 17:27:58 2020
Response Via : Initial Calibration

Calibration Files
0.2 =r38592.D 0.5 =r38593.D 1.0 =r38594.D 5.0 =r38595.D 10 =r38596.D 20 =r38597.D 50 =r38598.D
100 =r38599.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
63)	C	cis-1,3-dichloropropene	0.384	0.385	0.384	0.356	0.356	0.361	0.317	0.265	0.3511	11.80
64)	C	4-methyl-2-pentanone		0.578	0.579	0.555	0.542	0.544	0.470	0.393	0.5229	13.01
65)		trans-1,3-dichloropropene	0.350	0.350	0.353	0.338	0.336	0.342	0.296	0.246	0.3265	11.35
66)	C	1,1,2-trichloroethane	0.265	0.265	0.265	0.240	0.236	0.243	0.217	0.192	0.2403	10.87
67)	I	chlorobenzene-D5	----------ISTD----------									
68)	C	toluene	5.739	5.464	5.507	4.986	4.888	5.088	4.600	4.327	5.0748	9.44
69)	s	toluene-D8	4.773	4.761	4.751	4.774	4.737	4.659	4.701	4.988	4.7680	2.04
70)		2-methylthiophene	1.725	1.731	1.717	1.555	1.487	1.429	1.088	0.815	1.4435	23.01
71)		1,3-dichloropropane	2.786	2.746	2.737	2.576	2.542	2.556	2.217	1.882	2.5051	12.36
72)		2-hexanone	3.323	3.368	3.419	3.281	3.207	3.087	2.331	1.812	2.9786	19.66
73)		3-methylthiophene	1.755	1.755	1.756	1.596	1.521	1.455	1.065	0.777	1.4599	24.64
74)		dibromochloromethane	2.297	2.290	2.305	2.230	2.252	2.287	2.022	1.836	2.1898	7.78
75)	C	1,2-dibromoethane	2.562	2.586	2.590	2.397	2.390	2.519	2.240	2.045	2.4163	7.99
76)		butyl acetate		0.776	0.796	0.776	0.789	0.817	0.748	0.679	0.7689	5.85
77)		octane	2.245	2.269	2.236	2.173	2.158	2.292	2.123	1.916	2.1767	5.52
78)	C	tetrachloroethene	2.428	2.443	2.454	2.229	2.193	2.323	2.024	1.746	2.2300	11.00
79)		1,1,1,2-tetrachloroethane	1.904	1.809	1.792	1.684	1.665	1.671	1.453	1.258	1.6545	12.60
80)	C	chlorobenzene	4.413	4.353	4.336	3.997	3.975	4.275	3.758	3.247	4.0444	9.77
81)	C	ethylbenzene	6.599	6.599	6.591	6.027	5.941	6.192	5.480	4.924	6.0440	9.93
82)		2-ethylthiophene	1.852	1.867	1.871	1.694	1.609	1.509	1.077	0.780	1.5323	26.28
83)	C	m+p-xylene	5.593	5.503	5.510	5.035	4.964	5.125	4.297	3.556	4.9478	14.17
84)	C	bromoform	1.962	2.098	2.106	2.123	2.184	2.259	1.966	1.634	2.0414	9.43
85)	C	styrene	4.497	4.551	4.593	4.421	4.457	4.720	4.254	3.833	4.4157	6.15
86)	C	1,1,2,2-tetrachloroethane	3.769	3.877	3.849	3.566	3.539	3.706	2.991	2.330	3.4534	15.46
87)	C	o-xylene	5.513	5.519	5.507	5.052	4.943	5.031	4.052	3.169	4.8483	17.20
88)		1,2,3-trichloropropane	3.127	3.108	3.119	2.994	2.975	2.987	2.634	2.300	2.9055	10.04
89)		nonane	4.566	4.572	4.541	4.290	4.194	4.196	3.516	2.934	4.1011	14.25
90)	s	bromofluorobenzene	2.995	3.011	3.013	3.128	3.257	2.963	3.194	3.626	3.1483	6.97
91)	C	isopropylbenzene	7.755	7.655	7.764	7.262	7.134	7.132	6.061	5.149	6.9890	13.24
92)		bromobenzene	3.934	4.018	4.020	3.904	3.933	3.975	3.404	2.856	3.7555	11.05
93)		2-chlorotoluene	2.070	2.038	2.045	1.973	1.964	2.013	1.876	1.734	1.9642	5.65

Response Factor Report

Method Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Method File : TFS3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 17:27:58 2020
Response Via : Initial Calibration

Calibration Files
0.2 =r38592.D 0.5 =r38593.D 1.0 =r38594.D 5.0 =r38595.D 10 =r38596.D 20 =r38597.D 50 =r38598.D
100 =r38599.D

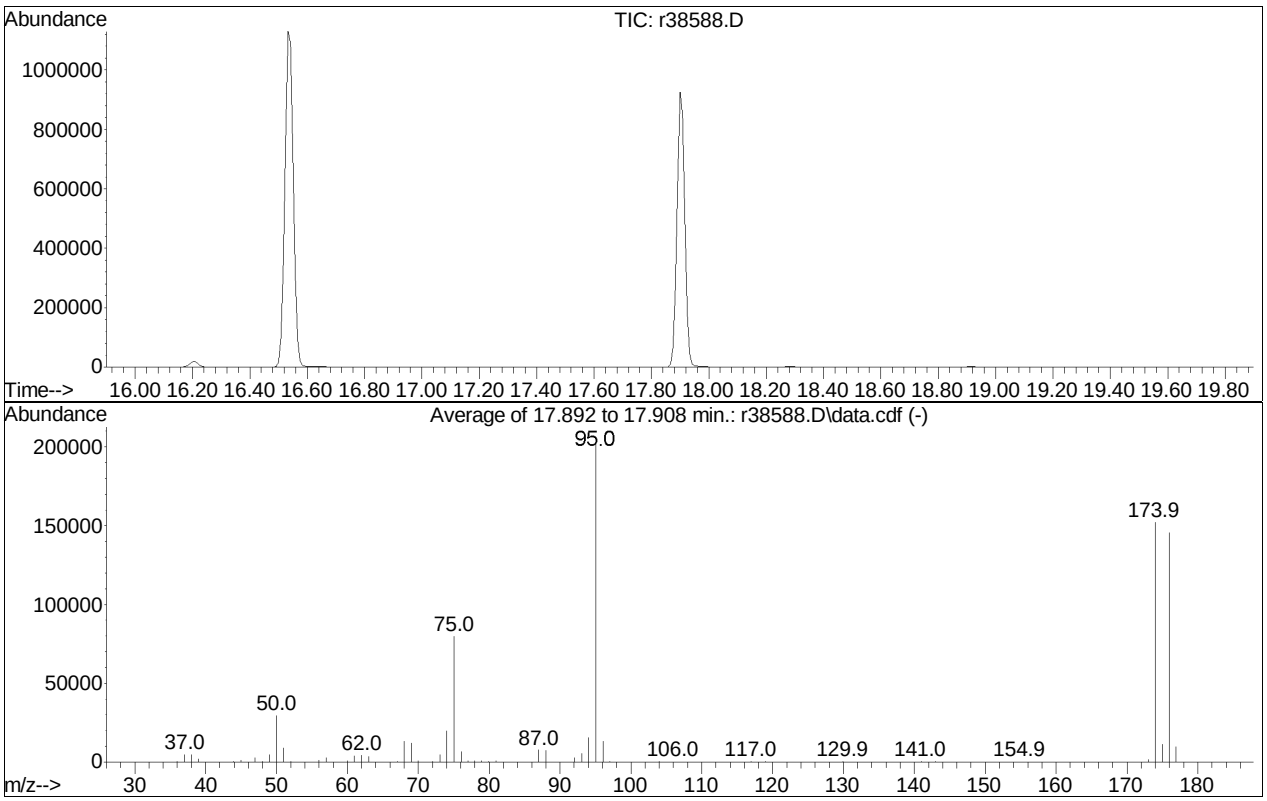
		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
94)		n-propylbenzene	2.279	2.338	2.336	2.262	2.294	2.414	2.240	1.925	2.2610	6.46
95)		4-chlorotoluene	1.927	1.932	1.980	1.895	1.913	1.962	1.858	1.764	1.9042	3.57
96)		4-ethyl toluene	8.447	8.520	8.597	8.276	8.118	8.142	6.762	5.587	7.8060	13.69
97)		1,3,5-trimethylbenzene	7.007	7.125	7.091	6.562	6.446	6.588	5.469	4.504	6.3491	14.43
98)		tert-butylbenzene	6.736	6.910	7.008	6.641	6.608	6.315	4.756	3.689	6.0829	19.74
99)		1,2,4-trimethylbenzene	6.655	6.931	7.032	6.403	6.296	6.022	4.482	3.439	5.9074	21.61
100)		decane	4.940	5.048	5.154	5.023	4.941	4.905	4.128	3.486	4.7030	12.43
101)	C	Benzyl Chloride	3.286	3.812	4.151	4.548	4.867	4.883	4.119	3.388	4.1315	14.89
102)		1,3-dichlorobenzene	3.847	3.980	4.024	3.728	3.724	3.935	3.216	2.628	3.6353	13.20
103)	C	1,4-dichlorobenzene	3.402	3.517	3.644	3.652	3.738	3.697	3.215	2.793	3.4571	9.25
104)		sec-butylbenzene	0.953	0.981	1.000	0.963	0.945	0.916	0.743	0.611	0.8890	15.49
105)		1,2,3-trimethylbenzene	6.010	6.155	6.270	6.729	6.582	5.423	4.090	3.158	5.5520	23.01
106)		p-isopropyltoluene	7.956	8.223	8.289	8.194	8.188	7.632	5.719	4.344	7.3183	20.13
107)		1,2-dichlorobenzene	3.562	3.696	3.735	3.524	3.543	3.649	3.195	2.822	3.4658	8.90
108)		n-butylbenzene	6.158	6.444	6.729	6.740	6.657	6.362	5.366	4.570	6.1281	12.61
109)		indan	5.628	5.890	6.005	6.647	6.680	6.074	5.186	4.406	5.8144	12.95
110)		indene	3.927	4.328	4.529	5.263	5.344	4.928	4.361	3.810	4.5613	12.57
111)	C	1,2-dibromo-3-chloropropane	1.413	1.450	1.611	1.727	1.746	1.545	1.286	1.097	1.4843	14.91
112)		undecane	5.162	5.405	5.559	5.672	5.595	5.298	4.420	3.659	5.0962	13.79
113)		1,2,4,5-tetramethylbenzene	5.285	5.484	5.585	6.474	7.060	6.038	5.169	4.387	5.6853	14.56
114)		dodecane	4.553	5.044	5.329	6.159	6.086	5.118	4.429	3.699	5.0520	16.46
115)	C	1,2,4-trichlorobenzene	1.385	1.742	2.159	2.347	2.574	2.409	2.425	2.248	2.1609	18.52
116)		naphthalene	5.197	5.488	6.234	7.316	7.786	6.602	6.569	6.076	6.4086	13.50
117)		1,2,3-trichlorobenzene	1.921	2.141	2.423	2.858	3.077	2.597	2.545	2.301	2.4830	15.08
118)		benzothiophene	2.323	2.883	3.863	3.602	4.121	4.629	5.005	4.999	3.9279	24.75
119)	C	hexachlorobutadiene	3.029	3.112	3.118	2.897	2.832	2.561	2.145	1.743	2.6796	18.66
120)		2-methylnaphthalene			0.670	0.851	1.061	1.160	1.404	1.579	1.1208	30.16#
121)		1-methylnaphthalene			2.328	2.406	2.669	2.710	2.911	3.001	2.6707	9.99

(#) = Out of Range

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38588.D
Acq On : 12 Mar 2020 9:50 AM
Operator : AIRPIANO3:RY
Sample : WG1350408-1,3,250,250
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Integration File: rteint.p

Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 17:27:58 2020



Spectrum Information: Average of 17.892 to 17.908 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.5	29472	PASS
75	95	30	66	39.3	79731	PASS
95	95	100	100	100.0	202734	PASS
96	95	5	9	6.6	13477	PASS
173	174	0.00	2	1.1	1647	PASS
174	95	50	120	75.2	152363	PASS
175	174	4	9	7.4	11319	PASS
176	174	93	101	95.4	145430	PASS
177	176	5	9	6.8	9839	PASS

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38592.D
Acq On : 12 Mar 2020 12:25 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:16:38 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.54	49	349104	10.000	ppbV	0.00
Standard Area = 370599			Recovery = 94.20%			
43) 1,4-difluorobenzene	11.81	114	958347	10.000	ppbV	0.00
Standard Area = 1030530			Recovery = 93.00%			
67) chlorobenzene-D5	16.53	54	149124	10.000	ppbV	0.00
Standard Area = 160625			Recovery = 92.84%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	10.43	65	173919	10.297	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.97%			
69) toluene-D8	14.64	98	711753	10.077	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.77%			
90) bromofluorobenzene	17.90	95	446624	9.195	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 91.95%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.86	51	6201	0.236	ppbV #	95
3) propylene	3.90	41	3677M4	0.237	ppbV	
4) propane	3.92	29	5314	0.255	ppbV	96
5) dichlorodifluoromethane	3.98	85	7593	0.239	ppbV	99
6) chloromethane	4.16	50	3320	0.232	ppbV	97
7) Freon-114	4.28	85	9524	0.246	ppbV	97
8) methanol	4.36	31	9994	1.396	ppbV	86
9) vinyl chloride	4.41	62	3817	0.234	ppbV	97
10) 1,3-butadiene	4.58	54	3807	0.228	ppbV	100
11) butane	4.64	43	5980	0.244	ppbV	98
12) acetaldehyde	4.30	29	10733	1.295	ppbV	96
13) bromomethane	4.89	94	3101	0.226	ppbV	94
14) chloroethane	5.12	64	1945	0.237	ppbV	96
15) ethanol	5.30	31	23643	1.656	ppbV	98
16) dichlorofluoromethane	5.25	67	5953	0.230	ppbV	97
17) vinyl bromide	5.54	106	3579	0.224	ppbV	94
18) acrolein	5.70	56	2089	0.242	ppbV #	87
19) acetone	5.87	43	27256	1.167	ppbV #	98
20) acetonitrile	5.54	41	3442	0.250	ppbV	96
21) trichlorofluoromethane	6.06	101	5637	0.234	ppbV	100
22) isopropyl alcohol	6.20	45	17310	0.596	ppbV	99
23) acrylonitrile	6.43	53	3408	0.220	ppbV	93
24) pentane	6.51	43	6800	0.193	ppbV	99

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38592.D
Acq On : 12 Mar 2020 12:25 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:16:38 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
25) ethyl ether	6.56	31	7031	0.204	ppbV		98
26) 1,1-dichloroethene	6.83	61	4848	0.226	ppbV		96
27) tertiary butyl alcohol	6.94	59	7577	0.213	ppbV		97
28) methylene chloride	6.99	49	4530	0.196	ppbV		95
29) 3-chloropropene	7.13	41	6358	0.226	ppbV		98
30) carbon disulfide	7.28	76	14073	0.219	ppbV	#	79
31) Freon 113	7.33	101	7606	0.227	ppbV		98
32) trans-1,2-dichloroethene	8.13	61	5857	0.216	ppbV		99
33) 1,1-dichloroethane	8.36	63	7054	0.225	ppbV		100
34) MTBE	8.46	73	12306	0.219	ppbV		99
35) vinyl acetate	8.58	43	10371	0.217	ppbV		99
36) 2-butanone	8.87	43	9837	0.229	ppbV		99
37) cis-1,2-dichloroethene	9.35	61	5175	0.225	ppbV		99
38) Ethyl Acetate	9.68	61	1595M4	0.230	ppbV		
39) chloroform	9.71	83	7522	0.221	ppbV		98
40) Tetrahydrofuran	10.18	42	5910	0.223	ppbV		96
41) 2,2-dichloropropane	9.72	77	6514	0.218	ppbV		95
42) 1,2-dichloroethane	10.55	62	4142	0.220	ppbV		96
44) hexane	9.62	57	8078	0.229	ppbV	#	67
45) diisopropyl ether	9.63	87	4573	0.228	ppbV		97
46) tert-butyl ethyl ether	10.27	59	12671	0.218	ppbV		99
48) 1,1,1-trichloroethane	10.84	97	6185	0.226	ppbV		97
49) 1,1-dichloropropene	11.21	75	6537	0.224	ppbV		95
50) benzene	11.37	78	16040	0.236	ppbV		99
51) thiophene	11.52	84	32536	0.222	ppbV		97
52) carbon tetrachloride	11.54	117	5736	0.217	ppbV		98
53) cyclohexane	11.69	56	8286	0.220	ppbV		98
54) tert-amyl methyl ether	12.09	73	13422	0.216	ppbV		98
55) dibromomethane	12.29	93	4229	0.240	ppbV		96
56) 1,2-dichloropropane	12.33	63	4737	0.229	ppbV		97
57) bromodichloromethane	12.55	83	8244	0.218	ppbV		99
58) 1,4-dioxane	12.62	88	3354	0.213	ppbV		96
59) trichloroethene	12.61	130	5656	0.221	ppbV		99
60) 2,2,4-trimethylpentane	12.65	57	25476	0.225	ppbV		100
61) methyl methacrylate	12.87	41	6563	0.185	ppbV		97
62) heptane	12.97	43	10056	0.224	ppbV		97
63) cis-1,3-dichloropropene	13.62	75	7361	0.216	ppbV		98
64) 4-methyl-2-pentanone	13.68	43	11060	0.213	ppbV		99
65) trans-1,3-dichloropropene	14.24	75	6708	0.209	ppbV		98
66) 1,1,2-trichloroethane	14.44	97	5085	0.225	ppbV		98

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38592.D
Acq On : 12 Mar 2020 12:25 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:16:38 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) toluene	14.75	91	17117	0.235	ppbV	100
70) 2-methylthiophene	14.82	97	51442	0.232	ppbV	99
71) 1,3-dichloropropane	14.78	76	8308	0.219	ppbV	98
72) 2-hexanone	15.06	43	9911	0.207	ppbV	94
73) 3-methylthiophene	15.02	97	52330	0.231	ppbV	99
74) dibromochloromethane	15.20	129	6851	0.204	ppbV	94
75) 1,2-dibromoethane	15.45	107	7640	0.214	ppbV	99
76) butyl acetate	15.71	73	2230	0.189	ppbV	98
77) octane	15.79	85	6697	0.208	ppbV	92
78) tetrachloroethene	15.92	166	7242	0.221	ppbV	99
79) 1,1,1,2-tetrachloroethane	16.56	131	5680	0.229	ppbV	94
80) chlorobenzene	16.57	112	13161	0.222	ppbV	98
81) ethylbenzene	16.93	91	19681	0.222	ppbV	96
82) 2-ethylthiophene	16.97	97	55236	0.230	ppbV	93
83) m+p-xylene	17.09	91	33364	0.451	ppbV	97
84) bromoform	17.16	173	5852	0.180	ppbV	98
85) styrene	17.42	104	13411	0.202	ppbV	98
86) 1,1,2,2-tetrachloroethane	17.51	83	11241	0.213	ppbV	98
87) o-xylene	17.51	91	16442	0.223	ppbV	97
88) 1,2,3-trichloropropane	17.63	75	9327	0.210	ppbV	98
89) nonane	17.70	43	13619	0.218	ppbV	99
91) isopropylbenzene	18.02	105	23129	0.217	ppbV	97
92) bromobenzene	18.09	77	11734	0.200	ppbV	99
93) 2-chlorotoluene	18.42	126	6174	0.211	ppbV	97
94) n-propylbenzene	18.45	120	6796	0.199	ppbV	90
95) 4-chlorotoluene	18.48	126	5748	0.201	ppbV	100
96) 4-ethyl toluene	18.57	105	25193	0.208	ppbV	98
97) 1,3,5-trimethylbenzene	18.63	105	20897	0.217	ppbV	99
98) tert-butylbenzene	18.96	119	20091	0.204	ppbV	98
99) 1,2,4-trimethylbenzene	18.96	105	19847	0.211	ppbV	96
100) decane	19.03	57	14734	0.200	ppbV	96
101) Benzyl Chloride	19.07	91	9800	0.135	ppbV	96
102) 1,3-dichlorobenzene	19.08	146	11474	0.207	ppbV	97
103) 1,4-dichlorobenzene	19.14	146	10145	0.182	ppbV	99
104) sec-butylbenzene	19.18	105	28416	0.202	ppbV	98
105) 1,2,3-trimethylbenzene	19.30	105	17924	0.183	ppbV	100
106) p-isopropyltoluene	19.29	119	23730	0.194	ppbV	97
107) 1,2-dichlorobenzene	19.42	146	10623	0.201	ppbV	97
108) n-butylbenzene	19.63	91	18365	0.185	ppbV	98
109) indan	19.46	117	16784	0.168	ppbV	99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38592.D
Acq On : 12 Mar 2020 12:25 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:16:38 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
110) indene	19.54	115	11713	0.147	ppbV		98
111) 1,2-dibromo-3-chloropr...	19.77	75	4213	0.162	ppbV		95
112) undecane	20.03	57	15395	0.185	ppbV		96
113) 1,2,4,5-tetramethylben...	20.25	119	15762	0.150	ppbV		97
114) dodecane	20.93	57	13579	0.150	ppbV		94
115) 1,2,4-trichlorobenzene	20.88	180	4130	0.108	ppbV		99
116) naphthalene	20.99	128	15500	0.133	ppbV		100
117) 1,2,3-trichlorobenzene	21.24	180	5728	0.125	ppbV		99
118) benzothiophene	21.06	134	6927	0.113	ppbV		98
119) hexachlorobutadiene	21.31	225	9035	0.214	ppbV		97
120) 2-methylnaphthalene	22.10	142	837	0.053	ppbV	#	77
121) 1-methylnaphthalene	22.30	142	4049	0.102	ppbV		97

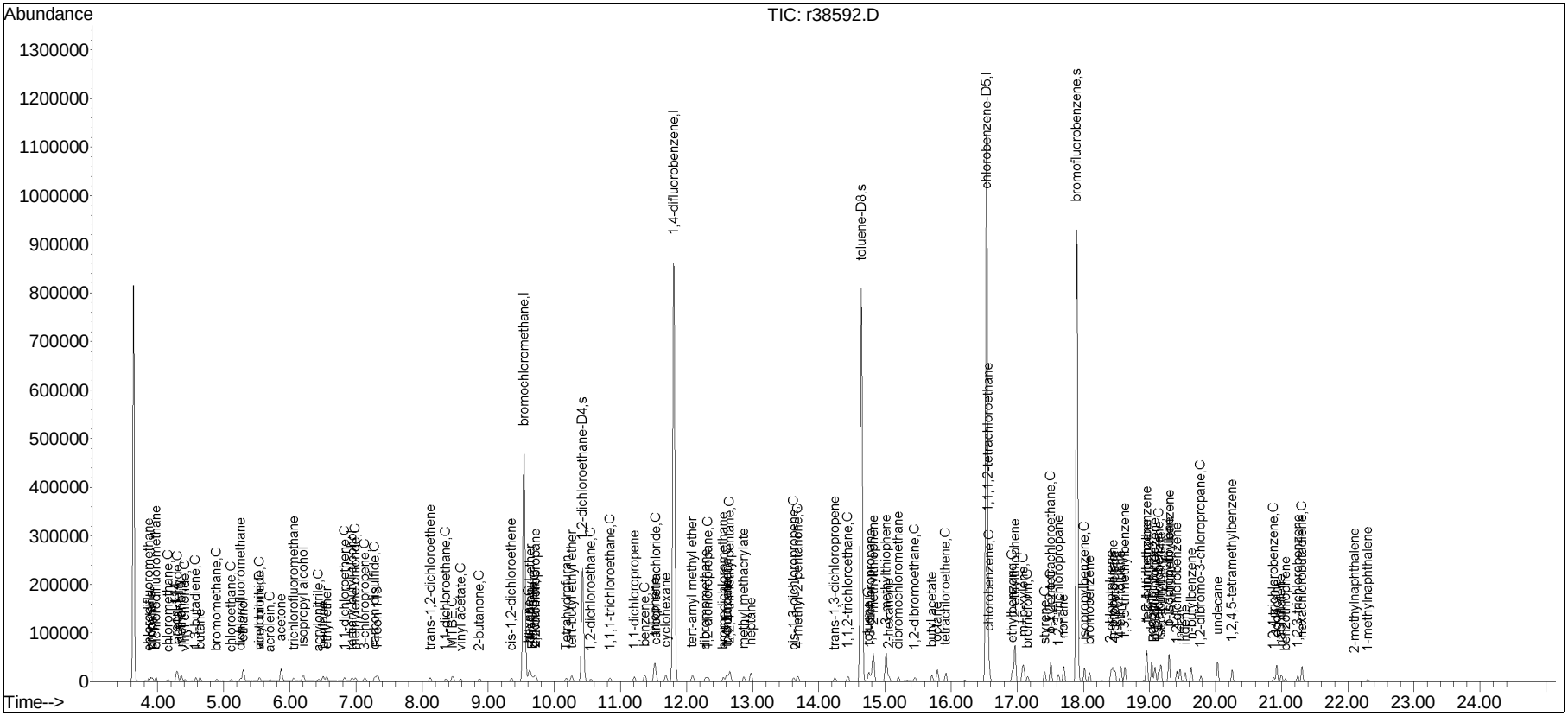
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38592.D
Acq On : 12 Mar 2020 12:25 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:16:38 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

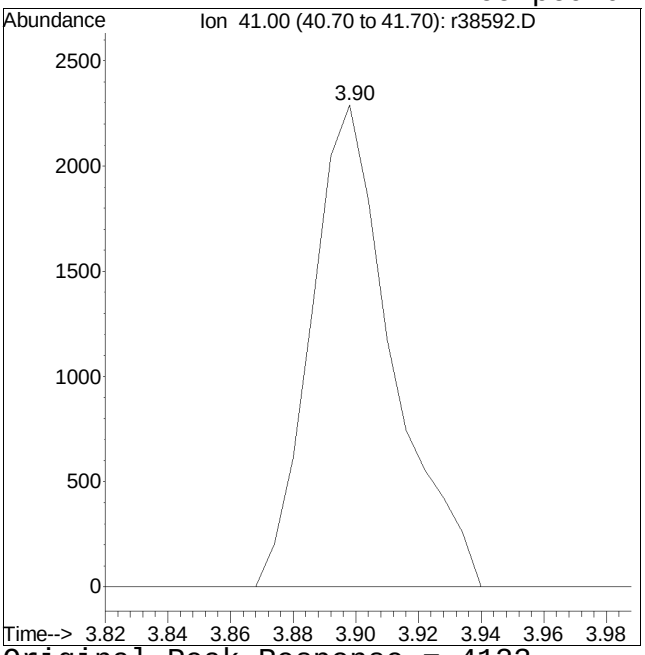
Sub List : Default - All compounds listed20\03\200312T_I\r38596.D



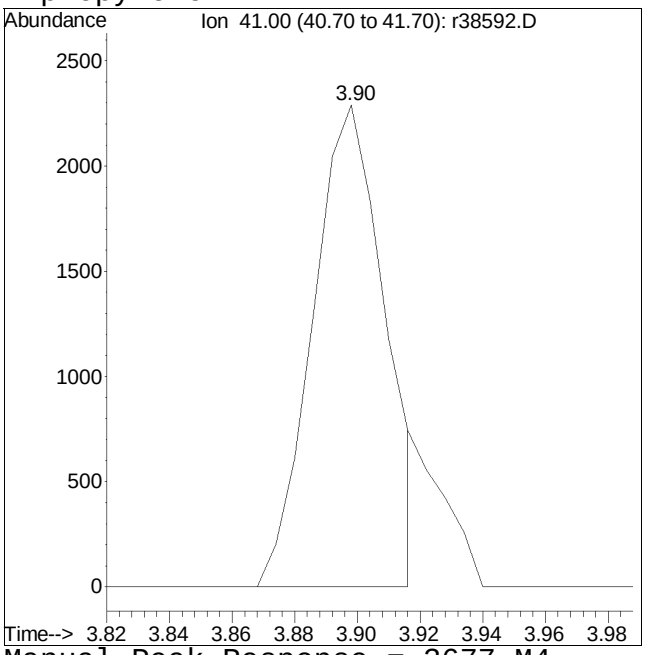
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38592.D
Date Inj'd : 3/12/2020 0:2: 5
Sample : ITO15-SIMSTD0.2
Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:13 pm

Compound #3: propylene



Original Peak Response = 4123



Manual Peak Response = 3677 M4

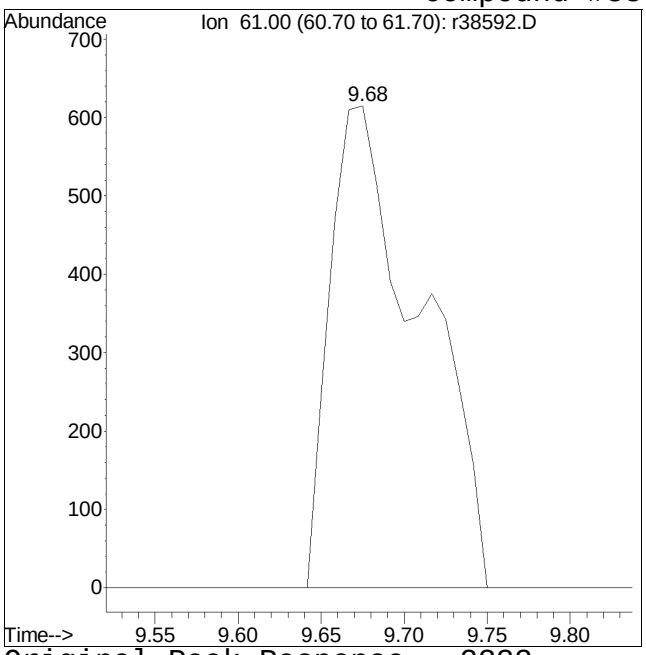
M4 = Poor automated baseline construction.

Manual Integration/Negative Proof Report

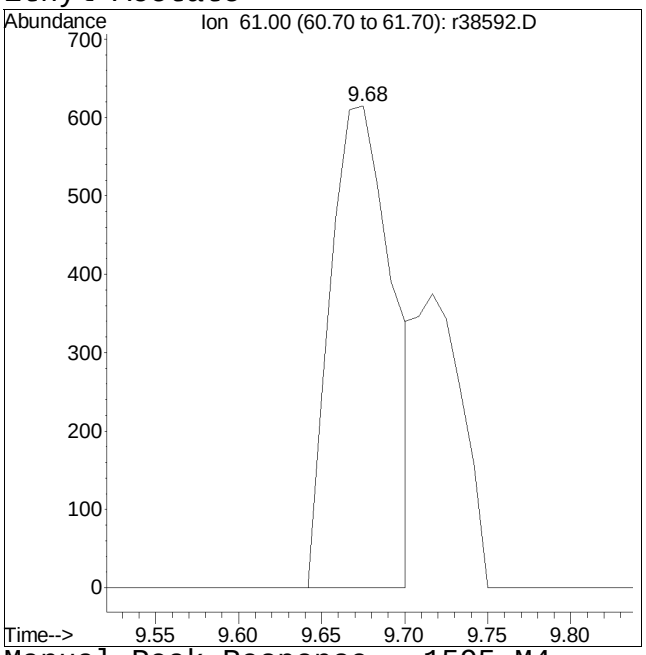
Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38592.D
Date Inj'd : 3/12/2020 0:2: 5
Sample : ITO15-SIMSTD0.2

Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:13 pm

Compound #38: Ethyl Acetate



Original Peak Response = 2333



Manual Peak Response = 1595 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38593.D
Acq On : 12 Mar 2020 1:03 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:18:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.54	49	348120	10.000	ppbV	0.00
Standard Area = 370599			Recovery = 93.93%			
43) 1,4-difluorobenzene	11.81	114	967742	10.000	ppbV	0.00
Standard Area = 1030530			Recovery = 93.91%			
67) chlorobenzene-D5	16.54	54	149594	10.000	ppbV	0.00
Standard Area = 160625			Recovery = 93.13%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	10.43	65	174592	10.237	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.37%			
69) toluene-D8	14.64	98	712267	10.052	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.52%			
90) bromofluorobenzene	17.91	95	450364	9.242	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 92.42%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.87	51	14758	0.563	ppbV	99
3) propylene	3.90	41	9137M4	0.590	ppbV	
4) propane	3.92	29	12536	0.602	ppbV	97
5) dichlorodifluoromethane	3.98	85	18627	0.588	ppbV	100
6) chloromethane	4.16	50	8330	0.583	ppbV	98
7) Freon-114	4.29	85	23250	0.602	ppbV	99
8) methanol	4.36	31	23026	3.225	ppbV	94
9) vinyl chloride	4.41	62	9328	0.573	ppbV	100
10) 1,3-butadiene	4.58	54	9440	0.566	ppbV	99
11) butane	4.65	43	14365	0.588	ppbV	99
12) acetaldehyde	4.31	29	24435	2.956	ppbV	99
13) bromomethane	4.89	94	7941	0.580	ppbV	99
14) chloroethane	5.12	64	4767	0.583	ppbV	100
15) ethanol	5.30	31	47185	3.315	ppbV	99
16) dichlorofluoromethane	5.25	67	14867	0.577	ppbV	99
17) vinyl bromide	5.54	106	9051	0.567	ppbV	99
18) acrolein	5.70	56	4931	0.573	ppbV	98
19) acetone	5.86	43	64470	2.769	ppbV	97
20) acetonitrile	5.54	41	7848	0.571	ppbV	99
21) trichlorofluoromethane	6.06	101	13775	0.573	ppbV	100
22) isopropyl alcohol	6.20	45	39760	1.373	ppbV	100
23) acrylonitrile	6.44	53	8235	0.533	ppbV	98
24) pentane	6.51	43	16494M4	0.468	ppbV	

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38593.D
Acq On : 12 Mar 2020 1:03 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:18:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
25) ethyl ether	6.56	31	17268	0.502	ppbV		97
26) 1,1-dichloroethene	6.83	61	12414	0.580	ppbV		98
27) tertiary butyl alcohol	6.94	59	18184	0.513	ppbV		96
28) methylene chloride	7.00	49	11155	0.485	ppbV		97
29) 3-chloropropene	7.14	41	15585	0.554	ppbV		99
30) carbon disulfide	7.29	76	35231	0.551	ppbV	#	91
31) Freon 113	7.33	101	18841	0.565	ppbV		96
32) trans-1,2-dichloroethene	8.13	61	14700	0.543	ppbV		100
33) 1,1-dichloroethane	8.36	63	17756	0.569	ppbV		99
34) MTBE	8.46	73	30685	0.547	ppbV		99
35) vinyl acetate	8.58	43	25460	0.534	ppbV		100
36) 2-butanone	8.86	43	24389	0.569	ppbV		100
37) cis-1,2-dichloroethene	9.35	61	12702	0.553	ppbV		96
38) Ethyl Acetate	9.67	61	3773	0.544	ppbV		92
39) chloroform	9.71	83	18955	0.558	ppbV		94
40) Tetrahydrofuran	10.18	42	14522	0.549	ppbV		100
41) 2,2-dichloropropane	9.72	77	16373	0.549	ppbV		97
42) 1,2-dichloroethane	10.56	62	10771	0.572	ppbV		99
44) hexane	9.62	57	19587	0.550	ppbV	#	71
45) diisopropyl ether	9.63	87	11115	0.550	ppbV		94
46) tert-butyl ethyl ether	10.26	59	31752	0.540	ppbV		100
48) 1,1,1-trichloroethane	10.84	97	15546	0.561	ppbV		98
49) 1,1-dichloropropene	11.21	75	15688	0.533	ppbV		96
50) benzene	11.37	78	38530	0.561	ppbV		99
51) thiophene	11.52	84	81471	0.551	ppbV		98
52) carbon tetrachloride	11.55	117	14632	0.547	ppbV		98
53) cyclohexane	11.69	56	20643	0.542	ppbV		99
54) tert-amyl methyl ether	12.09	73	34233	0.545	ppbV		99
55) dibromomethane	12.29	93	10179	0.573	ppbV		98
56) 1,2-dichloropropane	12.33	63	11780	0.565	ppbV		98
57) bromodichloromethane	12.56	83	20610	0.540	ppbV		100
58) 1,4-dioxane	12.61	88	8594	0.541	ppbV		100
59) trichloroethene	12.61	130	14257	0.553	ppbV		95
60) 2,2,4-trimethylpentane	12.65	57	61999	0.542	ppbV		100
61) methyl methacrylate	12.87	41	16502	0.460	ppbV		98
62) heptane	12.97	43	24871	0.549	ppbV		99
63) cis-1,3-dichloropropene	13.63	75	18615	0.540	ppbV		99
64) 4-methyl-2-pentanone	13.68	43	27948	0.532	ppbV		99
65) trans-1,3-dichloropropene	14.24	75	16941	0.522	ppbV		97
66) 1,1,2-trichloroethane	14.44	97	12844	0.562	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38593.D
Acq On : 12 Mar 2020 1:03 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:18:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) toluene	14.76	91	40867	0.559	ppbV		100
70) 2-methylthiophene	14.82	97	129499	0.582	ppbV		100
71) 1,3-dichloropropane	14.78	76	20536	0.540	ppbV		100
72) 2-hexanone	15.06	43	25190	0.525	ppbV	#	92
73) 3-methylthiophene	15.02	97	131259	0.577	ppbV		100
74) dibromochloromethane	15.21	129	17130	0.508	ppbV		98
75) 1,2-dibromoethane	15.45	107	19345	0.541	ppbV		100
76) butyl acetate	15.71	73	5805	0.492	ppbV		99
77) octane	15.79	85	16975	0.526	ppbV		94
78) tetrachloroethene	15.93	166	18274	0.557	ppbV		97
79) 1,1,1,2-tetrachloroethane	16.57	131	13531	0.543	ppbV		99
80) chlorobenzene	16.57	112	32562	0.548	ppbV		100
81) ethylbenzene	16.93	91	49356	0.555	ppbV		97
82) 2-ethylthiophene	16.97	97	139640	0.580	ppbV		94
83) m+p-xylene	17.09	91	82318	1.109	ppbV		97
84) bromoform	17.16	173	15689	0.480	ppbV		99
85) styrene	17.42	104	34041	0.511	ppbV		99
86) 1,1,2,2-tetrachloroethane	17.51	83	28998	0.548	ppbV		99
87) o-xylene	17.51	91	41280	0.558	ppbV		96
88) 1,2,3-trichloropropane	17.63	75	23244	0.522	ppbV		99
89) nonane	17.71	43	34195	0.545	ppbV		99
91) isopropylbenzene	18.02	105	57257	0.536	ppbV		98
92) bromobenzene	18.09	77	30056	0.511	ppbV		99
93) 2-chlorotoluene	18.43	126	15244M3	0.519	ppbV		
94) n-propylbenzene	18.45	120	17485	0.509	ppbV		92
95) 4-chlorotoluene	18.48	126	14452	0.505	ppbV		94
96) 4-ethyl toluene	18.57	105	63728	0.525	ppbV		98
97) 1,3,5-trimethylbenzene	18.63	105	53296	0.553	ppbV		97
98) tert-butylbenzene	18.96	119	51681	0.523	ppbV		97
99) 1,2,4-trimethylbenzene	18.96	105	51839	0.550	ppbV		98
100) decane	19.03	57	37754	0.511	ppbV		95
101) Benzyl Chloride	19.07	91	28514	0.392	ppbV		99
102) 1,3-dichlorobenzene	19.08	146	29770	0.534	ppbV		99
103) 1,4-dichlorobenzene	19.14	146	26303	0.470	ppbV		99
104) sec-butylbenzene	19.18	105	73388	0.519	ppbV		99
105) 1,2,3-trimethylbenzene	19.30	105	46040	0.468	ppbV		98
106) p-isopropyltoluene	19.29	119	61509	0.502	ppbV		97
107) 1,2-dichlorobenzene	19.41	146	27644	0.522	ppbV		98
108) n-butylbenzene	19.63	91	48198	0.484	ppbV		100
109) indan	19.46	117	44053	0.441	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38593.D
Acq On : 12 Mar 2020 1:03 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:18:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	19.54	115	32372	0.405	ppbV	100
111) 1,2-dibromo-3-chloropr...	19.77	75	10847	0.415	ppbV	96
112) undecane	20.02	57	40429	0.483	ppbV	96
113) 1,2,4,5-tetramethylben...	20.25	119	41019	0.388	ppbV	95
114) dodecane	20.93	57	37730	0.414	ppbV	93
115) 1,2,4-trichlorobenzene	20.88	180	13029	0.338	ppbV	99
116) naphthalene	20.99	128	41048	0.352	ppbV	100
117) 1,2,3-trichlorobenzene	21.24	180	16013	0.348	ppbV	97
118) benzothiophene	21.06	134	21561	0.350	ppbV	98
119) hexachlorobutadiene	21.31	225	23276	0.550	ppbV	97
120) 2-methylnaphthalene	22.10	142	3801	0.239	ppbV	99
121) 1-methylnaphthalene	22.30	142	14748	0.369	ppbV	100

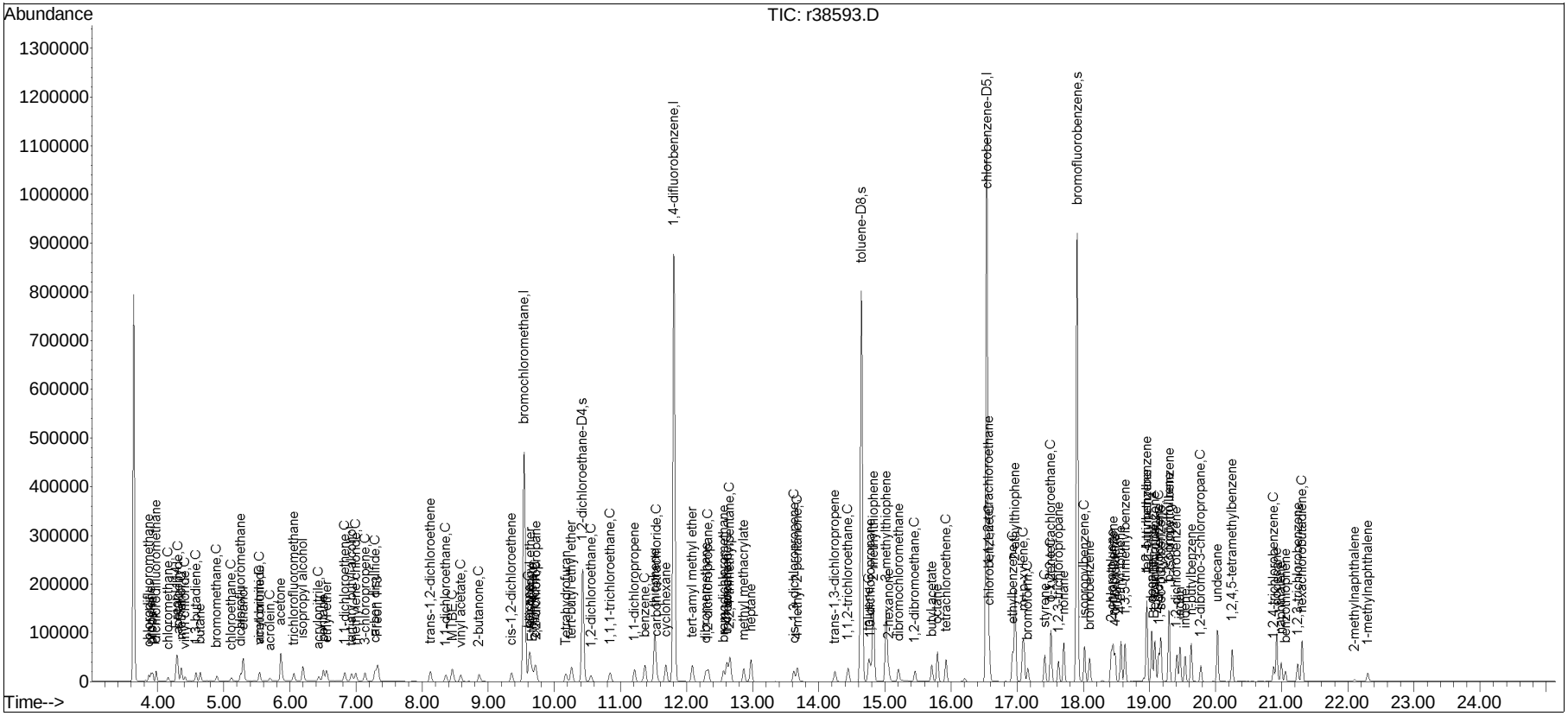
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38593.D
Acq On : 12 Mar 2020 1:03 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:18:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

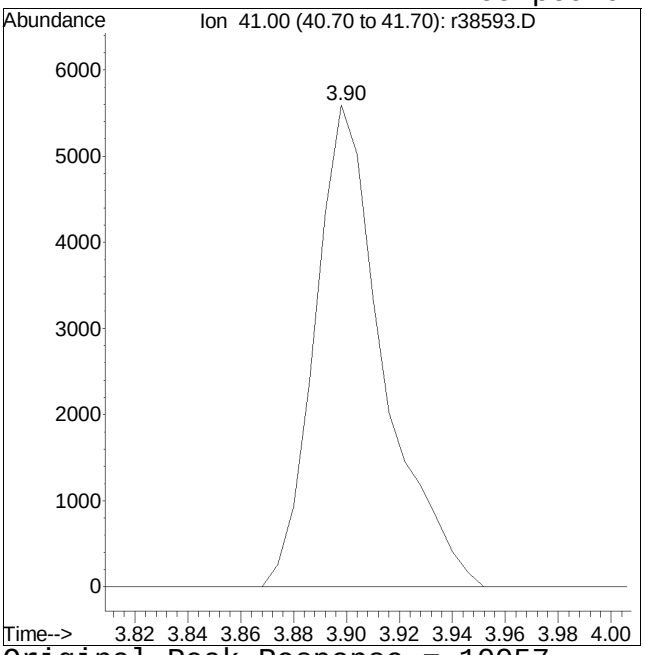
Sub List : Default - All compounds listed20\03\200312T_I\r38596.D

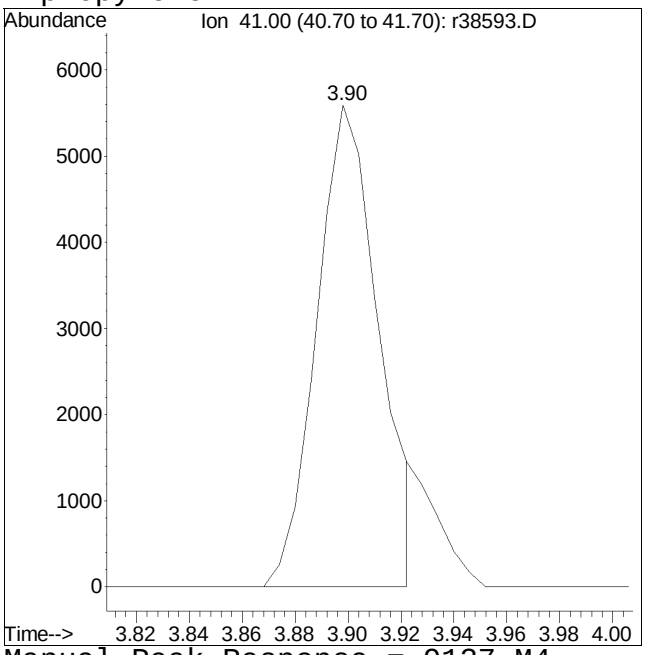


Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38593.D
Date Inj'd : 3/12/2020 0:1: 3
Sample : ITO15-SIMSTD0.5
Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:13 pm

Compound #3: propylene





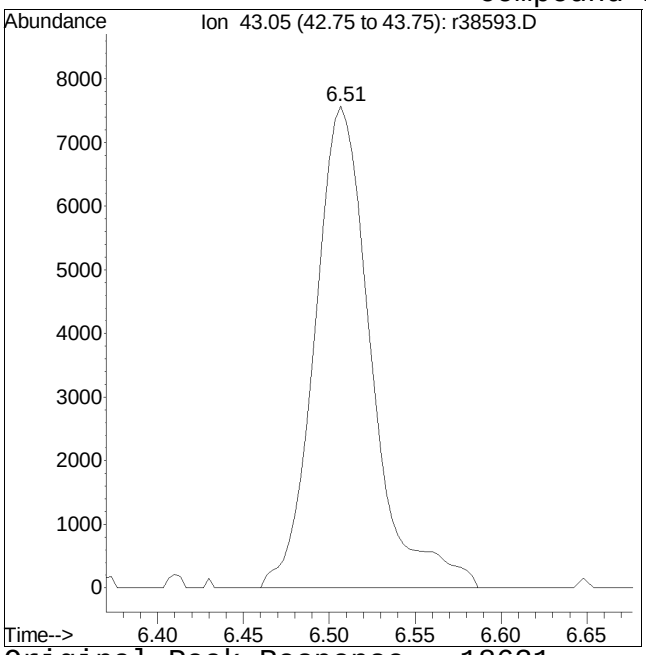
Original Peak Response = 10057 Manual Peak Response = 9137 M4
M4 = Poor automated baseline construction.

Manual Integration/Negative Proof Report

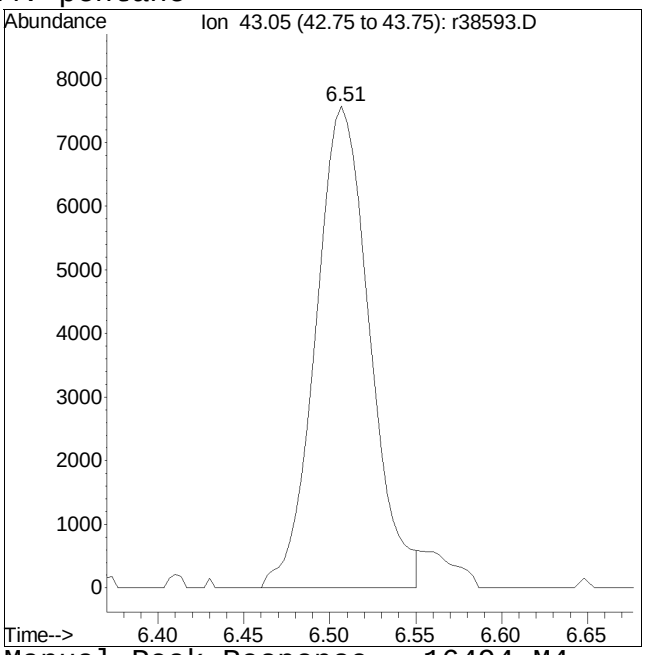
Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38593.D
Date Inj'd : 3/12/2020 0:1: 3
Sample : ITO15-SIMSTD0.5

Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:13 pm

Compound #24: pentane



Original Peak Response = 18631



Manual Peak Response = 16494 M4

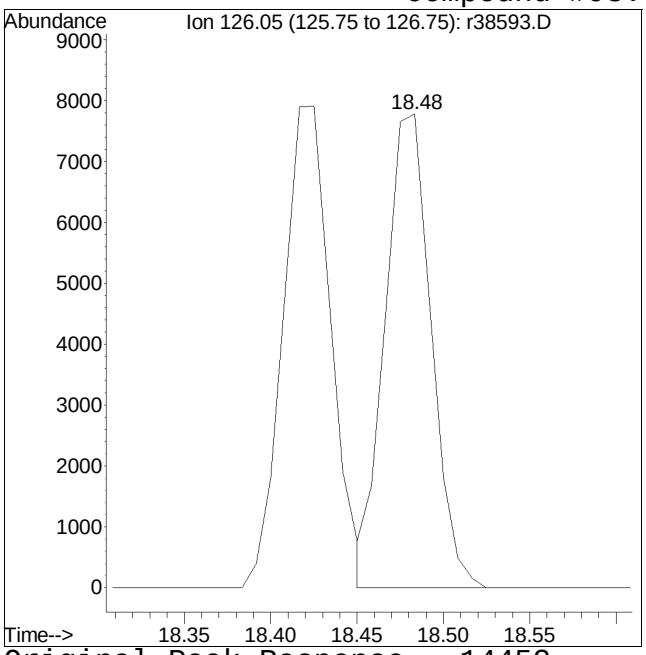
M4 = Poor automated baseline construction.

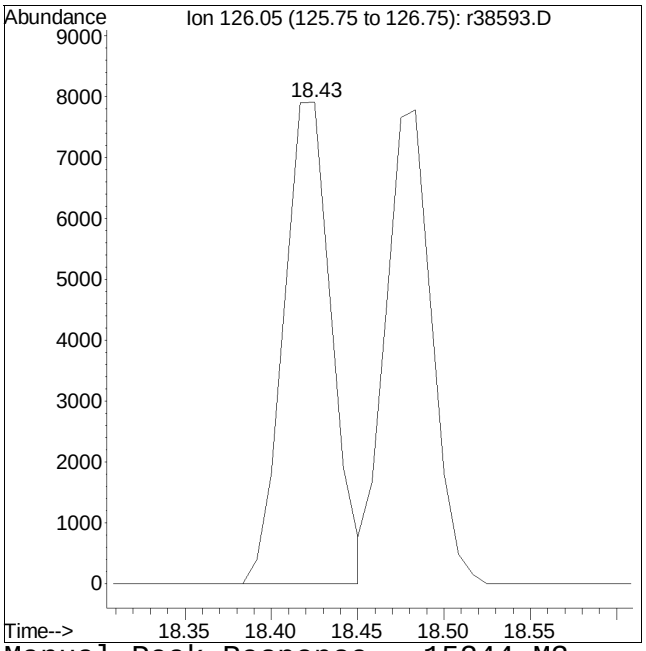
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38593.D
Date Inj'd : 3/12/2020 0:1: 3
Sample : ITO15-SIMSTD0.5

Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:13 pm

Compound #93: 2-chlorotoluene





Original Peak Response = 14452 Manual Peak Response = 15244 M3

M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38594.D
Acq On : 12 Mar 2020 1:44 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:19:48 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.54	49	351962	10.000	ppbV	0.00
Standard Area = 370599			Recovery = 94.97%			
43) 1,4-difluorobenzene	11.81	114	970385	10.000	ppbV	0.00
Standard Area = 1030530			Recovery = 94.16%			
67) chlorobenzene-D5	16.54	54	150304	10.000	ppbV	0.00
Standard Area = 160625			Recovery = 93.57%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	10.43	65	174426	10.199	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.99%			
69) toluene-D8	14.64	98	714083	10.030	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.30%			
90) bromofluorobenzene	17.91	95	452813	9.249	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 92.49%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.87	51	29732	1.121	ppbV	99
3) propylene	3.90	41	18154M4	1.160	ppbV	
4) propane	3.92	29	24461	1.162	ppbV	98
5) dichlorodifluoromethane	3.98	85	37458	1.169	ppbV	99
6) chloromethane	4.16	50	16534	1.145	ppbV	100
7) Freon-114	4.28	85	46204	1.183	ppbV	100
8) methanol	4.35	31	45049	6.240	ppbV	96
9) vinyl chloride	4.41	62	18513	1.124	ppbV	99
10) 1,3-butadiene	4.58	54	18885	1.120	ppbV	99
11) butane	4.64	43	28277	1.146	ppbV	98
12) acetaldehyde	4.30	29	46885	5.610	ppbV	98
13) bromomethane	4.89	94	15725	1.136	ppbV	100
14) chloroethane	5.12	64	9436	1.141	ppbV	100
15) ethanol	5.29	31	84588	5.877	ppbV	99
16) dichlorofluoromethane	5.25	67	29546	1.134	ppbV	99
17) vinyl bromide	5.54	106	17849	1.107	ppbV	99
18) acrolein	5.70	56	9609	1.104	ppbV	98
19) acetone	5.86	43	126240	5.363	ppbV	97
20) acetonitrile	5.54	41	15587	1.122	ppbV	97
21) trichlorofluoromethane	6.06	101	27798	1.143	ppbV	99
22) isopropyl alcohol	6.19	45	76426	2.610	ppbV	100
23) acrylonitrile	6.43	53	16891	1.082	ppbV	98
24) pentane	6.51	43	32561M4	0.915	ppbV	

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38594.D
Acq On : 12 Mar 2020 1:44 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:19:48 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
25) ethyl ether	6.55	31	34763	1.000	ppbV		99
26) 1,1-dichloroethene	6.83	61	24524	1.133	ppbV		100
27) tertiary butyl alcohol	6.92	59	36105	1.007	ppbV	#	94
28) methylene chloride	7.00	49	22236	0.956	ppbV		93
29) 3-chloropropene	7.13	41	30914	1.088	ppbV		100
30) carbon disulfide	7.28	76	71085	1.099	ppbV		96
31) Freon 113	7.33	101	37417	1.109	ppbV		98
32) trans-1,2-dichloroethene	8.13	61	29449	1.076	ppbV		100
33) 1,1-dichloroethane	8.36	63	34868	1.106	ppbV		99
34) MTBE	8.45	73	61669	1.086	ppbV		99
35) vinyl acetate	8.58	43	50350	1.044	ppbV		99
36) 2-butanone	8.86	43	48401	1.117	ppbV		99
37) cis-1,2-dichloroethene	9.35	61	25464	1.097	ppbV		99
38) Ethyl Acetate	9.66	61	7904	1.128	ppbV		94
39) chloroform	9.71	83	37894	1.103	ppbV		98
40) Tetrahydrofuran	10.17	42	28999	1.084	ppbV		100
41) 2,2-dichloropropane	9.72	77	32484	1.076	ppbV		97
42) 1,2-dichloroethane	10.56	62	21090	1.109	ppbV		99
44) hexane	9.62	57	38709	1.085	ppbV	#	79
45) diisopropyl ether	9.63	87	21947	1.082	ppbV		93
46) tert-butyl ethyl ether	10.26	59	63371	1.075	ppbV		100
48) 1,1,1-trichloroethane	10.84	97	31121	1.121	ppbV		99
49) 1,1-dichloropropene	11.21	75	31795	1.077	ppbV		97
50) benzene	11.37	78	76702	1.113	ppbV		99
51) thiophene	11.52	84	162901	1.099	ppbV		97
52) carbon tetrachloride	11.54	117	29485	1.100	ppbV		98
53) cyclohexane	11.69	56	41305	1.082	ppbV		99
54) tert-amyl methyl ether	12.08	73	67368	1.070	ppbV		99
55) dibromomethane	12.29	93	19608	1.101	ppbV		97
56) 1,2-dichloropropane	12.33	63	22943	1.097	ppbV		99
57) bromodichloromethane	12.56	83	40862	1.068	ppbV		100
58) 1,4-dioxane	12.61	88	16855	1.058	ppbV		98
59) trichloroethene	12.61	130	28360	1.096	ppbV		97
60) 2,2,4-trimethylpentane	12.65	57	124824	1.088	ppbV		100
61) methyl methacrylate	12.86	41	32481	0.902	ppbV		99
62) heptane	12.97	43	49280	1.084	ppbV		99
63) cis-1,3-dichloropropene	13.63	75	37300	1.080	ppbV		100
64) 4-methyl-2-pentanone	13.67	43	56217	1.068	ppbV		99
65) trans-1,3-dichloropropene	14.24	75	34300	1.053	ppbV		98
66) 1,1,2-trichloroethane	14.44	97	25687	1.121	ppbV		98

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38594.D
Acq On : 12 Mar 2020 1:44 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:19:48 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) toluene	14.76	91	82766	1.127	ppbV	100
70) 2-methylthiophene	14.82	97	258074	1.154	ppbV	100
71) 1,3-dichloropropane	14.78	76	41141	1.077	ppbV	100
72) 2-hexanone	15.05	43	51391	1.066	ppbV	94
73) 3-methylthiophene	15.02	97	263918	1.155	ppbV	100
74) dibromochloromethane	15.21	129	34640	1.023	ppbV	99
75) 1,2-dibromoethane	15.45	107	38929	1.084	ppbV	99
76) butyl acetate	15.71	73	11971	1.009	ppbV	97
77) octane	15.79	85	33606	1.036	ppbV	92
78) tetrachloroethene	15.93	166	36884	1.119	ppbV	99
79) 1,1,1,2-tetrachloroethane	16.57	131	26935	1.076	ppbV	98
80) chlorobenzene	16.58	112	65165	1.091	ppbV	99
81) ethylbenzene	16.93	91	99065	1.109	ppbV	97
82) 2-ethylthiophene	16.97	97	281165	1.163	ppbV	94
83) m+p-xylene	17.09	91	165625	2.220	ppbV	98
84) bromoform	17.16	173	31653	0.964	ppbV	99
85) styrene	17.42	104	69038	1.031	ppbV	100
86) 1,1,2,2-tetrachloroethane	17.51	83	57859	1.088	ppbV	100
87) o-xylene	17.51	91	82779	1.114	ppbV	97
88) 1,2,3-trichloropropane	17.63	75	46878	1.048	ppbV	99
89) nonane	17.71	43	68251	1.083	ppbV	99
91) isopropylbenzene	18.02	105	116699	1.088	ppbV	97
92) bromobenzene	18.09	77	60423	1.022	ppbV	100
93) 2-chlorotoluene	18.43	126	30739	1.041	ppbV	72
94) n-propylbenzene	18.45	120	35113	1.018	ppbV	89
95) 4-chlorotoluene	18.48	126	29765	1.035	ppbV	91
96) 4-ethyl toluene	18.57	105	129212	1.059	ppbV	98
97) 1,3,5-trimethylbenzene	18.63	105	106587	1.100	ppbV	99
98) tert-butylbenzene	18.96	119	105339	1.061	ppbV	97
99) 1,2,4-trimethylbenzene	18.96	105	105693	1.117	ppbV	98
100) decane	19.03	57	77474	1.043	ppbV	96
101) Benzyl Chloride	19.07	91	62385	0.853	ppbV	99
102) 1,3-dichlorobenzene	19.08	146	60481	1.080	ppbV	98
103) 1,4-dichlorobenzene	19.14	146	54768	0.975	ppbV	99
104) sec-butylbenzene	19.18	105	150309	1.058	ppbV	100
105) 1,2,3-trimethylbenzene	19.30	105	94236	0.953	ppbV	99
106) p-isopropyltoluene	19.29	119	124587	1.012	ppbV	96
107) 1,2-dichlorobenzene	19.42	146	56146	1.054	ppbV	99
108) n-butylbenzene	19.63	91	101140	1.011	ppbV	99
109) indan	19.47	117	90260	0.899	ppbV	100

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38594.D
Acq On : 12 Mar 2020 1:44 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:19:48 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	19.54	115	68067	0.847	ppbV	98
111) 1,2-dibromo-3-chloropr...	19.77	75	24209	0.922	ppbV	97
112) undecane	20.03	57	83558	0.994	ppbV	95
113) 1,2,4,5-tetramethylben...	20.25	119	83952	0.791	ppbV	97
114) dodecane	20.93	57	80097	0.876	ppbV	96
115) 1,2,4-trichlorobenzene	20.88	180	32451	0.839	ppbV	99
116) naphthalene	20.99	128	93706	0.801	ppbV	100
117) 1,2,3-trichlorobenzene	21.24	180	36424	0.788	ppbV	99
118) benzothiophene	21.06	134	58065	0.938	ppbV	99
119) hexachlorobutadiene	21.31	225	46871	1.101	ppbV	98
120) 2-methylnaphthalene	22.10	142	10066	0.631	ppbV	99
121) 1-methylnaphthalene	22.30	142	34992	0.872	ppbV	100

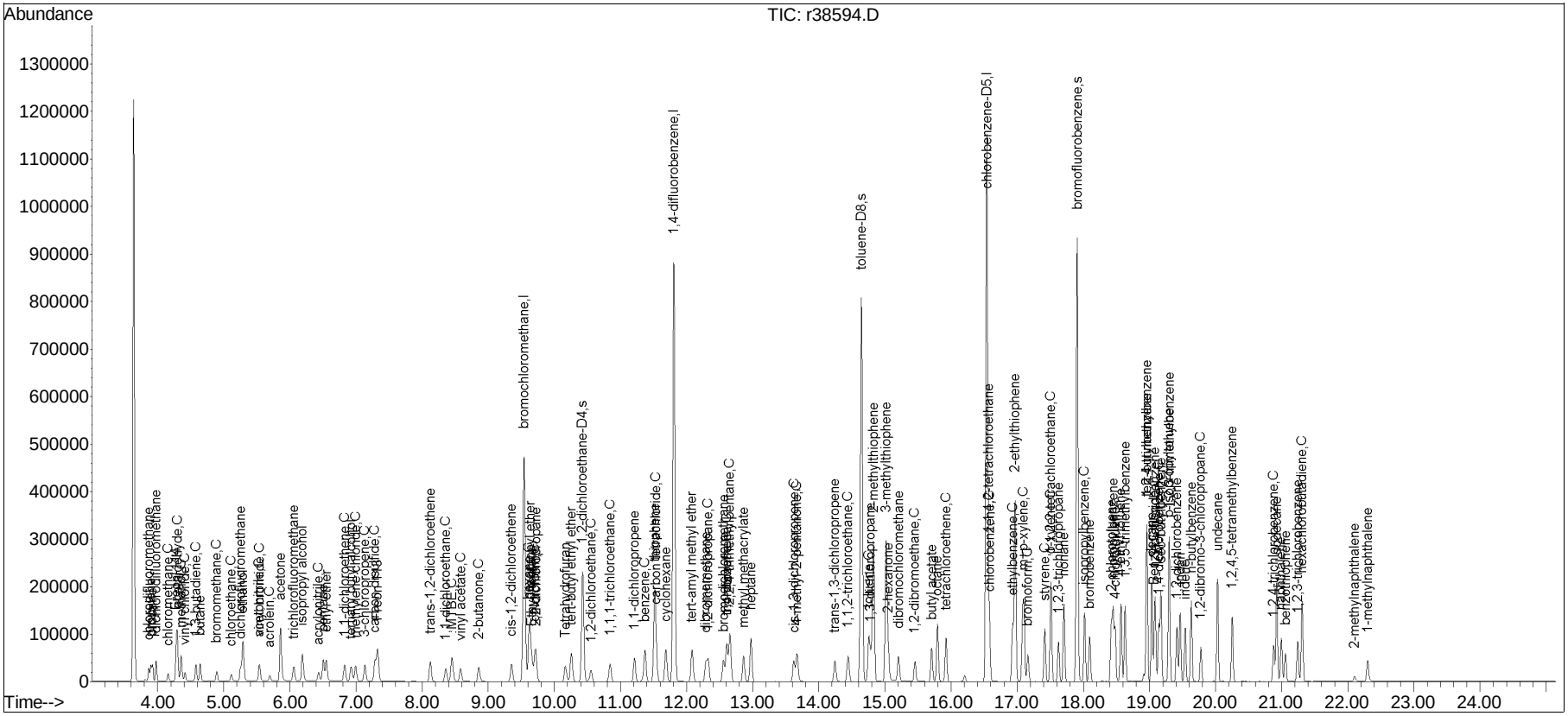
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38594.D
Acq On : 12 Mar 2020 1:44 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:19:48 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

Sub List : Default - All compounds listed20\03\200312T_I\r38596.D

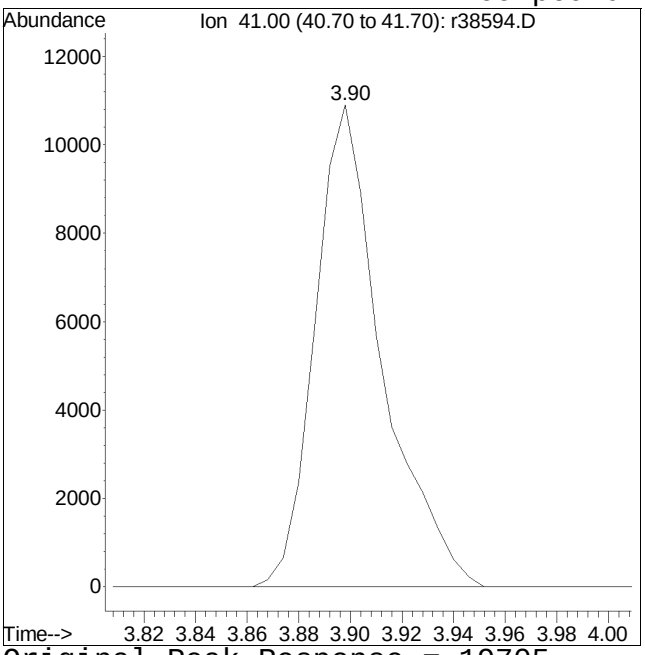


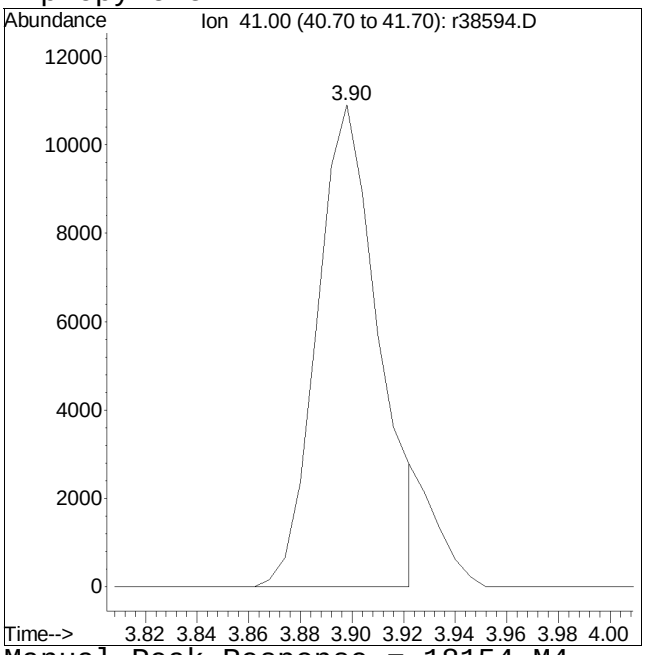
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38594.D
Date Inj'd : 3/12/2020 0:1: 4
Sample : ITO15-SIMSTD1.0

Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:13 pm

Compound #3: propylene





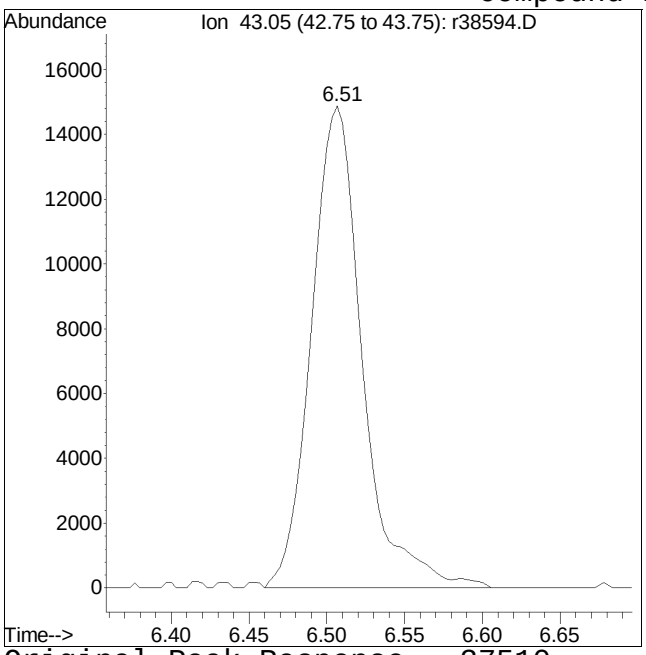
Original Peak Response = 19705 Manual Peak Response = 18154 M4
M4 = Poor automated baseline construction.

Manual Integration/Negative Proof Report

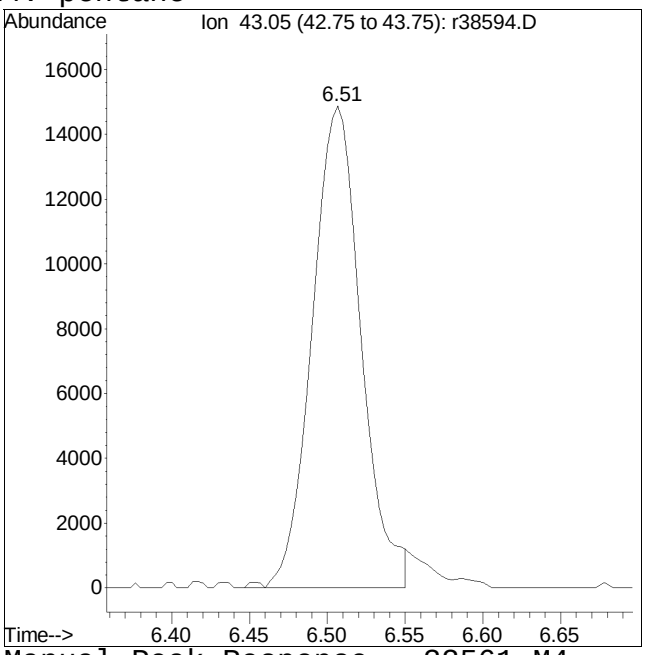
Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38594.D
Date Inj'd : 3/12/2020 0:1: 4
Sample : ITO15-SIMSTD1.0

Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:13 pm

Compound #24: pentane



Original Peak Response = 37510



Manual Peak Response = 32561 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38595.D
Acq On : 12 Mar 2020 2:23 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:21:29 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.54	49	359537	10.000	ppbV	0.00
Standard Area = 370599			Recovery = 97.02%			
43) 1,4-difluorobenzene	11.81	114	990503	10.000	ppbV	0.00
Standard Area = 1030530			Recovery = 96.12%			
67) chlorobenzene-D5	16.54	54	155000	10.000	ppbV	0.00
Standard Area = 160625			Recovery = 96.50%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	10.43	65	177778	10.184	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.84%			
69) toluene-D8	14.64	98	739983	10.079	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.79%			
90) bromofluorobenzene	17.91	95	484818	9.603	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 96.03%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.87	51	139638	5.155	ppbV	100
3) propylene	3.90	41	85005M4	5.317	ppbV	
4) propane	3.92	29	110625	5.145	ppbV	98
5) dichlorodifluoromethane	3.98	85	170563	5.210	ppbV	100
6) chloromethane	4.16	50	76128	5.161	ppbV	100
7) Freon-114	4.28	85	210060	5.265	ppbV	100
8) methanol	4.35	31	192143	26.054	ppbV	99
9) vinyl chloride	4.41	62	86665	5.150	ppbV	99
10) 1,3-butadiene	4.58	54	88773	5.155	ppbV	99
11) butane	4.64	43	130109	5.161	ppbV	100
12) acetaldehyde	4.30	29	227740	26.677	ppbV	99
13) bromomethane	4.89	94	72058	5.097	ppbV	99
14) chloroethane	5.12	64	43208	5.113	ppbV	100
15) ethanol	5.29	31	390098	26.533	ppbV	99
16) dichlorofluoromethane	5.25	67	137350	5.160	ppbV	100
17) vinyl bromide	5.54	106	83872	5.092	ppbV	100
18) acrolein	5.70	56	44562	5.010	ppbV	99
19) acetone	5.85	43	629219	26.166	ppbV	99
20) acetonitrile	5.54	41	72746	5.126	ppbV	99
21) trichlorofluoromethane	6.06	101	128558	5.176	ppbV	99
22) isopropyl alcohol	6.18	45	388680	12.996	ppbV	100
23) acrylonitrile	6.44	53	80886	5.073	ppbV	99
24) pentane	6.51	43	151459M4	4.165	ppbV	

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38595.D
Acq On : 12 Mar 2020 2:23 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:21:29 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) ethyl ether	6.55	31	175875	4.952	ppbV	99
26) 1,1-dichloroethene	6.83	61	113400	5.128	ppbV	100
27) tertiary butyl alcohol	6.91	59	168620	4.604	ppbV	93
28) methylene chloride	7.00	49	107050	4.507	ppbV	96
29) 3-chloropropene	7.13	41	146704	5.053	ppbV	100
30) carbon disulfide	7.28	76	335965	5.084	ppbV	100
31) Freon 113	7.33	101	174749	5.070	ppbV	98
32) trans-1,2-dichloroethene	8.13	61	140958	5.043	ppbV	100
33) 1,1-dichloroethane	8.36	63	163525	5.076	ppbV	99
34) MTBE	8.44	73	293302	5.058	ppbV	100
35) vinyl acetate	8.58	43	247096	5.015	ppbV	100
36) 2-butanone	8.85	43	226853	5.126	ppbV	98
37) cis-1,2-dichloroethene	9.36	61	119899	5.056	ppbV	99
38) Ethyl Acetate	9.66	61	36211	5.059	ppbV	99
39) chloroform	9.71	83	177821	5.067	ppbV	100
40) Tetrahydrofuran	10.15	42	138184	5.056	ppbV	100
41) 2,2-dichloropropane	9.72	77	157125	5.097	ppbV	99
42) 1,2-dichloroethane	10.56	62	99425	5.116	ppbV	99
44) hexane	9.62	57	186650	5.125	ppbV	85
45) diisopropyl ether	9.63	87	105454	5.096	ppbV	96
46) tert-butyl ethyl ether	10.25	59	308006	5.118	ppbV	100
48) 1,1,1-trichloroethane	10.84	97	145744	5.143	ppbV	100
49) 1,1-dichloropropene	11.21	75	154286	5.120	ppbV	98
50) benzene	11.37	78	357399	5.080	ppbV	100
51) thiophene	11.52	84	775248	5.123	ppbV	99
52) carbon tetrachloride	11.55	117	138747	5.071	ppbV	99
53) cyclohexane	11.69	56	198194	5.087	ppbV	100
54) tert-amyl methyl ether	12.08	73	325611	5.069	ppbV	99
55) dibromomethane	12.29	93	93590	5.147	ppbV	97
56) 1,2-dichloropropane	12.33	63	108286	5.074	ppbV	99
57) bromodichloromethane	12.56	83	197916	5.067	ppbV	99
58) 1,4-dioxane	12.60	88	82241	5.059	ppbV	100
59) trichloroethene	12.61	130	133495	5.056	ppbV	98
60) 2,2,4-trimethylpentane	12.65	57	599862	5.123	ppbV	100
61) methyl methacrylate	12.86	41	185088	5.037	ppbV	99
62) heptane	12.97	43	239084	5.153	ppbV	99
63) cis-1,3-dichloropropene	13.63	75	176460	5.005	ppbV	99
64) 4-methyl-2-pentanone	13.66	43	274821	5.116	ppbV	99
65) trans-1,3-dichloropropene	14.24	75	167181	5.028	ppbV	99
66) 1,1,2-trichloroethane	14.44	97	118632	5.073	ppbV	99

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38595.D
Acq On : 12 Mar 2020 2:23 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:21:29 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) toluene	14.76	91	386396	5.100	ppbV	100
70) 2-methylthiophene	14.82	97	1204773	5.226	ppbV	100
71) 1,3-dichloropropane	14.78	76	199652	5.068	ppbV	99
72) 2-hexanone	15.04	43	254304	5.116	ppbV	98
73) 3-methylthiophene	15.02	97	1236961	5.247	ppbV	100
74) dibromochloromethane	15.21	129	172819	4.951	ppbV	100
75) 1,2-dibromoethane	15.45	107	185772	5.014	ppbV	100
76) butyl acetate	15.70	73	60105	4.913	ppbV	98
77) octane	15.79	85	168439	5.035	ppbV	97
78) tetrachloroethene	15.93	166	172728	5.082	ppbV	99
79) 1,1,1,2-tetrachloroethane	16.57	131	130531	5.058	ppbV	99
80) chlorobenzene	16.57	112	309798	5.028	ppbV	98
81) ethylbenzene	16.93	91	467067	5.072	ppbV	99
82) 2-ethylthiophene	16.97	97	1313040	5.265	ppbV	96
83) m+p-xylene	17.09	91	780438	10.143	ppbV	100
84) bromoform	17.16	173	164537	4.861	ppbV	100
85) styrene	17.42	104	342608	4.959	ppbV	99
86) 1,1,2,2-tetrachloroethane	17.51	83	276348	5.037	ppbV	99
87) o-xylene	17.51	91	391553	5.110	ppbV	98
88) 1,2,3-trichloropropane	17.63	75	232016	5.031	ppbV	99
89) nonane	17.71	43	332469	5.115	ppbV	99
91) isopropylbenzene	18.02	105	562796	5.089	ppbV	98
92) bromobenzene	18.09	77	302540	4.962	ppbV	98
93) 2-chlorotoluene	18.42	126	152897	5.022	ppbV	95
94) n-propylbenzene	18.45	120	175298	4.929	ppbV	92
95) 4-chlorotoluene	18.48	126	146888	4.954	ppbV	100
96) 4-ethyl toluene	18.57	105	641369	5.097	ppbV	99
97) 1,3,5-trimethylbenzene	18.63	105	508545	5.090	ppbV	99
98) tert-butylbenzene	18.96	119	514659	5.025	ppbV	99
99) 1,2,4-trimethylbenzene	18.96	105	496240	5.085	ppbV	99
100) decane	19.03	57	389253	5.083	ppbV	98
101) Benzyl Chloride	19.07	91	352452	4.672	ppbV	99
102) 1,3-dichlorobenzene	19.08	146	288914	5.005	ppbV	99
103) 1,4-dichlorobenzene	19.14	146	283056	4.885	ppbV	100
104) sec-butylbenzene	19.18	105	746005	5.094	ppbV	100
105) 1,2,3-trimethylbenzene	19.30	105	521495	5.112	ppbV	98
106) p-isopropyltoluene	19.29	119	635011	5.003	ppbV	99
107) 1,2-dichlorobenzene	19.41	146	273092	4.972	ppbV	100
108) n-butylbenzene	19.63	91	522326	5.062	ppbV	100
109) indan	19.46	117	515164	4.975	ppbV	100

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38595.D
Acq On : 12 Mar 2020 2:23 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:21:29 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	19.53	115	407856	4.924	ppbV	100
111) 1,2-dibromo-3-chloropr...	19.77	75	133843	4.945	ppbV	97
112) undecane	20.02	57	439578	5.069	ppbV	98
113) 1,2,4,5-tetramethylben...	20.25	119	501760	4.585	ppbV	99
114) dodecane	20.93	57	477288	5.060	ppbV	97
115) 1,2,4-trichlorobenzene	20.88	180	181854	4.559	ppbV	100
116) naphthalene	20.99	128	566994	4.698	ppbV	100
117) 1,2,3-trichlorobenzene	21.24	180	221523	4.644	ppbV	99
118) benzothiophene	21.05	134	279146	4.371	ppbV	99
119) hexachlorobutadiene	21.31	225	224551	5.116	ppbV	98
120) 2-methylnaphthalene	22.10	142	65939	4.008	ppbV	98
121) 1-methylnaphthalene	22.30	142	186454	4.507	ppbV	100

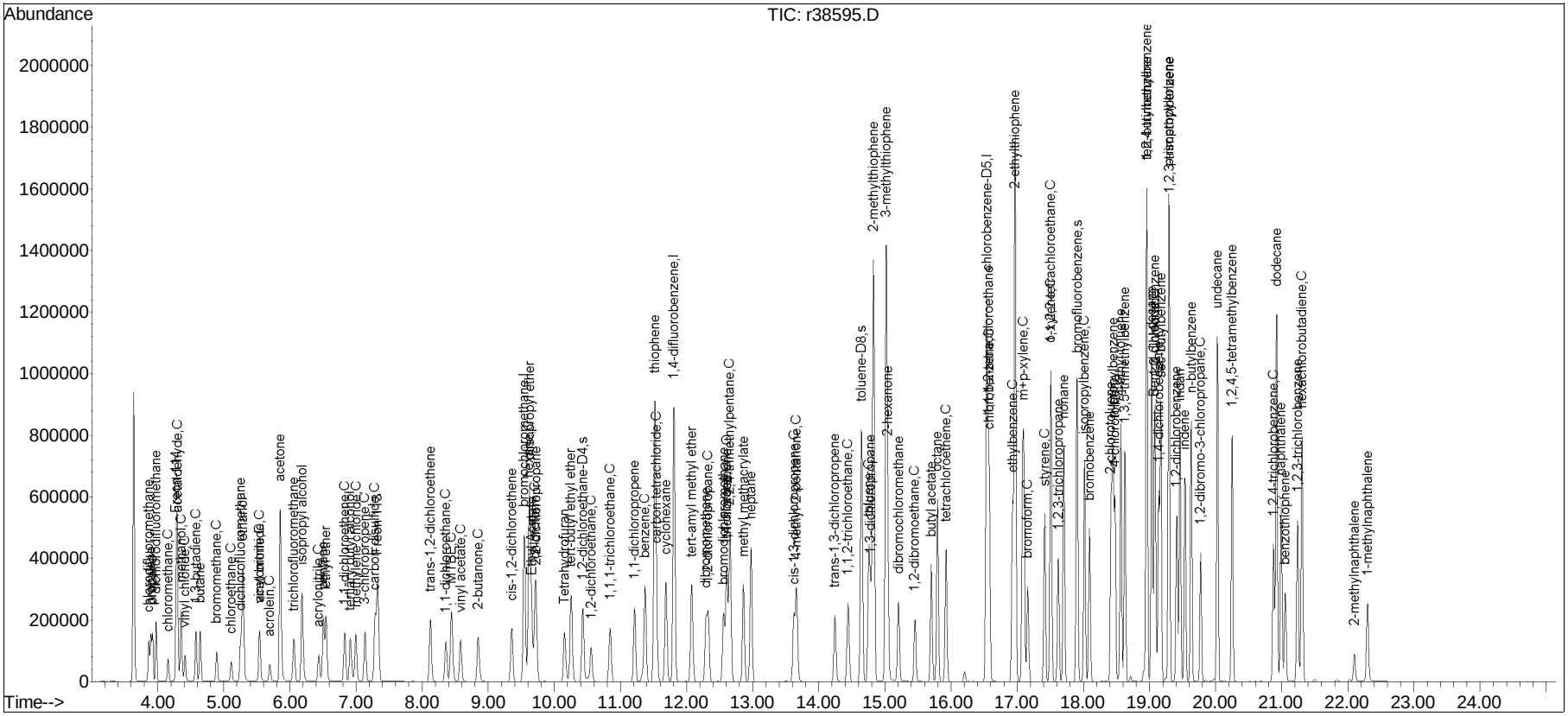
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38595.D
Acq On : 12 Mar 2020 2:23 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:21:29 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

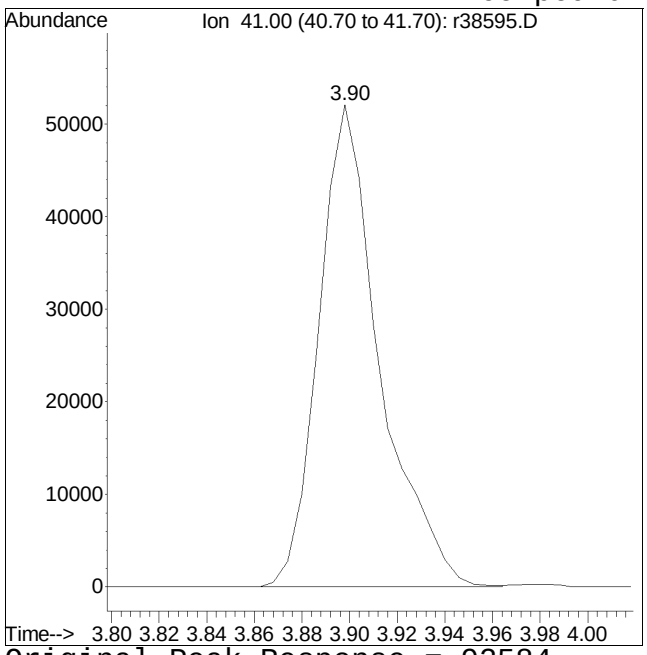
Sub List : Default - All compounds listed20\03\200312T_I\r38596.D

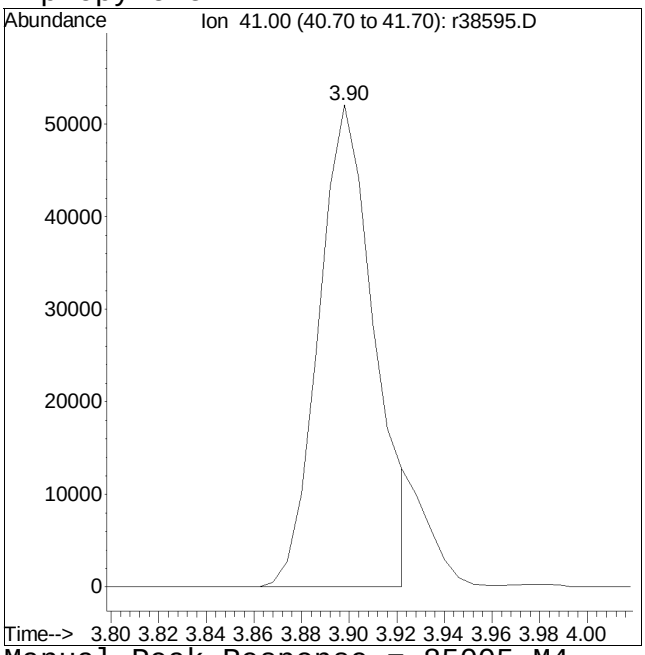


Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TFS3_200312.M
Data File : r38595.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:2: 3 Instrument :
Sample : ITO15-SIMSTD5.0 Quant Date : 3/12/2020 4:14 pm

Compound #3: propylene





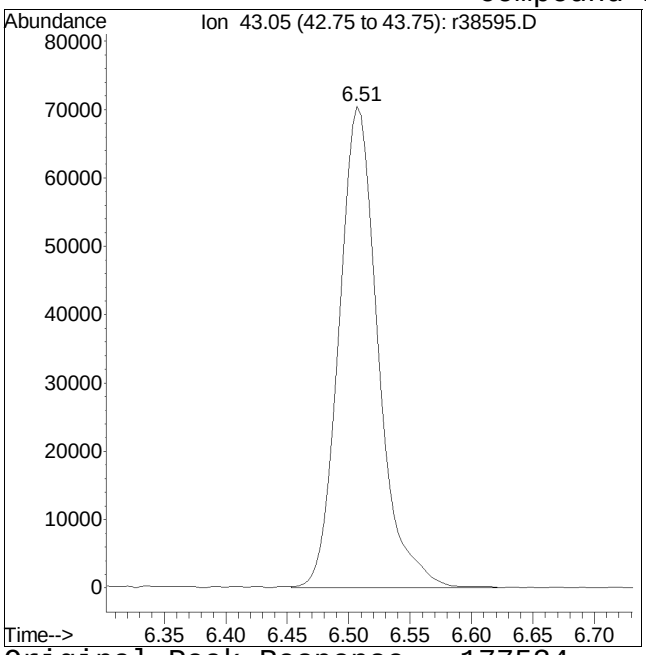
Original Peak Response = 92584 Manual Peak Response = 85005 M4
M4 = Poor automated baseline construction.

Manual Integration/Negative Proof Report

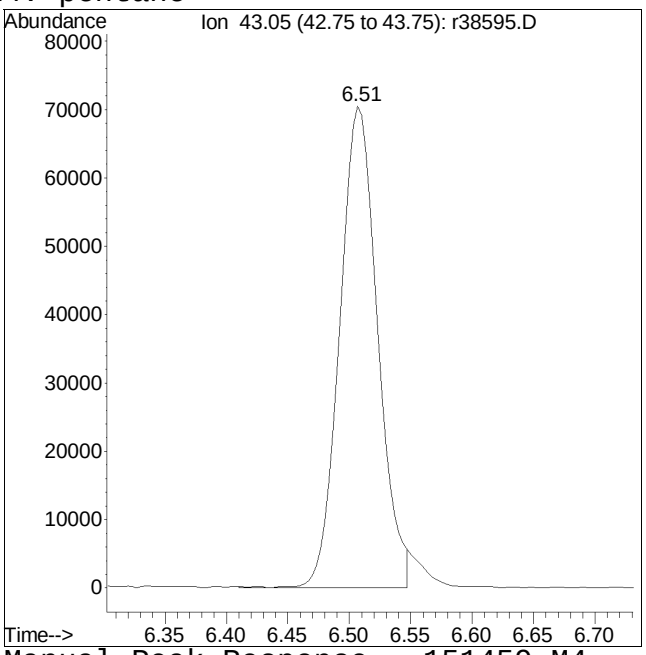
Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38595.D
Date Inj'd : 3/12/2020 0:2: 3
Sample : ITO15-SIMSTD5.0

Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:14 pm

Compound #24: pentane



Original Peak Response = 177534



Manual Peak Response = 151459 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38596.D
Acq On : 12 Mar 2020 3:04 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:11:29 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Fri Feb 14 14:35:02 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.55	49	370599	10.000	ppbV	-0.03
Standard Area = 370599			Recovery = 100.00%			
43) 1,4-difluorobenzene	11.81	114	1030530	10.000	ppbV	-0.03
Standard Area = 1030530			Recovery = 100.00%			
67) chlorobenzene-D5	16.54	54	160625	10.000	ppbV	-0.02
Standard Area = 160625			Recovery = 100.00%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	10.43	65	181617	9.885	ppbV	-0.04
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.85%			
69) toluene-D8	14.65	98	760817	10.809	ppbV	-0.03
Spiked Amount 10.000	Range 70 - 130		Recovery = 108.09%			
90) bromofluorobenzene	17.91	95	523209	11.630	ppbV	-0.02
Spiked Amount 10.000	Range 70 - 130		Recovery = 116.30%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.87	51	279186	9.595	ppbV	99
3) propylene	3.90	41	164789M4	10.479	ppbV	
4) propane	3.93	29	221626	9.538	ppbV	98
5) dichlorodifluoromethane	3.98	85	337444	8.930	ppbV	100
6) chloromethane	4.16	50	152059	8.662	ppbV	100
7) Freon-114	4.29	85	411225	8.677	ppbV	99
8) methanol	4.36	31	380089	42.187	ppbV	96
9) vinyl chloride	4.42	62	173448	8.358	ppbV	100
10) 1,3-butadiene	4.58	54	177511	9.029	ppbV	99
11) butane	4.65	43	259861	9.125	ppbV	97
12) acetaldehyde	4.30	29	439986	41.438	ppbV #	81
13) bromomethane	4.90	94	145724	8.398	ppbV	99
14) chloroethane	5.12	64	87098	8.164	ppbV	98
15) ethanol	5.30	31	757737	45.373	ppbV	89
16) dichlorofluoromethane	5.26	67	274366	8.484	ppbV	99
17) vinyl bromide	5.55	106	169791	10.024	ppbV	98
18) acrolein	5.70	56	91677	9.124	ppbV	96
19) acetone	5.85	43	1239367	46.225	ppbV	99
20) acetonitrile	5.54	41	146288	8.976	ppbV	99
21) trichlorofluoromethane	6.06	101	256013	8.488	ppbV	100
22) isopropyl alcohol	6.19	45	770674	23.003	ppbV	99
23) acrylonitrile	6.44	53	164361	9.154	ppbV	99
24) pentane	6.51	43	374869	8.790	ppbV	98

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38596.D
Acq On : 12 Mar 2020 3:04 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:11:29 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Fri Feb 14 14:35:02 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
25) ethyl ether	6.55	31	366090	10.476	ppbV		97
26) 1,1-dichloroethene	6.83	61	227939	8.192	ppbV		97
27) tertiary butyl alcohol	6.92	59	377536	9.294	ppbV	#	91
28) methylene chloride	7.00	49	244821	10.733	ppbV		90
29) 3-chloropropene	7.14	41	299273	10.631	ppbV		98
30) carbon disulfide	7.29	76	681139	10.067	ppbV		100
31) Freon 113	7.33	101	355288	10.371	ppbV		96
32) trans-1,2-dichloroethene	8.13	61	288110	10.300	ppbV		97
33) 1,1-dichloroethane	8.37	63	332086	10.273	ppbV		100
34) MTBE	8.44	73	597669	10.499	ppbV		98
35) vinyl acetate	8.58	43	507895	10.607	ppbV		99
36) 2-butanone	8.84	43	456160	10.219	ppbV		98
37) cis-1,2-dichloroethene	9.36	61	244416	10.237	ppbV		97
38) Ethyl Acetate	9.66	61	73773	10.124	ppbV		70
39) chloroform	9.71	83	361740	9.999	ppbV		98
40) Tetrahydrofuran	10.15	42	281741	10.135	ppbV		99
41) 2,2-dichloropropane	9.72	77	317763	10.431	ppbV		96
42) 1,2-dichloroethane	10.56	62	200314	10.023	ppbV		98
44) hexane	9.63	57	378902	9.600	ppbV		98
45) diisopropyl ether	9.63	87	215310	9.603	ppbV		86
46) tert-butyl ethyl ether	10.26	59	626083	9.558	ppbV		98
48) 1,1,1-trichloroethane	10.84	97	294852	9.735	ppbV		96
49) 1,1-dichloropropene	11.21	75	313516	9.589	ppbV		97
50) benzene	11.37	78	731958	9.344	ppbV		99
51) thiophene	11.52	84	1574436	9.771	ppbV		99
52) carbon tetrachloride	11.55	117	284638	10.098	ppbV		98
53) cyclohexane	11.69	56	405387	9.555	ppbV		97
54) tert-amyl methyl ether	12.08	73	668340	9.894	ppbV		98
55) dibromomethane	12.29	93	189180	9.578	ppbV		98
56) 1,2-dichloropropane	12.33	63	222026	9.446	ppbV		97
57) bromodichloromethane	12.56	83	406358	9.503	ppbV		99
58) 1,4-dioxane	12.60	88	169136	9.434	ppbV		99
59) trichloroethene	12.61	130	274676	9.713	ppbV		99
60) 2,2,4-trimethylpentane	12.66	57	1218254	9.826	ppbV		98
61) methyl methacrylate	12.86	41	382295	10.746	ppbV		97
62) heptane	12.98	43	482730	9.480	ppbV		95
63) cis-1,3-dichloropropene	13.63	75	366824	9.729	ppbV		99
64) 4-methyl-2-pentanone	13.66	43	558912	9.642	ppbV		95
65) trans-1,3-dichloropropene	14.24	75	345918	9.838	ppbV		99
66) 1,1,2-trichloroethane	14.44	97	243281	9.876	ppbV		93

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38596.D
Acq On : 12 Mar 2020 3:04 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:11:29 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Fri Feb 14 14:35:02 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) toluene	14.76	91	785072	9.998	ppbV	99
70) 2-methylthiophene	14.82	97	2389119	10.430	ppbV	99
71) 1,3-dichloropropane	14.79	76	408236	9.843	ppbV	100
72) 2-hexanone	15.04	43	515105	9.858	ppbV	97
73) 3-methylthiophene	15.03	97	2442820	10.522	ppbV	99
74) dibromochloromethane	15.21	129	361759	10.817	ppbV	99
75) 1,2-dibromoethane	15.46	107	383958	10.441	ppbV	99
76) butyl acetate	15.70	73	126783	10.411	ppbV	95
77) octane	15.79	85	346684	10.520	ppbV	91
78) tetrachloroethene	15.93	166	352204	10.807	ppbV	99
79) 1,1,1,2-tetrachloroethane	16.57	131	267416	10.615	ppbV	98
80) chlorobenzene	16.58	112	638561	10.536	ppbV	99
81) ethylbenzene	16.93	91	954346	10.614	ppbV	98
82) 2-ethylthiophene	16.97	97	2584552	10.837	ppbV	97
83) m+p-xylene	17.09	91	1594664	21.418	ppbV	97
84) bromoform	17.16	173	350779	11.564	ppbV	99
85) styrene	17.42	104	715919	11.710	ppbV	96
86) 1,1,2,2-tetrachloroethane	17.51	83	568523	10.457	ppbV	98
87) o-xylene	17.51	91	794007	10.887	ppbV	95
88) 1,2,3-trichloropropane	17.63	75	477908	10.676	ppbV	97
89) nonane	17.71	43	673602	10.196	ppbV	91
91) isopropylbenzene	18.02	105	1145979	11.739	ppbV	97
92) bromobenzene	18.09	77	631815	11.000	ppbV	89
93) 2-chlorotoluene	18.42	126	315473M3	11.654	ppbV	
94) n-propylbenzene	18.45	120	368534	11.276	ppbV	96
95) 4-chlorotoluene	18.48	126	307286	11.607	ppbV	97
96) 4-ethyl toluene	18.57	105	1303917	11.905	ppbV	99
97) 1,3,5-trimethylbenzene	18.63	105	1035403	11.704	ppbV	98
98) tert-butylbenzene	18.96	119	1061392	12.125	ppbV	99
99) 1,2,4-trimethylbenzene	18.96	105	1011332	12.144	ppbV	95
100) decane	19.03	57	793631	11.497	ppbV	89
101) Benzyl Chloride	19.07	91	781719	12.822	ppbV	98
102) 1,3-dichlorobenzene	19.08	146	598231	11.491	ppbV	98
103) 1,4-dichlorobenzene	19.14	146	600476	12.162	ppbV	98
104) sec-butylbenzene	19.18	105	1517768	12.240	ppbV	99
105) 1,2,3-trimethylbenzene	19.30	105	1057203	13.285	ppbV	98
106) p-isopropyltoluene	19.29	119	1315219	12.504	ppbV	99
107) 1,2-dichlorobenzene	19.41	146	569157	11.671	ppbV	95
108) n-butylbenzene	19.63	91	1069316	11.632	ppbV	98
109) indan	19.46	117	1073038	13.090	ppbV	99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38596.D
Acq On : 12 Mar 2020 3:04 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:11:29 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Fri Feb 14 14:35:02 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	19.53	115	858390	13.388	ppbV	99
111) 1,2-dibromo-3-chloropr...	19.77	75	280505	12.121	ppbV	93
112) undecane	20.02	57	898670	11.939	ppbV	92
113) 1,2,4,5-tetramethylben...	20.25	119	1133956	14.075	ppbV	98
114) dodecane	20.93	57	977549	12.896	ppbV	91
115) 1,2,4-trichlorobenzene	20.88	180	413383	13.394	ppbV	99
116) naphthalene	20.99	128	1250597	13.837	ppbV	99
117) 1,2,3-trichlorobenzene	21.24	180	494287	13.962	ppbV	100
118) benzothiophene	21.05	134	661868	11.773	ppbV	99
119) hexachlorobutadiene	21.31	225	454820	11.289	ppbV	97
120) 2-methylnaphthalene	22.10	142	170486	11.012	ppbV	100
121) 1-methylnaphthalene	22.29	142	428680	11.131	ppbV	99

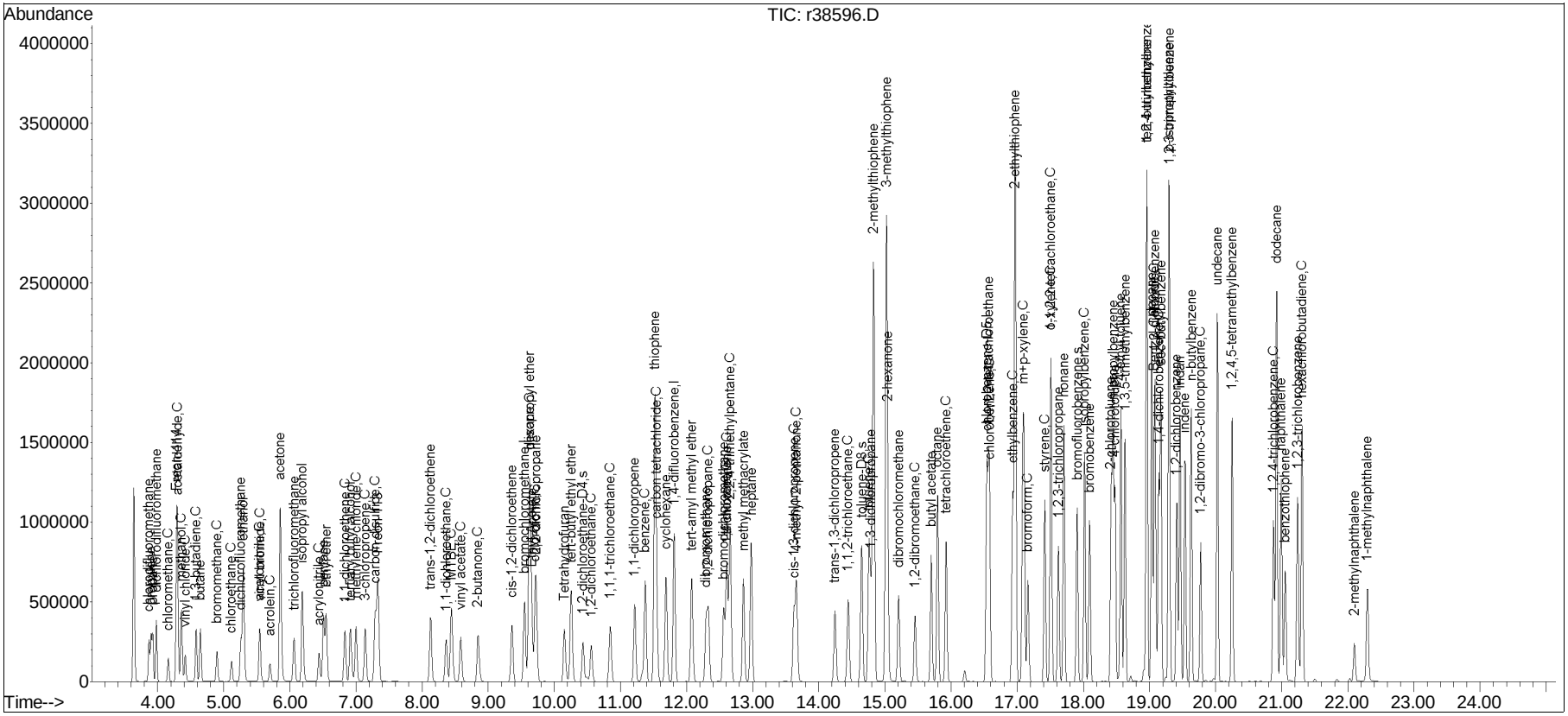
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38596.D
Acq On : 12 Mar 2020 3:04 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:11:29 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Fri Feb 14 14:35:02 2020
Response via : Initial Calibration

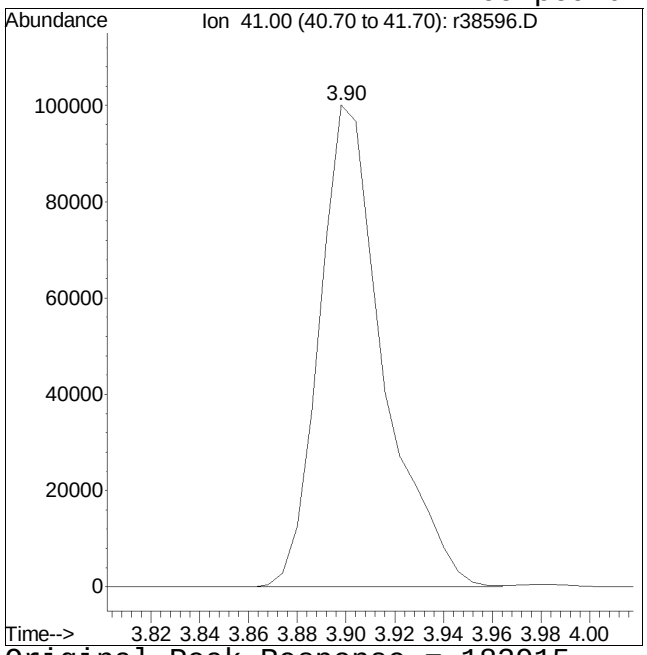
Sub List : Default - All compounds listed20\03\200312T_I\r38596.D

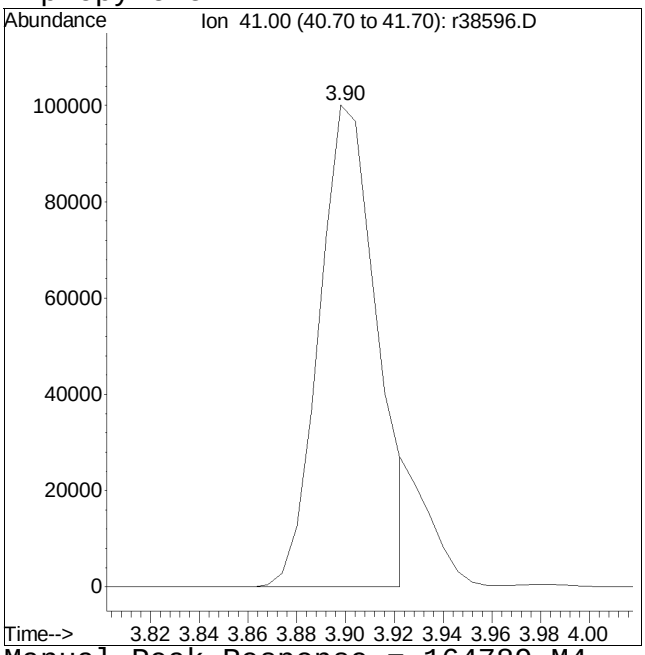


Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38596.D
Date Inj'd : 3/12/2020 0:3: 4
Sample : ITO15-SIMSTD010
Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:10 pm

Compound #3: propylene





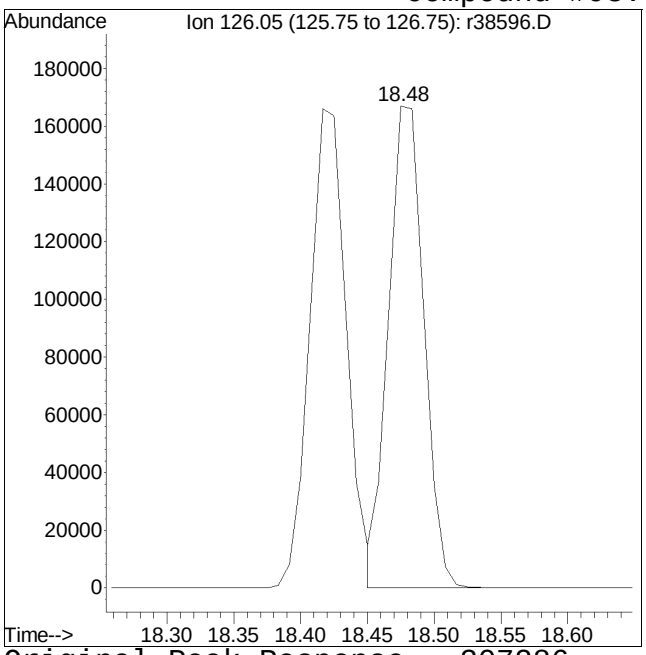
Original Peak Response = 182915 Manual Peak Response = 164789 M4
M4 = Poor automated baseline construction.

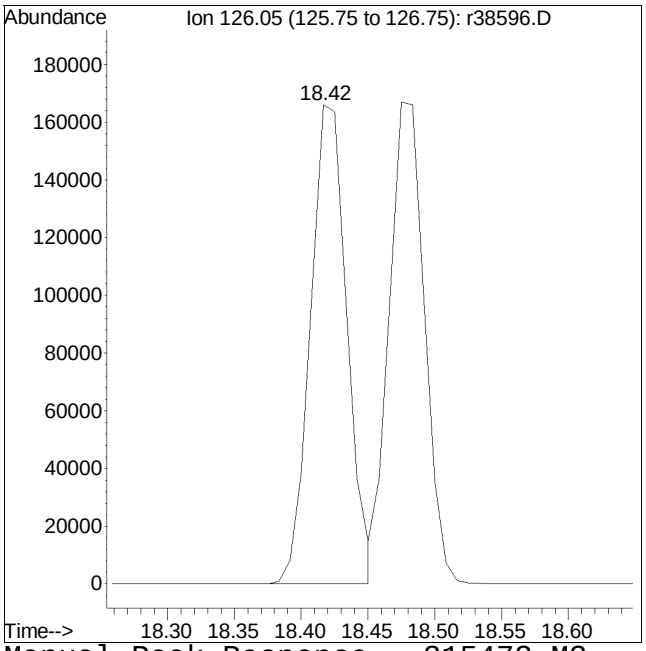
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38596.D
Date Inj'd : 3/12/2020 0:3: 4
Sample : ITO15-SIMSTD010

Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:10 pm

Compound #93: 2-chlorotoluene





Original Peak Response = 307286 Manual Peak Response = 315473 M3

M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38597.D
Acq On : 12 Mar 2020 3:41 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD020
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:23:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.55	49	386429	10.000	ppbV	0.00
Standard Area = 370599			Recovery = 104.27%			
43) 1,4-difluorobenzene	11.81	114	1078162	10.000	ppbV	0.00
Standard Area = 1030530			Recovery = 104.62%			
67) chlorobenzene-D5	16.54	54	164563	10.000	ppbV	0.00
Standard Area = 160625			Recovery = 102.45%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	10.43	65	179843	9.465	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 94.65%			
69) toluene-D8	14.64	98	766726	9.837	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.37%			
90) bromofluorobenzene	17.91	95	487677	9.098	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 90.98%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.86	51	583374	20.040	ppbV	99
3) propylene	3.90	41	343301M4	19.979	ppbV	
4) propane	3.92	29	465200	20.130	ppbV	99
5) dichlorodifluoromethane	3.98	85	684916	19.466	ppbV	99
6) chloromethane	4.16	50	317415	20.019	ppbV	99
7) Freon-114	4.28	85	830655	19.372	ppbV	96
8) methanol	4.36	31	781152	98.550	ppbV	99
9) vinyl chloride	4.41	62	374747	20.721	ppbV	100
10) 1,3-butadiene	4.58	54	379994	20.530	ppbV	98
11) butane	4.64	43	541534	19.986	ppbV	100
12) acetaldehyde	4.29	29	768566	83.762	ppbV	98
13) bromomethane	4.89	94	312102	20.540	ppbV	100
14) chloroethane	5.12	64	188865	20.796	ppbV	100
15) ethanol	5.30	31	1815350	114.881	ppbV	98
16) dichlorofluoromethane	5.25	67	594950	20.796	ppbV	100
17) vinyl bromide	5.54	106	405433	22.900	ppbV	100
18) acrolein	5.69	56	212538	22.234	ppbV #	94
19) acetone	5.85	43	2968859	114.867	ppbV	91
20) acetonitrile	5.54	41	386891	25.364	ppbV	98
21) trichlorofluoromethane	6.06	101	669558	25.082	ppbV	99
22) isopropyl alcohol	6.18	45	1934019	60.168	ppbV	98
23) acrylonitrile	6.44	53	396159	23.116	ppbV	94
24) pentane	6.51	43	821379M4	21.014	ppbV	

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38597.D
Acq On : 12 Mar 2020 3:41 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD020
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:23:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) ethyl ether	6.54	31	898169	23.529	ppbV	94
26) 1,1-dichloroethene	6.83	61	565884	23.809	ppbV	97
27) tertiary butyl alcohol	6.90	59	809631	20.567	ppbV	100
28) methylene chloride	7.00	49	525608	20.590	ppbV	98
29) 3-chloropropene	7.14	41	632395	20.265	ppbV	99
30) carbon disulfide	7.29	76	1421404	20.013	ppbV	99
31) Freon 113	7.33	101	749135	20.222	ppbV	99
32) trans-1,2-dichloroethene	8.13	61	607186	20.211	ppbV	100
33) 1,1-dichloroethane	8.36	63	702745	20.295	ppbV	100
34) MTBE	8.43	73	1242858	19.943	ppbV	99
35) vinyl acetate	8.57	43	1081123	20.414	ppbV	98
36) 2-butanone	8.83	43	960585	20.195	ppbV	100
37) cis-1,2-dichloroethene	9.36	61	524541	20.582	ppbV	100
38) Ethyl Acetate	9.65	61	160808	20.905	ppbV	95
39) chloroform	9.71	83	774091	20.522	ppbV	100
40) Tetrahydrofuran	10.14	42	597765	20.348	ppbV	100
41) 2,2-dichloropropane	9.72	77	648675	19.578	ppbV	99
42) 1,2-dichloroethane	10.56	62	420268	20.121	ppbV	98
44) hexane	9.63	57	812392	20.493	ppbV	91
45) diisopropyl ether	9.63	87	466703	20.718	ppbV	94
46) tert-butyl ethyl ether	10.25	59	1339787	20.454	ppbV	99
48) 1,1,1-trichloroethane	10.84	97	618172	20.039	ppbV	99
49) 1,1-dichloropropene	11.21	75	657747	20.053	ppbV	99
50) benzene	11.37	78	1584394	20.690	ppbV	99
51) thiophene	11.52	84	3325766	20.190	ppbV	98
52) carbon tetrachloride	11.55	117	588824	19.773	ppbV	99
53) cyclohexane	11.69	56	884569	20.856	ppbV	98
54) tert-amyl methyl ether	12.07	73	1389759	19.876	ppbV	99
55) dibromomethane	12.29	93	390854	19.748	ppbV	99
56) 1,2-dichloropropane	12.33	63	475668	20.477	ppbV	99
57) bromodichloromethane	12.56	83	861241	20.258	ppbV	100
58) 1,4-dioxane	12.59	88	366184	20.694	ppbV	98
59) trichloroethene	12.61	130	588842	20.491	ppbV	99
60) 2,2,4-trimethylpentane	12.66	57	2558298	20.072	ppbV	99
61) methyl methacrylate	12.85	41	702145	17.555	ppbV	99
62) heptane	12.98	43	1015332	20.104	ppbV	98
63) cis-1,3-dichloropropene	13.62	75	779217	20.304	ppbV	98
64) 4-methyl-2-pentanone	13.66	43	1172539	20.052	ppbV	99
65) trans-1,3-dichloropropene	14.24	75	738494	20.406	ppbV	99
66) 1,1,2-trichloroethane	14.44	97	523628	20.573	ppbV	97

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38597.D
Acq On : 12 Mar 2020 3:41 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD020
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:23:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) toluene	14.76	91	1674567	20.820	ppbV	100
70) 2-methylthiophene	14.82	97	4703576	19.216	ppbV	99
71) 1,3-dichloropropane	14.79	76	841358	20.116	ppbV	100
72) 2-hexanone	15.04	43	1016055	19.253	ppbV	97
73) 3-methylthiophene	15.03	97	4790025	19.139	ppbV	99
74) dibromochloromethane	15.21	129	752593	20.306	ppbV	99
75) 1,2-dibromoethane	15.45	107	829173	21.079	ppbV	99
76) butyl acetate	15.70	73	269042	20.713	ppbV	97
77) octane	15.79	85	754362	21.239	ppbV	96
78) tetrachloroethene	15.93	166	764542	21.188	ppbV	98
79) 1,1,1,2-tetrachloroethane	16.57	131	549959	20.074	ppbV	98
80) chlorobenzene	16.58	112	1407174	21.509	ppbV	97
81) ethylbenzene	16.93	91	2038028	20.844	ppbV	98
82) 2-ethylthiophene	16.97	97	4966476	18.756	ppbV	97
83) m+p-xylene	17.09	91	3373517	41.298	ppbV	100
84) bromoform	17.16	173	743359	20.685	ppbV	99
85) styrene	17.42	104	1553435	21.179	ppbV	100
86) 1,1,2,2-tetrachloroethane	17.51	83	1219682	20.940	ppbV	100
87) o-xylene	17.51	91	1655953	20.357	ppbV	97
88) 1,2,3-trichloropropane	17.63	75	983255	20.082	ppbV	98
89) nonane	17.71	43	1381089	20.012	ppbV	95
91) isopropylbenzene	18.02	105	2347265	19.992	ppbV	97
92) bromobenzene	18.09	77	1308232	20.210	ppbV	98
93) 2-chlorotoluene	18.43	126	662496	20.498	ppbV	78
94) n-propylbenzene	18.45	120	794531	21.043	ppbV	91
95) 4-chlorotoluene	18.48	126	645874	20.516	ppbV	97
96) 4-ethyl toluene	18.57	105	2679695	20.059	ppbV	98
97) 1,3,5-trimethylbenzene	18.63	105	2168207	20.440	ppbV	96
98) tert-butylbenzene	18.96	119	2078272	19.112	ppbV	100
99) 1,2,4-trimethylbenzene	18.96	105	1982017	19.129	ppbV	94
100) decane	19.03	57	1614312	19.854	ppbV	95
101) Benzyl Chloride	19.07	91	1607004	20.065	ppbV	97
102) 1,3-dichlorobenzene	19.08	146	1294947	21.128	ppbV	98
103) 1,4-dichlorobenzene	19.14	146	1216666	19.777	ppbV	97
104) sec-butylbenzene	19.18	105	3015939	19.395	ppbV	99
105) 1,2,3-trimethylbenzene	19.30	105	1784686	16.477	ppbV	93
106) p-isopropyltoluene	19.29	119	2511907	18.642	ppbV	99
107) 1,2-dichlorobenzene	19.42	146	1201041	20.597	ppbV	98
108) n-butylbenzene	19.63	91	2093750	19.112	ppbV	99
109) indan	19.47	117	1998972	18.183	ppbV	99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38597.D
Acq On : 12 Mar 2020 3:41 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD020
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:23:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) indene	19.54	115	1622067	18.444	ppbV	100
111) 1,2-dibromo-3-chloropr...	19.77	75	508415	17.691	ppbV	93
112) undecane	20.02	57	1743721	18.939	ppbV	96
113) 1,2,4,5-tetramethylben...	20.25	119	1987228	17.105	ppbV	99
114) dodecane	20.93	57	1684320	16.818	ppbV	96
115) 1,2,4-trichlorobenzene	20.88	180	792964	18.723	ppbV	97
116) naphthalene	20.99	128	2172923	16.959	ppbV	99
117) 1,2,3-trichlorobenzene	21.24	180	854703	16.878	ppbV	96
118) benzothiophene	21.05	134	1523541	22.468	ppbV	99
119) hexachlorobutadiene	21.31	225	842756	18.086	ppbV	98
120) 2-methylnaphthalene	22.10	142	381887	21.864	ppbV	99
121) 1-methylnaphthalene	22.29	142	891996	20.310	ppbV	98

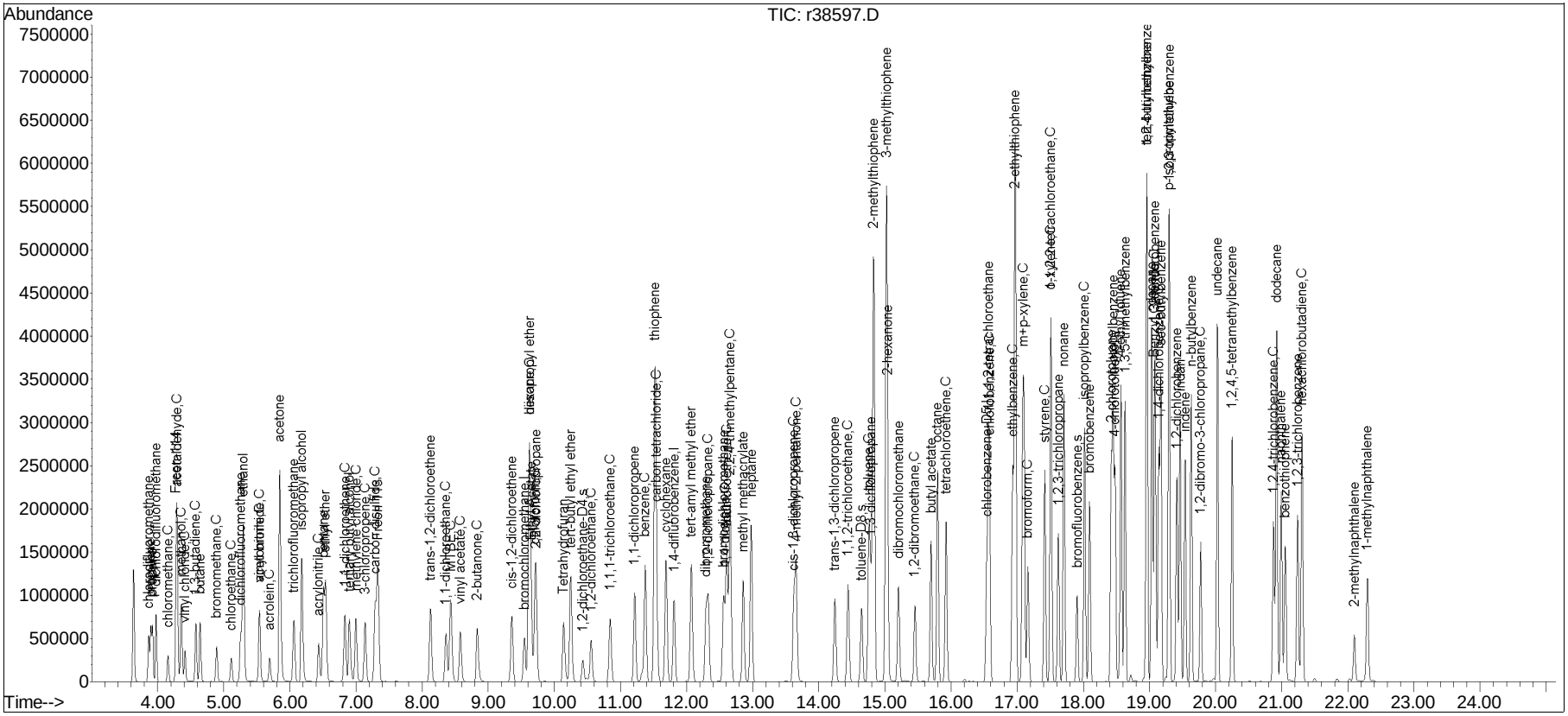
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38597.D
Acq On : 12 Mar 2020 3:41 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD020
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:23:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:12:16 2020
Response via : Initial Calibration

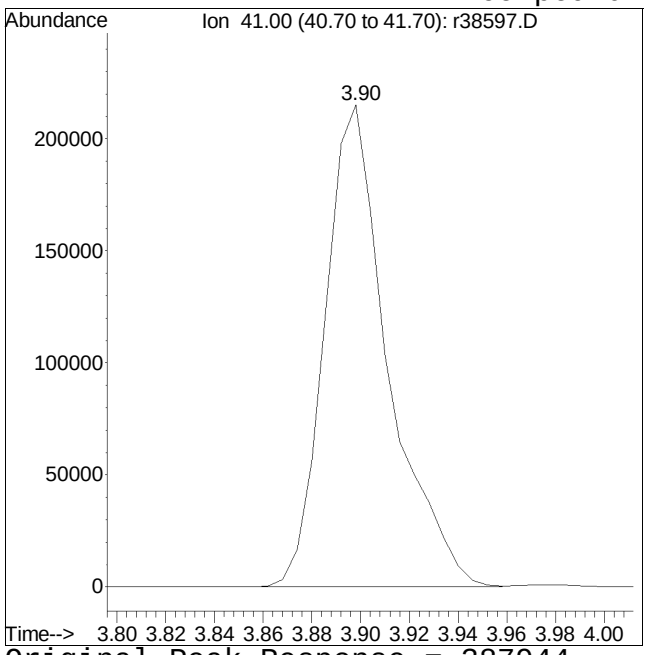
Sub List : Default - All compounds listed20\03\200312T_I\r38596.D



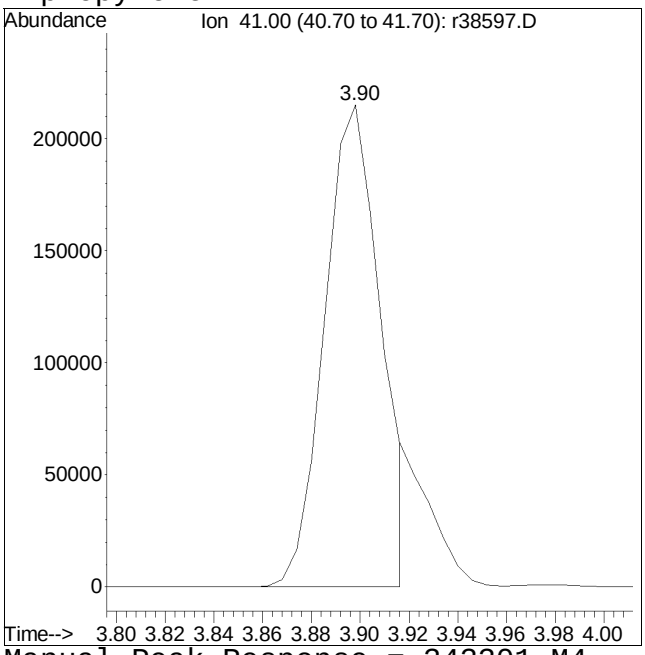
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38597.D
Date Inj'd : 3/12/2020 0:3: 1
Sample : ITO15-SIMSTD020
Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:15 pm

Compound #3: propylene



Original Peak Response = 387944



Manual Peak Response = 343301 M4

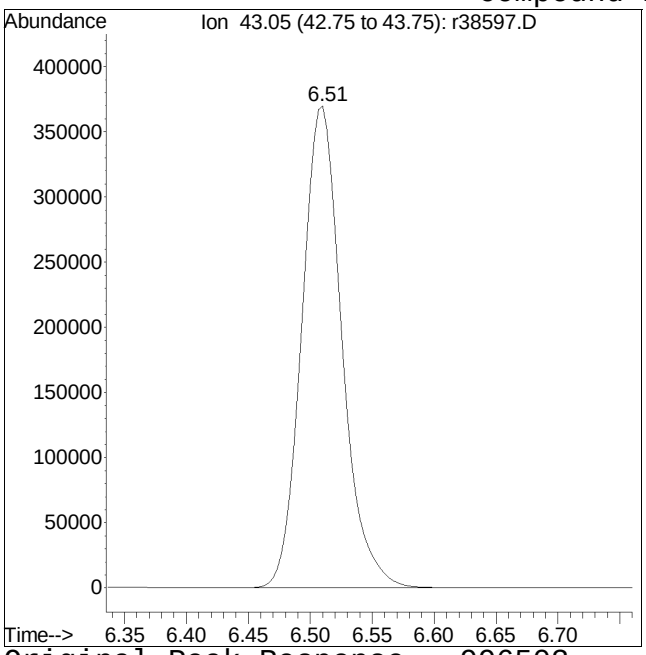
M4 = Poor automated baseline construction.

Manual Integration/Negative Proof Report

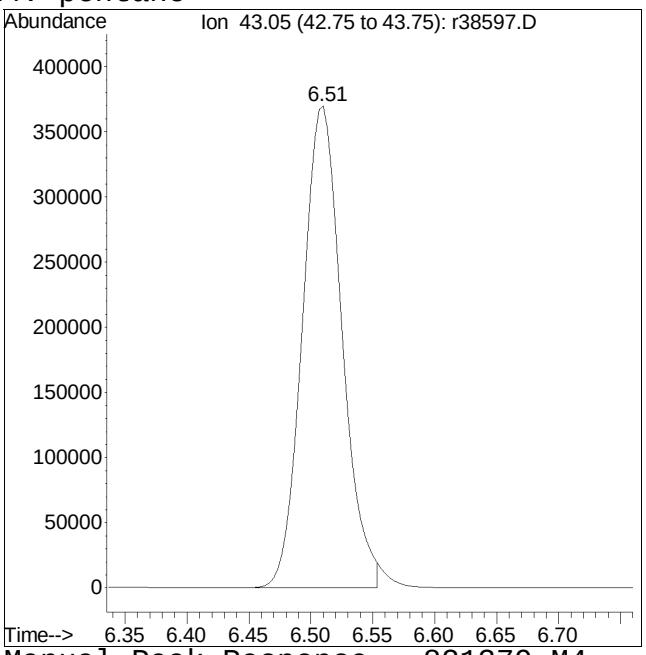
Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38597.D
Date Inj'd : 3/12/2020 0:3: 1
Sample : ITO15-SIMSTD020

Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:15 pm

Compound #24: pentane



Original Peak Response = 996503



Manual Peak Response = 821379 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38598.D
Acq On : 12 Mar 2020 4:20 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD050
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:51:20 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:24:00 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.55	49	399060	10.000	ppbV	0.00
Standard Area = 370599			Recovery = 107.68%			
43) 1,4-difluorobenzene	11.81	114	1122309	10.000	ppbV	0.00
Standard Area = 1030530			Recovery = 108.91%			
67) chlorobenzene-D5	16.54	54	167383	10.000	ppbV	# 0.00
Standard Area = 160625			Recovery = 104.21%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	10.43	65	170176	8.549	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 85.49%			
69) toluene-D8	14.65	98	786785	9.911	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.11%			
90) bromofluorobenzene	17.91	95	534647	10.435	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 104.35%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.87	51	1291300	39.902	ppbV	96
3) propylene	3.90	41	800449M4	41.746	ppbV	
4) propane	3.92	29	1038518	40.279	ppbV	98
5) dichlorodifluoromethane	3.98	85	1350266	34.021	ppbV	99
6) chloromethane	4.16	50	691722	38.977	ppbV	98
7) Freon-114	4.28	85	1599390	32.649	ppbV	90
8) methanol	4.36	31	1723159	196.941	ppbV	96
9) vinyl chloride	4.41	62	861114	42.539	ppbV	99
10) 1,3-butadiene	4.58	54	849471	41.352	ppbV	97
11) butane	4.65	43	1154285	37.640	ppbV	98
12) acetaldehyde	4.30	29	1497293	151.673	ppbV	95
13) bromomethane	4.89	94	701184	41.424	ppbV	99
14) chloroethane	5.12	64	439761	42.927	ppbV	98
15) ethanol	5.30	31	2985173	166.848	ppbV	100
16) dichlorofluoromethane	5.26	67	1210304	37.751	ppbV	99
17) vinyl bromide	5.54	106	747538	37.603	ppbV	99
18) acrolein	5.69	56	460065	43.453	ppbV	96
19) acetone	5.85	43	4426806	152.098	ppbV	89
20) acetonitrile	5.54	41	669199	37.450	ppbV	100
21) trichlorofluoromethane	6.06	101	1066265	34.397	ppbV	98
22) isopropyl alcohol	6.19	45	3127466	85.939	ppbV	98
23) acrylonitrile	6.44	53	813651	42.967	ppbV	98
24) pentane	6.51	43	2158042	56.297	ppbV	99

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38598.D
Acq On : 12 Mar 2020 4:20 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD050
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:51:20 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:24:00 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
25) ethyl ether	6.54	31	2411457	59.291	ppbV		97
26) 1,1-dichloroethene	6.83	61	1300985	47.915	ppbV		99
27) tertiary butyl alcohol	6.91	59	1952792	48.214	ppbV		97
28) methylene chloride	7.00	49	1230394	48.043	ppbV		93
29) 3-chloropropene	7.14	41	1486826	43.609	ppbV		97
30) carbon disulfide	7.29	76	3226333	41.799	ppbV		99
31) Freon 113	7.33	101	1685355	41.304	ppbV		97
32) trans-1,2-dichloroethene	8.13	61	1416872	43.768	ppbV		99
33) 1,1-dichloroethane	8.37	63	1654273	43.362	ppbV		99
34) MTBE	8.43	73	2780256	41.266	ppbV		96
35) vinyl acetate	8.58	43	2515234	45.227	ppbV		96
36) 2-butanone	8.84	43	2221399	42.741	ppbV		99
37) cis-1,2-dichloroethene	9.36	61	1221512	43.732	ppbV		98
38) Ethyl Acetate	9.65	61	391860	46.764	ppbV		94
39) chloroform	9.72	83	1710422	41.413	ppbV		98
40) Tetrahydrofuran	10.14	42	1411796	44.158	ppbV		99
41) 2,2-dichloropropane	9.72	77	1374618	38.507	ppbV		96
42) 1,2-dichloroethane	10.56	62	915347	39.907	ppbV		96
44) hexane	9.62	57	1884388	42.933	ppbV	#	75
45) diisopropyl ether	9.63	87	1102049	44.207	ppbV		74
46) tert-butyl ethyl ether	10.25	59	3095625	43.311	ppbV		96
48) 1,1,1-trichloroethane	10.84	97	1342178	39.172	ppbV	#	97
49) 1,1-dichloropropene	11.21	75	1481254	41.380	ppbV		95
50) benzene	11.37	78	3639691	42.390	ppbV		98
51) thiophene	11.53	84	6981664	38.497	ppbV		98
52) carbon tetrachloride	11.55	117	1195837	36.849	ppbV		99
53) cyclohexane	11.69	56	2127284	45.703	ppbV		96
54) tert-amyl methyl ether	12.07	73	3086091	40.712	ppbV		98
55) dibromomethane	12.30	93	882556	39.753	ppbV		98
56) 1,2-dichloropropane	12.33	63	1110757	42.977	ppbV		97
57) bromodichloromethane	12.56	83	1927920	41.720	ppbV		100
58) 1,4-dioxane	12.59	88	914671	47.647	ppbV		96
59) trichloroethene	12.61	130	1386095	43.818	ppbV		97
60) 2,2,4-trimethylpentane	12.66	57	5952089	42.560	ppbV		97
61) methyl methacrylate	12.86	41	1625272	41.469	ppbV		99
62) heptane	12.98	43	2276024	40.990	ppbV		94
63) cis-1,3-dichloropropene	13.63	75	1777546	42.676	ppbV		98
64) 4-methyl-2-pentanone	13.66	43	2636333	41.978	ppbV		95
65) trans-1,3-dichloropropene	14.24	75	1662587	42.954	ppbV		99
66) 1,1,2-trichloroethane	14.44	97	1218161	43.018	ppbV		95

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38598.D
Acq On : 12 Mar 2020 4:20 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD050
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:51:20 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:24:00 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) toluene	14.76	91	3850178	43.577	ppbV		100
70) 2-methylthiophene	14.83	97	9107228	33.850	ppbV		99
71) 1,3-dichloropropane	14.79	76	1855139	41.712	ppbV		98
72) 2-hexanone	15.04	43	1951168	35.530	ppbV	#	89
73) 3-methylthiophene	15.03	97	8909419	32.464	ppbV		99
74) dibromochloromethane	15.21	129	1692267	44.405	ppbV		97
75) 1,2-dibromoethane	15.46	107	1874938	44.673	ppbV		100
76) butyl acetate	15.70	73	626429	47.315	ppbV		92
77) octane	15.80	85	1776964	47.625	ppbV		92
78) tetrachloroethene	15.93	166	1693608	43.149	ppbV		97
79) 1,1,1,2-tetrachloroethane	16.57	131	1215736	41.403	ppbV		96
80) chlorobenzene	16.58	112	3145408	44.477	ppbV		93
81) ethylbenzene	16.93	91	4585962	43.318	ppbV		96
82) 2-ethylthiophene	16.98	97	9012200	31.057	ppbV		95
83) m+p-xylene	17.10	91	7192700	81.258	ppbV		96
84) bromoform	17.17	173	1645518	46.332	ppbV		98
85) styrene	17.42	104	3560494	46.856	ppbV		97
86) 1,1,2,2-tetrachloroethane	17.51	83	2503064	40.224	ppbV		99
87) o-xylene	17.51	91	3390869	38.506	ppbV		93
88) 1,2,3-trichloropropane	17.63	75	2204534	43.158	ppbV		96
89) nonane	17.71	43	2942683	40.018	ppbV	#	90
91) isopropylbenzene	18.02	105	5072251	40.673	ppbV		91
92) bromobenzene	18.10	77	2848495	42.930	ppbV		98
93) 2-chlorotoluene	18.43	126	1570320	46.509	ppbV		97
94) n-propylbenzene	18.45	120	1874997	48.274	ppbV		74
95) 4-chlorotoluene	18.48	126	1555400	48.021	ppbV		75
96) 4-ethyl toluene	18.57	105	5659025	40.490	ppbV		92
97) 1,3,5-trimethylbenzene	18.63	105	4576925	40.193	ppbV		90
98) tert-butylbenzene	18.96	119	3980603	35.479	ppbV		93
99) 1,2,4-trimethylbenzene	18.97	105	3750900	34.179	ppbV		90
100) decane	19.04	57	3454532	41.262	ppbV		92
101) Benzyl Chloride	19.07	91	3447289	48.373	ppbV	#	89
102) 1,3-dichlorobenzene	19.09	146	2691666	41.521	ppbV		95
103) 1,4-dichlorobenzene	19.14	146	2690383	44.546	ppbV		95
104) sec-butylbenzene	19.18	105	6218111	38.712	ppbV		94
105) 1,2,3-trimethylbenzene	19.30	105	3423186	33.014	ppbV		91
106) p-isopropyltoluene	19.30	119	4786254	35.387	ppbV		92
107) 1,2-dichlorobenzene	19.42	146	2673932	44.151	ppbV		96
108) n-butylbenzene	19.63	91	4490773	41.182	ppbV		94
109) indan	19.47	117	4339841	42.132	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38598.D
Acq On : 12 Mar 2020 4:20 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD050
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:51:20 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:24:00 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
110) indene	19.54	115	3649994	46.201	ppbV		99
111) 1,2-dibromo-3-chloropr...	19.77	75	1076414	40.652	ppbV	#	83
112) undecane	20.03	57	3698999	40.560	ppbV		94
113) 1,2,4,5-tetramethylben...	20.25	119	4326330	43.167	ppbV		95
114) dodecane	20.93	57	3706435	41.148	ppbV		92
115) 1,2,4-trichlorobenzene	20.88	180	2029103	57.657	ppbV		94
116) naphthalene	20.99	128	5498084	51.027	ppbV		98
117) 1,2,3-trichlorobenzene	21.24	180	2130337	50.851	ppbV		94
118) benzothiophene	21.06	134	4188654	70.097	ppbV		98
119) hexachlorobutadiene	21.31	225	1794781	36.660	ppbV		96
120) 2-methylnaphthalene	22.10	142	1174658	75.012	ppbV		99
121) 1-methylnaphthalene	22.30	142	2435879	57.561	ppbV		99

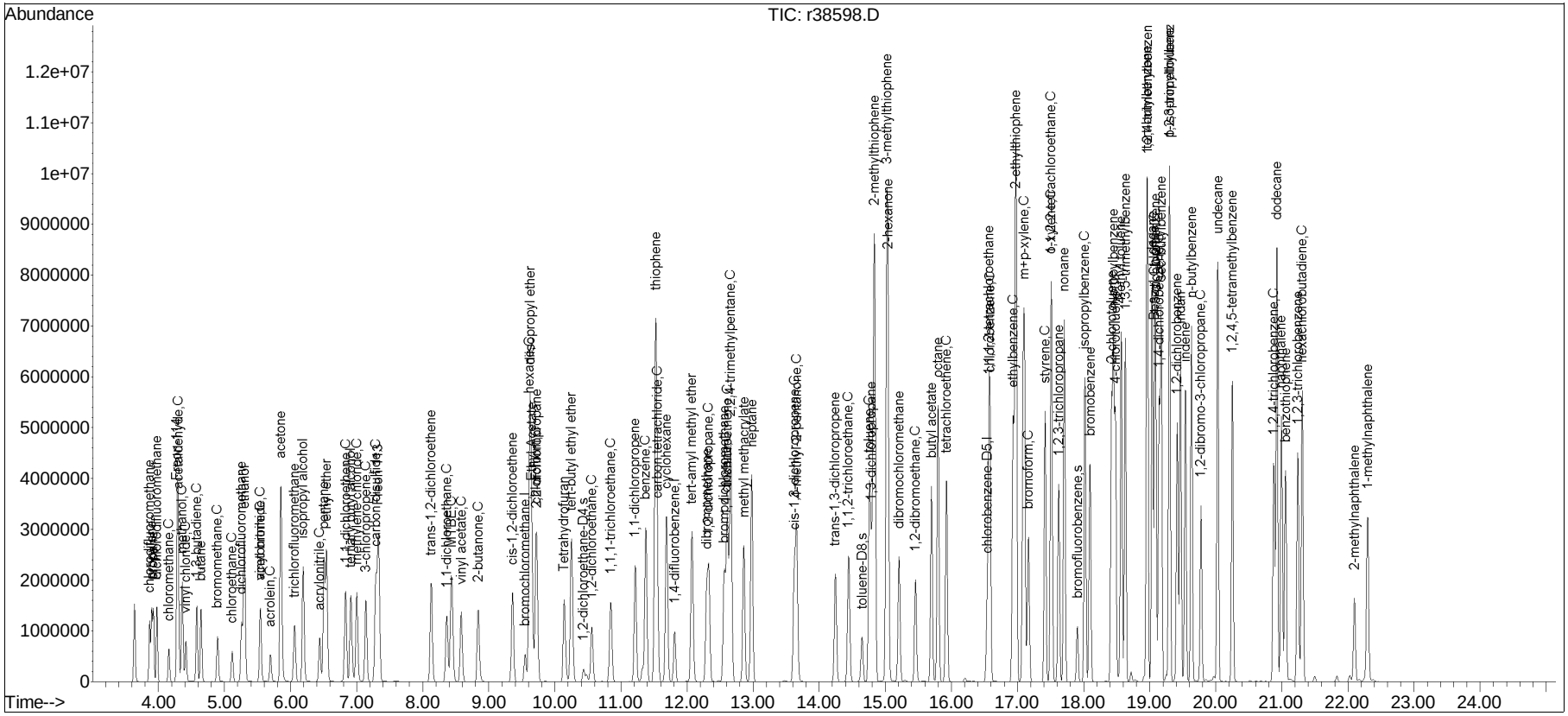
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38598.D
Acq On : 12 Mar 2020 4:20 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD050
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:51:20 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:24:00 2020
Response via : Initial Calibration

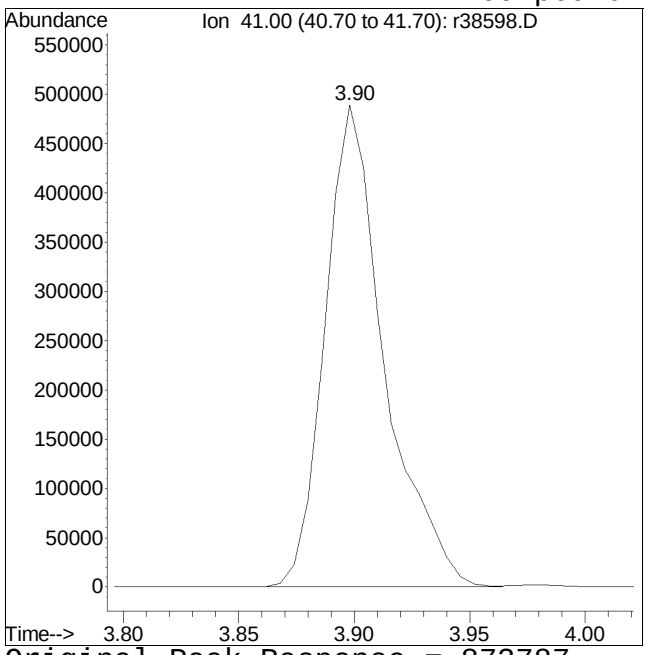
Sub List : Default - All compounds listed20\03\200312T_I\r38596.D

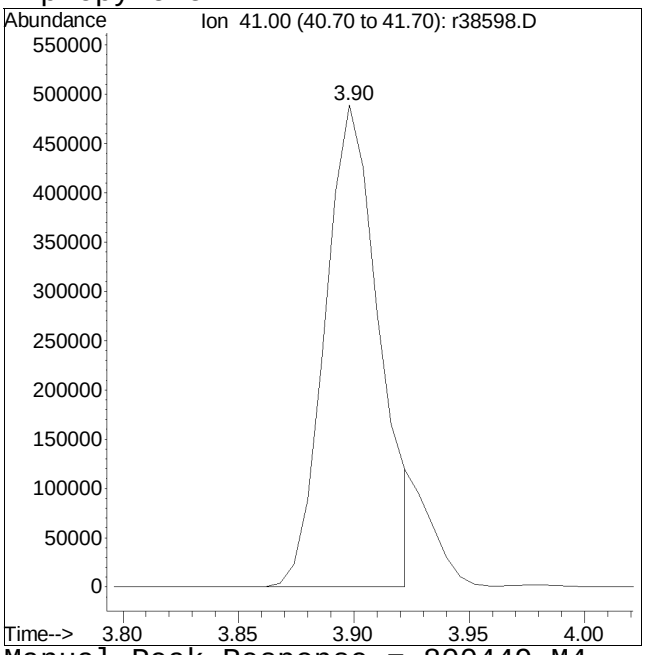


Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38598.D
Date Inj'd : 3/12/2020 0:4: 0
Sample : ITO15-SIMSTD050
Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:51 pm

Compound #3: propylene





Original Peak Response = 873787 Manual Peak Response = 800449 M4
M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38599.D
Acq On : 12 Mar 2020 5:00 PM
Operator : AIRPIANO3:RY
Sample : ITO15-LLSTD100
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 17:26:44 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:52:49 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) bromochloromethane	9.56	49	392985	10.000	ppbV		0.00
Standard Area = 370599			Recovery = 106.04%				
43) 1,4-difluorobenzene	11.81	114	1133202	10.000	ppbV		0.00
Standard Area = 1030530			Recovery = 109.96%				
67) chlorobenzene-D5	16.54	54	156109	10.000	ppbV	#	0.00
Standard Area = 160625			Recovery = 97.19%				
System Monitoring Compounds							
47) 1,2-dichloroethane-D4	10.44	65	146136	7.425	ppbV		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 74.25%				
69) toluene-D8	14.65	98	778693	10.531	ppbV		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 105.31%				
90) bromofluorobenzene	17.91	95	565978	11.771	ppbV		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 117.71%				
Target Compounds							Qvalue
2) chlorodifluoromethane	3.87	51	2285538	73.847	ppbV		95
3) propylene	3.90	41	1459024M4	79.455	ppbV		
4) propane	3.93	29	1822443	74.179	ppbV		98
5) dichlorodifluoromethane	3.98	85	2305372	61.805	ppbV		98
6) chloromethane	4.16	50	1209198	71.438	ppbV		98
7) Freon-114	4.28	85	2479139	54.070	ppbV	#	88
8) methanol	4.37	31	3006021	364.336	ppbV		95
9) vinyl chloride	4.41	62	1573531	80.653	ppbV		99
10) 1,3-butadiene	4.58	54	1459980	73.998	ppbV		100
11) butane	4.65	43	2028685	69.635	ppbV		98
12) acetaldehyde	4.30	29	2437240	268.291	ppbV		90
13) bromomethane	4.89	94	1227161	75.467	ppbV		99
14) chloroethane	5.12	64	825953	83.560	ppbV		98
15) ethanol	5.31	31	4805439	292.175	ppbV		97
16) dichlorofluoromethane	5.26	67	2129930	69.909	ppbV		99
17) vinyl bromide	5.55	106	1261127	66.783	ppbV		97
18) acrolein	5.70	56	841908	82.549	ppbV		95
19) acetone	5.86	43	7264363	268.469	ppbV		92
20) acetonitrile	5.55	41	1218185	71.800	ppbV		100
21) trichlorofluoromethane	6.06	101	1758611	60.296	ppbV		100
22) isopropyl alcohol	6.21	45	5271895	153.979	ppbV		97
23) acrylonitrile	6.45	53	1444522	79.050	ppbV		96
24) pentane	6.51	43	3016244	78.490	ppbV		98

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38599.D
Acq On : 12 Mar 2020 5:00 PM
Operator : AIRPIANO3:RY
Sample : ITO15-LLSTD100
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 17:26:44 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:52:49 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
25) ethyl ether	6.55	31	3084099	75.011	ppbV		94
26) 1,1-dichloroethene	6.83	61	2264848	85.211	ppbV		96
27) tertiary butyl alcohol	6.92	59	3555789	89.682	ppbV	#	94
28) methylene chloride	7.01	49	2145648	85.635	ppbV		89
29) 3-chloropropene	7.15	41	2676447	81.197	ppbV		95
30) carbon disulfide	7.29	76	5414559	72.942	ppbV		97
31) Freon 113	7.33	101	2824568	72.084	ppbV		99
32) trans-1,2-dichloroethene	8.13	61	2528507	80.753	ppbV		98
33) 1,1-dichloroethane	8.37	63	2989967	81.123	ppbV		98
34) MTBE	8.44	73	4559956	70.486	ppbV	#	91
35) vinyl acetate	8.58	43	4404990	81.998	ppbV	#	91
36) 2-butanone	8.84	43	3871714	77.521	ppbV	#	98
37) cis-1,2-dichloroethene	9.37	61	2185138	80.890	ppbV		97
38) Ethyl Acetate	9.66	61	750801	91.977	ppbV	#	61
39) chloroform	9.72	83	2755905	69.462	ppbV		97
40) Tetrahydrofuran	10.14	42	2524563	81.544	ppbV		99
41) 2,2-dichloropropane	9.73	77	2094710	61.608	ppbV	#	96
42) 1,2-dichloroethane	10.57	62	1491297	67.983	ppbV	#	92
44) hexane	9.63	57	3232660	74.447	ppbV	#	72
45) diisopropyl ether	9.63	87	1859969	75.136	ppbV	#	69
46) tert-butyl ethyl ether	10.26	59	5455208	77.063	ppbV		95
48) 1,1,1-trichloroethane	10.85	97	2179130	64.999	ppbV	#	94
49) 1,1-dichloropropene	11.22	75	2480160	70.352	ppbV		93
50) benzene	11.38	78	6273737	73.974	ppbV		97
51) thiophene	11.53	84	10418332	58.828	ppbV		98
52) carbon tetrachloride	11.56	117	1737641	55.100	ppbV		99
53) cyclohexane	11.69	56	3933376	84.734	ppbV		96
54) tert-amyl methyl ether	12.08	73	5142847	69.025	ppbV		96
55) dibromomethane	12.30	93	1513724	69.565	ppbV		98
56) 1,2-dichloropropane	12.33	63	1993528	77.956	ppbV	#	95
57) bromodichloromethane	12.57	83	3142967	68.992	ppbV		98
58) 1,4-dioxane	12.59	88	1579071	82.017	ppbV		96
59) trichloroethene	12.61	130	2499624	79.666	ppbV		94
60) 2,2,4-trimethylpentane	12.66	57	10275344	74.347	ppbV		95
61) methyl methacrylate	12.86	41	2756058	71.683	ppbV		96
62) heptane	12.98	43	3817424	69.887	ppbV		88
63) cis-1,3-dichloropropene	13.63	75	3006777	73.022	ppbV		96
64) 4-methyl-2-pentanone	13.67	43	4450307	72.108	ppbV	#	89
65) trans-1,3-dichloropropene	14.25	75	2793051	72.935	ppbV		99
66) 1,1,2-trichloroethane	14.45	97	2172487	77.528	ppbV		95

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38599.D
Acq On : 12 Mar 2020 5:00 PM
Operator : AIRPIANO3:RY
Sample : ITO15-LLSTD100
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 17:26:44 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:52:49 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) toluene	14.77	91	6755326	83.513	ppbV		99
70) 2-methylthiophene	14.84	97	12726115	53.170	ppbV		98
71) 1,3-dichloropropane	14.80	76	2937666	72.540	ppbV		97
72) 2-hexanone	15.05	43	2828288	57.602	ppbV		90
73) 3-methylthiophene	15.03	97	12136075	49.915	ppbV		99
74) dibromochloromethane	15.22	129	2865749	81.938	ppbV		97
75) 1,2-dibromoethane	15.46	107	3192552	82.820	ppbV		98
76) butyl acetate	15.70	73	1059843	86.608	ppbV		86
77) octane	15.80	85	2991292	86.548	ppbV		87
78) tetrachloroethene	15.93	166	2726279	75.962	ppbV		93
79) 1,1,1,2-tetrachloroethane	16.57	131	1963984	73.522	ppbV		94
80) chlorobenzene	16.59	112	5069114	78.088	ppbV		90
81) ethylbenzene	16.94	91	7686469	79.364	ppbV		95
82) 2-ethylthiophene	16.98	97	12169346	47.538	ppbV		96
83) m+p-xylene	17.11	91	11101885	138.178	ppbV		94
84) bromoform	17.18	173	2550293	77.808	ppbV		98
85) styrene	17.43	104	5983185	85.190	ppbV		94
86) 1,1,2,2-tetrachloroethane	17.52	83	3637497	64.476	ppbV		99
87) o-xylene	17.52	91	4946819	62.277	ppbV		89
88) 1,2,3-trichloropropane	17.63	75	3590309	76.866	ppbV		93
89) nonane	17.71	43	4579928	68.742	ppbV	#	85
91) isopropylbenzene	18.02	105	8038564	71.007	ppbV	#	87
92) bromobenzene	18.10	77	4457824	73.521	ppbV		89
93) 2-chlorotoluene	18.43	126	2707014	86.831	ppbV		78
94) n-propylbenzene	18.45	120	3005465	83.379	ppbV	#	66
95) 4-chlorotoluene	18.48	126	2754294	91.695	ppbV	#	64
96) 4-ethyl toluene	18.57	105	8721765	68.780	ppbV	#	89
97) 1,3,5-trimethylbenzene	18.63	105	7031887	68.120	ppbV	#	87
98) tert-butylbenzene	18.96	119	5759549	57.425	ppbV	#	90
99) 1,2,4-trimethylbenzene	18.97	105	5368101	54.931	ppbV		90
100) decane	19.04	57	5441402	71.473	ppbV		92
101) Benzyl Chloride	19.07	91	5288261	79.936	ppbV	#	84
102) 1,3-dichlorobenzene	19.09	146	4102534	69.539	ppbV	#	94
103) 1,4-dichlorobenzene	19.14	146	4359847	78.627	ppbV	#	93
104) sec-butylbenzene	19.18	105	9541349	65.813	ppbV	#	87
105) 1,2,3-trimethylbenzene	19.31	105	4929431	53.574	ppbV		93
106) p-isopropyltoluene	19.30	119	6781977	56.107	ppbV	#	88
107) 1,2-dichlorobenzene	19.42	146	4405659	79.324	ppbV	#	95
108) n-butylbenzene	19.63	91	7133718	71.956	ppbV	#	85
109) indan	19.47	117	6878535	73.247	ppbV		98

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38599.D
Acq On : 12 Mar 2020 5:00 PM
Operator : AIRPIANO3:RY
Sample : ITO15-LLSTD100
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 17:26:44 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:52:49 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
110) indene	19.54	115	5947927	81.611	ppbV		99
111) 1,2-dibromo-3-chloropr...	19.78	75	1712085	71.231	ppbV	#	79
112) undecane	20.03	57	5711928	69.016	ppbV		94
113) 1,2,4,5-tetramethylben...	20.25	119	6848414	74.725	ppbV		90
114) dodecane	20.93	57	5774305	70.519	ppbV		94
115) 1,2,4-trichlorobenzene	20.88	180	3508995	104.621	ppbV		95
116) naphthalene	21.00	128	9484653	94.107	ppbV		98
117) 1,2,3-trichlorobenzene	21.24	180	3592794	91.730	ppbV		94
118) benzothiophene	21.06	134	7803479	132.418	ppbV		99
119) hexachlorobutadiene	21.31	225	2721280	61.960	ppbV		96
120) 2-methylnaphthalene	22.10	142	2465093	153.435	ppbV		99
121) 1-methylnaphthalene	22.30	142	4684604	115.209	ppbV		97

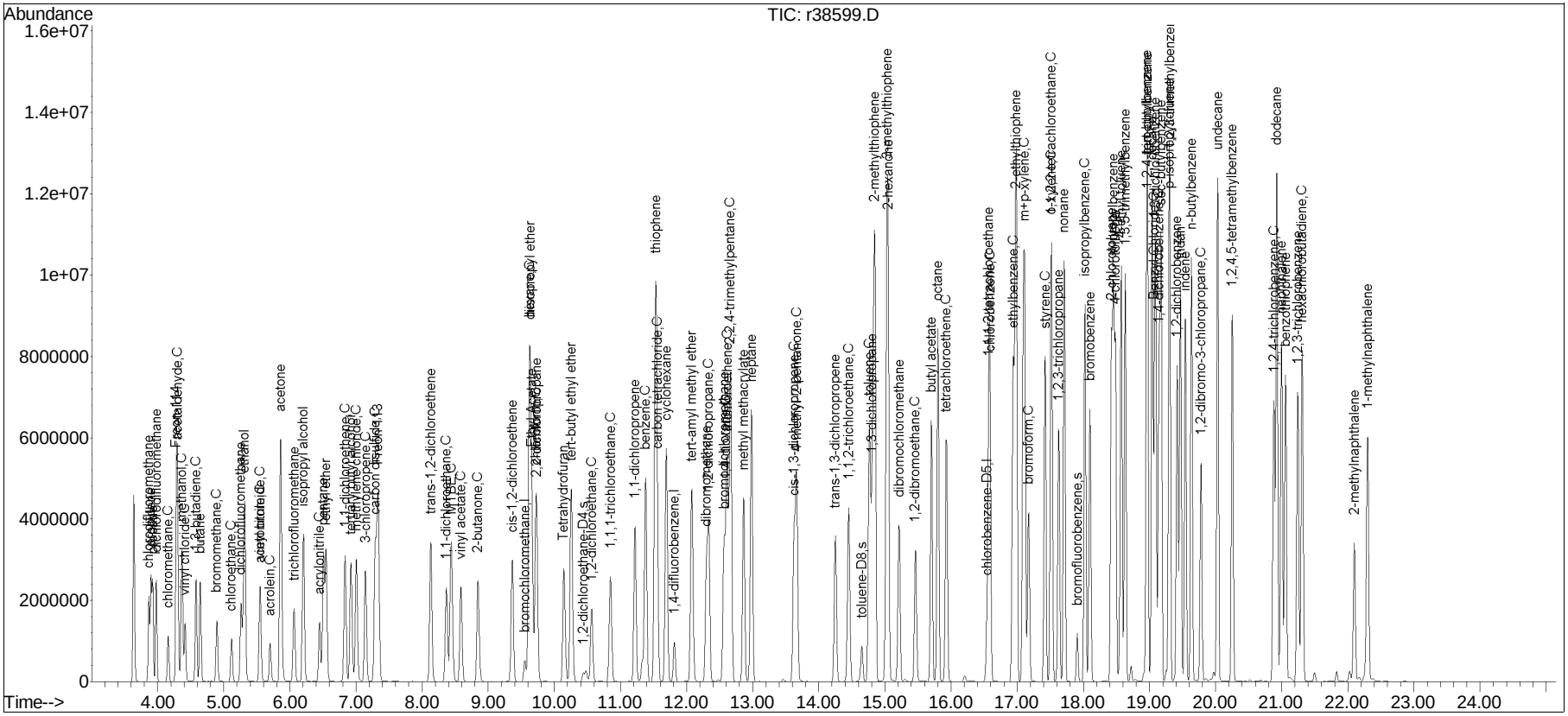
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38599.D
Acq On : 12 Mar 2020 5:00 PM
Operator : AIRPIANO3:RY
Sample : ITO15-LLSTD100
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 17:26:44 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:52:49 2020
Response via : Initial Calibration

Sub List : Default - All compounds listed20\03\200312T_I\r38596.D

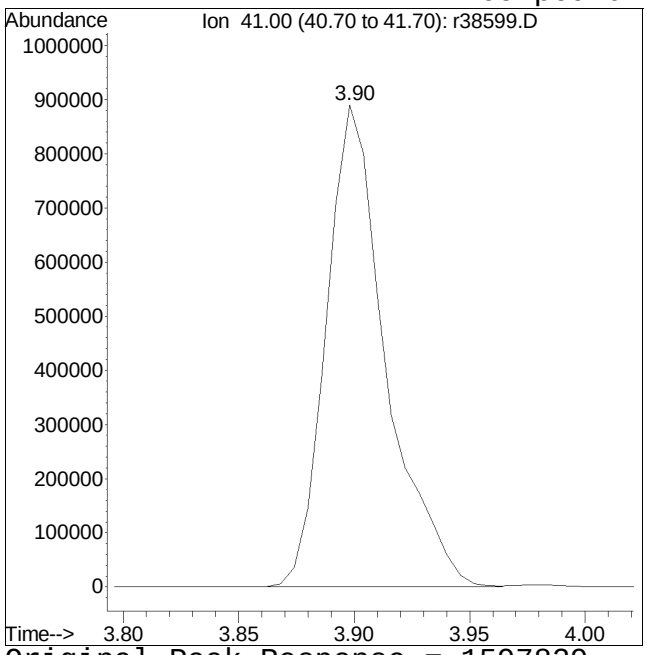


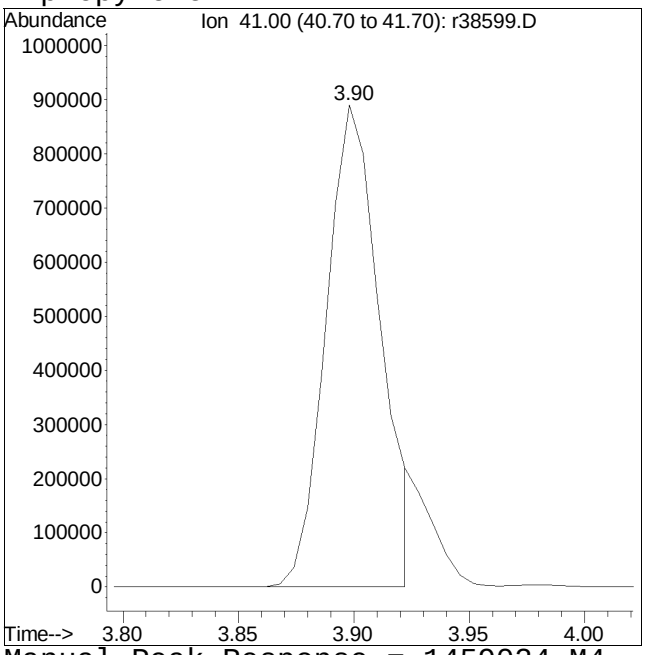
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38599.D
Date Inj'd : 3/12/2020 0:5: 0
Sample : ITO15-LLSTD100

Method : TFS3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 5:26 pm

Compound #3: propylene





Original Peak Response = 1597829 Manual Peak Response = 1459024 M4
M4 = Poor automated baseline construction.

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38602.D
Acq On : 13 Mar 2020 12:06 AM
Operator : AIRPIANO3:AR
Sample : CTO15-LLSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:41:55 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	bromochloromethane	1.000	1.000	0.0	93	0.00
2		chlorodifluoromethane	0.762	0.639	16.1	79	0.00
3		propylene	0.454	0.468	-3.1	98	0.00
4		propane	0.602	0.529	12.1	83	0.00
5		dichlorodifluoromethane	0.904	0.772	14.6	79	0.00
6	C	chloromethane	0.415	0.372	10.4	85	0.00
7		Freon-114	1.100	1.040	5.5	88	0.00
8	C	methanol	0.200	0.190	5.0	87	0.00
9	C	vinyl chloride	0.484	0.496	-2.5	99	0.00
10	C	1,3-butadiene	0.486	0.479	1.4	94	0.00
11		butane	0.713	0.589	17.4	79	0.00
13	C	bromomethane	0.401	0.396	1.2	94	0.00
14	C	chloroethane	0.246	0.250	-1.6	99	0.00
15		ethanol	0.390	0.352	9.7	81	0.00
16		dichlorofluoromethane	0.746	0.607	18.6	77	0.00
17	C	vinyl bromide	0.461	0.391	15.2	80	0.00
18	C	acrolein	0.253	0.221	12.6	84	0.00
19		acetone	0.649	0.481	25.9	67	0.00
20	C	acetonitrile	0.417	0.363	12.9	86	0.00
21		trichlorofluoromethane	0.705	0.553	21.6	75	0.00
22		isopropyl alcohol	0.829	0.661	20.3	74	0.00
23	C	acrylonitrile	0.453	0.394	13.0	83	0.00
24		pentane	0.952	0.813	14.6	75	0.00
25		ethyl ether	1.014	0.845	16.7	80	0.00
26	C	1,1-dichloroethene	0.664	0.611	8.0	93	0.00
27		tertiary butyl alcohol	0.994	0.846	14.9	78	-0.01
28	C	methylene chloride	0.624	0.483	22.6	68	0.00
29	C	3-chloropropene	0.819	0.843	-2.9	98	0.00
30	C	carbon disulfide	1.825	1.664	8.8	85	0.00
31		Freon 113	0.962	0.947	1.6	92	0.00
32		trans-1,2-dichloroethene	0.778	0.783	-0.6	94	0.00
33	C	1,1-dichloroethane	0.916	0.936	-2.2	98	0.00
34	C	MTBE	1.585	1.448	8.6	84	0.00
35	C	vinyl acetate	1.326	1.301	1.9	89	0.00
36	C	2-butanone	1.230	1.191	3.2	90	0.00
37		cis-1,2-dichloroethene	0.671	0.721	-7.5	102	0.00
38		Ethyl Acetate	0.205	0.232	-13.2	109	0.00
39	C	chloroform	0.971	0.997	-2.7	95	0.00
40		Tetrahydrofuran	0.770	0.751	2.5	92	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38602.D
Acq On : 13 Mar 2020 12:06 AM
Operator : AIRPIANO3:AR
Sample : CTO15-LLSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:41:55 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41		2,2-dichloropropane	0.824	0.669	18.8	73	0.00
42	C	1,2-dichloroethane	0.536	0.473	11.8	82	0.00
43	I	1,4-difluorobenzene	1.000	1.000	0.0	103	0.00
44	C	hexane	0.371	0.381	-2.7	107	0.00
45		diisopropyl ether	0.212	0.196	7.5	97	0.00
46		tert-butyl ethyl ether	0.607	0.547	9.9	93	0.00
47	s	1,2-dichloroethane-D4	0.168	0.131	22.0	76	0.00
48	C	1,1,1-trichloroethane	0.283	0.235	17.0	85	0.00
49		1,1-dichloropropene	0.300	0.252	16.0	85	0.00
50	C	benzene	0.724	0.669	7.6	97	0.00
52	C	carbon tetrachloride	0.263	0.236	10.3	88	0.00
53		cyclohexane	0.402	0.414	-3.0	108	0.00
54		tert-amyl methyl ether	0.632	0.513	18.8	81	0.00
55		dibromomethane	0.185	0.158	14.6	88	0.00
56	C	1,2-dichloropropane	0.219	0.215	1.8	103	0.00
57		bromodichloromethane	0.386	0.357	7.5	93	0.00
58	C	1,4-dioxane	0.166	0.176	-6.0	110	0.00
59	C	trichloroethene	0.270	0.268	0.7	104	0.00
60	C	2,2,4-trimethylpentane	1.181	1.233	-4.4	107	0.00
61		methyl methacrylate	0.326	0.226	30.7#	63	0.00
62		heptane	0.464	0.414	10.8	91	0.00
63	C	cis-1,3-dichloropropene	0.351	0.335	4.6	97	0.00
64	C	4-methyl-2-pentanone	0.523	0.478	8.6	91	0.00
65		trans-1,3-dichloropropene	0.327	0.265	19.0	81	0.00
66	C	1,1,2-trichloroethane	0.240	0.229	4.6	100	0.00
67	I	chlorobenzene-D5	1.000	1.000	0.0	95	0.00
68	C	toluene	5.075	5.300	-4.4	103	0.00
69	s	toluene-D8	4.768	4.550	4.6	91	0.00
71		1,3-dichloropropane	2.505	2.230	11.0	83	0.00
72		2-hexanone	2.979	3.066	-2.9	91	0.00
74		dibromochloromethane	2.190	2.327	-6.3	98	0.00
75	C	1,2-dibromoethane	2.416	2.450	-1.4	97	0.00
76		butyl acetate	0.769	0.689	10.4	83	0.00
77		octane	2.177	2.176	0.0	96	0.00
78	C	tetrachloroethene	2.230	2.391	-7.2	103	0.00
79		1,1,1,2-tetrachloroethane	1.655	1.541	6.9	88	0.00
80	C	chlorobenzene	4.044	4.527	-11.9	108	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38602.D
Acq On : 13 Mar 2020 12:06 AM
Operator : AIRPIANO3:AR
Sample : CTO15-LLSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:41:55 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	C	ethylbenzene	6.044	6.512	-7.7	104	0.00
83	C	m+p-xylene	4.948	5.282	-6.8	101	0.00
84	C	bromoform	2.041	2.296	-12.5	100	0.00
85	C	styrene	4.416	4.708	-6.6	100	0.00
86	C	1,1,2,2-tetrachloroethane	3.453	4.111	-19.1	110	0.00
87	C	o-xylene	4.848	5.307	-9.5	102	0.00
88		1,2,3-trichloropropane	2.906	2.667	8.2	85	0.00
89		nonane	4.101	3.710	9.5	84	0.00
90	s	bromofluorobenzene	3.148	2.956	6.1	86	0.00
91	C	isopropylbenzene	6.989	6.960	0.4	93	0.00
92		bromobenzene	3.755	3.661	2.5	88	0.00
93		2-chlorotoluene	1.964	1.931	1.7	93	0.00
94		n-propylbenzene	2.261	2.386	-5.5	99	0.00
95		4-chlorotoluene	1.904	1.871	1.7	93	0.00
96		4-ethyl toluene	7.806	8.084	-3.6	94	0.00
97		1,3,5-trimethylbenzene	6.349	6.723	-5.9	99	0.00
98		tert-butylbenzene	6.083	6.570	-8.0	94	0.00
99		1,2,4-trimethylbenzene	5.907	6.664	-12.8	100	0.00
100		decane	4.703	5.074	-7.9	97	0.00
101	C	Benzyl Chloride	4.132	4.863	-17.7	95	0.00
102		1,3-dichlorobenzene	3.635	4.131	-13.6	105	0.00
103	C	1,4-dichlorobenzene	3.457	3.798	-9.9	96	0.00
104		sec-butylbenzene	8.890	8.859	0.3	89	0.00
106		p-isopropyltoluene	7.318	7.408	-1.2	86	0.00
107		1,2-dichlorobenzene	3.466	3.850	-11.1	103	0.00
108		n-butylbenzene	6.128	6.589	-7.5	94	0.00
111	C	1,2-dibromo-3-chloropropane	1.484	1.503	-1.3	82	0.00
112		undecane	5.096	5.771	-13.2	98	0.00
114		dodecane	5.052	6.149	-21.7	96	0.00
115	C	1,2,4-trichlorobenzene	2.161	3.260	-50.9#	120	0.00
116		naphthalene	6.409	7.553	-17.8	92	0.00
117		1,2,3-trichlorobenzene	2.483	2.998	-20.7	92	0.00
119	C	hexachlorobutadiene	2.680	3.398	-26.8	114	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 1

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38602.D
Acq On : 13 Mar 2020 12:06 AM
Operator : AIRPIANO3:AR
Sample : CTO15-LLSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:41:55 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default-ICV-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.542	49	346389	10.000	ppbV	0.00
Standard Area = 370599			Recovery = 93.47%			
43) 1,4-difluorobenzene	11.807	114	1060289	10.000	ppbV	0.00
Standard Area = 1030530			Recovery = 102.89%			
67) chlorobenzene-D5	16.542	54	152384	10.000	ppbV	0.00
Standard Area = 160625			Recovery = 94.87%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	10.425	65	138570	7.775	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 77.75%			
69) toluene-D8	14.642	98	693328	9.543	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 95.43%			
90) bromofluorobenzene	17.908	95	450423	9.389	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 93.89%			
Target Compounds						Qvalue
2) chlorodifluoromethane	3.868	51	221421	8.391	ppbV	95
3) propylene	3.898	41	162020M6	10.313	ppbV	
4) propane	3.922	29	183286	8.788	ppbV	98
5) dichlorodifluoromethane	3.976	85	267285	8.537	ppbV	98
6) chloromethane	4.156	50	128720	8.947	ppbV	97
7) Freon-114	4.282	85	360336	9.459	ppbV	93
8) methanol	4.354	31	329300	47.425	ppbV	95
9) vinyl chloride	4.414	62	171787	10.237	ppbV	98
10) 1,3-butadiene	4.582	54	166084	9.871	ppbV	98
11) butane	4.642	43	204001	8.258	ppbV	98
13) bromomethane	4.894	94	137099	9.868	ppbV	99
14) chloroethane	5.116	64	86451	10.131	ppbV	98
15) ethanol	5.290	31	610412	45.240	ppbV	95
16) dichlorofluoromethane	5.254	67	210424	8.142	ppbV	97
17) vinyl bromide	5.540	106	135293	8.480	ppbV	99
18) acrolein	5.693	56	76623	8.741	ppbV	95
19) acetone	5.847	43	833014	37.073	ppbV	87
20) acetonitrile	5.537	41	125827	8.721	ppbV	100
21) trichlorofluoromethane	6.057	101	191678	7.845	ppbV	99
22) isopropyl alcohol	6.180	45	572476	19.927	ppbV	98
23) acrylonitrile	6.433	53	136352	8.693	ppbV	96
24) pentane	6.503	43	281647	8.545	ppbV	98
25) ethyl ether	6.543	31	292726	8.338	ppbV	95

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38602.D
Acq On : 13 Mar 2020 12:06 AM
Operator : AIRPIANO3:AR
Sample : CTO15-LLSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:41:55 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default-ICV-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
26) 1,1-dichloroethene	6.828	61	211747	9.208	ppbV		98
27) tertiary butyl alcohol	6.906	59	293109	8.513	ppbV	#	89
28) methylene chloride	6.996	49	167183	7.729	ppbV		86
29) 3-chloropropene	7.134	41	292018	10.293	ppbV		96
30) carbon disulfide	7.284	76	576346	9.117	ppbV		96
31) Freon 113	7.326	101	327923	9.838	ppbV		99
32) trans-1,2-dichloroethene	8.125	61	271264	10.071	ppbV		98
33) 1,1-dichloroethane	8.358	63	324331	10.225	ppbV		98
34) MTBE	8.442	73	501666	9.135	ppbV	#	92
35) vinyl acetate	8.575	43	450582	9.810	ppbV	#	94
36) 2-butanone	8.842	43	412576	9.683	ppbV		99
37) cis-1,2-dichloroethene	9.358	61	249634	10.741	ppbV		98
38) Ethyl Acetate	9.650	61	80301	11.290	ppbV		78
39) chloroform	9.708	83	345239	10.264	ppbV		97
40) Tetrahydrofuran	10.150	42	260110	9.757	ppbV		98
41) 2,2-dichloropropane	9.717	77	231569	8.116	ppbV		96
42) 1,2-dichloroethane	10.550	62	163926	8.832	ppbV		94
44) hexane	9.617	57	404341	10.281	ppbV	#	71
45) diisopropyl ether	9.625	87	208167	9.276	ppbV		80
46) tert-butyl ethyl ether	10.250	59	579709	9.011	ppbV		99
48) 1,1,1-trichloroethane	10.842	97	249411	8.315	ppbV	#	94
49) 1,1-dichloropropene	11.213	75	266994	8.406	ppbV		96
50) benzene	11.373	78	709014	9.235	ppbV		98
52) carbon tetrachloride	11.540	117	249878	8.972	ppbV	#	97
53) cyclohexane	11.687	56	438751	10.298	ppbV		95
54) tert-amyl methyl ether	12.073	73	543454	8.110	ppbV		97
55) dibromomethane	12.293	93	167372	8.546	ppbV		99
56) 1,2-dichloropropane	12.327	63	228485	9.820	ppbV		96
57) bromodichloromethane	12.560	83	378150	9.229	ppbV		99
58) 1,4-dioxane	12.593	88	186460	10.589	ppbV		98
59) trichloroethene	12.607	130	284662	9.949	ppbV		97
60) 2,2,4-trimethylpentane	12.653	57	1307678	10.447	ppbV		93
61) methyl methacrylate	12.853	41	240011M4	6.953	ppbV		
62) heptane	12.973	43	439274	8.931	ppbV		91
63) cis-1,3-dichloropropene	13.617	75	355494	9.549	ppbV		97
64) 4-methyl-2-pentanone	13.658	43	506304	9.132	ppbV		91
65) trans-1,3-dichloropropene	14.242	75	280764	8.110	ppbV		99
66) 1,1,2-trichloroethane	14.442	97	243173	9.543	ppbV		93
68) toluene	14.758	91	807623	10.444	ppbV		99
71) 1,3-dichloropropane	14.783	76	339853	8.903	ppbV		97

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38602.D
Acq On : 13 Mar 2020 12:06 AM
Operator : AIRPIANO3:AR
Sample : CTO15-LLSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:41:55 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default-ICV-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
72) 2-hexanone	15.042	43	467205	10.293	ppbV		92
74) dibromochloromethane	15.200	129	354639	10.628	ppbV		98
75) 1,2-dibromoethane	15.450	107	373416	10.142	ppbV		98
76) butyl acetate	15.700	73	104928	8.955	ppbV	#	89
77) octane	15.792	85	331646	9.998	ppbV		89
78) tetrachloroethene	15.925	166	364411	10.724	ppbV		96
79) 1,1,1,2-tetrachloroethane	16.567	131	234866	9.315	ppbV		97
80) chlorobenzene	16.575	112	689902	11.194	ppbV		93
81) ethylbenzene	16.933	91	992346	10.774	ppbV		98
83) m+p-xylene	17.092	91	1609680	21.349	ppbV		100
84) bromoform	17.158	173	349842	11.246	ppbV		99
85) styrene	17.417	104	717448	10.662	ppbV		98
86) 1,1,2,2-tetrachloroethane	17.508	83	626486	11.905	ppbV		99
87) o-xylene	17.508	91	808732	10.946	ppbV		100
88) 1,2,3-trichloropropane	17.625	75	406448	9.180	ppbV		97
89) nonane	17.708	43	565284	9.045	ppbV		85
91) isopropylbenzene	18.017	105	1060550	9.958	ppbV		94
92) bromobenzene	18.092	77	557819	9.747	ppbV		98
93) 2-chlorotoluene	18.417	126	294303	9.833	ppbV		97
94) n-propylbenzene	18.450	120	363605	10.553	ppbV		90
95) 4-chlorotoluene	18.475	126	285098	9.825	ppbV		96
96) 4-ethyl toluene	18.567	105	1231846	10.356	ppbV		95
97) 1,3,5-trimethylbenzene	18.633	105	1024519	10.589	ppbV		92
98) tert-butylbenzene	18.958	119	1001095	10.800	ppbV		97
99) 1,2,4-trimethylbenzene	18.958	105	1015452	11.280	ppbV		91
100) decane	19.033	57	773171	10.789	ppbV		89
101) Benzyl Chloride	19.075	91	741045	11.770	ppbV		97
102) 1,3-dichlorobenzene	19.083	146	629458	11.363	ppbV		97
103) 1,4-dichlorobenzene	19.142	146	578780	10.987	ppbV		97
104) sec-butylbenzene	19.175	105	1349895	9.965	ppbV		100
106) p-isopropyltoluene	19.292	119	1128850	10.123	ppbV		99
107) 1,2-dichlorobenzene	19.417	146	586621	11.107	ppbV		97
108) n-butylbenzene	19.633	91	1004129	10.753	ppbV		99
111) 1,2-dibromo-3-chloropr...	19.775	75	228977	10.123	ppbV		88
112) undecane	20.025	57	879394	11.324	ppbV		91
114) dodecane	20.925	57	936981	12.171	ppbV		91
115) 1,2,4-trichlorobenzene	20.875	180	496706	15.084	ppbV		95
116) naphthalene	20.992	128	1150960	11.786	ppbV		98
117) 1,2,3-trichlorobenzene	21.242	180	456864	12.074	ppbV		96
119) hexachlorobutadiene	21.308	225	517809	12.681	ppbV		98

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38602.D
Acq On : 13 Mar 2020 12:06 AM
Operator : AIRPIANO3:AR
Sample : CTO15-LLSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:41:55 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\r38596.D
Sub List : Default-ICV-AP2 - All compounds listed

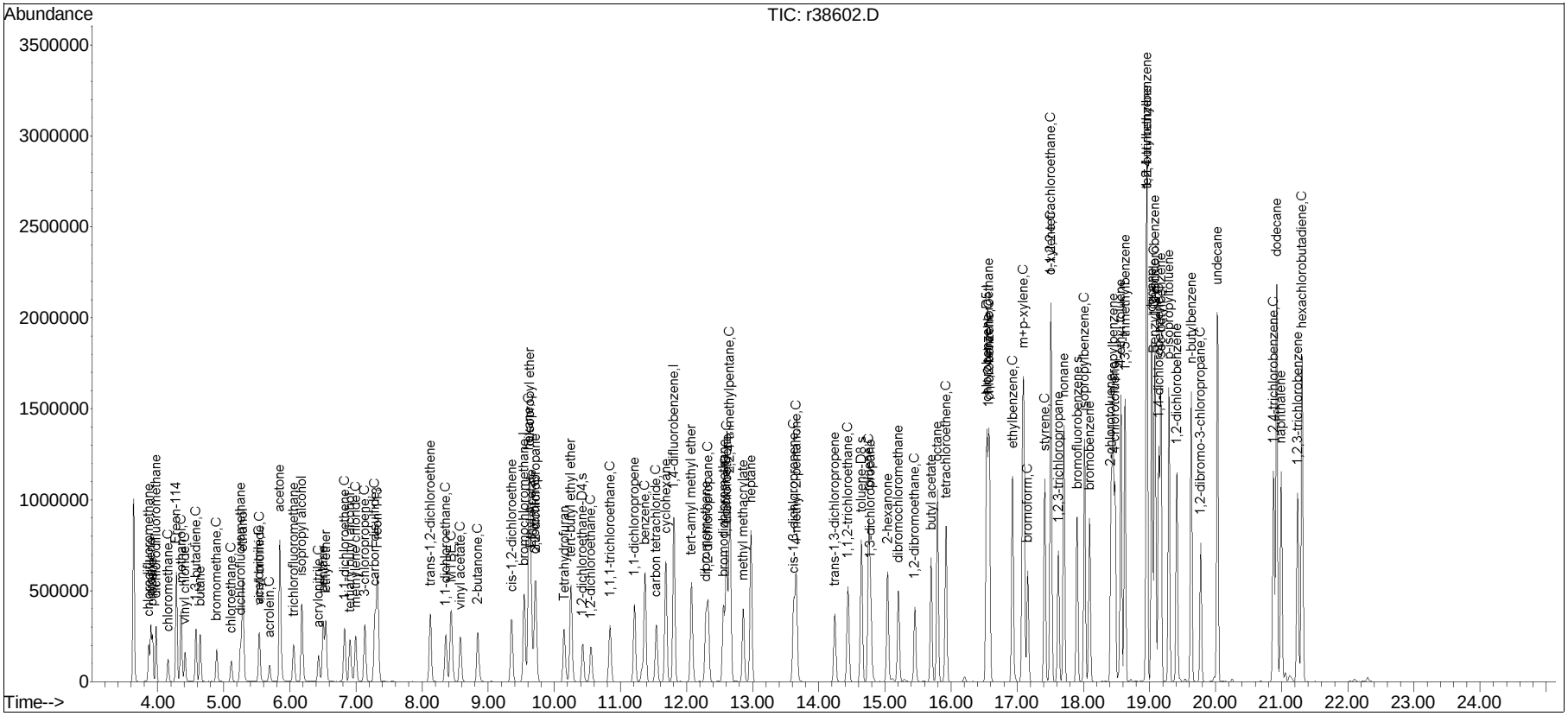
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Sub List : Default-ICV-AP2 - All compounds listed0312T_I\r38596.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\
Data File : r38602.D
Acq On : 13 Mar 2020 12:06 AM
Operator : AIRPIANO3:AR
Sample : CTO15-LLSTD010
Misc : WG1350408
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:41:55 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312T_I\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

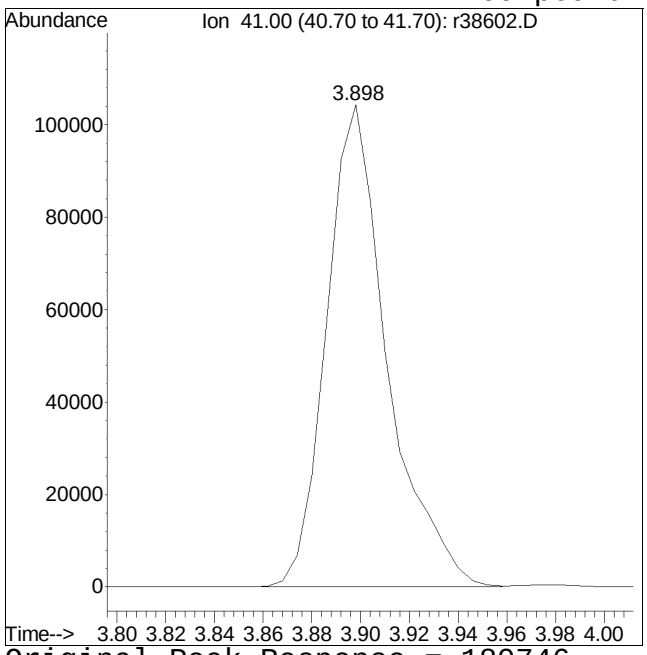


Manual Integration/Negative Proof Report

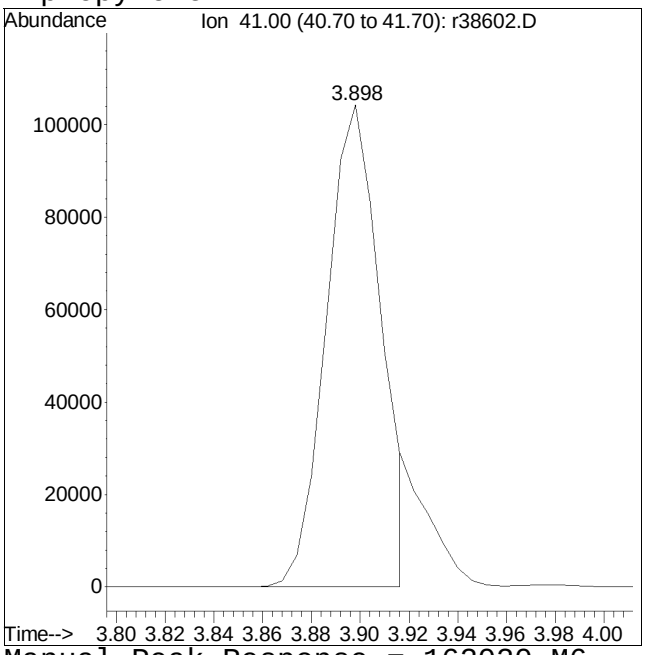
Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38602.D
Date Inj'd : 3/13/2020 0:2: 6
Sample : CTO15-LLSTD010

Method : TFS3_200312.M
Operator : AIRPIANO3:AR
Instrument :
Quant Date : 3/13/2020 4:37 am

Compound #3: propylene



Original Peak Response = 180746



Manual Peak Response = 162020 M6

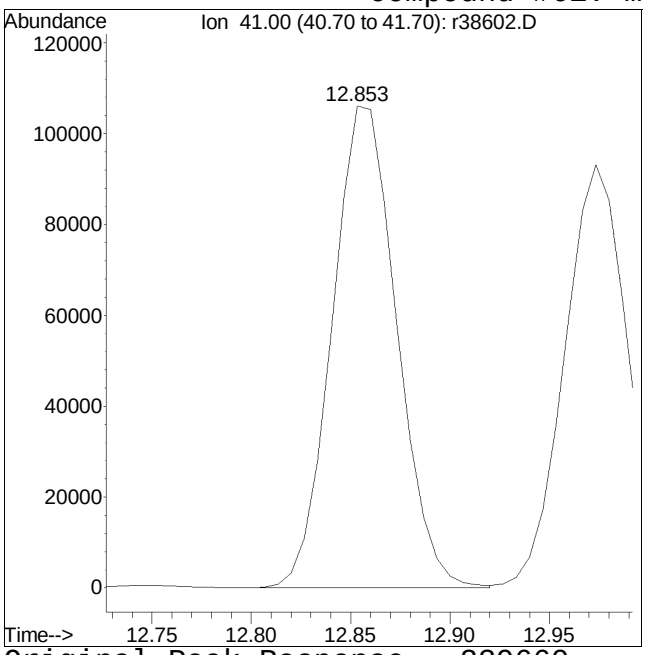
M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Manual Integration/Negative Proof Report

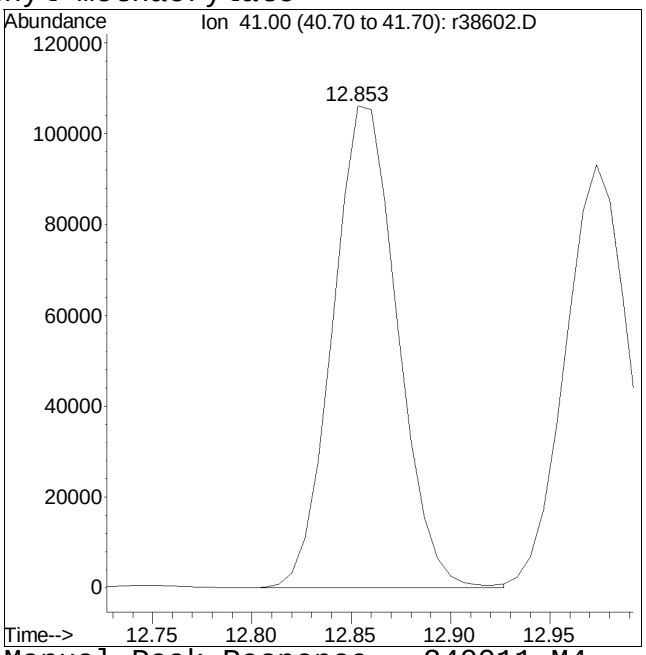
Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38602.D
Date Inj'd : 3/13/2020 0:2: 6
Sample : CTO15-LLSTD010

Method : TFS3_200312.M
Operator : AIRPIANO3:AR
Instrument :
Quant Date : 3/13/2020 4:37 am

Compound #61: methyl methacrylate



Original Peak Response = 239660



Manual Peak Response = 240011 M4

M4 = Poor automated baseline construction.

Continuing Calibration

Calibration Verification Summary
Form 7
Air Volatiles

Client	: P. W. Grosser		**Lab Number**	: L2011723	
Project Name	: MHD1801		**Project Number**	: MHD1801	
Instrument ID	: AIRLAB19		**Calibration Date**	: 03/20/20 12:08	
Lab File ID	: R193190		**Init. Calib. Date(s)**	: 02/25/20	02/25/20
Sample No	: WG1353556-2		**Init. Calib. Times**	: 02:44	07:28
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
bromochloromethane	1	1	-	0	30	92	0
chlorodifluoromethane	0.626	0.534	-	14.7	30	83	0
propylene	0.411	0.455	-	-10.7	30	106	0
propane	0.446	0.319	-	28.5	30	70	0
dichlorodifluoromethane	0.56	0.527	-	5.9	30	93	0
chloromethane	0.358	0.353	-	1.4	30	99	0
Freon-114	0.832	0.905	-	-8.8	30	102	0
methanol	0.162	0.13	-	19.8	30	78	0
vinyl chloride	0.445	0.44	-	1.1	30	98	0
1,3-butadiene	0.384	0.391	-	-1.8	30	98	0
butane	0.629	0.663	-	-5.4	30	105	0
bromomethane	0.352	0.349	-	0.9	30	94	0
chloroethane	0.233	0.238	-	-2.1	30	99	0
ethanol	0.292	0.238	-	18.5	30	77	0
dichlorofluoromethane	0.618	0.618	-	0	30	96	0
vinyl bromide	0.381	0.357	-	6.3	30	90	0
acrolein	0.204	0.199	-	2.5	30	92	0
acetone	0.537	0.562	-	-4.7	30	100	-.02
acetonitrile	0.39	0.495	-	-26.9	30	118	0
trichlorofluoromethane	0.589	0.563	-	4.4	30	78	0
isopropyl alcohol	1.02	1.034	-	-1.4	30	102	-.02
acrylonitrile	0.517	0.513	-	0.8	30	95	0
pentane	1.043	1.171	-	-12.3	30	106	0
ethyl ether	0.898	0.681	-	24.2	30	71	0
1,1-dichloroethene	0.678	0.732	-	-8	30	102	0
tertiary butyl alcohol	0.935	0.926	-	1	30	100	-.03
methylene chloride	0.657	0.627	-	4.6	30	90	0
3-chloropropene	0.791	0.983	-	-24.3	30	118	0
carbon disulfide	1.825	1.971	-	-8	30	100	0
Freon 113	0.957	0.993	-	-3.8	30	98	0
trans-1,2-dichloroethene	0.778	0.854	-	-9.8	30	104	0
1,1-dichloroethane	0.947	1.037	-	-9.5	30	103	0
MTBE	1.536	1.441	-	6.2	30	89	-.02
vinyl acetate	1.305	1.446	-	-10.8	30	102	0
2-butanone	1.204	1.334	-	-10.8	30	103	-.03
cis-1,2-dichloroethene	0.674	0.738	-	-9.5	30	104	0
Ethyl Acetate	0.205	0.248	-	-21	30	109	-.02
chloroform	0.836	0.847	-	-1.3	30	96	0
Tetrahydrofuran	0.809	0.93	-	-15	30	109	-.03
2,2-dichloropropane	0.694	0.607	-	12.5	30	82	0
1,2-dichloroethane	0.409	0.384	-	6.1	30	90	0
1,4-difluorobenzene	1	1	-	0	30	105	0
hexane	0.367	0.361	-	1.6	30	104	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Air Volatiles

Client	: P. W. Grosser		**Lab Number**	: L2011723	
Project Name	: MHD1801		**Project Number**	: MHD1801	
Instrument ID	: AIRLAB19		**Calibration Date**	: 03/20/20 12:08	
Lab File ID	: R193190		**Init. Calib. Date(s)**	: 02/25/20	02/25/20
Sample No	: WG1353556-2		**Init. Calib. Times**	: 02:44	07:28
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
diisopropyl ether	0.197	0.196	-	0.5	30	105	0
tert-butyl ethyl ether	0.573	0.525	-	8.4	30	97	0
1,1,1-trichloroethane	0.235	0.181	-	23	30	82	0
1,1-dichloropropene	0.286	0.247	-	13.6	30	93	0
benzene	0.723	0.7	-	3.2	30	104	0
carbon tetrachloride	0.194	0.156	-	19.6	30	85	0
cyclohexane	0.401	0.396	-	1.2	30	105	0
tert-amyl methyl ether	0.618	0.542	-	12.3	30	93	-.02
dibromomethane	0.178	0.167	-	6.2	30	101	0
1,2-dichloropropane	0.231	0.235	-	-1.7	30	108	0
bromodichloromethane	0.315	0.284	-	9.8	30	96	0
1,4-dioxane	0.164	0.169	-	-3	30	112	-.03
trichloroethene	0.258	0.242	-	6.2	30	99	0
2,2,4-trimethylpentane	1.157	1.166	-	-0.8	30	110	0
methyl methacrylate	0.299	0.339	-	-13.4	30	110	0
heptane	0.447	0.438	-	2	30	104	0
cis-1,3-dichloropropene	0.344	0.317	-	7.8	30	96	0
4-methyl-2-pentanone	0.481	0.489	-	-1.7	30	104	-.03
trans-1,3-dichloropropene	0.309	0.267	-	13.6	30	90	0
1,1,2-trichloroethane	0.252	0.237	-	6	30	100	0
chlorobenzene-D5	1	1	-	0	30	94	0
toluene	6.089	6.503	-	-6.8	30	101	0
1,3-dichloropropane	2.846	2.988	-	-5	30	99	0
2-hexanone	3.538	3.952	-	-11.7	30	104	-.03
dibromochloromethane	2.341	2.368	-	-1.2	30	93	0
1,2-dibromoethane	2.8	3.001	-	-7.2	30	100	0
butyl acetate	0.92	1.016	-	-10.4	30	102	-.03
octane	2.521	2.917	-	-15.7	30	109	0
tetrachloroethene	2.675	2.957	-	-10.5	30	101	0
1,1,1,2-tetrachloroethane	1.721	1.835	-	-6.6	30	98	0
chlorobenzene	4.839	5.569	-	-15.1	30	107	0
ethylbenzene	7.303	7.736	-	-5.9	30	97	0
m+p-xylene	5.758	6.014	-	-4.4	30	97	0
bromoform	2.584	2.73	-	-5.7	30	97	0
styrene	5.572	5.924	-	-6.3	30	98	0
1,1,2,2-tetrachloroethane	3.972	4.768	-	-20	30	108	0
o-xylene	5.649	5.849	-	-3.5	30	96	0
1,2,3-trichloropropane	3.318	3.494	-	-5.3	30	98	0
nonane	4.639	5.145	-	-10.9	30	103	0
isopropylbenzene	8.211	8.444	-	-2.8	30	95	0
bromobenzene	4.428	4.784	-	-8	30	100	0
2-chlorotoluene	2.276	2.624	-	-15.3	30	102	-.02
n-propylbenzene	2.736	3.134	-	-14.5	30	102	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Air Volatiles

Client	: P. W. Grosser		**Lab Number**	: L2011723	
Project Name	: MHD1801		**Project Number**	: MHD1801	
Instrument ID	: AIRLAB19		**Calibration Date**	: 03/20/20 12:08	
Lab File ID	: R193190		**Init. Calib. Date(s)**	: 02/25/20	02/25/20
Sample No	: WG1353556-2		**Init. Calib. Times**	: 02:44	07:28
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
4-chlorotoluene	2.304	2.517	-	-9.2	30	100	0
4-ethyl toluene	9.565	10.154	-	-6.2	30	95	0
1,3,5-trimethylbenzene	7.686	8.276	-	-7.7	30	98	0
tert-butylbenzene	7.075	7.787	-	-10.1	30	99	0
1,2,4-trimethylbenzene	7.114	7.505	-	-5.5	30	94	0
decane	5.798	7.185	-	-23.9	30	110	0
Benzyl Chloride	5.729	6.447	-	-12.5	30	95	0
1,3-dichlorobenzene	4.872	5.744	-	-17.9	30	103	0
1,4-dichlorobenzene	4.669	5.259	-	-12.6	30	97	0
sec-butylbenzene	10.413	11.389	-	-9.4	30	98	0
p-isopropyltoluene	8.833	9.751	-	-10.4	30	98	0
1,2-dichlorobenzene	4.62	5.263	-	-13.9	30	99	0
n-butylbenzene	7.618	8.544	-	-12.2	30	97	0
1,2-dibromo-3-chloropropan	1.776	1.647	-	7.3	30	81	-.02
undecane	6.295	7.632	-	-21.2	30	102	0
dodecane	6.117	6.792	-	-11	30	82	0
1,2,4-trichlorobenzene	4.06	4.556	-	-12.2	30	85	0
naphthalene	10.393	10.568	-	-1.7	30	85	0
1,2,3-trichlorobenzene	4.25	4.468	-	-5.1	30	80	0
hexachlorobutadiene	3.529	3.398	-	3.7	30	76	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723		
Project Name	: MHD1801	**Project Number**	: MHD1801		
Instrument ID	: AIRPIANO3	**Calibration Date**	: 03/20/20 13:32		
Lab File ID	: R38754	**Init. Calib. Date(s)**	: 03/12/20	03/12/20	
Sample No	: WG1353541-2	**Init. Calib. Times**	: 12:25	17:00	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
bromochloromethane	1	1	-	0	30	95	.03
chlorodifluoromethane	0.762	0.634	-	16.8	30	80	.02
propylene	0.454	0.57	-	-25.6	30	122	.02
propane	0.602	0.503	-	16.4	30	80	.02
dichlorodifluoromethane	0.904	0.962	-	-6.4	30	101	.02
chloromethane	0.415	0.496	-	-19.5	30	115	.02
Freon-114	1.1	1.3	-	-18.2	30	112	.02
methanol	0.2	0.212	-	-6	30	99	.02
vinyl chloride	0.484	0.558	-	-15.3	30	114	.02
1,3-butadiene	0.486	0.522	-	-7.4	30	104	.02
butane	0.713	0.901	-	-26.4	30	123	.02
bromomethane	0.401	0.482	-	-20.2	30	117	.02
chloroethane	0.246	0.298	-	-21.1	30	121	.03
ethanol	0.39	0.39	-	0	30	91	.02
dichlorofluoromethane	0.746	0.898	-	-20.4	30	116	.02
vinyl bromide	0.461	0.544	-	-18	30	113	.02
acrolein	0.253	0.228	-	9.9	30	88	.02
acetone	0.649	0.751	-	-15.7	30	107	.03
acetonitrile	0.417	0.473	-	-13.4	30	114	.02
trichlorofluoromethane	0.705	0.865	-	-22.7	30	120	.03
isopropyl alcohol	0.829	1.037	-	-25.1	30	119	.03
acrylonitrile	0.453	0.458	-	-1.1	30	99	.03
pentane	0.952	1.323	-	-39*	30	125	.03
ethyl ether	1.014	0.907	-	10.6	30	88	.03
1,1-dichloroethene	0.664	0.719	-	-8.3	30	111	.03
tertiary butyl alcohol	0.994	0.929	-	6.5	30	87	.02
methylene chloride	0.624	0.686	-	-9.9	30	99	.03
3-chloropropene	0.819	1.03	-	-25.8	30	122	.03
carbon disulfide	1.825	1.75	-	4.1	30	91	.03
Freon 113	0.962	1.056	-	-9.8	30	105	.02
trans-1,2-dichloroethene	0.778	0.84	-	-8	30	103	.03
1,1-dichloroethane	0.916	1.058	-	-15.5	30	113	.03
MTBE	1.585	1.675	-	-5.7	30	99	.03
vinyl acetate	1.326	1.625	-	-22.5	30	113	.03
2-butanone	1.23	1.478	-	-20.2	30	115	.03
cis-1,2-dichloroethene	0.671	0.772	-	-15.1	30	112	.03
Ethyl Acetate	0.205	0.24	-	-17.1	30	115	.03
chloroform	0.971	0.994	-	-2.4	30	97	.03
Tetrahydrofuran	0.77	0.9	-	-16.9	30	113	.03
2,2-dichloropropane	0.824	0.782	-	5.1	30	87	.03
1,2-dichloroethane	0.536	0.599	-	-11.8	30	106	.03
1,4-difluorobenzene	1	1	-	0	30	94	.03
hexane	0.371	0.382	-	-3	30	98	.03

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Air Volatiles

Client	: P. W. Grosser		**Lab Number**	: L2011723	
Project Name	: MHD1801		**Project Number**	: MHD1801	
Instrument ID	: AIRPIANO3		**Calibration Date**	: 03/20/20 13:32	
Lab File ID	: R38754		**Init. Calib. Date(s)**	: 03/12/20	03/12/20
Sample No	: WG1353541-2		**Init. Calib. Times**	: 12:25	17:00
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
diisopropyl ether	0.212	0.203	-	4.2	30	92	.03
tert-butyl ethyl ether	0.607	0.596	-	1.8	30	92	.03
1,1,1-trichloroethane	0.283	0.321	-	-13.4	30	106	.03
1,1-dichloropropene	0.3	0.297	-	1	30	92	.03
benzene	0.724	0.705	-	2.6	30	93	.03
carbon tetrachloride	0.263	0.283	-	-7.6	30	96	.03
cyclohexane	0.402	0.405	-	-0.7	30	97	.03
tert-amyl methyl ether	0.632	0.628	-	0.6	30	91	.03
dibromomethane	0.185	0.19	-	-2.7	30	97	.03
1,2-dichloropropane	0.219	0.269	-	-22.8	30	118	.03
bromodichloromethane	0.386	0.382	-	1	30	91	.03
1,4-dioxane	0.166	0.183	-	-10.2	30	105	.03
trichloroethene	0.27	0.324	-	-20	30	114	.03
2,2,4-trimethylpentane	1.181	1.249	-	-5.8	30	100	.03
methyl methacrylate	0.326	0.31	-	4.9	30	79	.03
heptane	0.464	0.571	-	-23.1	30	115	.03
cis-1,3-dichloropropene	0.351	0.389	-	-10.8	30	103	.03
4-methyl-2-pentanone	0.523	0.668	-	-27.7	30	116	.03
trans-1,3-dichloropropene	0.327	0.313	-	4.3	30	88	.03
1,1,2-trichloroethane	0.24	0.277	-	-15.4	30	111	.03
chlorobenzene-D5	1	1	-	0	30	87	.02
toluene	5.075	6.093	-	-20.1	30	109	.03
1,3-dichloropropane	2.505	2.594	-	-3.6	30	89	.03
2-hexanone	2.979	4.179	-	-40.3*	30	114	.03
dibromochloromethane	2.19	2.833	-	-29.4	30	110	.02
1,2-dibromoethane	2.416	2.718	-	-12.5	30	99	.02
butyl acetate	0.769	0.784	-	-2	30	87	.03
octane	2.177	2.211	-	-1.6	30	89	.03
tetrachloroethene	2.23	2.569	-	-15.2	30	102	.02
1,1,1,2-tetrachloroethane	1.655	1.91	-	-15.4	30	100	.02
chlorobenzene	4.044	4.627	-	-14.4	30	101	.03
ethylbenzene	6.044	7.362	-	-21.8	30	108	.02
m+p-xylene	4.948	6.131	-	-23.9	30	108	.03
bromoform	2.041	2.424	-	-18.8	30	97	.02
styrene	4.416	5.077	-	-15	30	99	.02
1,1,2,2-tetrachloroethane	3.453	4.279	-	-23.9	30	105	.03
o-xylene	4.848	6.27	-	-29.3	30	111	.03
1,2,3-trichloropropane	2.906	2.947	-	-1.4	30	86	.02
nonane	4.101	4.921	-	-20	30	102	.03
isopropylbenzene	6.989	7.592	-	-8.6	30	93	.03
bromobenzene	3.755	3.796	-	-1.1	30	84	.03
2-chlorotoluene	1.964	2.226	-	-13.3	30	99	.02
n-propylbenzene	2.261	2.56	-	-13.2	30	97	.03

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Instrument ID	: AIRPIANO3	**Calibration Date**	: 03/20/20 13:32
Lab File ID	: R38754	**Init. Calib. Date(s)**	: 03/12/20 03/12/20
Sample No	: WG1353541-2	**Init. Calib. Times**	: 12:25 17:00
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
4-chlorotoluene	1.904	2.132	-	-12	30	97	.02
4-ethyl toluene	7.806	9.008	-	-15.4	30	97	.02
1,3,5-trimethylbenzene	6.349	7.68	-	-21	30	104	.02
tert-butylbenzene	6.083	7.184	-	-18.1	30	95	.03
1,2,4-trimethylbenzene	5.907	7.673	-	-29.9	30	106	.03
decane	4.703	5.266	-	-12	30	93	.02
Benzyl Chloride	4.132	5.22	-	-26.3	30	93	.03
1,3-dichlorobenzene	3.635	4.4	-	-21	30	103	.03
1,4-dichlorobenzene	3.457	4.188	-	-21.1	30	98	.02
sec-butylbenzene	8.89	9.791	-	-10.1	30	90	.02
p-isopropyltoluene	7.318	8.018	-	-9.6	30	85	.02
1,2-dichlorobenzene	3.466	4.188	-	-20.8	30	103	.02
n-butylbenzene	6.128	7.37	-	-20.3	30	96	.02
1,2-dibromo-3-chloropropan	1.484	1.709	-	-15.2	30	85	.03
undecane	5.096	5.922	-	-16.2	30	92	.03
dodecane	5.052	6.014	-	-19	30	86	.02
1,2,4-trichlorobenzene	2.161	2.986	-	-38.2*	30	101	.02
naphthalene	6.409	7.957	-	-24.2	30	89	.02
1,2,3-trichlorobenzene	2.483	2.9	-	-16.8	30	82	.02
hexachlorobutadiene	2.68	3.915	-	-46.1*	30	120	.02

* Value outside of QC limits.

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193190.D
Acq On : 20 Mar 2020 12:08 PM
Operator : AIRLAB19:EW
Sample : WG1353556-2,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:27:29 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	bromochloromethane	1.000	1.000	0.0	92	0.00
2		chlorodifluoromethane	0.626	0.534	14.7	83	0.00
3		propylene	0.411	0.455	-10.7	106	0.00
4		propane	0.446	0.319	28.5	70	0.00
5		dichlorodifluoromethane	0.560	0.527	5.9	93	0.00
6	C	chloromethane	0.358	0.353	1.4	99	0.00
7		Freon-114	0.832	0.905	-8.8	102	0.00
8	C	methanol	0.162	0.130	19.8	78	0.00
9	C	vinyl chloride	0.445	0.440	1.1	98	0.00
10	C	1,3-butadiene	0.384	0.391	-1.8	98	0.00
11		butane	0.629	0.663	-5.4	105	0.00
13	C	bromomethane	0.352	0.349	0.9	94	0.00
14	C	chloroethane	0.233	0.238	-2.1	99	0.00
15		ethanol	0.292	0.238	18.5	77	0.00
16		dichlorofluoromethane	0.618	0.618	0.0	96	0.00
17	C	vinyl bromide	0.381	0.357	6.3	90	0.00
18	C	acrolein	0.204	0.199	2.5	92	0.00
19		acetone	0.537	0.562	-4.7	100	-0.02
20	C	acetonitrile	0.390	0.495	-26.9	118	0.00
21		trichlorofluoromethane	0.589	0.563	4.4	78	0.00
22		isopropyl alcohol	1.020	1.034	-1.4	102	-0.02
23	C	acrylonitrile	0.517	0.513	0.8	95	0.00
24		pentane	1.043	1.171	-12.3	106	0.00
25		ethyl ether	0.898	0.681	24.2	71	0.00
26	C	1,1-dichloroethene	0.678	0.732	-8.0	102	0.00
27		tertiary butyl alcohol	0.935	0.926	1.0	100	-0.03
28	C	methylene chloride	0.657	0.627	4.6	90	0.00
29	C	3-chloropropene	0.791	0.983	-24.3	118	0.00
30	C	carbon disulfide	1.825	1.971	-8.0	100	0.00
31		Freon 113	0.957	0.993	-3.8	98	0.00
32		trans-1,2-dichloroethene	0.778	0.854	-9.8	104	0.00
33	C	1,1-dichloroethane	0.947	1.037	-9.5	103	0.00
34	C	MTBE	1.536	1.441	6.2	89	-0.02
35	C	vinyl acetate	1.305	1.446	-10.8	102	0.00
36	C	2-butanone	1.204	1.334	-10.8	103	-0.03
37		cis-1,2-dichloroethene	0.674	0.738	-9.5	104	0.00
38		Ethyl Acetate	0.205	0.248	-21.0	109	-0.02
39	C	chloroform	0.836	0.847	-1.3	96	0.00
40		Tetrahydrofuran	0.809	0.930	-15.0	109	-0.03

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193190.D
Acq On : 20 Mar 2020 12:08 PM
Operator : AIRLAB19:EW
Sample : WG1353556-2,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:27:29 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41		2,2-dichloropropane	0.694	0.607	12.5	82	0.00
42	C	1,2-dichloroethane	0.409	0.384	6.1	90	0.00
43	I	1,4-difluorobenzene	1.000	1.000	0.0	105	0.00
44	C	hexane	0.367	0.361	1.6	104	0.00
45		diisopropyl ether	0.197	0.196	0.5	105	0.00
46		tert-butyl ethyl ether	0.573	0.525	8.4	97	0.00
48	C	1,1,1-trichloroethane	0.235	0.181	23.0	82	0.00
49		1,1-dichloropropene	0.286	0.247	13.6	93	0.00
50	C	benzene	0.723	0.700	3.2	104	0.00
52	C	carbon tetrachloride	0.194	0.156	19.6	85	0.00
53		cyclohexane	0.401	0.396	1.2	105	0.00
54		tert-amyl methyl ether	0.618	0.542	12.3	93	-0.02
55		dibromomethane	0.178	0.167	6.2	101	0.00
56	C	1,2-dichloropropane	0.231	0.235	-1.7	108	0.00
57		bromodichloromethane	0.315	0.284	9.8	96	0.00
58	C	1,4-dioxane	0.164	0.169	-3.0	112	-0.03
59	C	trichloroethene	0.258	0.242	6.2	99	0.00
60	C	2,2,4-trimethylpentane	1.157	1.166	-0.8	110	0.00
61		methyl methacrylate	0.299	0.339	-13.4	110	0.00
62		heptane	0.447	0.438	2.0	104	0.00
63	C	cis-1,3-dichloropropene	0.344	0.317	7.8	96	0.00
64	C	4-methyl-2-pentanone	0.481	0.489	-1.7	104	-0.03
65		trans-1,3-dichloropropene	0.309	0.267	13.6	90	0.00
66	C	1,1,2-trichloroethane	0.252	0.237	6.0	100	0.00
67	I	chlorobenzene-D5	1.000	1.000	0.0	94	0.00
68	C	toluene	6.089	6.503	-6.8	101	0.00
71		1,3-dichloropropane	2.846	2.988	-5.0	99	0.00
72		2-hexanone	3.538	3.952	-11.7	104	-0.03
74		dibromochloromethane	2.341	2.368	-1.2	93	0.00
75	C	1,2-dibromoethane	2.800	3.001	-7.2	100	0.00
76		butyl acetate	0.920	1.016	-10.4	102	-0.03
77		octane	2.521	2.917	-15.7	109	0.00
78	C	tetrachloroethene	2.675	2.957	-10.5	101	0.00
79		1,1,1,2-tetrachloroethane	1.721	1.835	-6.6	98	0.00
80	C	chlorobenzene	4.839	5.569	-15.1	107	0.00
81	C	ethylbenzene	7.303	7.736	-5.9	97	0.00
83	C	m+p-xylene	5.758	6.014	-4.4	97	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193190.D
Acq On : 20 Mar 2020 12:08 PM
Operator : AIRLAB19:EW
Sample : WG1353556-2,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:27:29 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
84	C	bromoform	2.584	2.730	-5.7	97	0.00
85	C	styrene	5.572	5.924	-6.3	98	0.00
86	C	1,1,2,2-tetrachloroethane	3.972	4.768	-20.0	108	0.00
87	C	o-xylene	5.649	5.849	-3.5	96	0.00
88		1,2,3-trichloropropane	3.318	3.494	-5.3	98	0.00
89		nonane	4.639	5.145	-10.9	103	0.00
91	C	isopropylbenzene	8.211	8.444	-2.8	95	0.00
92		bromobenzene	4.428	4.784	-8.0	100	0.00
93		2-chlorotoluene	2.276	2.624	-15.3	102	-0.02
94		n-propylbenzene	2.736	3.134	-14.5	102	0.00
95		4-chlorotoluene	2.304	2.517	-9.2	100	0.00
96		4-ethyl toluene	9.565	10.154	-6.2	95	0.00
97		1,3,5-trimethylbenzene	7.686	8.276	-7.7	98	0.00
98		tert-butylbenzene	7.075	7.787	-10.1	99	0.00
99		1,2,4-trimethylbenzene	7.114	7.505	-5.5	94	0.00
100		decane	5.798	7.185	-23.9	110	0.00
101	C	Benzyl Chloride	5.729	6.447	-12.5	95	0.00
102		1,3-dichlorobenzene	4.872	5.744	-17.9	103	0.00
103	C	1,4-dichlorobenzene	4.669	5.259	-12.6	97	0.00
104		sec-butylbenzene	10.413	11.389	-9.4	98	0.00
106		p-isopropyltoluene	8.833	9.751	-10.4	98	0.00
107		1,2-dichlorobenzene	4.620	5.263	-13.9	99	0.00
108		n-butylbenzene	7.618	8.544	-12.2	97	0.00
111	C	1,2-dibromo-3-chloropropane	1.776	1.647	7.3	81	-0.02
112		undecane	6.295	7.632	-21.2	102	0.00
114		dodecane	6.117	6.792	-11.0	82	0.00
115	C	1,2,4-trichlorobenzene	4.060	4.556	-12.2	85	0.00
116		naphthalene	10.393	10.568	-1.7	85	0.00
117		1,2,3-trichlorobenzene	4.250	4.468	-5.1	80	0.00
119	C	hexachlorobutadiene	3.529	3.398	3.7	76	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193190.D
Acq On : 20 Mar 2020 12:08 PM
Operator : AIRLAB19:EW
Sample : WG1353556-2,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:27:29 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) bromochloromethane	8.783	49	288364	10.000	ppbV		0.00
43) 1,4-difluorobenzene	10.747	114	940727	10.000	ppbV		0.00
67) chlorobenzene-D5	14.875	54	108860	10.000	ppbV		0.00
System Monitoring Compounds							
Target Compounds							Qvalue
2) chlorodifluoromethane	3.436	51	153899	8.529	ppbV		96
3) propylene	3.472	41	131224M6	11.081	ppbV		
4) propane	3.502	29	92035	7.160	ppbV	#	65
5) dichlorodifluoromethane	3.568	85	151945	9.402	ppbV		100
6) chloromethane	3.778	50	101875	9.856	ppbV		98
7) Freon-114	3.916	85	261065	10.886	ppbV		94
8) methanol	3.982	31	187416	40.088	ppbV	#	1
9) vinyl chloride	4.066	62	126801	9.884	ppbV		99
10) 1,3-butadiene	4.240	54	112720	10.189	ppbV		98
11) butane	4.312	43	191052	10.538	ppbV		92
13) bromomethane	4.576	94	100755	9.927	ppbV		99
14) chloroethane	4.792	64	68634	10.204	ppbV		94
15) ethanol	4.924	31	342897	40.697	ppbV	#	64
16) dichlorofluoromethane	4.918	67	178227	10.006	ppbV		96
17) vinyl bromide	5.210	106	103011	9.386	ppbV		92
18) acrolein	5.340	56	57354	9.737	ppbV	#	40
19) acetone	5.480	43	810609	52.349	ppbV	#	99
20) acetonitrile	5.183	41	142722	12.696	ppbV	#	56
21) trichlorofluoromethane	5.693	101	162268	9.559	ppbV		100
22) isopropyl alcohol	5.760	45	745607	25.345	ppbV		100
23) acrylonitrile	6.013	53	148058	9.933	ppbV		98
24) pentane	6.100	43	337717	11.232	ppbV		96
25) ethyl ether	6.117	31	196288	7.583	ppbV	#	77
26) 1,1-dichloroethene	6.402	61	211161	10.793	ppbV		95
27) tertiary butyl alcohol	6.420	59	267000	9.900	ppbV	#	95
28) methylene chloride	6.540	49	180789	9.550	ppbV	#	82
29) 3-chloropropene	6.666	41	283438	12.424	ppbV		94
30) carbon disulfide	6.846	76	568305	10.800	ppbV	#	80
31) Freon 113	6.822	101	286376	10.376	ppbV		96
32) trans-1,2-dichloroethene	7.533	61	246338	10.983	ppbV		96
33) 1,1-dichloroethane	7.742	63	298953	10.942	ppbV		97
34) MTBE	7.792	73	415402	9.379	ppbV		95
35) vinyl acetate	7.892	43	416945	11.079	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193190.D
Acq On : 20 Mar 2020 12:08 PM
Operator : AIRLAB19:EW
Sample : WG1353556-2,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:27:29 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
36) 2-butanone	8.133	43	384750	11.085	ppbV		95
37) cis-1,2-dichloroethene	8.608	61	212681	10.941	ppbV		96
38) Ethyl Acetate	8.817	61	71474	12.104	ppbV		84
39) chloroform	8.908	83	244279	10.129	ppbV	#	94
40) Tetrahydrofuran	9.308	42	268223	11.500	ppbV		98
41) 2,2-dichloropropane	8.942	77	175116	8.753	ppbV		92
42) 1,2-dichloroethane	9.667	62	110764	9.400	ppbV		96
44) hexane	8.825	57	339237	9.838	ppbV		84
45) diisopropyl ether	8.800	87	183988	9.949	ppbV		91
46) tert-butyl ethyl ether	9.350	59	494062	9.160	ppbV		96
48) 1,1,1-trichloroethane	9.925	97	169899	7.675	ppbV		90
49) 1,1-dichloropropene	10.247	75	232103	8.629	ppbV	#	87
50) benzene	10.400	78	658197	9.676	ppbV		98
52) carbon tetrachloride	10.560	117	146826	8.050	ppbV		89
53) cyclohexane	10.693	56	372504	9.876	ppbV		98
54) tert-amyl methyl ether	10.980	73	509898	8.767	ppbV		99
55) dibromomethane	11.220	93	157166	9.373	ppbV		99
56) 1,2-dichloropropane	11.247	63	221304	10.172	ppbV		97
57) bromodichloromethane	11.447	83	266810	8.995	ppbV		95
58) 1,4-dioxane	11.467	88	158535	10.295	ppbV		83
59) trichloroethene	11.493	130	227809	9.397	ppbV		95
60) 2,2,4-trimethylpentane	11.520	57	1096580	10.076	ppbV		99
61) methyl methacrylate	11.660	41	318895	11.349	ppbV		92
62) heptane	11.780	43	412056	9.794	ppbV		97
63) cis-1,3-dichloropropene	12.392	75	298586	9.225	ppbV		93
64) 4-methyl-2-pentanone	12.408	43	460276	10.169	ppbV		95
65) trans-1,3-dichloropropene	12.917	75	251366	8.635	ppbV		98
66) 1,1,2-trichloroethane	13.100	97	223151	9.420	ppbV		96
68) toluene	13.367	91	707935	10.680	ppbV		98
71) 1,3-dichloropropane	13.383	76	325299	10.501	ppbV	#	95
72) 2-hexanone	13.567	43	430209	11.170	ppbV	#	82
74) dibromochloromethane	13.758	129	257829	10.119	ppbV		98
75) 1,2-dibromoethane	13.975	107	326675	10.717	ppbV		99
76) butyl acetate	14.108	73	110621	11.050	ppbV		80
77) octane	14.208	85	317498	11.571	ppbV		96
78) tetrachloroethene	14.358	166	321862	11.051	ppbV		96
79) 1,1,1,2-tetrachloroethane	14.892	131	199770	10.661	ppbV		95
80) chlorobenzene	14.908	112	606187	11.507	ppbV		96
81) ethylbenzene	15.192	91	842194	10.593	ppbV		99
83) m+p-xylene	15.325	91	1309348	20.890	ppbV		98
84) bromoform	15.408	173	297232	10.565	ppbV		97

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193190.D
Acq On : 20 Mar 2020 12:08 PM
Operator : AIRLAB19:EW
Sample : WG1353556-2,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:27:29 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Sub List : Default-LCS-AP2 - All compounds listed

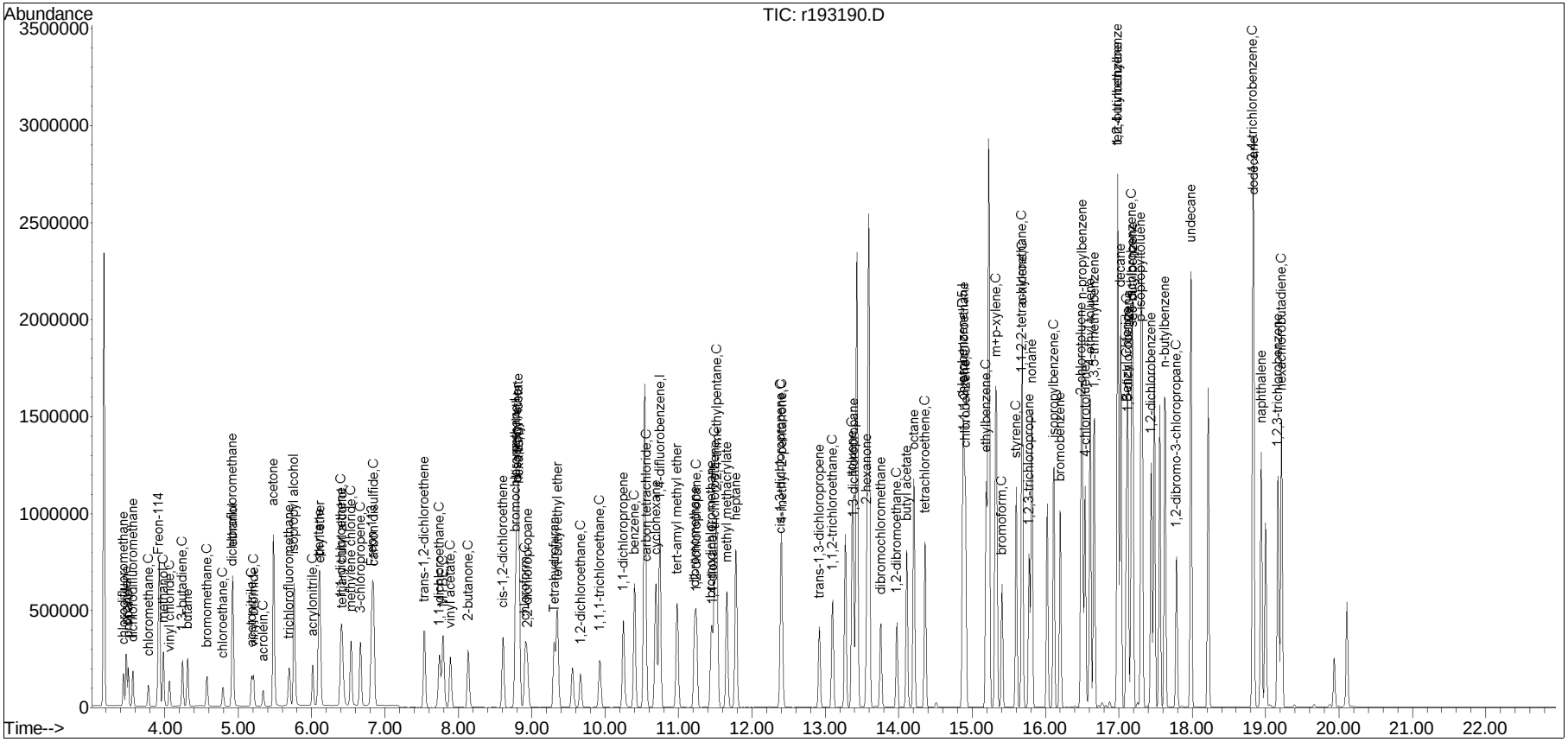
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
85) styrene	15.600	104	644931	10.632	ppbV		98
86) 1,1,2,2-tetrachloroethane	15.675	83	519017	12.002	ppbV		96
87) o-xylene	15.683	91	636697	10.353	ppbV		95
88) 1,2,3-trichloropropane	15.775	75	380400	10.533	ppbV		99
89) nonane	15.817	43	560107	11.092	ppbV		94
91) isopropylbenzene	16.117	105	919173	10.284	ppbV		94
92) bromobenzene	16.200	77	520830	10.805	ppbV		94
93) 2-chlorotoluene	16.483	126	285624	11.527	ppbV	#	30
94) n-propylbenzene	16.500	120	341214	11.454	ppbV		74
95) 4-chlorotoluene	16.542	126	273987	10.923	ppbV		92
96) 4-ethyl toluene	16.608	105	1105350	10.615	ppbV		95
97) 1,3,5-trimethylbenzene	16.667	105	900899	10.767	ppbV		93
98) tert-butylbenzene	16.983	119	847644	11.005	ppbV		96
99) 1,2,4-trimethylbenzene	16.983	105	816949	10.548	ppbV		97
100) decane	17.025	57	782120	12.392	ppbV		91
101) Benzyl Chloride	17.108	91	701770	11.252	ppbV		98
102) 1,3-dichlorobenzene	17.125	146	625271	11.788	ppbV		98
103) 1,4-dichlorobenzene	17.175	146	572442	11.263	ppbV		97
104) sec-butylbenzene	17.192	105	1239777	10.937	ppbV		98
106) p-isopropyltoluene	17.300	119	1061443	11.039	ppbV		94
107) 1,2-dichlorobenzene	17.442	146	572901	11.391	ppbV		97
108) n-butylbenzene	17.625	91	930070	11.215	ppbV		95
111) 1,2-dibromo-3-chloropr...	17.783	75	179301	9.275	ppbV	#	64
112) undecane	17.983	57	830869	12.124	ppbV		90
114) dodecane	18.833	57	739340	11.102	ppbV		87
115) 1,2,4-trichlorobenzene	18.825	180	495982	11.221	ppbV		98
116) naphthalene	18.942	128	1150418	10.168	ppbV		96
117) 1,2,3-trichlorobenzene	19.167	180	486391	10.512	ppbV		97
119) hexachlorobutadiene	19.217	225	369895	9.629	ppbV		97

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

Sub List : Default-LCS-AP2 - All compounds listedd)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193190.D
Acq On : 20 Mar 2020 12:08 PM
Operator : AIRLAB19:EW
Sample : WG1353556-2,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:27:29 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

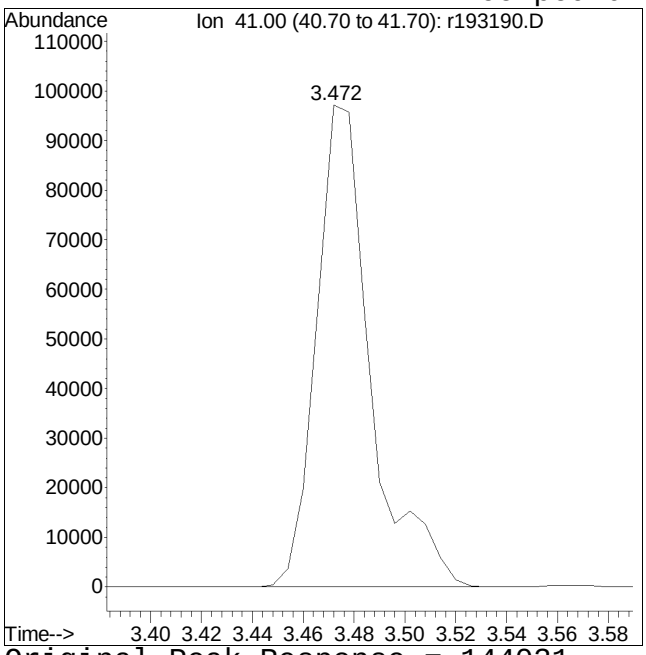


Manual Integration Report

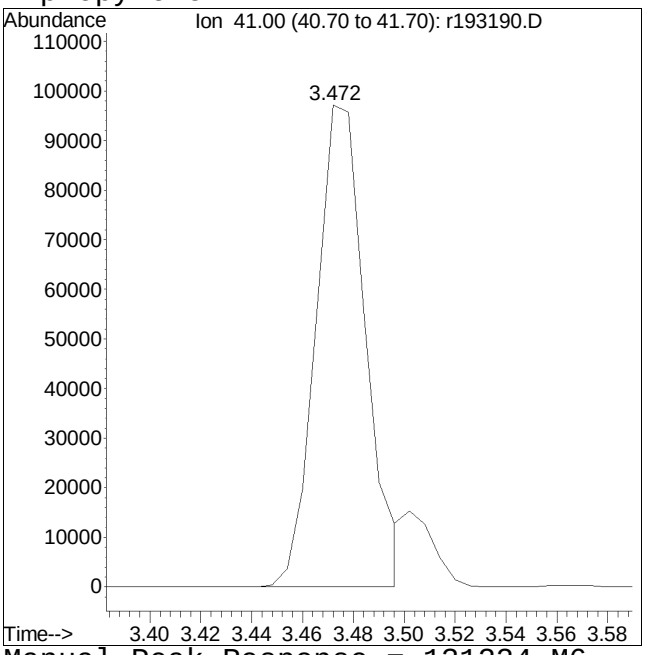
Data Path : O:\Forensics\Data\Airlab19Q
Data File : r193190.D
Date Inj'd : 3/20/2020 0:2: 8
Sample : WG1353556-2,3,250,250

Method : TFS19_200224.M
Operator : AIRLAB19:EW
Instrument :
Quant Date : 3/20/2020 2:26 pm

Compound #3: propylene



Original Peak Response = 144031



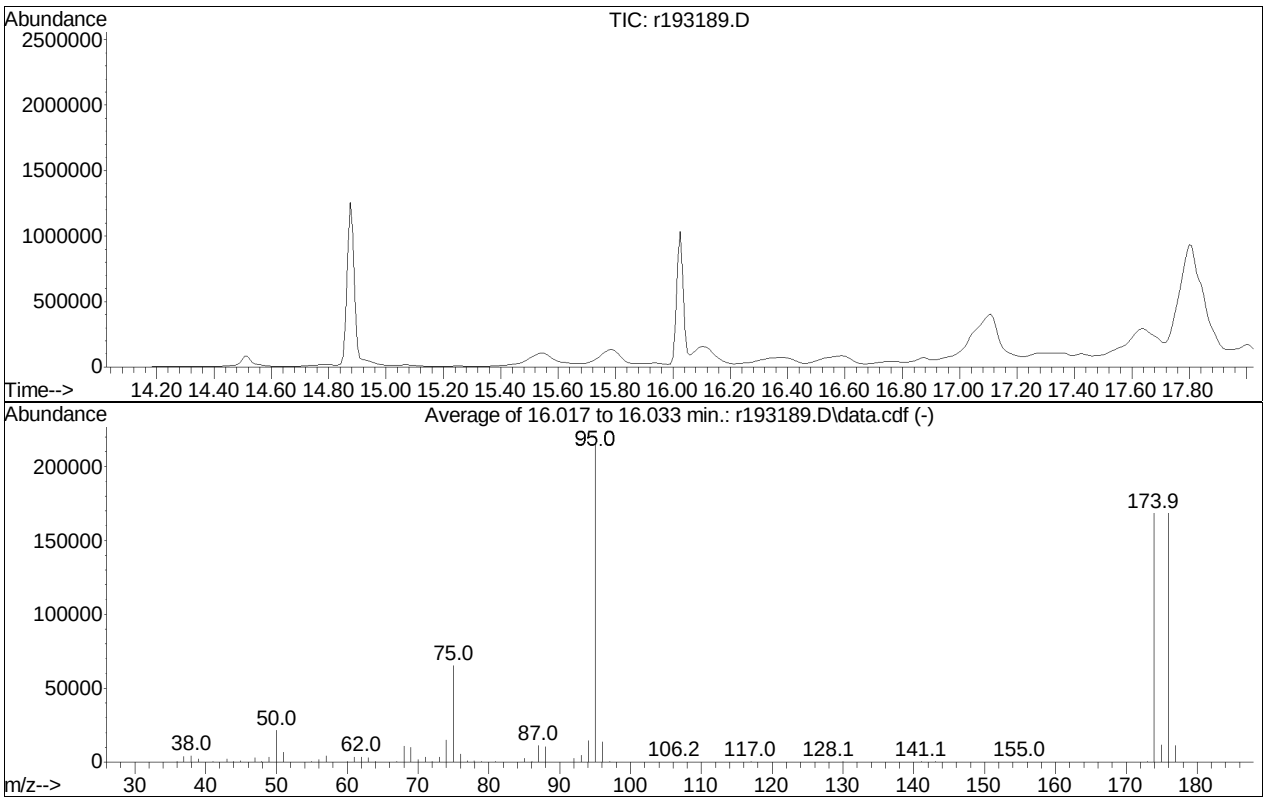
Manual Peak Response = 131224 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193189.D
Acq On : 20 Mar 2020 11:27 AM
Operator : AIRLAB19:EW
Sample : WG1353556-1,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Integration File: rteint.p

Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Tue Feb 25 10:21:39 2020



Spectrum Information: Average of 16.017 to 16.033 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	10.0	21640	PASS
75	95	30	66	30.2	65329	PASS
95	95	100	100	100.0	216202	PASS
96	95	5	9	6.3	13705	PASS
173	174	0.00	2	0.4	755	PASS
174	95	50	120	78.1	168766	PASS
175	174	4	9	6.9	11582	PASS
176	174	93	101	99.7	168309	PASS
177	176	5	9	6.6	11144	PASS

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-2,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	bromochloromethane	1.000	1.000	0.0	95	0.03
2		chlorodifluoromethane	0.762	0.634	16.8	80	0.02
3		propylene	0.454	0.570	-25.6	122	0.02
4		propane	0.602	0.503	16.4	80	0.02
5		dichlorodifluoromethane	0.904	0.962	-6.4	101	0.02
6	C	chloromethane	0.415	0.496	-19.5	115	0.02
7		Freon-114	1.100	1.300	-18.2	112	0.02
8	C	methanol	0.200	0.212	-6.0	99	0.02
9	C	vinyl chloride	0.484	0.558	-15.3	114	0.02
10	C	1,3-butadiene	0.486	0.522	-7.4	104	0.02
11		butane	0.713	0.901	-26.4	123	0.02
13	C	bromomethane	0.401	0.482	-20.2	117	0.02
14	C	chloroethane	0.246	0.298	-21.1	121	0.03
15		ethanol	0.390	0.390	0.0	91	0.02
16		dichlorofluoromethane	0.746	0.898	-20.4	116	0.02
17	C	vinyl bromide	0.461	0.544	-18.0	113	0.02
18	C	acrolein	0.253	0.228	9.9	88	0.02
19		acetone	0.649	0.751	-15.7	107	0.03
20	C	acetonitrile	0.417	0.473	-13.4	114	0.02
21		trichlorofluoromethane	0.705	0.865	-22.7	120	0.03
22		isopropyl alcohol	0.829	1.037	-25.1	119	0.03
23	C	acrylonitrile	0.453	0.458	-1.1	99	0.03
24		pentane	0.952	1.323	-39.0#	125	0.03
25		ethyl ether	1.014	0.907	10.6	88	0.03
26	C	1,1-dichloroethene	0.664	0.719	-8.3	111	0.03
27		tertiary butyl alcohol	0.994	0.929	6.5	87	0.02
28	C	methylene chloride	0.624	0.686	-9.9	99	0.03
29	C	3-chloropropene	0.819	1.030	-25.8	122	0.03
30	C	carbon disulfide	1.825	1.750	4.1	91	0.03
31		Freon 113	0.962	1.056	-9.8	105	0.02
32		trans-1,2-dichloroethene	0.778	0.840	-8.0	103	0.03
33	C	1,1-dichloroethane	0.916	1.058	-15.5	113	0.03
34	C	MTBE	1.585	1.675	-5.7	99	0.03
35	C	vinyl acetate	1.326	1.625	-22.5	113	0.03
36	C	2-butanone	1.230	1.478	-20.2	115	0.03
37		cis-1,2-dichloroethene	0.671	0.772	-15.1	112	0.03
38		Ethyl Acetate	0.205	0.240	-17.1	115	0.03
39	C	chloroform	0.971	0.994	-2.4	97	0.03
40		Tetrahydrofuran	0.770	0.900	-16.9	113	0.03

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-2,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41		2,2-dichloropropane	0.824	0.782	5.1	87	0.03
42	C	1,2-dichloroethane	0.536	0.599	-11.8	106	0.03
43	I	1,4-difluorobenzene	1.000	1.000	0.0	94	0.03
44	C	hexane	0.371	0.382	-3.0	98	0.03
45		diisopropyl ether	0.212	0.203	4.2	92	0.03
46		tert-butyl ethyl ether	0.607	0.596	1.8	92	0.03
48	C	1,1,1-trichloroethane	0.283	0.321	-13.4	106	0.03
49		1,1-dichloropropene	0.300	0.297	1.0	92	0.03
50	C	benzene	0.724	0.705	2.6	93	0.03
52	C	carbon tetrachloride	0.263	0.283	-7.6	96	0.03
53		cyclohexane	0.402	0.405	-0.7	97	0.03
54		tert-amyl methyl ether	0.632	0.628	0.6	91	0.03
55		dibromomethane	0.185	0.190	-2.7	97	0.03
56	C	1,2-dichloropropane	0.219	0.269	-22.8	118	0.03
57		bromodichloromethane	0.386	0.382	1.0	91	0.03
58	C	1,4-dioxane	0.166	0.183	-10.2	105	0.03
59	C	trichloroethene	0.270	0.324	-20.0	114	0.03
60	C	2,2,4-trimethylpentane	1.181	1.249	-5.8	100	0.03
61		methyl methacrylate	0.326	0.310	4.9	79	0.03
62		heptane	0.464	0.571	-23.1	115	0.03
63	C	cis-1,3-dichloropropene	0.351	0.389	-10.8	103	0.03
64	C	4-methyl-2-pentanone	0.523	0.668	-27.7	116	0.03
65		trans-1,3-dichloropropene	0.327	0.313	4.3	88	0.03
66	C	1,1,2-trichloroethane	0.240	0.277	-15.4	111	0.03
67	I	chlorobenzene-D5	1.000	1.000	0.0	87	0.02
68	C	toluene	5.075	6.093	-20.1	109	0.03
71		1,3-dichloropropane	2.505	2.594	-3.6	89	0.03
72		2-hexanone	2.979	4.179	-40.3#	114	0.03
74		dibromochloromethane	2.190	2.833	-29.4	110	0.02
75	C	1,2-dibromoethane	2.416	2.718	-12.5	99	0.02
76		butyl acetate	0.769	0.784	-2.0	87	0.03
77		octane	2.177	2.211	-1.6	89	0.03
78	C	tetrachloroethene	2.230	2.569	-15.2	102	0.02
79		1,1,1,2-tetrachloroethane	1.655	1.910	-15.4	100	0.02
80	C	chlorobenzene	4.044	4.627	-14.4	101	0.03
81	C	ethylbenzene	6.044	7.362	-21.8	108	0.02
83	C	m+p-xylene	4.948	6.131	-23.9	108	0.03

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-2,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
84	C	bromoform	2.041	2.424	-18.8	97	0.02
85	C	styrene	4.416	5.077	-15.0	99	0.02
86	C	1,1,2,2-tetrachloroethane	3.453	4.279	-23.9	105	0.03
87	C	o-xylene	4.848	6.270	-29.3	111	0.03
88		1,2,3-trichloropropane	2.906	2.947	-1.4	86	0.02
89		nonane	4.101	4.921	-20.0	102	0.03
91	C	isopropylbenzene	6.989	7.592	-8.6	93	0.03
92		bromobenzene	3.755	3.796	-1.1	84	0.03
93		2-chlorotoluene	1.964	2.226	-13.3	99	0.02
94		n-propylbenzene	2.261	2.560	-13.2	97	0.03
95		4-chlorotoluene	1.904	2.132	-12.0	97	0.02
96		4-ethyl toluene	7.806	9.008	-15.4	97	0.02
97		1,3,5-trimethylbenzene	6.349	7.680	-21.0	104	0.02
98		tert-butylbenzene	6.083	7.184	-18.1	95	0.03
99		1,2,4-trimethylbenzene	5.907	7.673	-29.9	106	0.03
100		decane	4.703	5.266	-12.0	93	0.02
101	C	Benzyl Chloride	4.132	5.220	-26.3	93	0.03
102		1,3-dichlorobenzene	3.635	4.400	-21.0	103	0.03
103	C	1,4-dichlorobenzene	3.457	4.188	-21.1	98	0.02
104		sec-butylbenzene	8.890	9.791	-10.1	90	0.02
106		p-isopropyltoluene	7.318	8.018	-9.6	85	0.02
107		1,2-dichlorobenzene	3.466	4.188	-20.8	103	0.02
108		n-butylbenzene	6.128	7.370	-20.3	96	0.02
111	C	1,2-dibromo-3-chloropropane	1.484	1.709	-15.2	85	0.03
112		undecane	5.096	5.922	-16.2	92	0.03
114		dodecane	5.052	6.014	-19.0	86	0.02
115	C	1,2,4-trichlorobenzene	2.161	2.986	-38.2#	101	0.02
116		naphthalene	6.409	7.957	-24.2	89	0.02
117		1,2,3-trichlorobenzene	2.483	2.900	-16.8	82	0.02
119	C	hexachlorobutadiene	2.680	3.915	-46.1#	120	0.02

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 2

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-2,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) bromochloromethane	9.583	49	353543	10.000	ppbV		0.03
Standard Area = 353543			Recovery = 100.00%				
43) 1,4-difluorobenzene	11.847	114	970632	10.000	ppbV		0.03
Standard Area = 970632			Recovery = 100.00%				
67) chlorobenzene-D5	16.567	54	139948	10.000	ppbV		0.02
Standard Area = 139948			Recovery = 100.00%				
System Monitoring Compounds							
Target Compounds							Qvalue
2) chlorodifluoromethane	3.886	51	224083	8.320	ppbV	#	94
3) propylene	3.916	41	201526M6	12.568	ppbV		
4) propane	3.946	29	177893	8.357	ppbV	#	87
5) dichlorodifluoromethane	4.000	85	340013	10.640	ppbV		99
6) chloromethane	4.180	50	175228	11.933	ppbV		96
7) Freon-114	4.306	85	459629	11.822	ppbV		94
8) methanol	4.378	31	375337	52.962	ppbV		98
9) vinyl chloride	4.438	62	197192	11.513	ppbV		97
10) 1,3-butadiene	4.606	54	184419	10.739	ppbV		87
11) butane	4.672	43	318693	12.639	ppbV	#	94
13) bromomethane	4.924	94	170280	12.008	ppbV		95
14) chloroethane	5.146	64	105516	12.115	ppbV		97
15) ethanol	5.320	31	688947	50.027	ppbV	#	80
16) dichlorofluoromethane	5.284	67	317364	12.031	ppbV		98
17) vinyl bromide	5.570	106	192187	11.803	ppbV		99
18) acrolein	5.723	56	80597	9.009	ppbV		96
19) acetone	5.880	43	1327673	57.892	ppbV	#	84
20) acetonitrile	5.567	41	167253	11.358	ppbV		97
21) trichlorofluoromethane	6.090	101	305977	12.270	ppbV		98
22) isopropyl alcohol	6.213	45	916909	31.270	ppbV	#	96
23) acrylonitrile	6.467	53	162088	10.125	ppbV		98
24) pentane	6.537	43	467584	13.899	ppbV	#	94
25) ethyl ether	6.577	31	320834	8.953	ppbV	#	92
26) 1,1-dichloroethene	6.864	61	254062	10.825	ppbV		92
27) tertiary butyl alcohol	6.942	59	328459	9.346	ppbV		98
28) methylene chloride	7.032	49	242639	10.990	ppbV		99
29) 3-chloropropene	7.170	41	364211	12.578	ppbV		93
30) carbon disulfide	7.320	76	618756	9.590	ppbV		97
31) Freon 113	7.356	101	373192	10.969	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-2,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
32) trans-1,2-dichloroethene	8.158	61	296925	10.801	ppbV		97
33) 1,1-dichloroethane	8.392	63	374044	11.553	ppbV		100
34) MTBE	8.475	73	592185	10.565	ppbV		97
35) vinyl acetate	8.617	43	574639	12.258	ppbV		95
36) 2-butanone	8.875	43	522608	12.017	ppbV		96
37) cis-1,2-dichloroethene	9.392	61	272820	11.501	ppbV		97
38) Ethyl Acetate	9.692	61	84761	11.676	ppbV		99
39) chloroform	9.742	83	351512	10.239	ppbV		97
40) Tetrahydrofuran	10.183	42	318057	11.689	ppbV		94
41) 2,2-dichloropropane	9.758	77	276579	9.498	ppbV		90
42) 1,2-dichloroethane	10.592	62	211882	11.184	ppbV		96
44) hexane	9.650	57	371246	10.311	ppbV		97
45) diisopropyl ether	9.658	87	197448	9.611	ppbV		83
46) tert-butyl ethyl ether	10.283	59	578305	9.819	ppbV		98
48) 1,1,1-trichloroethane	10.875	97	311625	11.348	ppbV		98
49) 1,1-dichloropropene	11.247	75	287968	9.904	ppbV		95
50) benzene	11.407	78	683936	9.732	ppbV		99
52) carbon tetrachloride	11.580	117	274453	10.765	ppbV		97
53) cyclohexane	11.720	56	393017	10.077	ppbV		94
54) tert-amyl methyl ether	12.107	73	609545	9.936	ppbV		95
55) dibromomethane	12.327	93	184013	10.263	ppbV		96
56) 1,2-dichloropropane	12.360	63	261176	12.262	ppbV		99
57) bromodichloromethane	12.593	83	370778	9.885	ppbV		98
58) 1,4-dioxane	12.627	88	177883	11.035	ppbV		100
59) trichloroethene	12.640	130	314176	11.995	ppbV		98
60) 2,2,4-trimethylpentane	12.687	57	1212430	10.581	ppbV		95
61) methyl methacrylate	12.893	41	301099	9.528	ppbV		96
62) heptane	13.007	43	554356	12.312	ppbV		92
63) cis-1,3-dichloropropene	13.658	75	377301	11.071	ppbV		96
64) 4-methyl-2-pentanone	13.692	43	648864	12.784	ppbV		94
65) trans-1,3-dichloropropene	14.275	75	303555	9.578	ppbV		95
66) 1,1,2-trichloroethane	14.475	97	268889	11.527	ppbV		94
68) toluene	14.792	91	852731	12.007	ppbV		100
71) 1,3-dichloropropane	14.817	76	363045	10.355	ppbV		87
72) 2-hexanone	15.067	43	584802	14.029	ppbV	#	87
74) dibromochloromethane	15.233	129	396414	12.935	ppbV		99
75) 1,2-dibromoethane	15.483	107	380331	11.247	ppbV		99
76) butyl acetate	15.725	73	109739	10.198	ppbV		82
77) octane	15.825	85	309483	10.159	ppbV		82
78) tetrachloroethene	15.950	166	359495	11.519	ppbV		93

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-2,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : Default-LCS-AP2 - All compounds listed

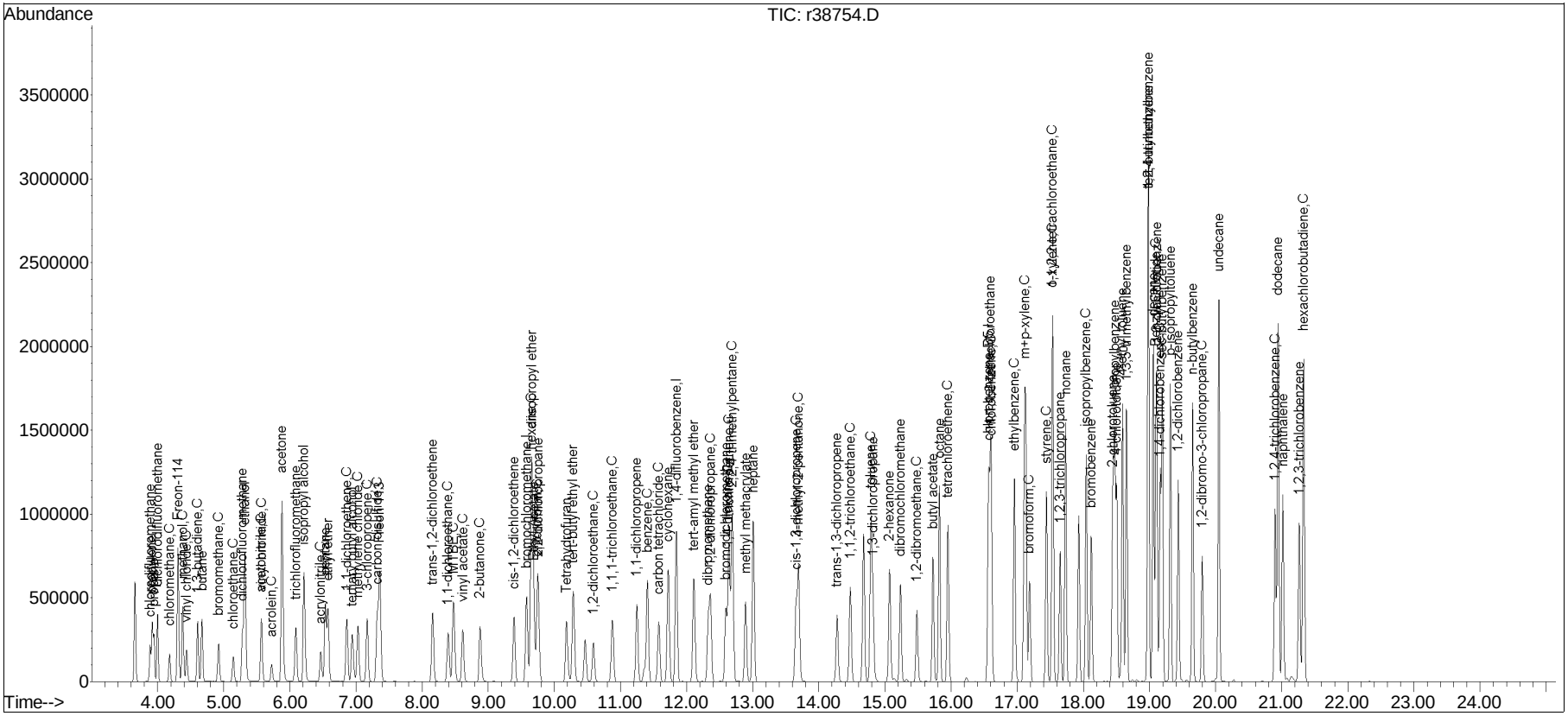
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
79) 1,1,1,2-tetrachloroethane	16.592	131	267366	11.547	ppbV	98
80) chlorobenzene	16.608	112	647553	11.441	ppbV	97
81) ethylbenzene	16.958	91	1030325	12.181	ppbV	95
83) m+p-xylene	17.117	91	1716028	24.782	ppbV	94
84) bromoform	17.183	173	339273	11.876	ppbV	100
85) styrene	17.442	104	710531	11.498	ppbV	98
86) 1,1,2,2-tetrachloroethane	17.533	83	598789	12.390	ppbV	99
87) o-xylene	17.533	91	877460	12.932	ppbV	95
88) 1,2,3-trichloropropane	17.650	75	412426	10.143	ppbV	97
89) nonane	17.733	43	688685	11.999	ppbV	93
91) isopropylbenzene	18.042	105	1062537	10.863	ppbV	96
92) bromobenzene	18.117	77	531287	10.109	ppbV	96
93) 2-chlorotoluene	18.442	126	311495	11.332	ppbV	97
94) n-propylbenzene	18.475	120	358211	11.320	ppbV	98
95) 4-chlorotoluene	18.500	126	298365	11.196	ppbV	95
96) 4-ethyl toluene	18.592	105	1260588	11.539	ppbV	97
97) 1,3,5-trimethylbenzene	18.650	105	1074869	12.097	ppbV	96
98) tert-butylbenzene	18.983	119	1005358	11.810	ppbV	97
99) 1,2,4-trimethylbenzene	18.983	105	1073784	12.988	ppbV	95
100) decane	19.058	57	736961	11.197	ppbV	89
101) Benzyl Chloride	19.100	91	730511	12.634	ppbV	98
102) 1,3-dichlorobenzene	19.108	146	615768	12.104	ppbV	99
103) 1,4-dichlorobenzene	19.158	146	586145	12.115	ppbV	97
104) sec-butylbenzene	19.192	105	1370219	11.013	ppbV	94
106) p-isopropyltoluene	19.317	119	1122136	10.956	ppbV	93
107) 1,2-dichlorobenzene	19.433	146	586153	12.085	ppbV	100
108) n-butylbenzene	19.650	91	1031459	12.027	ppbV	96
111) 1,2-dibromo-3-chloropr...	19.800	75	239212	11.516	ppbV	93
112) undecane	20.050	57	828718	11.620	ppbV	91
114) dodecane	20.942	57	841582	11.903	ppbV	88
115) 1,2,4-trichlorobenzene	20.900	180	417816	13.816	ppbV	100
116) naphthalene	21.017	128	1113601	12.417	ppbV	99
117) 1,2,3-trichlorobenzene	21.267	180	405826	11.679	ppbV	99
119) hexachlorobutadiene	21.333	225	547909	14.611	ppbV	99

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

Sub List : Default-LCS-AP2 - All compounds listed0320T\r38754.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-2,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

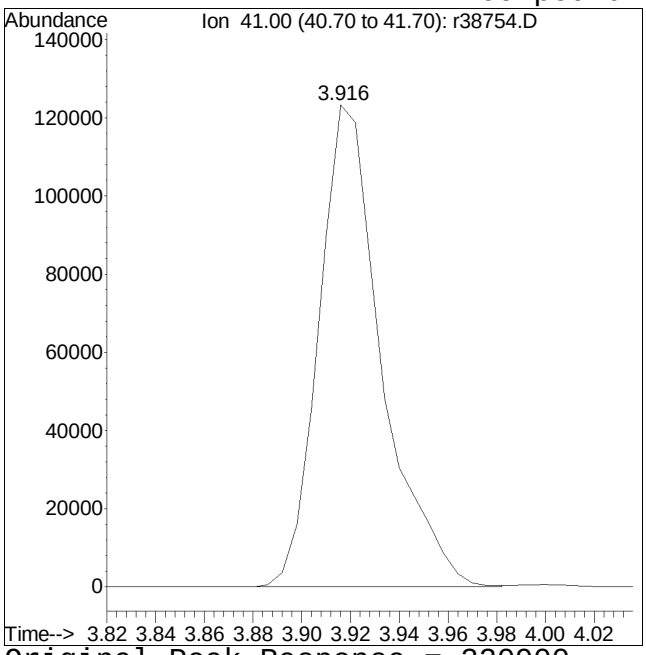
Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration



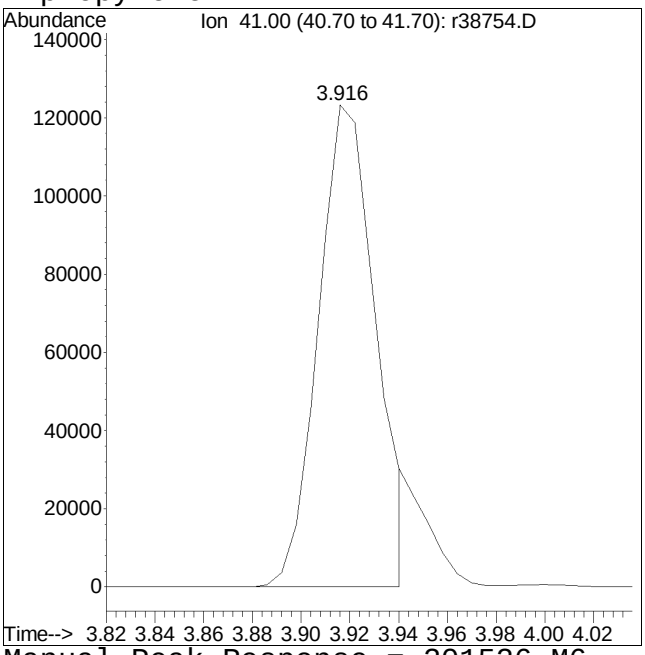
Manual Integration Report

Data Path : O:\Forensics\Data\AirpianoQMethod : TFS3_200312.M
Data File : r38754.D Operator : AIRPIANO3:EW
Date Inj'd : 3/20/2020 0:1: 2 Instrument :
Sample : WG1353541-2,3,250,250 Quant Date : 3/20/2020 2:42 pm

Compound #3: propylene



Original Peak Response = 220900



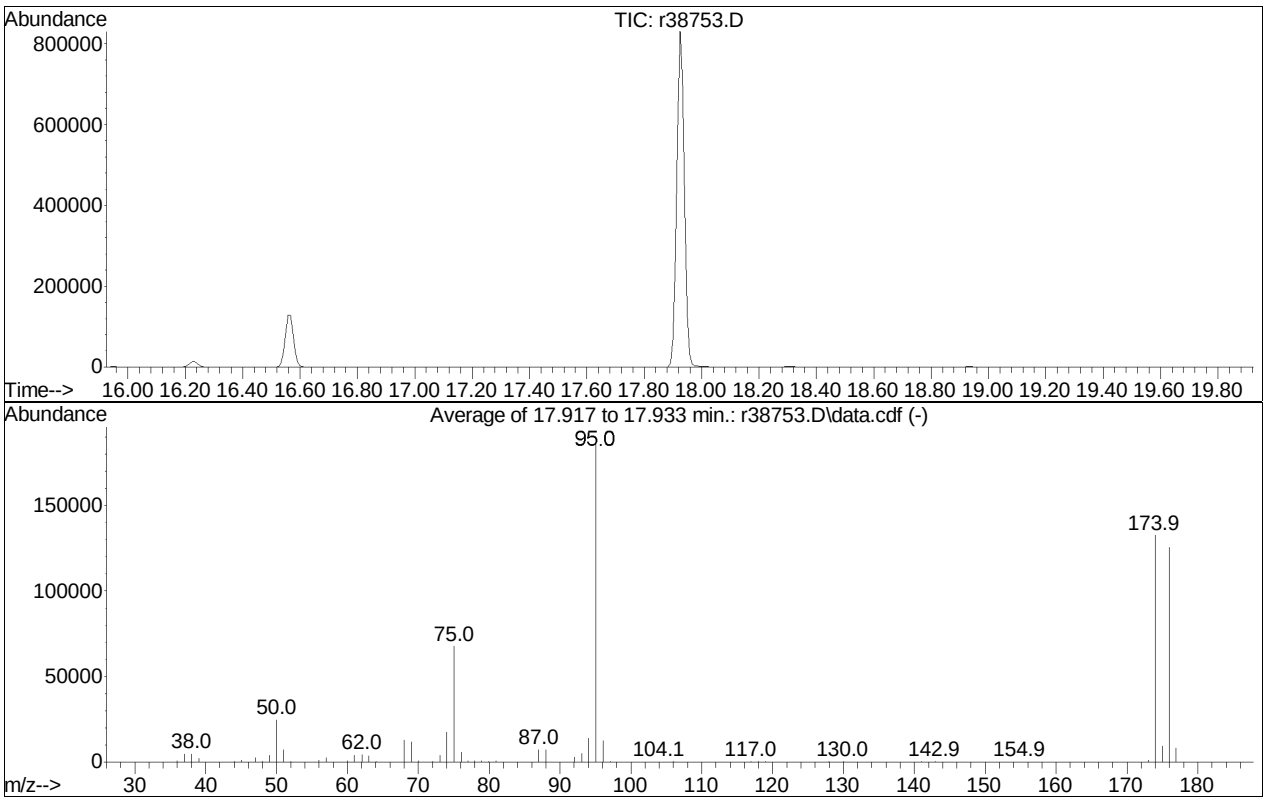
Manual Peak Response = 201526 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38753.D
Acq On : 20 Mar 2020 12:51 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-1,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Integration File: rteint.p

Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 17:27:58 2020



Spectrum Information: Average of 17.917 to 17.933 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.2	24646	PASS
75	95	30	66	36.4	67891	PASS
95	95	100	100	100.0	186762	PASS
96	95	5	9	6.8	12641	PASS
173	174	0.00	2	0.9	1150	PASS
174	95	50	120	71.1	132732	PASS
175	174	4	9	7.1	9417	PASS
176	174	93	101	94.6	125608	PASS
177	176	5	9	6.7	8448	PASS

Volatiles Raw QC Data

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193194.D
Acq On : 20 Mar 2020 3:55 PM
Operator : AIRLAB19:EW
Sample : WG1353556-4,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 16:32:01 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.783	49	293906	10.000	ppbV	0.00
Standard Area = 288364			Recovery = 101.92%			
43) 1,4-difluorobenzene	10.760	114	909254	10.000	ppbV	0.01
Standard Area = 940727			Recovery = 96.65%			
67) chlorobenzene-D5	14.883	54	110058	10.000	ppbV	0.00
Standard Area = 108860			Recovery = 101.10%			
System Monitoring Compounds						
Target Compounds						Qvalue
5) dichlorodifluoromethane	0.000		0	N.D.		
6) chloromethane	0.000		0	N.D.		
7) Freon-114	0.000		0	N.D.		
9) vinyl chloride	0.000		0	N.D.		
10) 1,3-butadiene	0.000		0	N.D.		
13) bromomethane	0.000		0	N.D.		
14) chloroethane	0.000		0	N.D.		
15) ethanol	4.948	31	441	0.051	ppbV #	60
17) vinyl bromide	0.000		0	N.D.		
19) acetone	5.513	43	857	0.054	ppbV #	97
21) trichlorofluoromethane	0.000		0	N.D.		
22) isopropyl alcohol	5.800	45	2049	0.068	ppbV #	86
26) 1,1-dichloroethene	0.000		0	N.D.		
27) tertiary butyl alcohol	0.000		0	N.D.		
28) methylene chloride	6.546		0	N.D.		
29) 3-chloropropene	0.000		0	N.D.		
30) carbon disulfide	6.852		0	N.D.		
31) Freon 113	0.000		0	N.D.		
32) trans-1,2-dichloroethene	0.000		0	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.		
34) MTBE	0.000		0	N.D.		
36) 2-butanone	0.000		0	N.D.		
37) cis-1,2-dichloroethene	0.000		0	N.D.		
38) Ethyl Acetate	0.000		0	N.D.		
39) chloroform	0.000		0	N.D.		
40) Tetrahydrofuran	0.000		0	N.D.		
42) 1,2-dichloroethane	0.000		0	N.D.		

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193194.D
Acq On : 20 Mar 2020 3:55 PM
Operator : AIRLAB19:EW
Sample : WG1353556-4,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 16:32:01 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) hexane	0.000		0	N.D.		
48) 1,1,1-trichloroethane	0.000		0	N.D.		
50) benzene	0.000		0	N.D.		
52) carbon tetrachloride	0.000		0	N.D.		
53) cyclohexane	0.000		0	N.D.	d	
56) 1,2-dichloropropane	0.000		0	N.D.		
57) bromodichloromethane	0.000		0	N.D.		
58) 1,4-dioxane	0.000		0	N.D.		
59) trichloroethene	0.000		0	N.D.		
60) 2,2,4-trimethylpentane	11.527		0	N.D.		
62) heptane	0.000		0	N.D.		
63) cis-1,3-dichloropropene	0.000		0	N.D.		
64) 4-methyl-2-pentanone	0.000		0	N.D.		
65) trans-1,3-dichloropropene	0.000		0	N.D.		
66) 1,1,2-trichloroethane	0.000		0	N.D.		
68) toluene	13.375		0	N.D.		
72) 2-hexanone	0.000		0	N.D.		
74) dibromochloromethane	0.000		0	N.D.		
75) 1,2-dibromoethane	0.000		0	N.D.		
78) tetrachloroethene	0.000		0	N.D.		
80) chlorobenzene	0.000		0	N.D.		
81) ethylbenzene	0.000		0	N.D.		
83) m+p-xylene	0.000		0	N.D.		
84) bromoform	0.000		0	N.D.		
85) styrene	0.000		0	N.D.		
86) 1,1,2,2-tetrachloroethane	0.000		0	N.D.		
87) o-xylene	0.000		0	N.D.		
96) 4-ethyl toluene	0.000		0	N.D.		
97) 1,3,5-trimethylbenzene	0.000		0	N.D.		
99) 1,2,4-trimethylbenzene	0.000		0	N.D.		
101) Benzyl Chloride	0.000		0	N.D.		
102) 1,3-dichlorobenzene	17.083		0	N.D.		
103) 1,4-dichlorobenzene	17.083		0	N.D.		
107) 1,2-dichlorobenzene	17.392		0	N.D.		
115) 1,2,4-trichlorobenzene	18.692		0	N.D.		
119) hexachlorobutadiene	0.000		0	N.D.		

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

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193194.D
Acq On : 20 Mar 2020 3:55 PM
Operator : AIRLAB19:EW
Sample : WG1353556-4,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 16:32:01 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

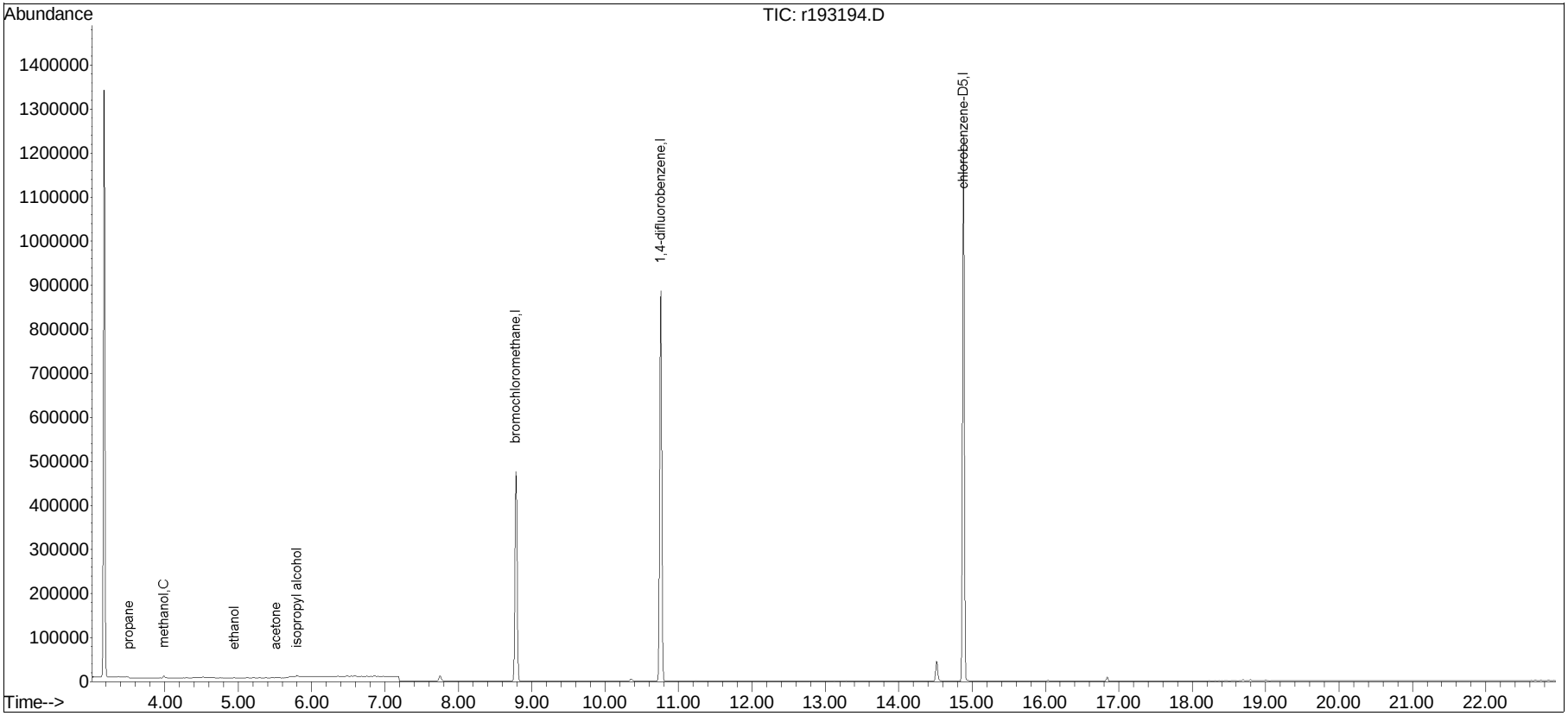
CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : Default-LCS-AP2 - All compounds listed

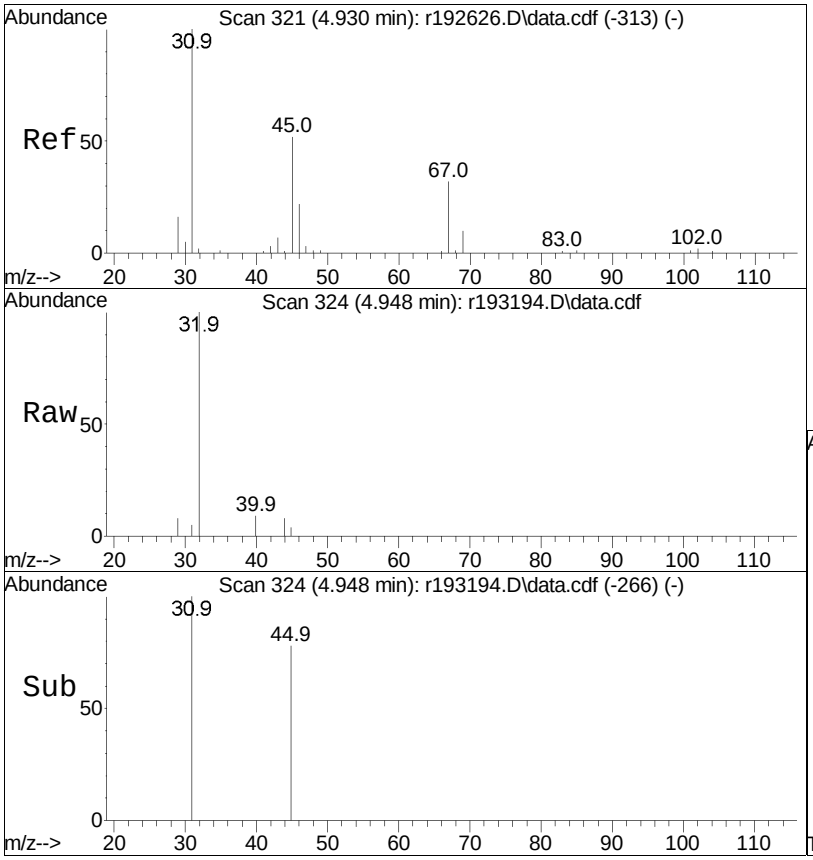
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Sub List : Default-LCS-AP2 - All compounds listed320T\r193190.D

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193194.D
Acq On : 20 Mar 2020 3:55 PM
Operator : AIRLAB19:EW
Sample : WG1353556-4,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 16:32:01 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

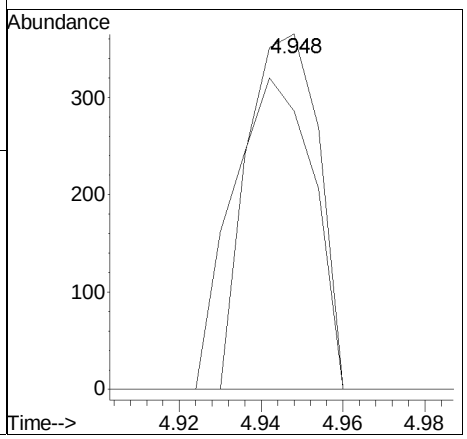


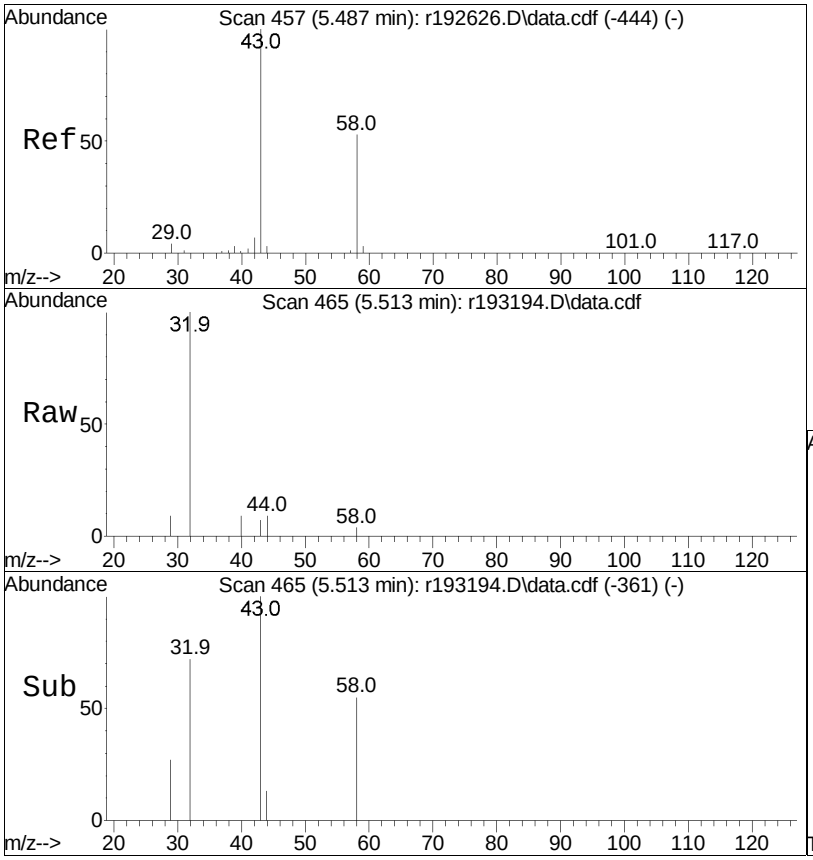


#15
ethanol
Concen: 0.05 ppbV
RT: 4.948 min Scan# 324
Delta R.T. 0.018 min
Lab File: r193194.D
Acq: 20 Mar 2020 3:55 PM

Tgt Ion: 31 Resp: 441

Ion	Ratio	Lower	Upper
31	100		
45	78.4	40.6	60.8#

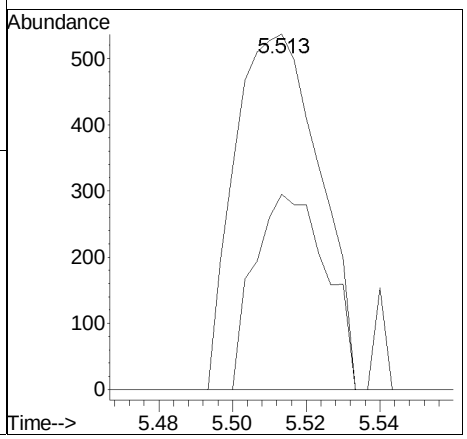


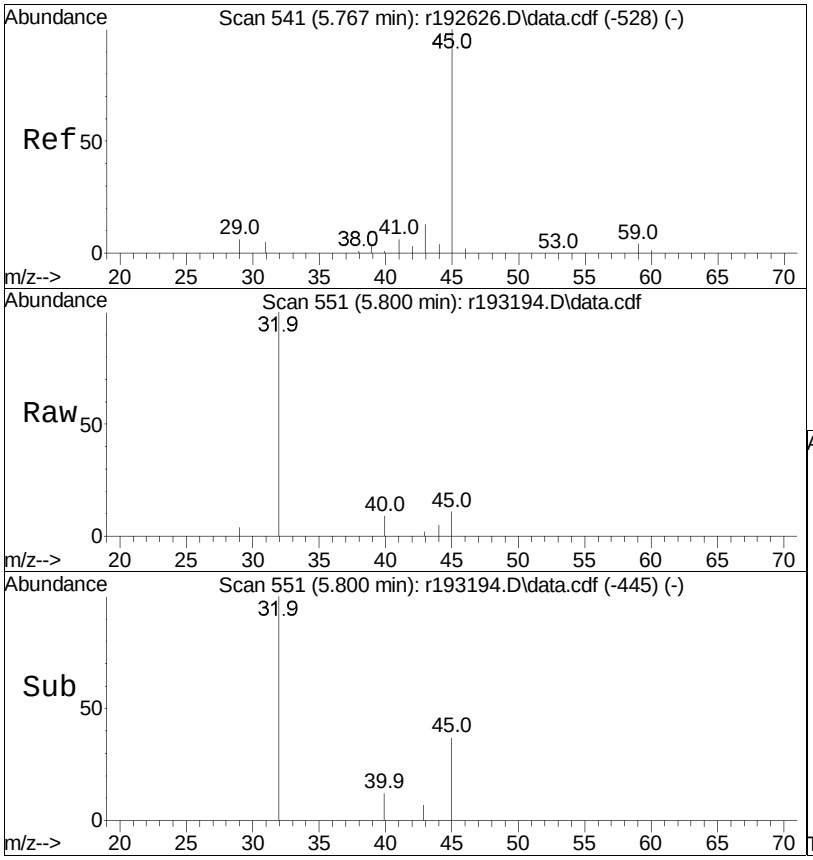


#19
acetone
Concen: 0.05 ppbV
RT: 5.513 min Scan# 465
Delta R.T. 0.017 min
Lab File: r193194.D
Acq: 20 Mar 2020 3:55 PM

Tgt Ion: 43 Resp: 857

Ion	Ratio	Lower	Upper
43	100		
58	54.9	42.0	63.0
57	0.0	1.4	2.0#

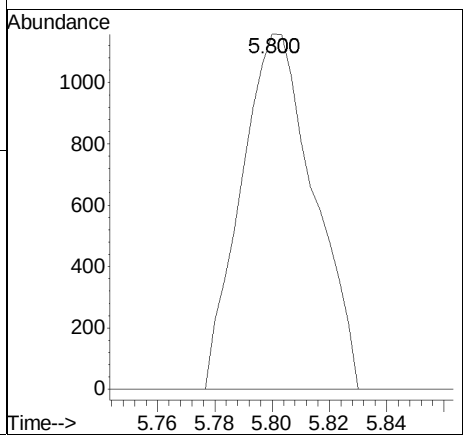




#22
isopropyl alcohol
Concen: 0.07 ppbV
RT: 5.800 min Scan# 551
Delta R.T. 0.023 min
Lab File: r193194.D
Acq: 20 Mar 2020 3:55 PM

Tgt Ion: 45 Resp: 2049

Ion	Ratio	Lower	Upper
45	100		
59	0.0	3.7	5.5#



Manual Integration Report

Data Path	: O:\Forensics\Data\Airlab19	QMethod	: TFS19_200224.M
Data File	: r193194.D	Operator	: AIRLAB19:EW
Date Inj'd	: 3/20/2020 0:3: 5	Instrument	:
Sample	: WG1353556-4,3,250,250	Quant Date	: 3/20/2020 4:31 pm

There are no manual integrations or false positives in this file.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38757.D
Acq On : 20 Mar 2020 4:20 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-4,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 17:01:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.583	49	347721	10.000	ppbV	0.03
Standard Area = 353543			Recovery = 98.35%			
43) 1,4-difluorobenzene	11.847	114	944639	10.000	ppbV	0.03
Standard Area = 970632			Recovery = 97.32%			
67) chlorobenzene-D5	16.533	54	123905	10.000	ppbV	0.00
Standard Area = 139948			Recovery = 88.54%			
System Monitoring Compounds						
Target Compounds						Qvalue
5) dichlorodifluoromethane	0.000		0	N.D.		
6) chloromethane	0.000		0	N.D.		
7) Freon-114	0.000		0	N.D.		
9) vinyl chloride	0.000		0	N.D.		
10) 1,3-butadiene	0.000		0	N.D.		
13) bromomethane	0.000		0	N.D.		
14) chloroethane	0.000		0	N.D.		
15) ethanol	5.344	31	8335	0.615	ppbV #	78
17) vinyl bromide	0.000		0	N.D.		
19) acetone	5.927	43	1756	0.078	ppbV #	81
21) trichlorofluoromethane	0.000		0	N.D.		
22) isopropyl alcohol	6.253		0	N.D.		
26) 1,1-dichloroethene	0.000		0	N.D.		
27) tertiary butyl alcohol	0.000		0	N.D.		
28) methylene chloride	7.044		0	N.D.		
29) 3-chloropropene	0.000		0	N.D.		
30) carbon disulfide	0.000		0	N.D.		
31) Freon 113	0.000		0	N.D.		
32) trans-1,2-dichloroethene	0.000		0	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.		
34) MTBE	0.000		0	N.D.		
36) 2-butanone	8.933		0	N.D.		
37) cis-1,2-dichloroethene	0.000		0	N.D.		
38) Ethyl Acetate	0.000		0	N.D.		
39) chloroform	0.000		0	N.D.		
40) Tetrahydrofuran	0.000		0	N.D.		
42) 1,2-dichloroethane	0.000		0	N.D.		

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38757.D
Acq On : 20 Mar 2020 4:20 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-4,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 17:01:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) hexane	0.000		0	N.D.		
48) 1,1,1-trichloroethane	0.000		0	N.D.		
50) benzene	11.413		0	N.D.		
52) carbon tetrachloride	0.000		0	N.D.		
53) cyclohexane	0.000		0	N.D.		
56) 1,2-dichloropropane	0.000		0	N.D.		
57) bromodichloromethane	0.000		0	N.D.		
58) 1,4-dioxane	0.000		0	N.D.		
59) trichloroethene	0.000		0	N.D.		
60) 2,2,4-trimethylpentane	0.000		0	N.D.		
62) heptane	0.000		0	N.D.		
63) cis-1,3-dichloropropene	0.000		0	N.D.		
64) 4-methyl-2-pentanone	0.000		0	N.D.		
65) trans-1,3-dichloropropene	0.000		0	N.D.		
66) 1,1,2-trichloroethane	0.000		0	N.D.		
68) toluene	0.000		0	N.D.		
72) 2-hexanone	0.000		0	N.D.		
74) dibromochloromethane	0.000		0	N.D.		
75) 1,2-dibromoethane	0.000		0	N.D.		
78) tetrachloroethene	0.000		0	N.D.		
80) chlorobenzene	0.000		0	N.D.		
81) ethylbenzene	0.000		0	N.D.		
83) m+p-xylene	0.000		0	N.D.		
84) bromoform	0.000		0	N.D.		
85) styrene	0.000		0	N.D.		
86) 1,1,2,2-tetrachloroethane	0.000		0	N.D.		
87) o-xylene	0.000		0	N.D.		
96) 4-ethyl toluene	0.000		0	N.D.		
97) 1,3,5-trimethylbenzene	0.000		0	N.D.		
99) 1,2,4-trimethylbenzene	0.000		0	N.D.		
101) Benzyl Chloride	0.000		0	N.D.		
102) 1,3-dichlorobenzene	0.000		0	N.D.		
103) 1,4-dichlorobenzene	0.000		0	N.D.		
107) 1,2-dichlorobenzene	0.000		0	N.D.		
115) 1,2,4-trichlorobenzene	20.858		0	N.D.		
119) hexachlorobutadiene	0.000		0	N.D.		

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

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38757.D
Acq On : 20 Mar 2020 4:20 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-4,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 17:01:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

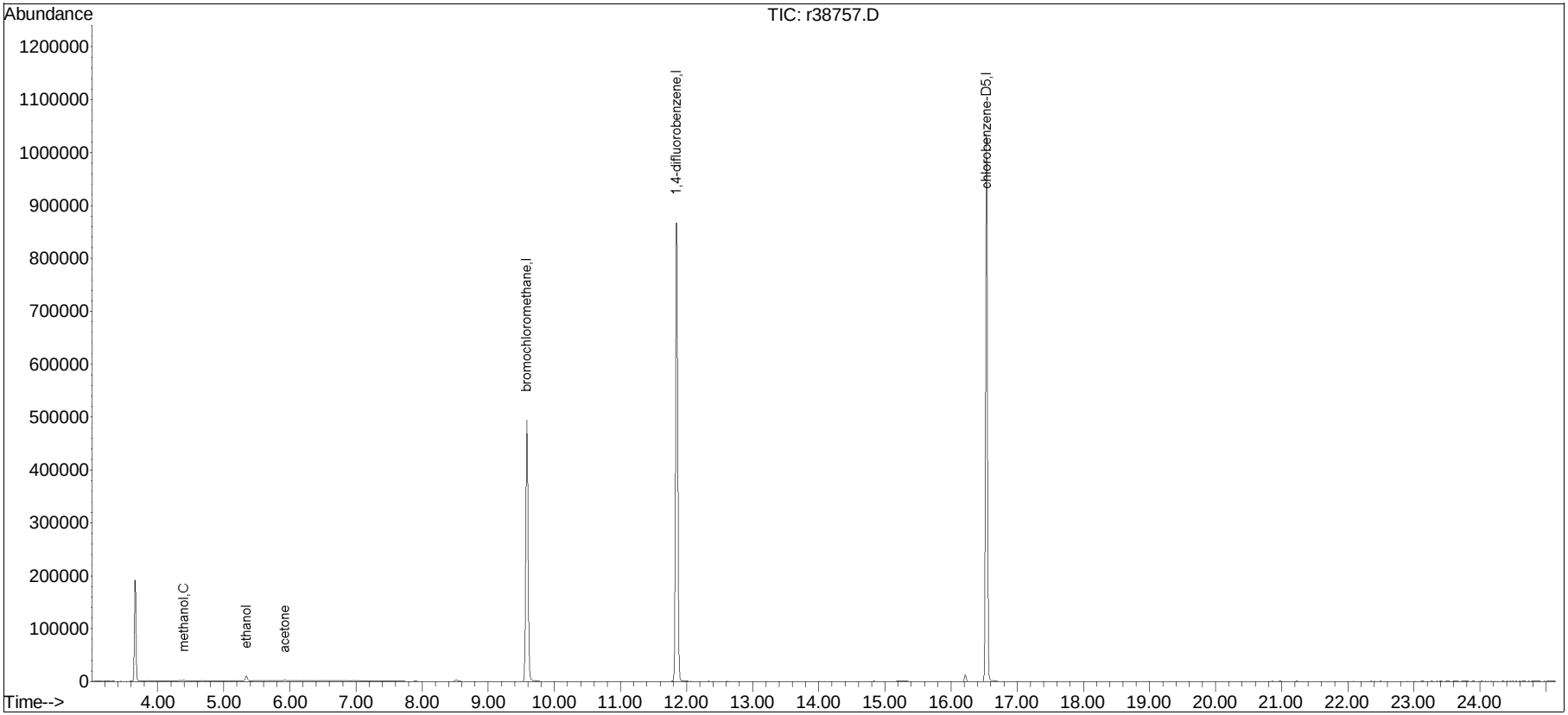
CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : Default-LCS-AP2 - All compounds listed

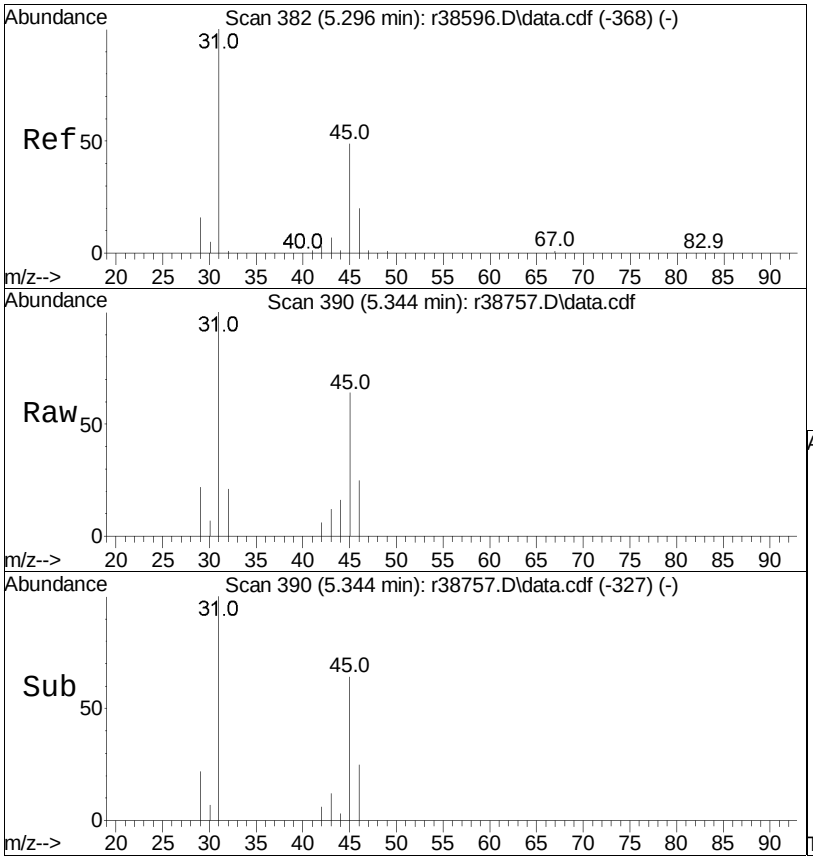
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Sub List : Default-LCS-AP2 - All compounds listed0320T\r38754.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38757.D
Acq On : 20 Mar 2020 4:20 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-4,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 17:01:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

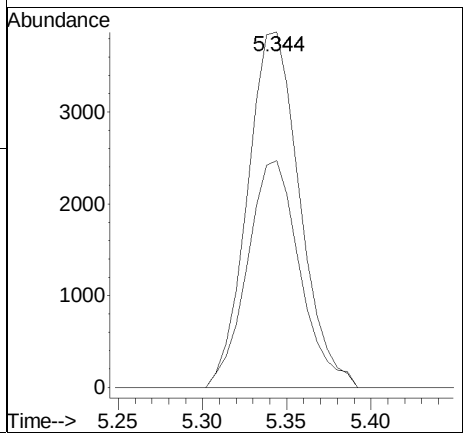


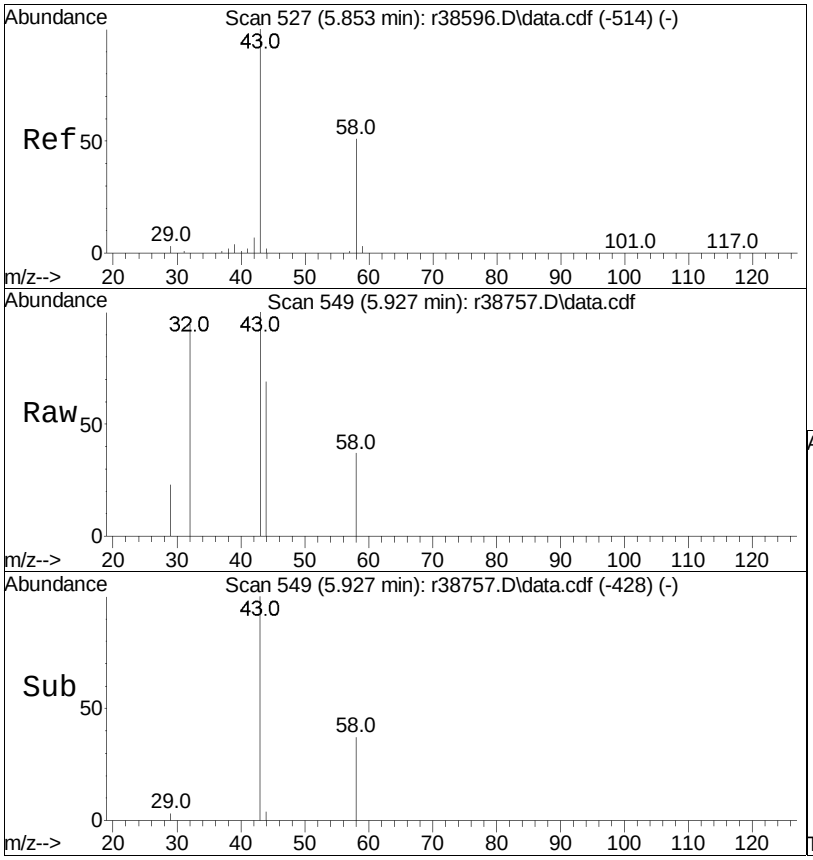


#15
ethanol
Concen: 0.62 ppbV
RT: 5.344 min Scan# 390
Delta R.T. 0.048 min
Lab File: r38757.D
Acq: 20 Mar 2020 4:20 PM

Tgt Ion: 31 Resp: 8335

Ion	Ratio	Lower	Upper
31	100		
45	63.9	39.0	58.4#

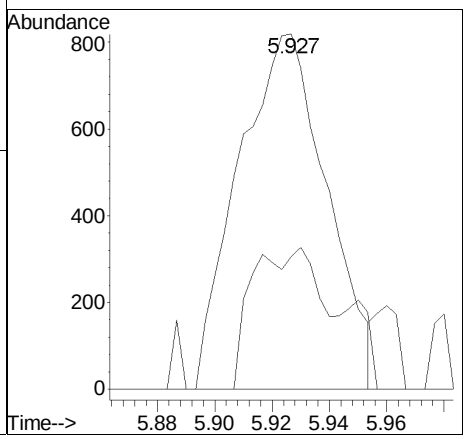




#19
acetone
Concen: 0.08 ppbV
RT: 5.927 min Scan# 549
Delta R.T. 0.073 min
Lab File: r38757.D
Acq: 20 Mar 2020 4:20 PM

Tgt Ion: 43 Resp: 1756

Ion	Ratio	Lower	Upper
43	100		
58	37.4	40.6	60.8#
57	0.0	1.0	1.6#



Manual Integration Report

Data Path	: O:\Forensics\Data\Airpiano	QMethod	: TFS3_200312.M
Data File	: r38757.D	Operator	: AIRPIANO3:EW
Date Inj'd	: 3/20/2020 0:4: 0	Instrument	:
Sample	: WG1353541-4,3,250,250	Quant Date	: 3/20/2020 5:01 pm

There are no manual integrations or false positives in this file.

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193191.D
Acq On : 20 Mar 2020 12:51 PM
Operator : AIRLAB19:EW
Sample : WG1353556-3,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:29:02 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	bromochloromethane	10.000	10.000	0.0	93	0.00
2		chlorodifluoromethane	10.000	7.509	24.9	74	0.00
3		propylene	10.000	12.005	-20.1	116	0.00
4		propane	10.000	6.409	35.9#	63	0.00
5		dichlorodifluoromethane	10.000	8.898	11.0	89	0.00
6	C	chloromethane	10.000	9.468	5.3	96	0.00
7		Freon-114	10.000	10.327	-3.3	98	0.00
8	C	methanol	50.000	42.053	15.9	83	0.00
9	C	vinyl chloride	10.000	9.963	0.4	100	0.00
10	C	1,3-butadiene	10.000	9.938	0.6	96	0.00
11		butane	10.000	10.425	-4.3	105	0.00
13	C	bromomethane	10.000	9.724	2.8	93	0.00
14	C	chloroethane	10.000	10.106	-1.1	99	0.00
15		ethanol	50.000	37.759	24.5	72	0.00
16		dichlorofluoromethane	10.000	9.303	7.0	90	0.00
17	C	vinyl bromide	10.000	9.119	8.8	88	0.00
18	C	acrolein	10.000	8.915	10.9	85	0.00
19		acetone	50.000	45.580	8.8	88	-0.01
20	C	acetonitrile	10.000	11.116	-11.2	104	0.00
21		trichlorofluoromethane	10.000	9.614	3.9	80	0.00
22		isopropyl alcohol	25.000	23.256	7.0	95	0.00
23	C	acrylonitrile	10.000	9.641	3.6	93	0.00
24		pentane	10.000	10.668	-6.7	102	0.00
25		ethyl ether	10.000	7.028	29.7	67	0.00
26	C	1,1-dichloroethene	10.000	10.899	-9.0	104	0.00
27		tertiary butyl alcohol	10.000	9.807	1.9	100	-0.02
28	C	methylene chloride	10.000	9.693	3.1	92	0.01
29	C	3-chloropropene	10.000	13.025	-30.3#	125	0.00
30	C	carbon disulfide	10.000	10.299	-3.0	97	0.00
31		Freon 113	10.000	10.553	-5.5	100	0.00
32		trans-1,2-dichloroethene	10.000	10.791	-7.9	104	0.00
33	C	1,1-dichloroethane	10.000	11.014	-10.1	105	0.00
34	C	MTBE	10.000	9.539	4.6	91	0.00
35	C	vinyl acetate	10.000	10.457	-4.6	97	0.00
36	C	2-butanone	10.000	11.217	-12.2	105	-0.02
37		cis-1,2-dichloroethene	10.000	11.270	-12.7	108	0.00
38		Ethyl Acetate	10.000	12.454	-24.5	114	-0.02
39	C	chloroform	10.000	10.254	-2.5	98	0.00
40		Tetrahydrofuran	10.000	11.470	-14.7	110	-0.03

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193191.D
Acq On : 20 Mar 2020 12:51 PM
Operator : AIRLAB19:EW
Sample : WG1353556-3,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:29:02 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41		2,2-dichloropropane	10.000	8.071	19.3	76	0.00
42	C	1,2-dichloroethane	10.000	9.265	7.3	89	0.00
43	I	1,4-difluorobenzene	10.000	10.000	0.0	106	0.00
44	C	hexane	10.000	10.014	-0.1	107	0.00
45		diisopropyl ether	10.000	9.350	6.5	99	0.00
46		tert-butyl ethyl ether	10.000	8.587	14.1	92	0.00
48	C	1,1,1-trichloroethane	10.000	7.922	20.8	85	0.00
49		1,1-dichloropropene	10.000	8.515	14.8	92	0.00
50	C	benzene	10.000	9.596	4.0	103	0.00
52	C	carbon tetrachloride	10.000	8.656	13.4	92	0.00
53		cyclohexane	10.000	10.293	-2.9	110	0.00
54		tert-amyl methyl ether	10.000	8.311	16.9	88	-0.01
55		dibromomethane	10.000	8.870	11.3	96	0.00
56	C	1,2-dichloropropane	10.000	10.439	-4.4	111	0.00
57		bromodichloromethane	10.000	9.253	7.5	99	0.00
58	C	1,4-dioxane	10.000	10.712	-7.1	117	-0.03
59	C	trichloroethene	10.000	9.604	4.0	102	0.00
60	C	2,2,4-trimethylpentane	10.000	10.372	-3.7	113	0.00
61		methyl methacrylate	10.000	7.913	20.9	77	0.00
62		heptane	10.000	10.124	-1.2	108	0.00
63	C	cis-1,3-dichloropropene	10.000	9.791	2.1	103	0.00
64	C	4-methyl-2-pentanone	10.000	10.406	-4.1	107	-0.03
65		trans-1,3-dichloropropene	10.000	7.912	20.9	83	0.00
66	C	1,1,2-trichloroethane	10.000	9.744	2.6	104	0.00
67	I	chlorobenzene-D5	10.000	10.000	0.0	93	0.00
68	C	toluene	10.000	10.825	-8.2	102	0.00
71		1,3-dichloropropane	10.000	9.883	1.2	92	0.00
72		2-hexanone	10.000	11.924	-19.2	110	-0.03
74		dibromochloromethane	10.000	10.808	-8.1	99	0.00
75	C	1,2-dibromoethane	10.000	10.794	-7.9	100	0.00
76		butyl acetate	10.000	9.718	2.8	89	-0.03
77		octane	10.000	10.842	-8.4	101	0.00
78	C	tetrachloroethene	10.000	11.344	-13.4	103	0.00
79		1,1,1,2-tetrachloroethane	10.000	9.951	0.5	91	0.00
80	C	chlorobenzene	10.000	11.813	-18.1	109	0.00
81	C	ethylbenzene	10.000	10.755	-7.6	98	0.00
83	C	m+p-xylene	20.000	21.510	-7.6	99	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193191.D
Acq On : 20 Mar 2020 12:51 PM
Operator : AIRLAB19:EW
Sample : WG1353556-3,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:29:02 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
84	C	bromoform	10.000	11.018	-10.2	101	0.00
85	C	styrene	10.000	10.795	-7.9	99	0.00
86	C	1,1,2,2-tetrachloroethane	10.000	12.041	-20.4	108	0.00
87	C	o-xylene	10.000	10.686	-6.9	98	0.00
88		1,2,3-trichloropropane	10.000	9.903	1.0	92	0.00
89		nonane	10.000	10.322	-3.2	95	0.00
91	C	isopropylbenzene	10.000	9.924	0.8	91	0.00
92		bromobenzene	10.000	10.210	-2.1	94	0.00
93		2-chlorotoluene	10.000	10.417	-4.2	92	0.00
94		n-propylbenzene	10.000	10.459	-4.6	93	0.00
95		4-chlorotoluene	10.000	10.223	-2.2	93	0.00
96		4-ethyl toluene	10.000	10.731	-7.3	95	0.00
97		1,3,5-trimethylbenzene	10.000	10.409	-4.1	94	0.00
98		tert-butylbenzene	10.000	10.132	-1.3	91	0.00
99		1,2,4-trimethylbenzene	10.000	10.627	-6.3	94	0.00
100		decane	10.000	11.401	-14.0	101	0.00
101	C	Benzyl Chloride	10.000	10.906	-9.1	91	0.00
102		1,3-dichlorobenzene	10.000	11.603	-16.0	101	0.00
103	C	1,4-dichlorobenzene	10.000	11.275	-12.8	97	0.00
104		sec-butylbenzene	10.000	10.165	-1.6	90	0.00
106		p-isopropyltoluene	10.000	9.624	3.8	84	0.00
107		1,2-dichlorobenzene	10.000	11.326	-13.3	98	0.00
108		n-butylbenzene	10.000	10.910	-9.1	94	0.00
111	C	1,2-dibromo-3-chloropropane	10.000	9.096	9.0	79	0.00
112		undecane	10.000	11.978	-19.8	100	0.00
114		dodecane	10.000	11.821	-18.2	86	0.00
115	C	1,2,4-trichlorobenzene	10.000	12.491	-24.9	94	0.00
116		naphthalene	10.000	10.180	-1.8	84	0.00
117		1,2,3-trichlorobenzene	10.000	10.884	-8.8	83	0.00
119	C	hexachlorobutadiene	10.000	10.651	-6.5	84	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 1

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193191.D
Acq On : 20 Mar 2020 12:51 PM
Operator : AIRLAB19:EW
Sample : WG1353556-3,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:29:02 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	8.783	49	291035	10.000	ppbV	0.00
Standard Area = 288364			Recovery = 100.93%			
43) 1,4-difluorobenzene	10.747	114	946102	10.000	ppbV	0.00
Standard Area = 940727			Recovery = 100.57%			
67) chlorobenzene-D5	14.875	54	108034	10.000	ppbV	0.00
Standard Area = 108860			Recovery = 99.24%			
System Monitoring Compounds						
Target Compounds						Qvalue
5) dichlorodifluoromethane	3.568	85	145123	8.898	ppbV	100
6) chloromethane	3.778	50	98770	9.468	ppbV	98
7) Freon-114	3.916	85	249950	10.327	ppbV	94
9) vinyl chloride	4.066	62	128997	9.963	ppbV	99
10) 1,3-butadiene	4.246	54	110964	9.938	ppbV	98
13) bromomethane	4.576	94	99612	9.724	ppbV	99
14) chloroethane	4.798	64	68604	10.106	ppbV	93
15) ethanol	4.930	31	321089	37.759	ppbV #	65
17) vinyl bromide	5.210	106	101012	9.119	ppbV	92
19) acetone	5.487	43	712336	45.580	ppbV #	98
21) trichlorofluoromethane	5.697	101	164720	9.614	ppbV	98
22) isopropyl alcohol	5.767	45	690492	23.256	ppbV	100
26) 1,1-dichloroethene	6.408	61	215216	10.899	ppbV	96
27) tertiary butyl alcohol	6.426	59	266935	9.807	ppbV #	95
28) methylene chloride	6.546	49	185196	9.693	ppbV	84
29) 3-chloropropene	6.672	41	299903	13.025	ppbV	94
30) carbon disulfide	6.852	76	546933	10.299	ppbV #	80
31) Freon 113	6.828	101	293948	10.553	ppbV	97
32) trans-1,2-dichloroethene	7.542	61	244273	10.791	ppbV	97
33) 1,1-dichloroethane	7.750	63	303714	11.014	ppbV	98
34) MTBE	7.800	73	426408	9.539	ppbV	95
36) 2-butanone	8.142	43	392946	11.217	ppbV	93
37) cis-1,2-dichloroethene	8.617	61	221113	11.270	ppbV	93
38) Ethyl Acetate	8.817	61	74226	12.454	ppbV	82
39) chloroform	8.917	83	249600	10.254	ppbV #	94
40) Tetrahydrofuran	9.308	42	269982	11.470	ppbV	98
42) 1,2-dichloroethane	9.667	62	110185	9.265	ppbV	95

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193191.D
Acq On : 20 Mar 2020 12:51 PM
Operator : AIRLAB19:EW
Sample : WG1353556-3,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:29:02 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : Default-LCS-AP2 - All compounds listed

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	hexane	8.825	57	347249	10.014	ppbV		97
48)	1,1,1-trichloroethane	9.933	97	176378	7.922	ppbV		90
50)	benzene	10.407	78	656527	9.596	ppbV		98
52)	carbon tetrachloride	10.560	117	158780	8.656	ppbV	#	87
53)	cyclohexane	10.693	56	390430	10.293	ppbV		98
56)	1,2-dichloropropane	11.247	63	228409	10.439	ppbV		98
57)	bromodichloromethane	11.447	83	276018	9.253	ppbV		95
58)	1,4-dioxane	11.467	88	165900	10.712	ppbV		81
59)	trichloroethene	11.493	130	234179	9.604	ppbV		96
60)	2,2,4-trimethylpentane	11.520	57	1135194	10.372	ppbV		99
62)	heptane	11.787	43	428379	10.124	ppbV		96
63)	cis-1,3-dichloropropene	12.400	75	318728	9.791	ppbV	#	91
64)	4-methyl-2-pentanone	12.408	43	473699	10.406	ppbV		95
65)	trans-1,3-dichloropropene	12.925	75	231649	7.912	ppbV		97
66)	1,1,2-trichloroethane	13.100	97	232153	9.744	ppbV		96
68)	toluene	13.367	91	712092	10.825	ppbV		99
72)	2-hexanone	13.567	43	455782	11.924	ppbV	#	82
74)	dibromochloromethane	13.758	129	273299	10.808	ppbV		98
75)	1,2-dibromoethane	13.975	107	326529	10.794	ppbV		97
78)	tetrachloroethene	14.358	166	327900	11.344	ppbV		96
80)	chlorobenzene	14.908	112	617599	11.813	ppbV		94
81)	ethylbenzene	15.192	91	848602	10.755	ppbV		98
83)	m+p-xylene	15.325	91	1337977	21.510	ppbV		99
84)	bromoform	15.408	173	307610	11.018	ppbV		98
85)	styrene	15.600	104	649854	10.795	ppbV		97
86)	1,1,2,2-tetrachloroethane	15.683	83	516728	12.041	ppbV		96
87)	o-xylene	15.683	91	652185	10.686	ppbV		96
96)	4-ethyl toluene	16.608	105	1108912	10.731	ppbV		95
97)	1,3,5-trimethylbenzene	16.667	105	864333	10.409	ppbV		93
99)	1,2,4-trimethylbenzene	16.983	105	816769	10.627	ppbV		94
101)	Benzyl Chloride	17.108	91	675058	10.906	ppbV		99
102)	1,3-dichlorobenzene	17.125	146	610754	11.603	ppbV		98
103)	1,4-dichlorobenzene	17.175	146	568718	11.275	ppbV		97
107)	1,2-dichlorobenzene	17.442	146	565344	11.326	ppbV		98
115)	1,2,4-trichlorobenzene	18.833	180	547929	12.491	ppbV		97
119)	hexachlorobutadiene	19.225	225	406023	10.651	ppbV		94

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

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193191.D
Acq On : 20 Mar 2020 12:51 PM
Operator : AIRLAB19:EW
Sample : WG1353556-3,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:29:02 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

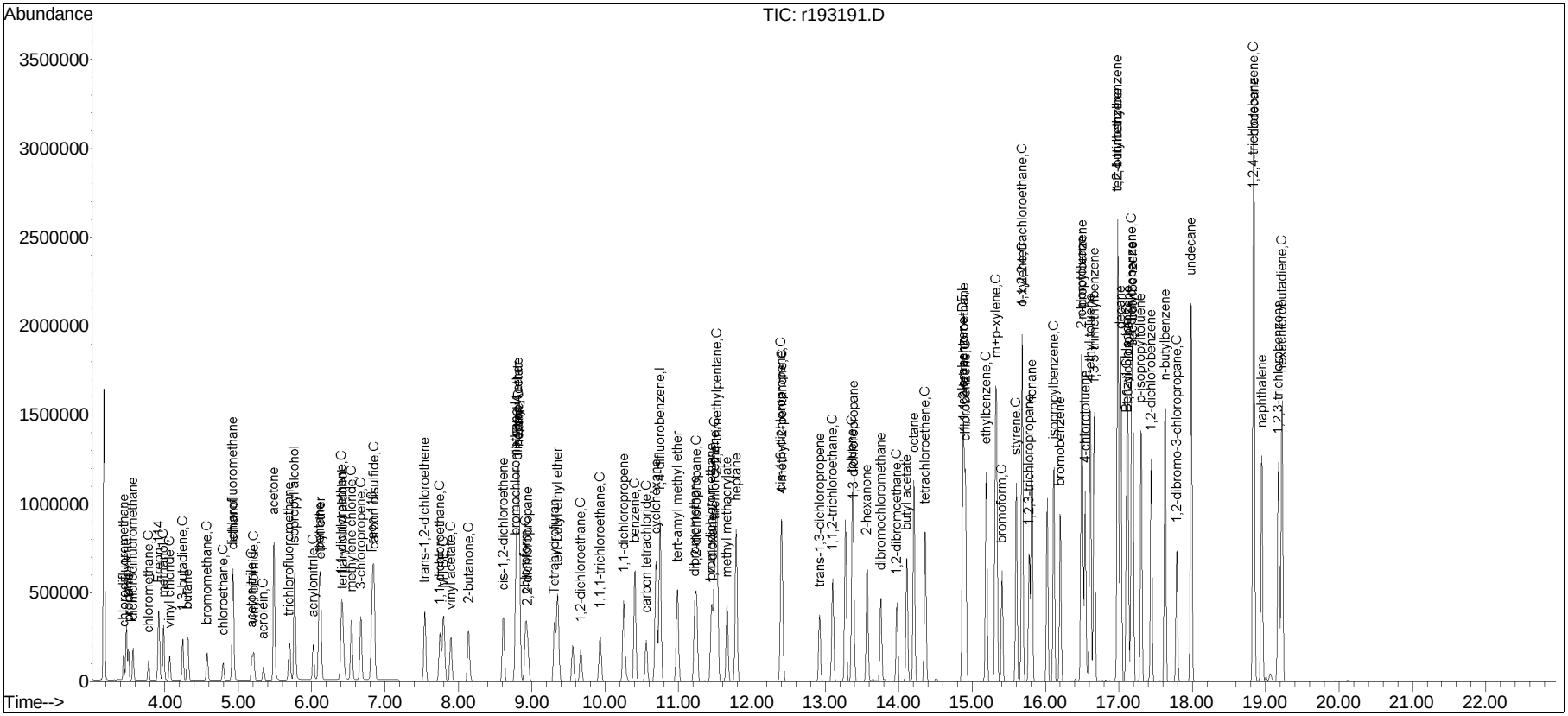
CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : Default-LCS-AP2 - All compounds listed

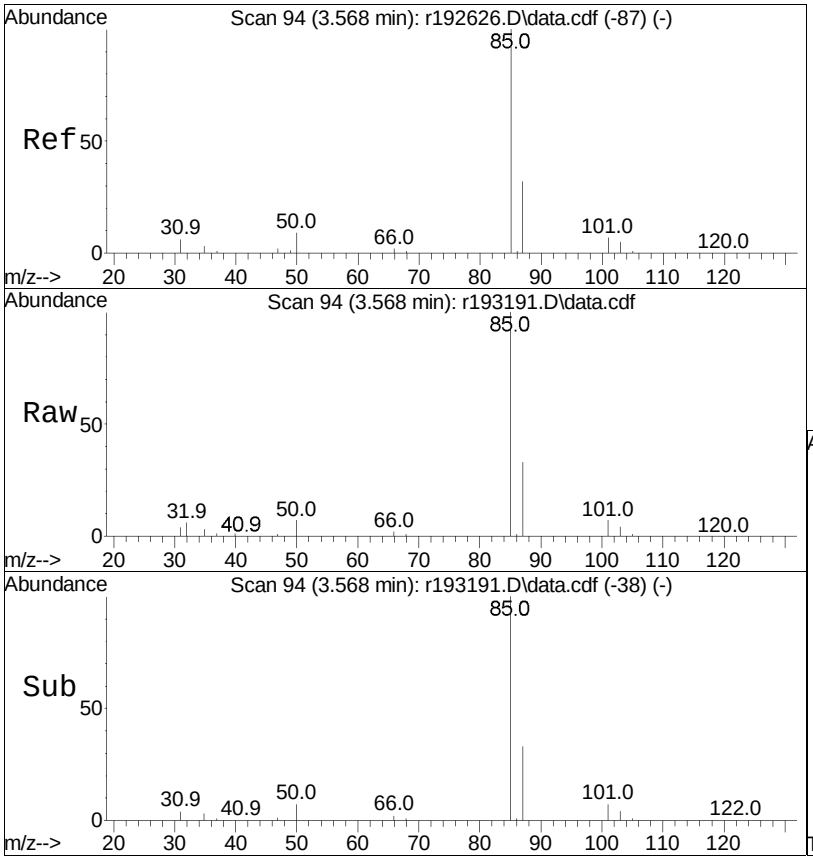
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Sub List : Default-LCS-AP2 - All compounds listed320T\r193190.D

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193191.D
Acq On : 20 Mar 2020 12:51 PM
Operator : AIRLAB19:EW
Sample : WG1353556-3,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:29:02 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

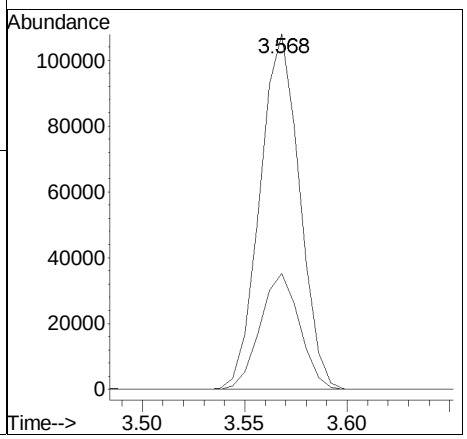


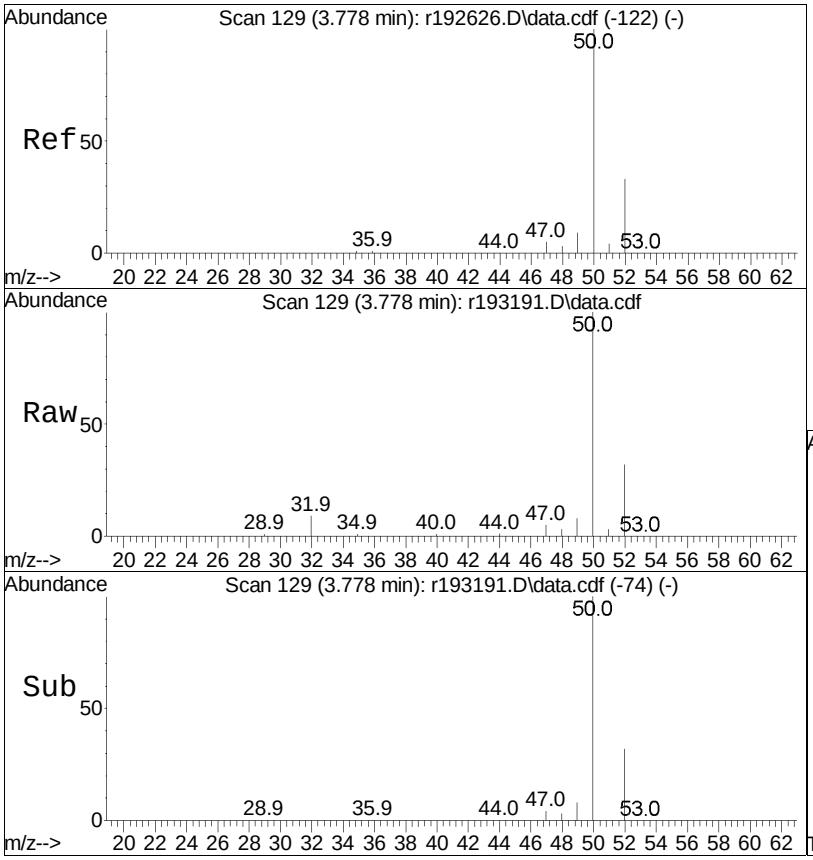


#5
dichlorodifluoromethane
Concen: 8.90 ppbV
RT: 3.568 min Scan# 94
Delta R.T. 0.006 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 85 Resp: 145123

Ion	Ratio	Lower	Upper
85	100		
87	32.6	25.9	38.9

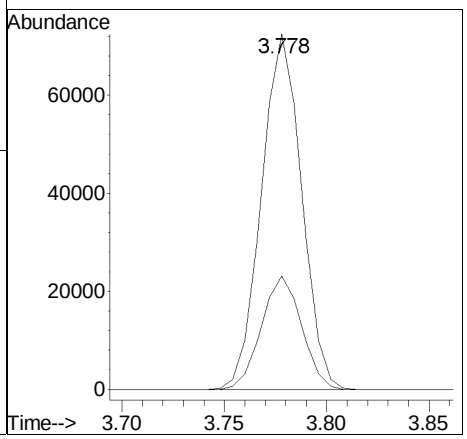


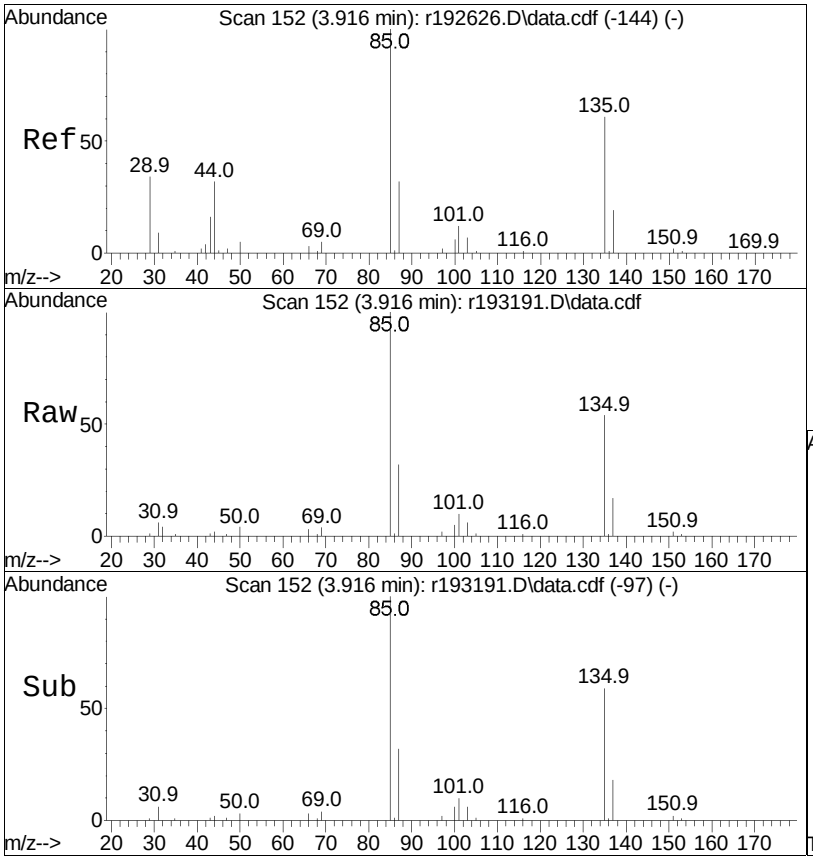


#6
chloromethane
Concen: 9.47 ppbV
RT: 3.778 min Scan# 129
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 50 Resp: 98770

Ion	Ratio	Lower	Upper
50	100		
52	31.9	26.3	39.5

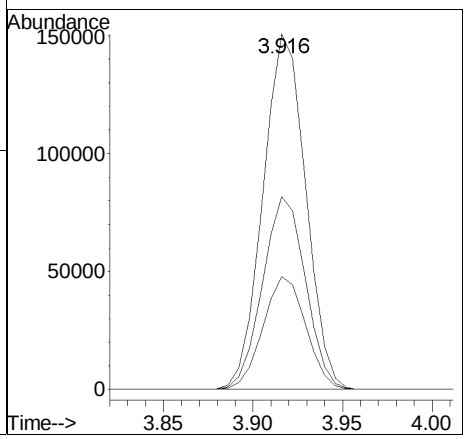


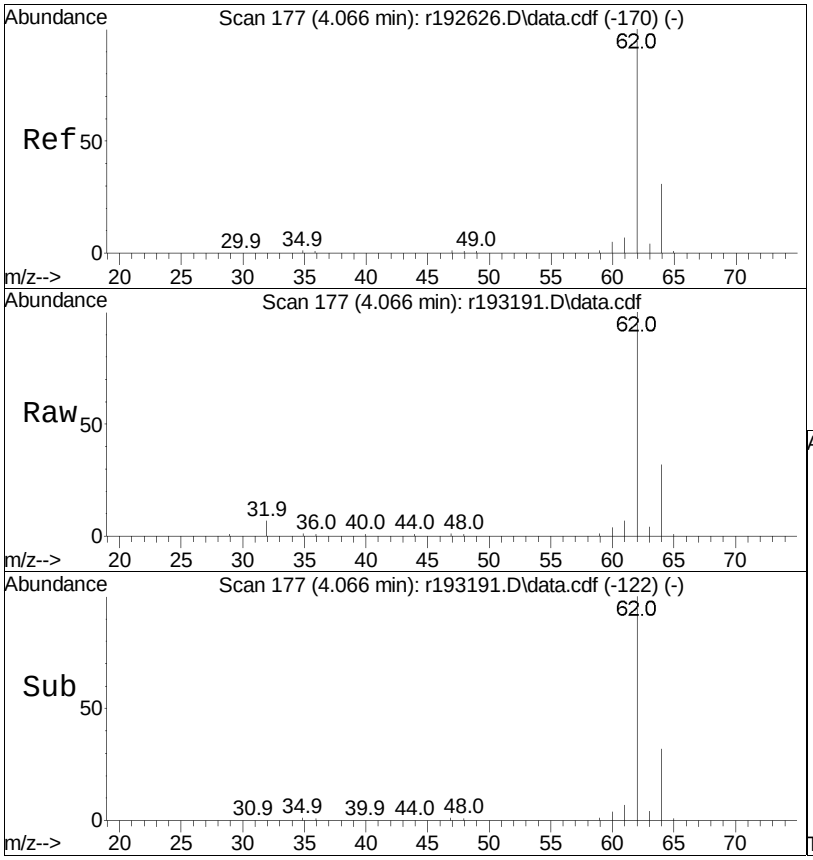


#7
Freon-114
Concen: 10.33 ppbV
RT: 3.916 min Scan# 152
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 85 Resp: 249950

Ion	Ratio	Lower	Upper
85	100		
87	31.8	24.6	37.0
135	54.3	48.5	72.7

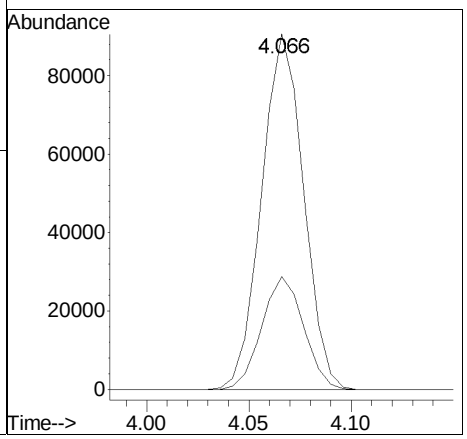


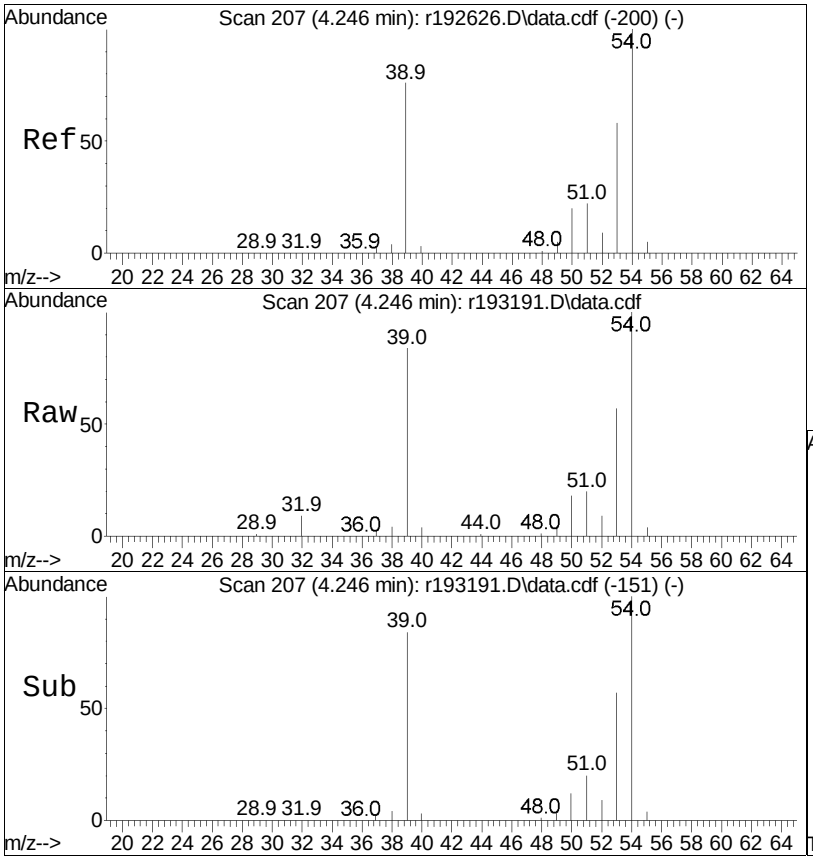


#9
vinyl chloride
Concen: 9.96 ppbV
RT: 4.066 min Scan# 177
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 62 Resp: 128997

Ion	Ratio	Lower	Upper
62	100		
64	31.8	25.8	38.6

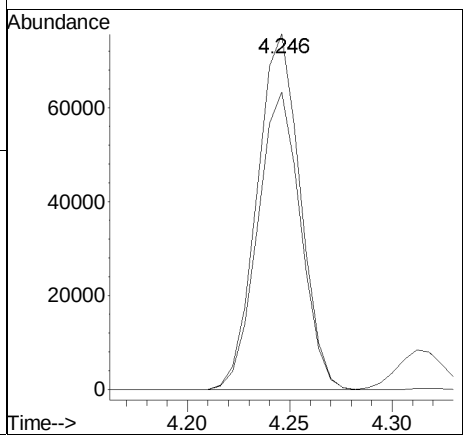


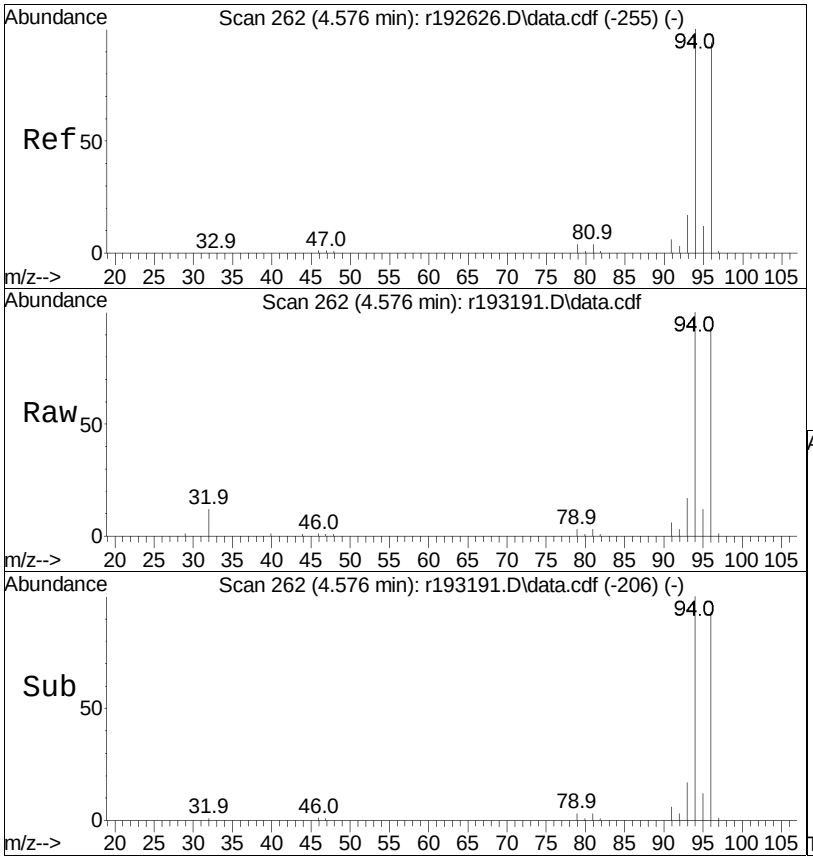


#10
1,3-butadiene
Concen: 9.94 ppbV
RT: 4.246 min Scan# 207
Delta R.T. 0.006 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 54 Resp: 110964

Ion	Ratio	Lower	Upper
54	100		
39	83.7	65.3	97.9

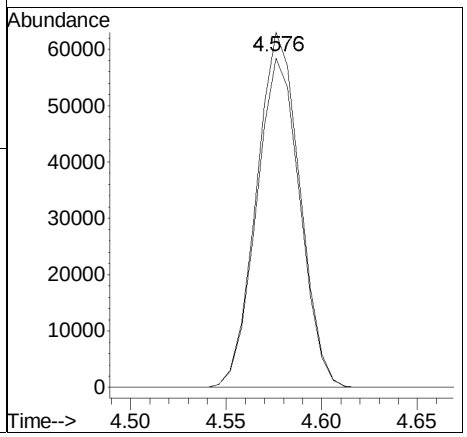


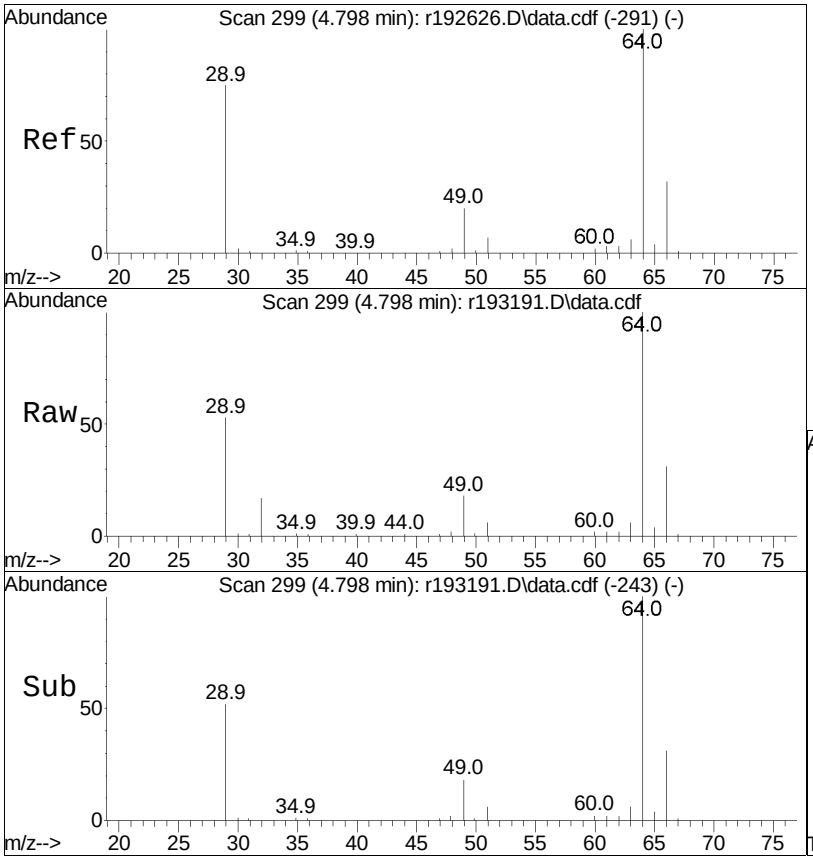


#13
bromomethane
Concen: 9.72 ppbV
RT: 4.576 min Scan# 262
Delta R.T. 0.006 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 94 Resp: 99612

Ion	Ratio	Lower	Upper
94	100		
96	92.7	73.6	110.4

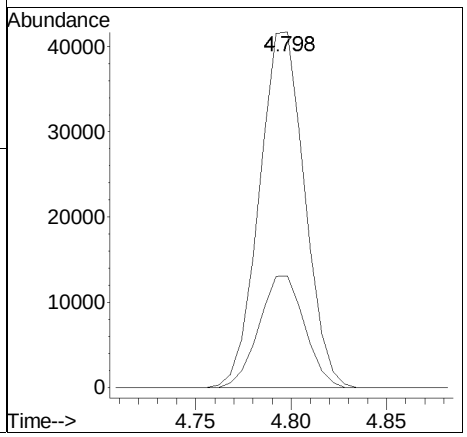


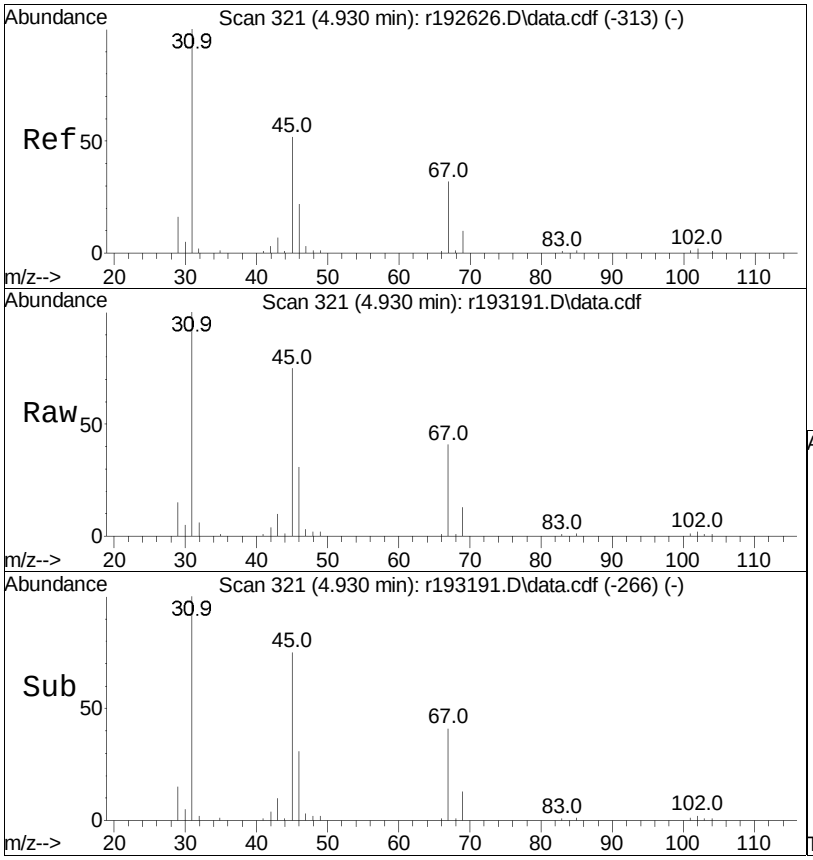


#14
chloroethane
Concen: 10.11 ppbV
RT: 4.798 min Scan# 299
Delta R.T. 0.006 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 64 Resp: 68604

Ion	Ratio	Lower	Upper
64	100		
66	31.4	28.5	42.7

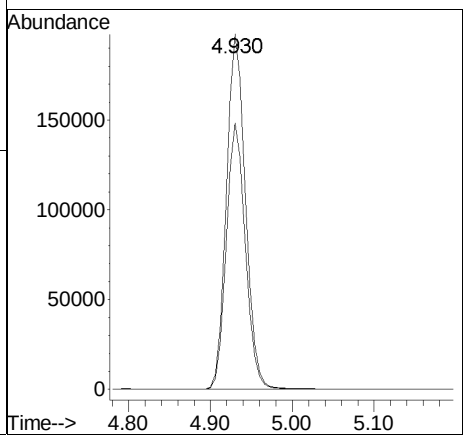


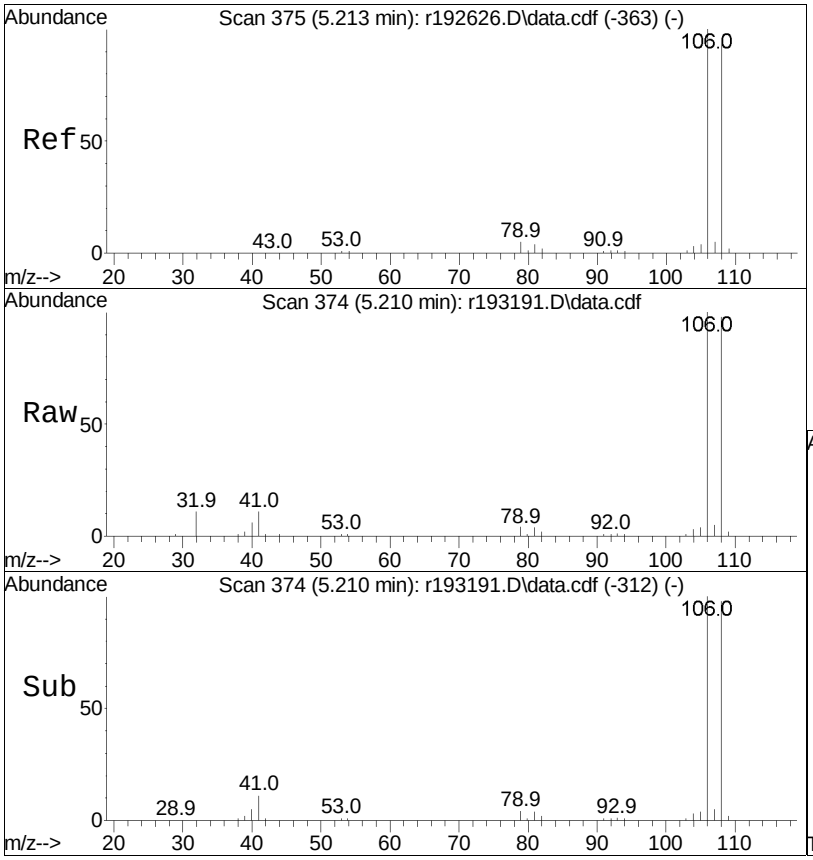


#15
ethanol
Concen: 37.76 ppbV
RT: 4.930 min Scan# 321
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 31 Resp: 321089

Ion	Ratio	Lower	Upper
31	100		
45	75.0	40.6	60.8#

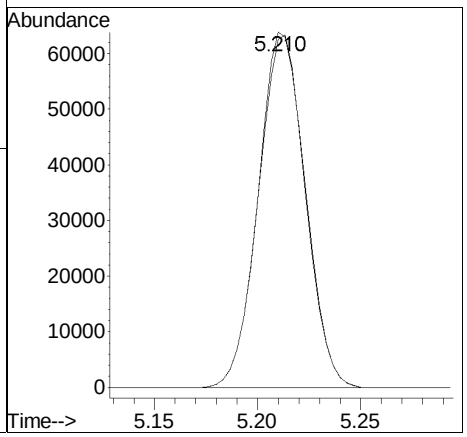


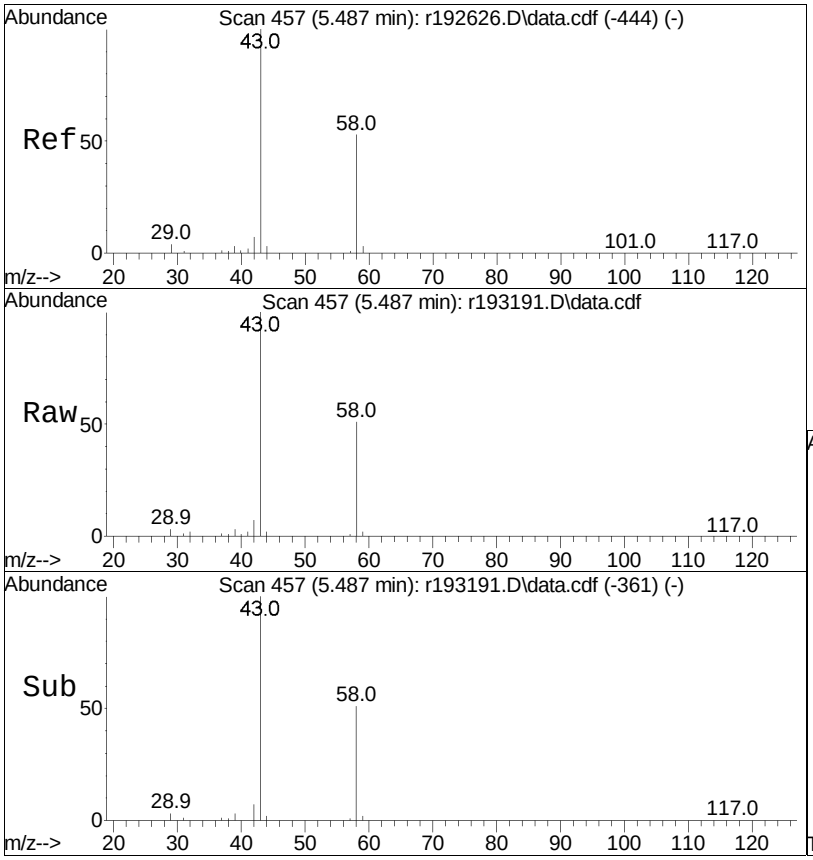


#17
vinyl bromide
Concen: 9.12 ppbV
RT: 5.210 min Scan# 374
Delta R.T. 0.003 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:106 Resp: 101012

Ion	Ratio	Lower	Upper
106	100		
108	98.0	72.3	108.5

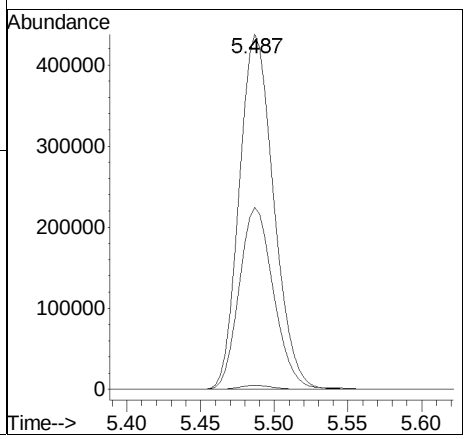


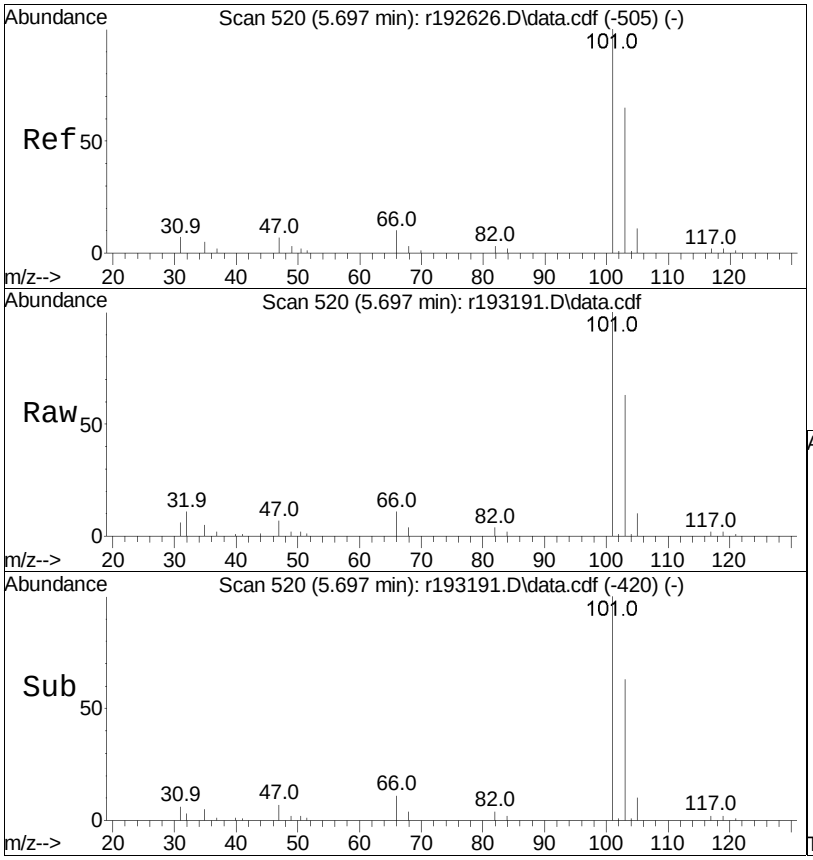


#19
acetone
Concen: 45.58 ppbV
RT: 5.487 min Scan# 457
Delta R.T. -0.010 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 43 Resp: 712336

Ion	Ratio	Lower	Upper
43	100		
58	51.2	42.0	63.0
57	1.2	1.4	2.0#

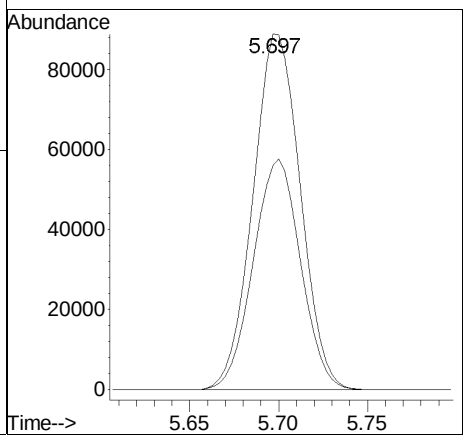


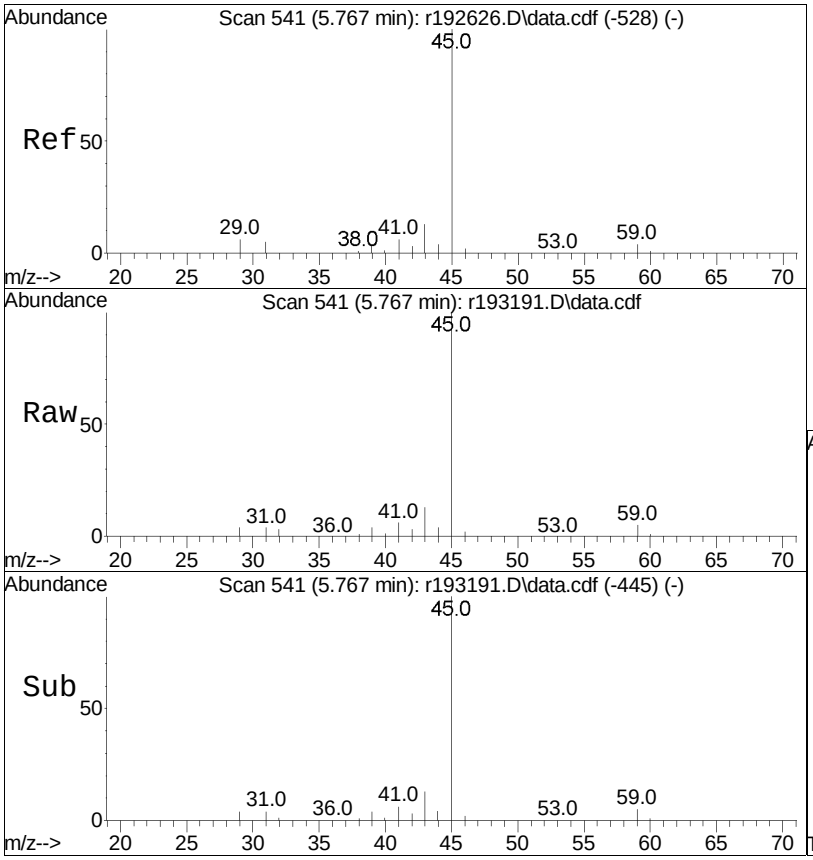


#21
trichlorofluoromethane
Concen: 9.61 ppbV
RT: 5.697 min Scan# 520
Delta R.T. 0.003 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:101 Resp: 164720

Ion	Ratio	Lower	Upper
101	100		
103	63.0	51.4	77.2

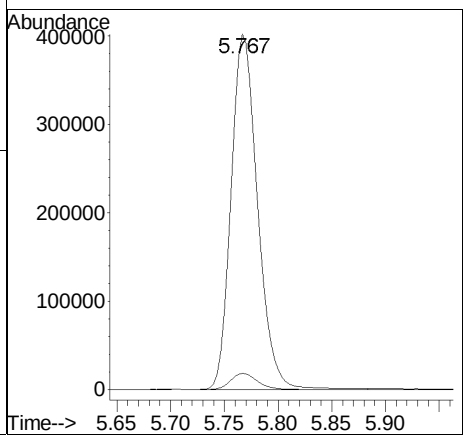


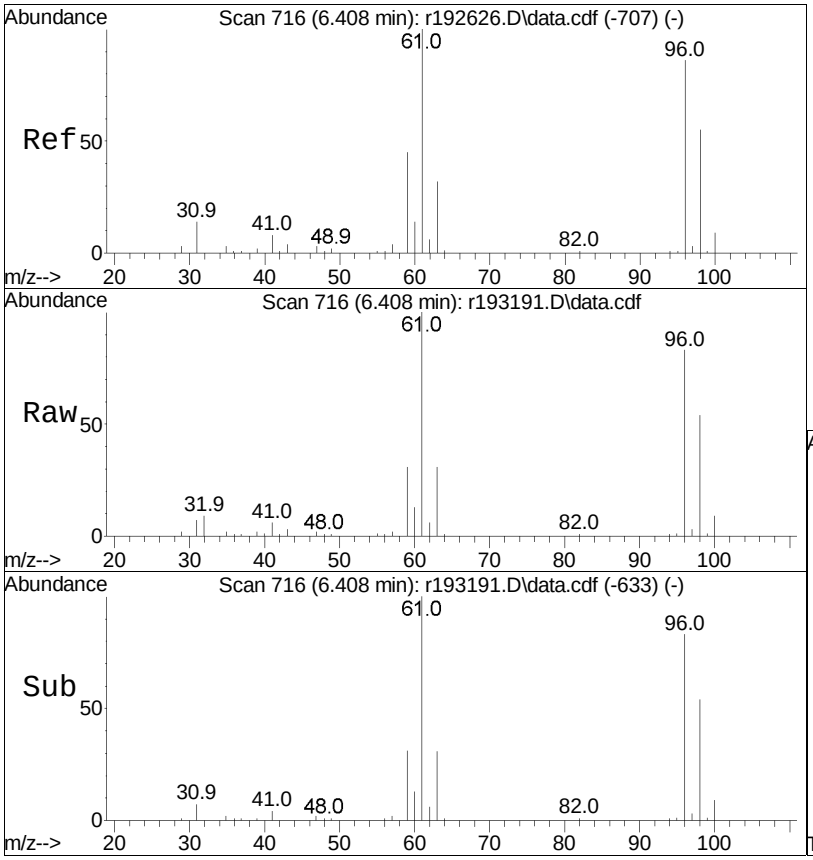


#22
isopropyl alcohol
Concen: 23.26 ppbV
RT: 5.767 min Scan# 541
Delta R.T. -0.010 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 45 Resp: 690492

Ion	Ratio	Lower	Upper
45	100		
59	4.5	3.7	5.5

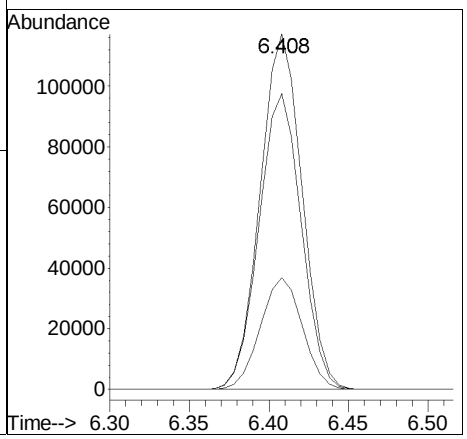


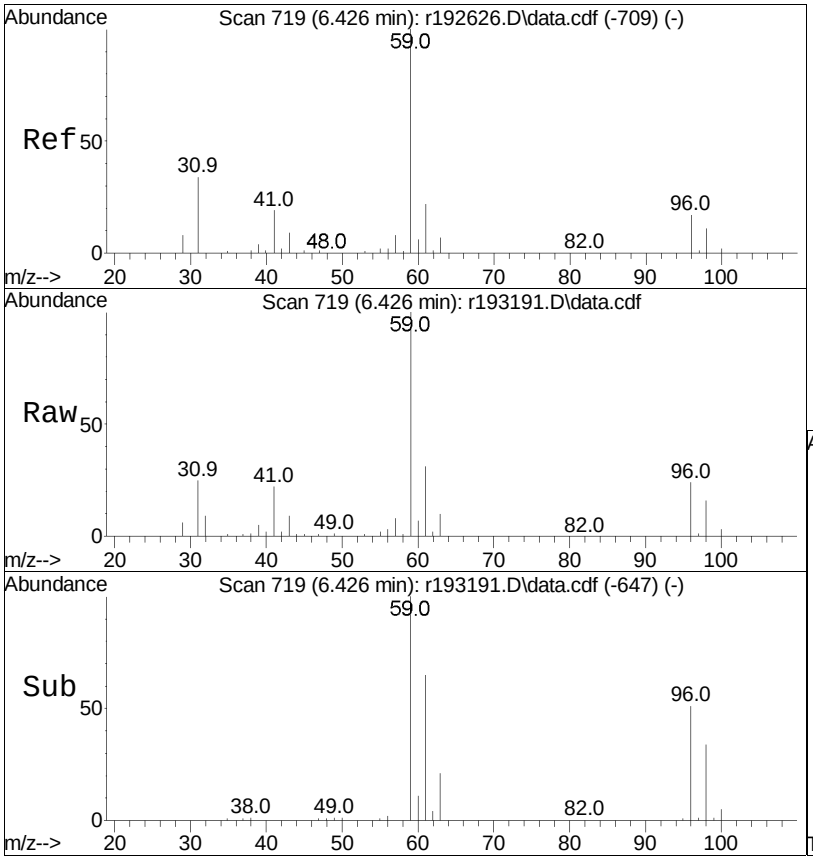


#26
1,1-dichloroethene
Concen: 10.90 ppbV
RT: 6.408 min Scan# 716
Delta R.T. 0.006 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 61 Resp: 215216

Ion	Ratio	Lower	Upper
61	100		
96	83.2	67.5	101.3
63	31.5	29.9	44.9

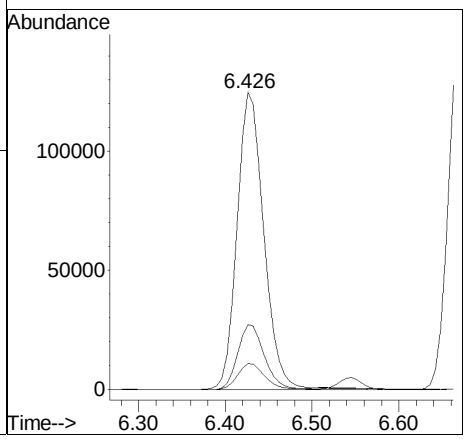


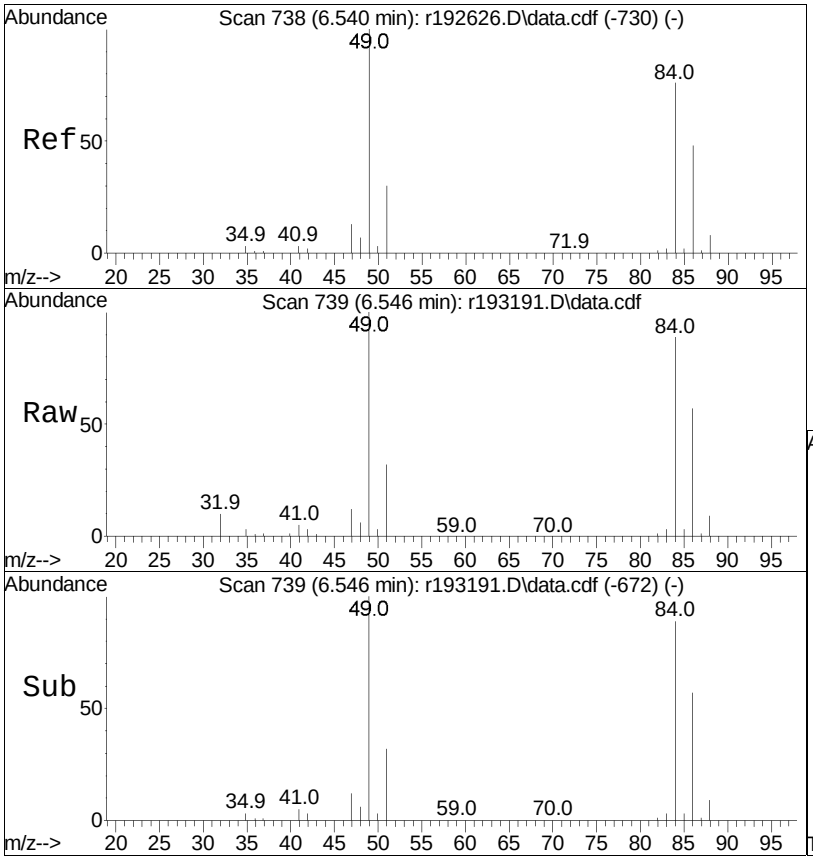


#27
tertiary butyl alcohol
Concen: 9.81 ppbV
RT: 6.426 min Scan# 719
Delta R.T. -0.024 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 59 Resp: 266935

Ion	Ratio	Lower	Upper
59	100		
41	21.8	18.8	28.2
43	8.7	9.8	14.8#

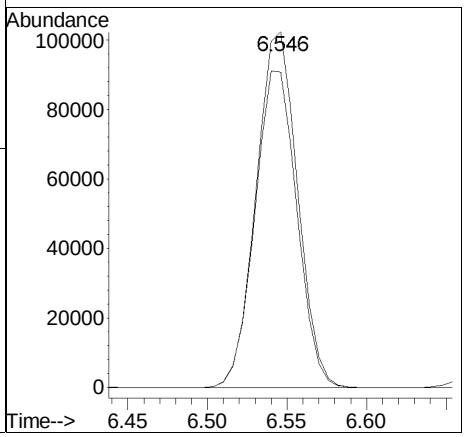


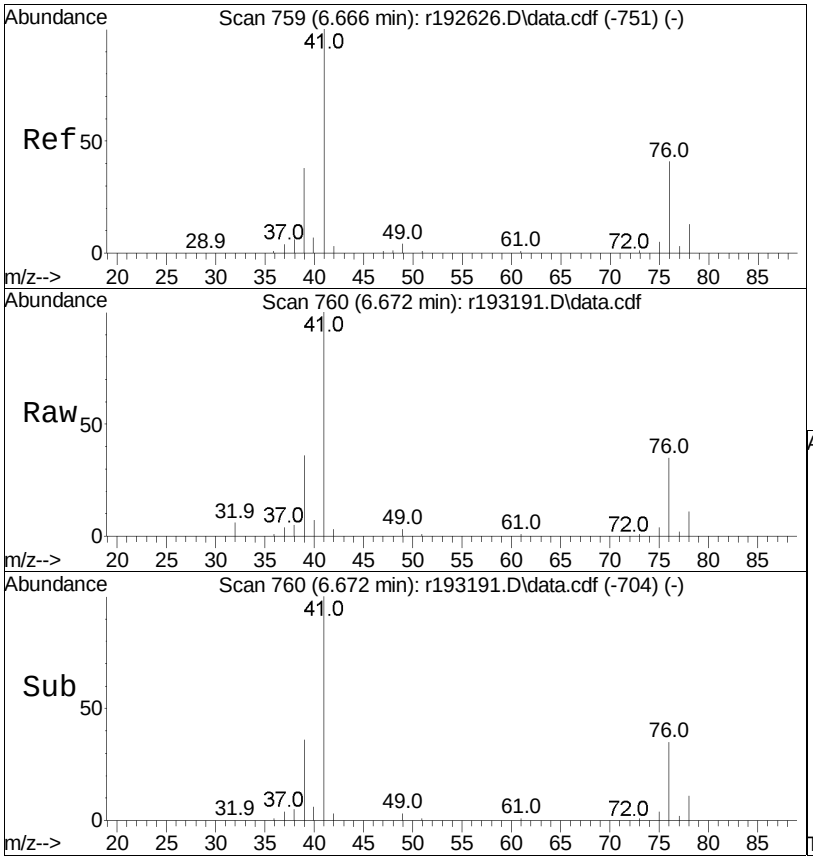


#28
methylene chloride
Concen: 9.69 ppbV
RT: 6.546 min Scan# 739
Delta R.T. 0.012 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 49 Resp: 185196

Ion	Ratio	Lower	Upper
49	100		
84	88.7	59.8	89.6

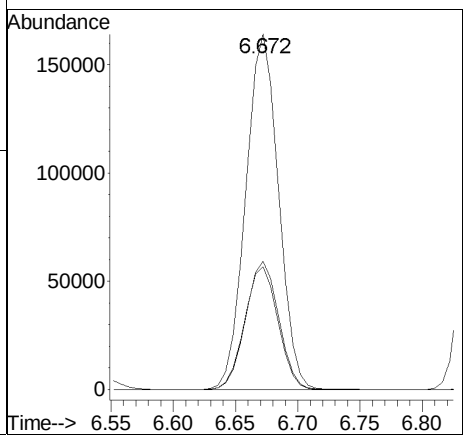


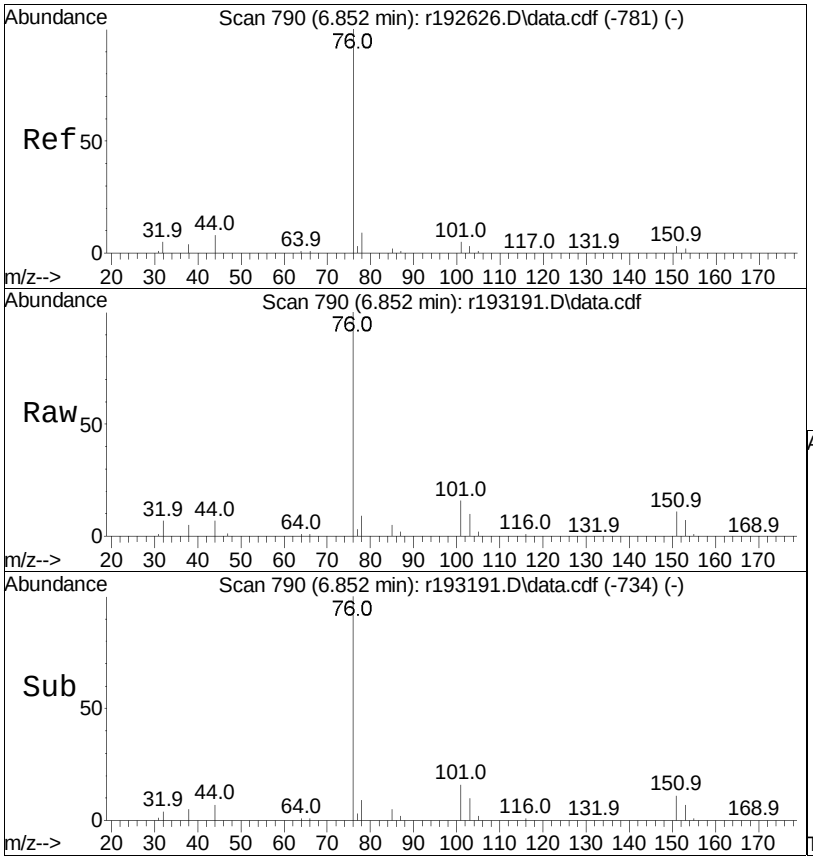


#29
3-chloropropene
Concen: 13.03 ppbV
RT: 6.672 min Scan# 760
Delta R.T. 0.006 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 41 Resp: 299903

Ion	Ratio	Lower	Upper
41	100		
39	36.1	31.4	47.2
76	34.5	31.4	47.0

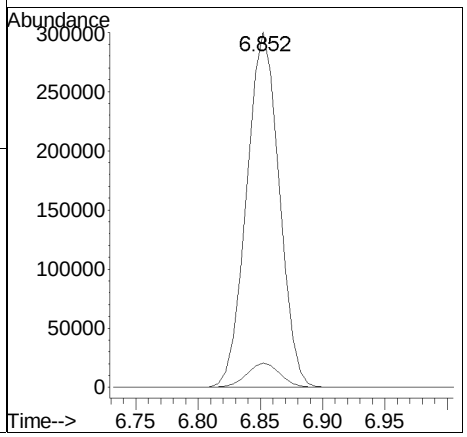


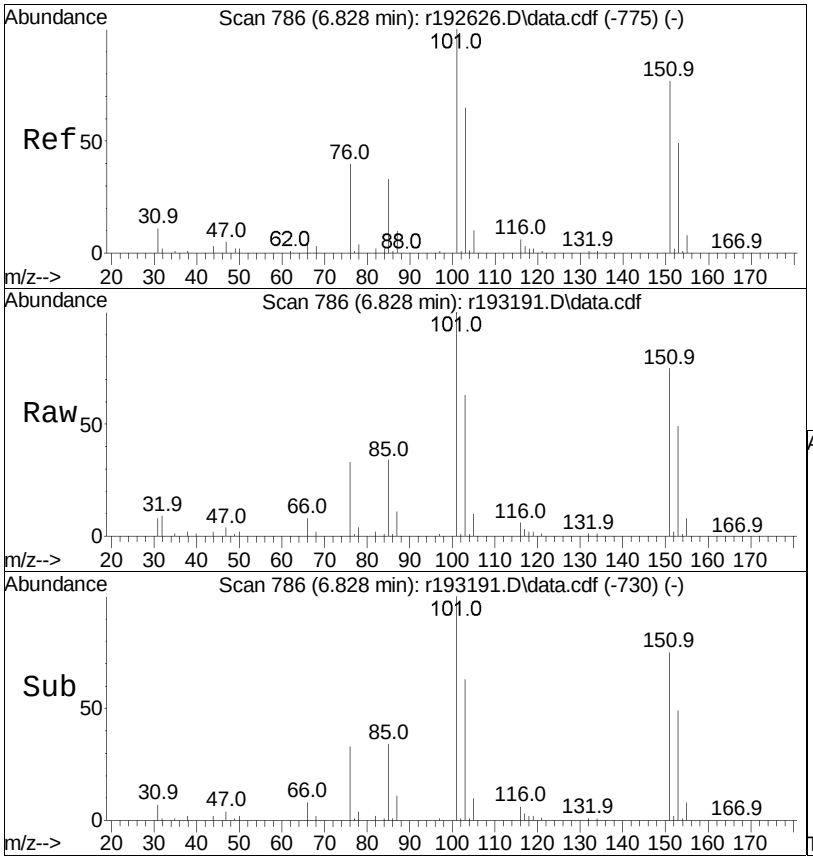


#30
carbon disulfide
Concen: 10.30 ppbV
RT: 6.852 min Scan# 790
Delta R.T. 0.006 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 76 Resp: 546933

Ion	Ratio	Lower	Upper
76	100		
44	6.9	12.3	18.5#

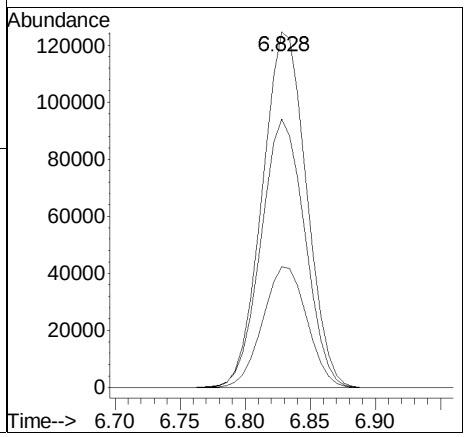


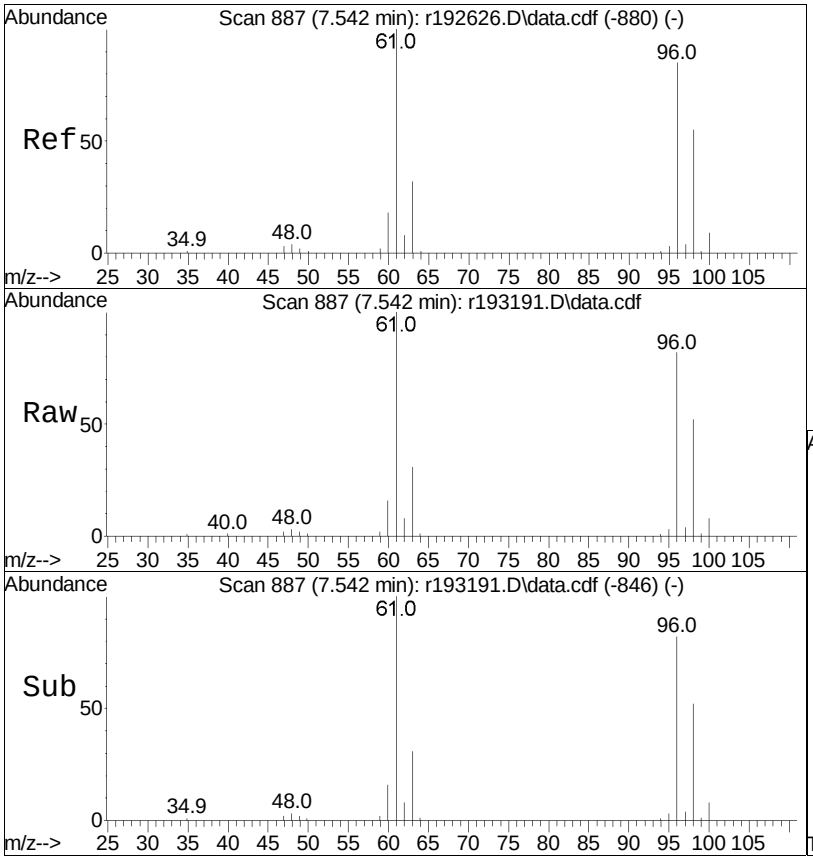


#31
Freon 113
Concen: 10.55 ppbV
RT: 6.828 min Scan# 786
Delta R.T. 0.006 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:101 Resp: 293948

Ion	Ratio	Lower	Upper
101	100		
85	33.9	26.7	40.1
151	75.5	63.4	95.2

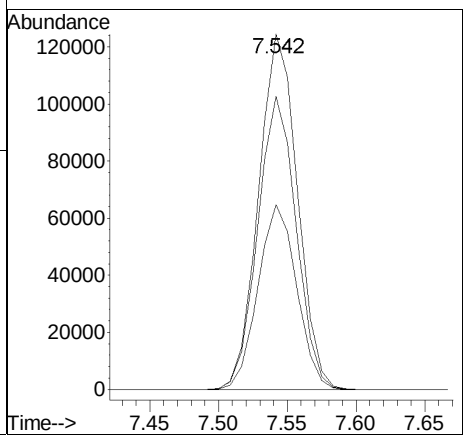


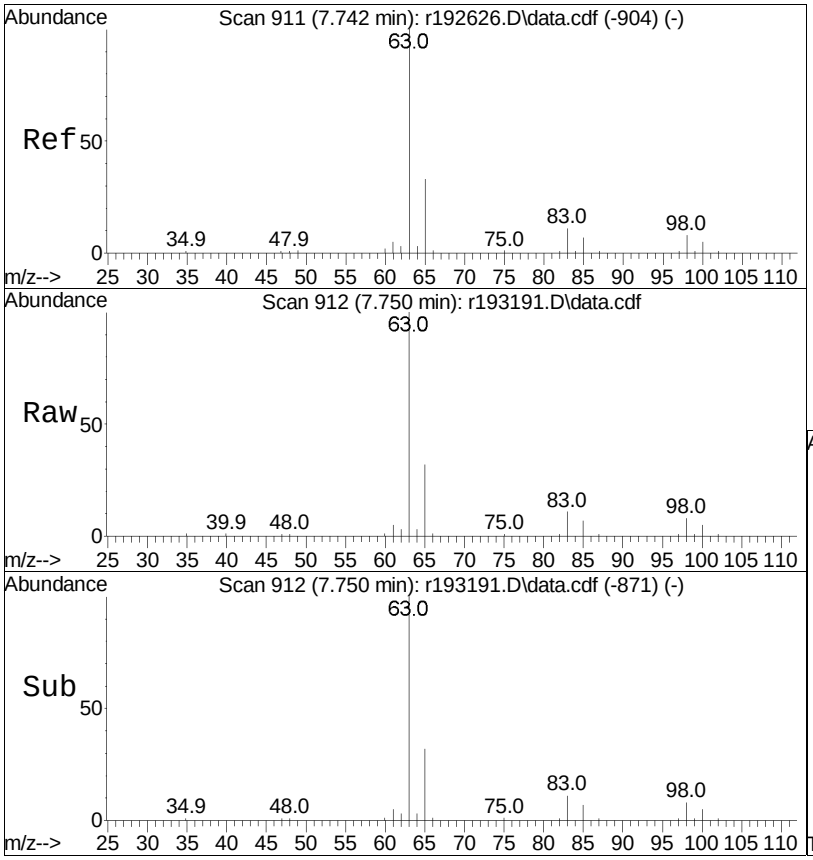


#32
trans-1,2-dichloroethene
Concen: 10.79 ppbV
RT: 7.542 min Scan# 887
Delta R.T. 0.008 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 61 Resp: 244273

Ion	Ratio	Lower	Upper
61	100		
96	82.5	68.0	102.0
98	52.0	44.0	66.0

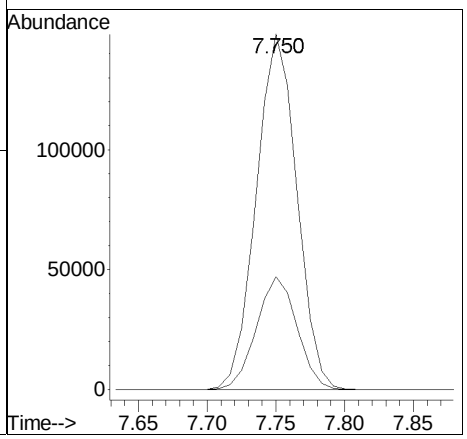


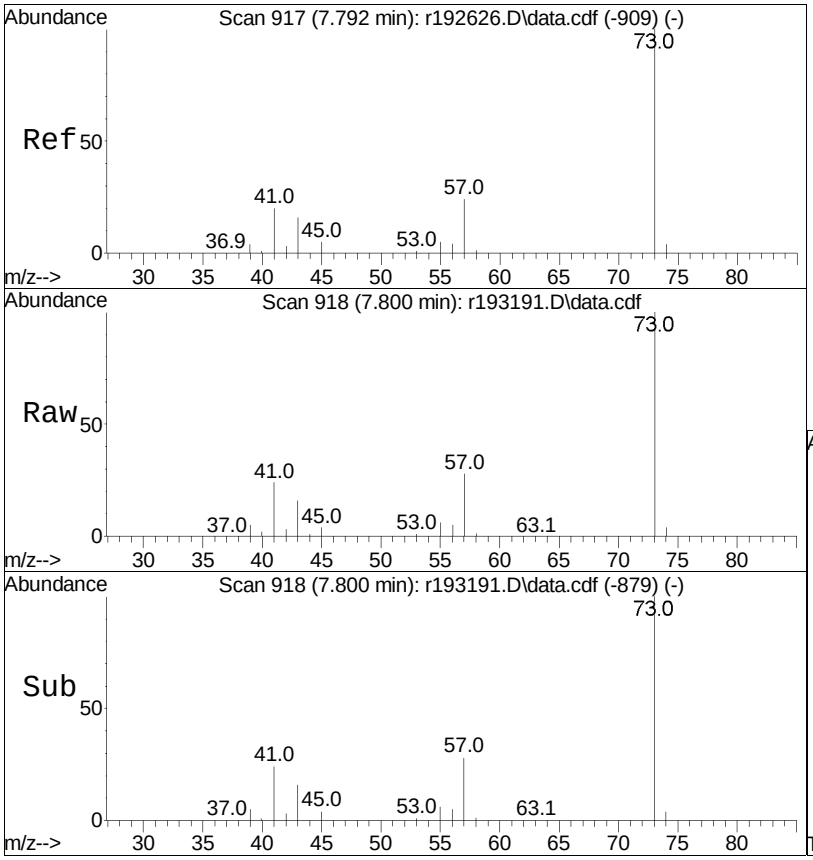


#33
1,1-dichloroethane
Concen: 11.01 ppbV
RT: 7.750 min Scan# 912
Delta R.T. 0.008 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 63 Resp: 303714

Ion	Ratio	Lower	Upper
63	100		
65	31.7	26.5	39.7

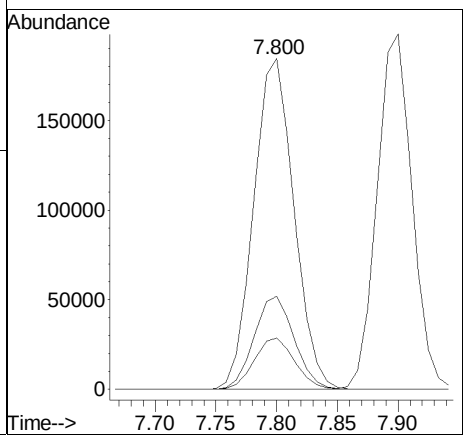


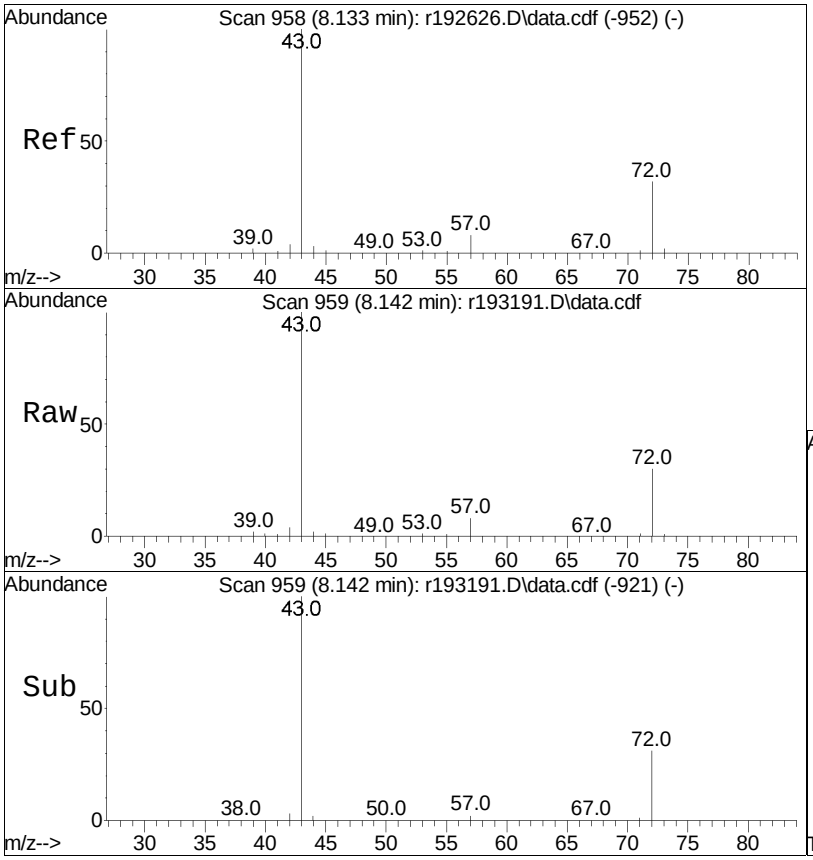


#34
MTBE
Concen: 9.54 ppbV
RT: 7.800 min Scan# 918
Delta R.T. -0.008 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 73 Resp: 426408

Ion	Ratio	Lower	Upper
73	100		
57	28.2	19.8	29.6
43	15.6	13.2	19.8

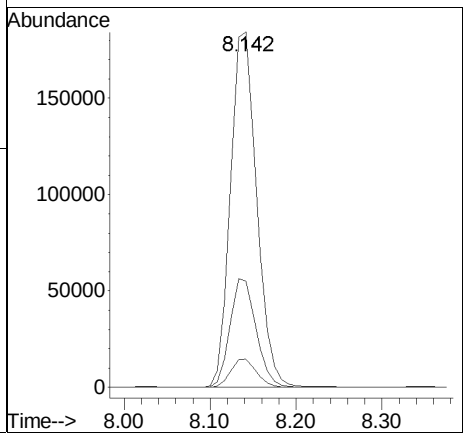


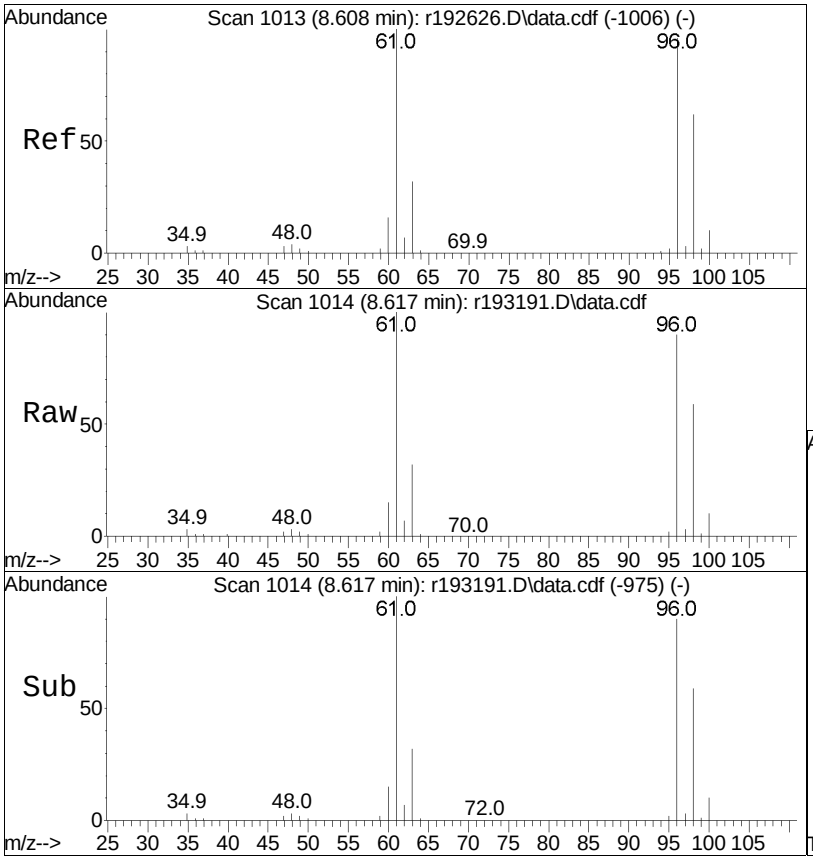


#36
2-butanone
Concen: 11.22 ppbV
RT: 8.142 min Scan# 959
Delta R.T. -0.017 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 43 Resp: 392946

Ion	Ratio	Lower	Upper
43	100		
72	29.9	27.7	41.5
57	7.9	6.3	9.5

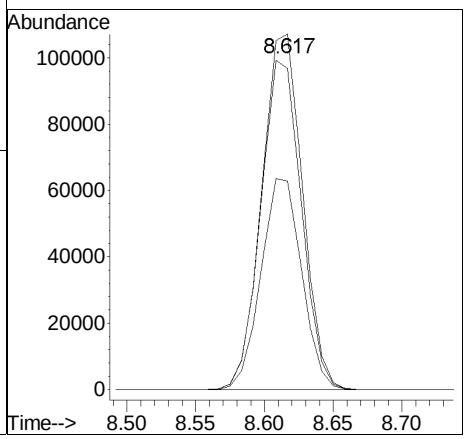


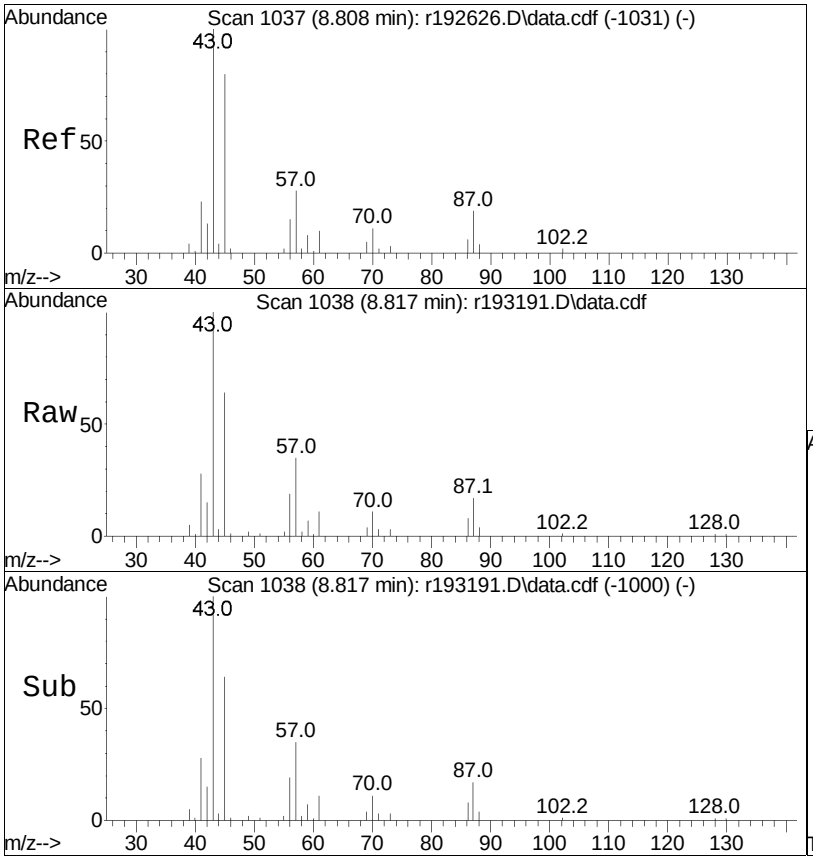


#37
cis-1,2-dichloroethene
Concen: 11.27 ppbV
RT: 8.617 min Scan# 1014
Delta R.T. 0.008 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 61 Resp: 221113

Ion	Ratio	Lower	Upper
61	100		
96	90.3	77.4	116.0
98	58.6	51.0	76.6

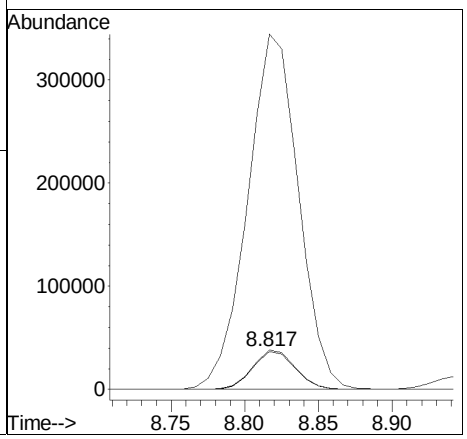


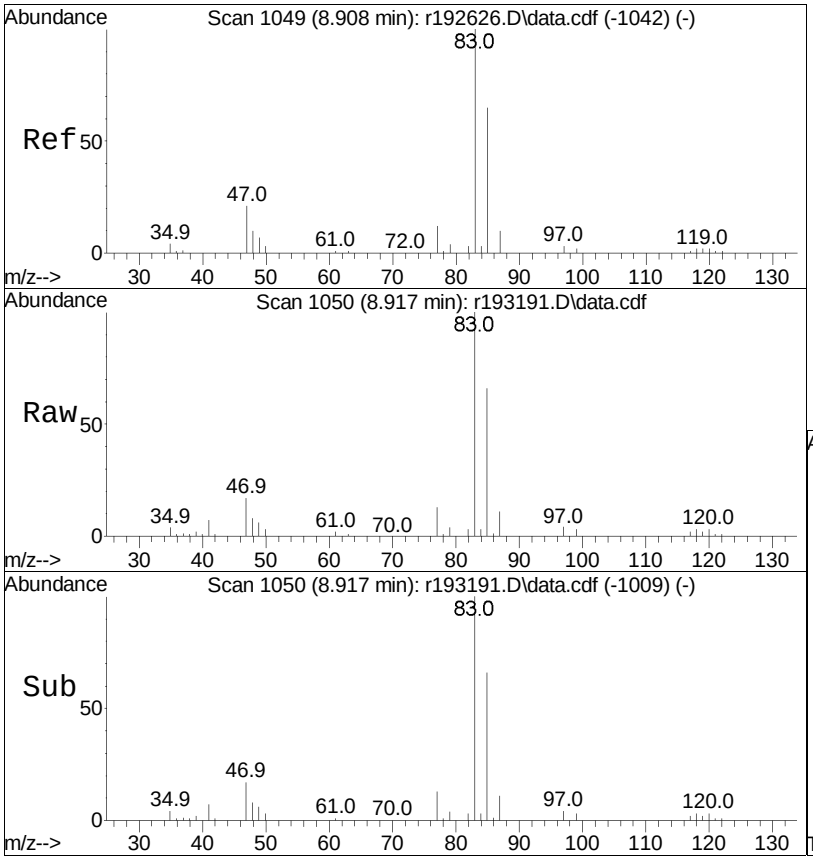


#38
Ethyl Acetate
Concen: 12.45 ppbV
RT: 8.817 min Scan# 1038
Delta R.T. -0.017 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 61 Resp: 74226

Ion	Ratio	Lower	Upper
61	100		
70	103.8	86.6	130.0
43	936.9	819.5	1229.3

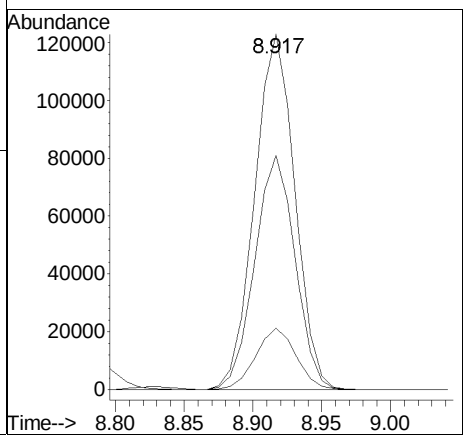


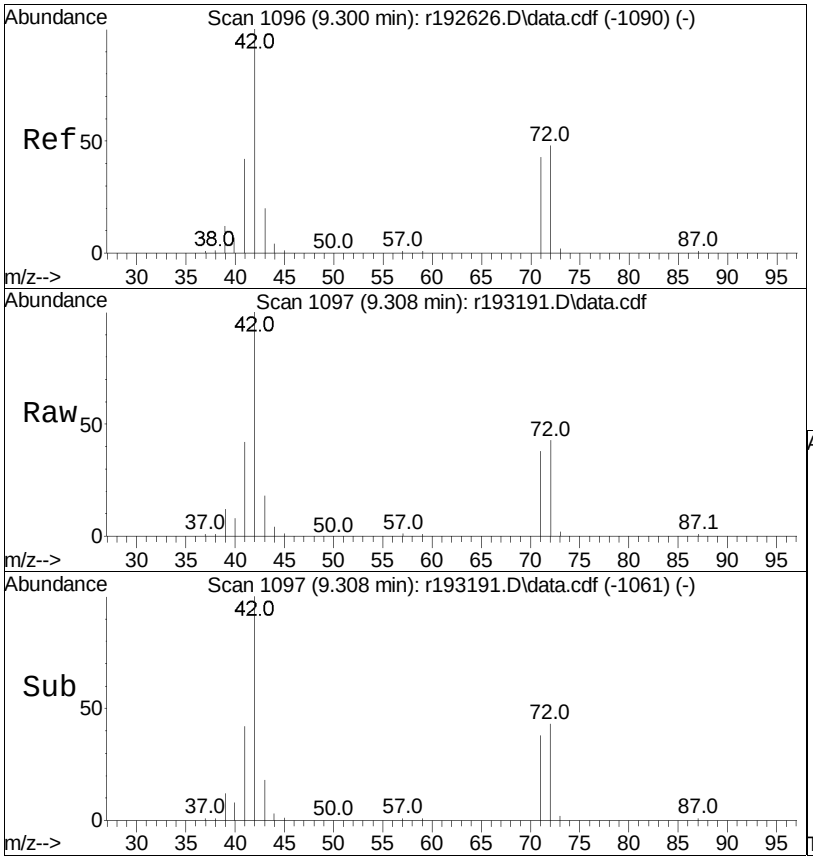


#39
chloroform
Concen: 10.25 ppbV
RT: 8.917 min Scan# 1050
Delta R.T. 0.008 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 83 Resp: 249600

Ion	Ratio	Lower	Upper
83	100		
85	65.8	50.1	75.1
47	17.3	17.6	26.4#

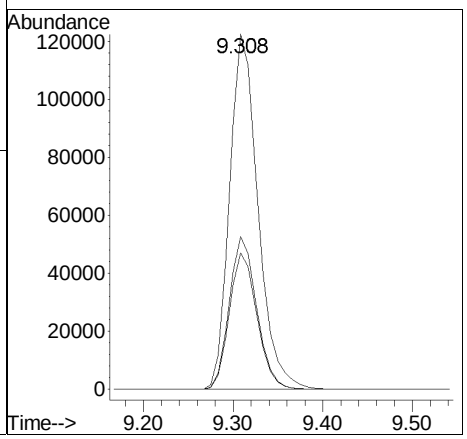


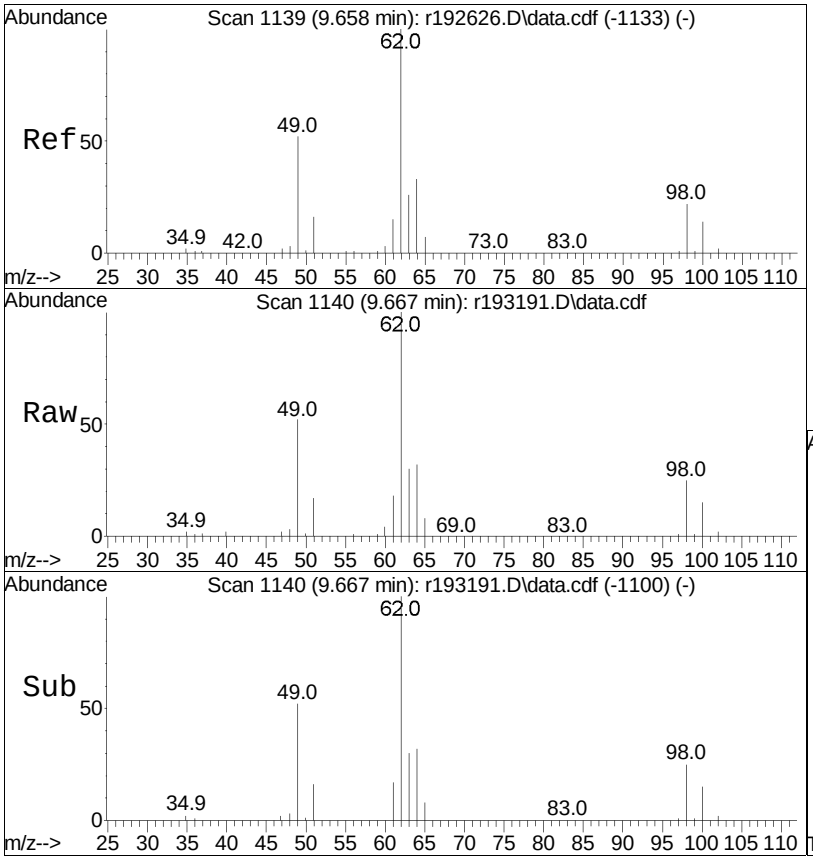


#40
Tetrahydrofuran
Concen: 11.47 ppbV
RT: 9.308 min Scan# 1097
Delta R.T. -0.033 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 42 Resp: 269982

Ion	Ratio	Lower	Upper
42	100		
71	38.4	32.5	48.7
72	43.0	33.7	50.5

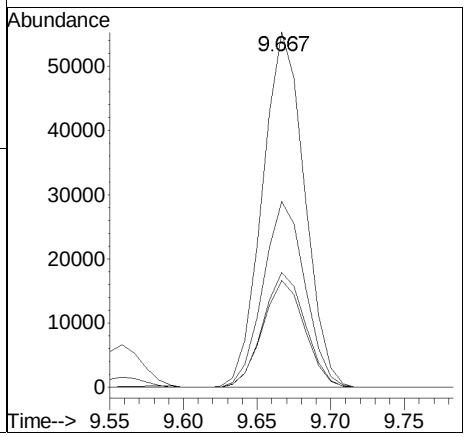


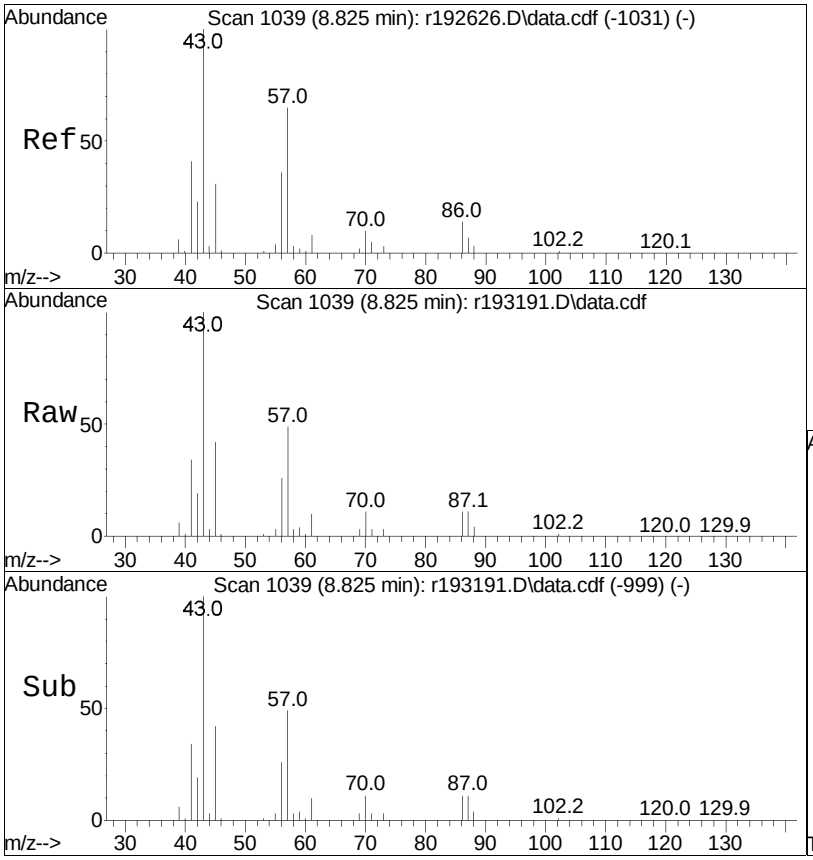


#42
1,2-dichloroethane
Concen: 9.26 ppbV
RT: 9.667 min Scan# 1140
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 62 Resp: 110185

Ion	Ratio	Lower	Upper
62	100		
64	32.4	27.9	41.9
49	52.3	40.5	60.7
63	30.1	20.3	30.5

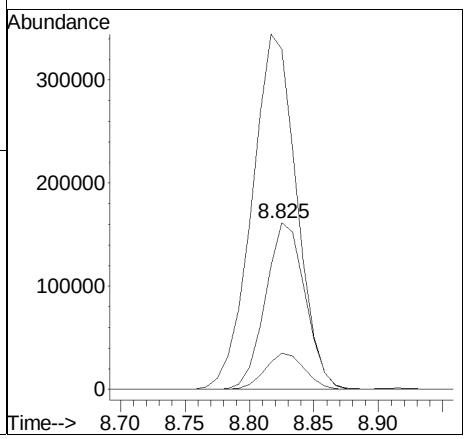


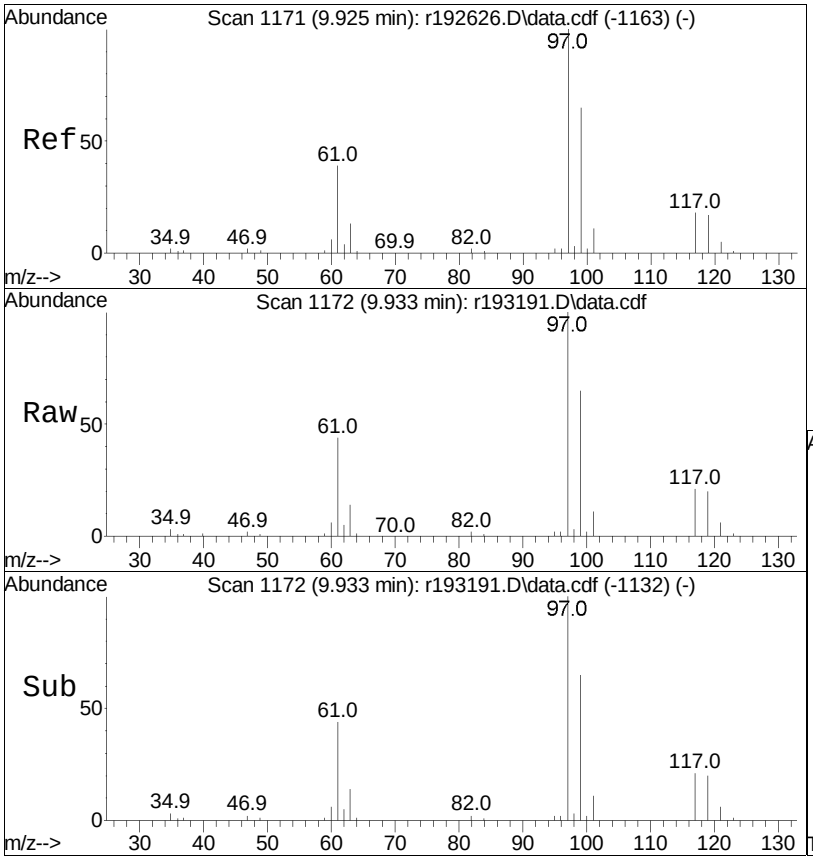


#44
hexane
Concen: 10.01 ppbV
RT: 8.825 min Scan# 1039
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 57 Resp: 347249

Ion	Ratio	Lower	Upper
57	100		
43	204.2	159.3	238.9
86	21.7	15.7	23.5

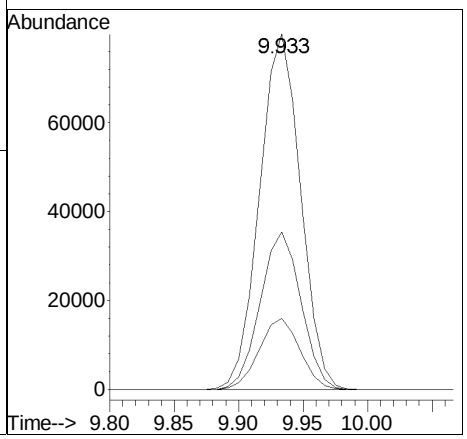


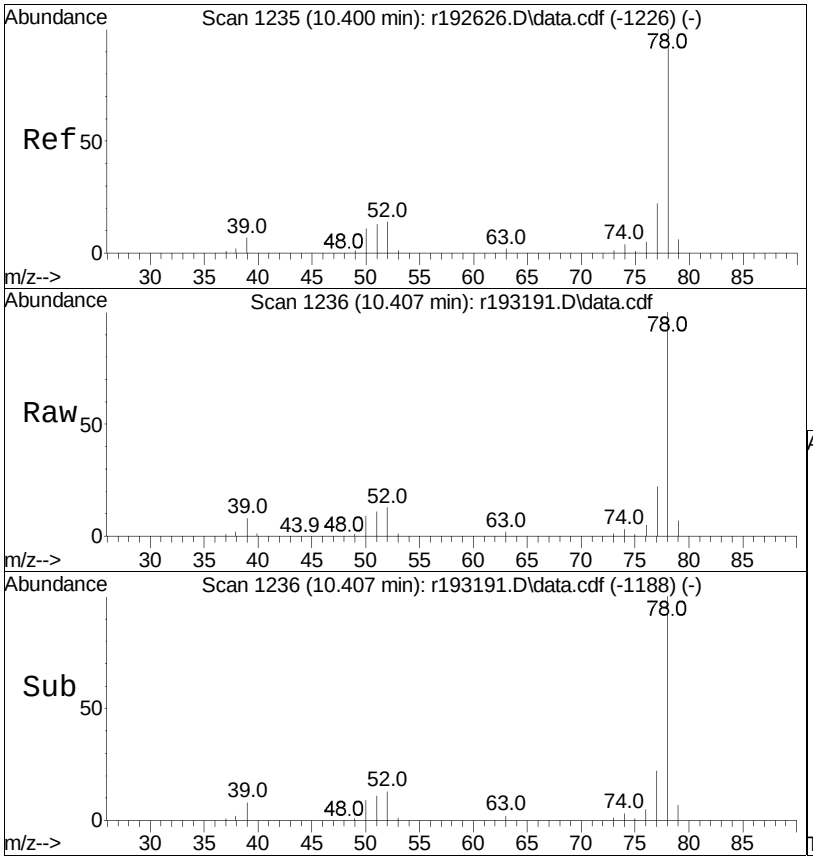


#48
1,1,1-trichloroethane
Concen: 7.92 ppbV
RT: 9.933 min Scan# 1172
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 97 Resp: 176378

Ion	Ratio	Lower	Upper
97	100		
61	44.3	30.0	45.0
119	20.0	14.0	21.0

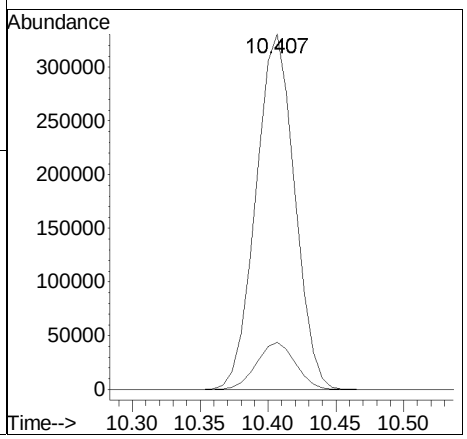


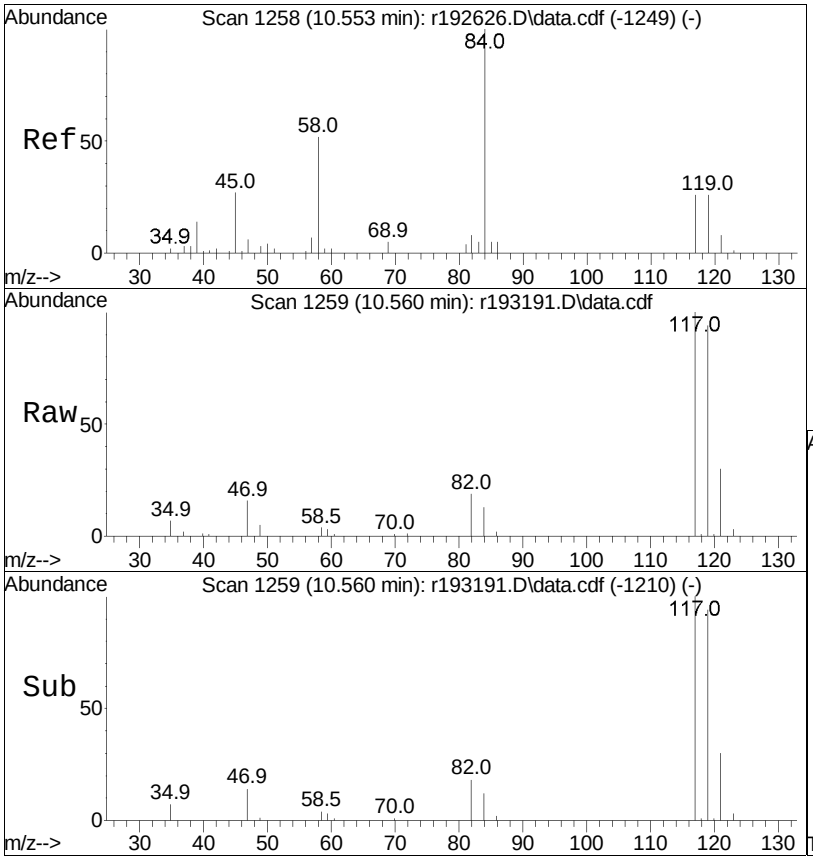


#50
benzene
Concen: 9.60 ppbV
RT: 10.407 min Scan# 1236
Delta R.T. 0.007 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 78 Resp: 656527

Ion	Ratio	Lower	Upper
78	100		
52	13.3	11.4	17.2

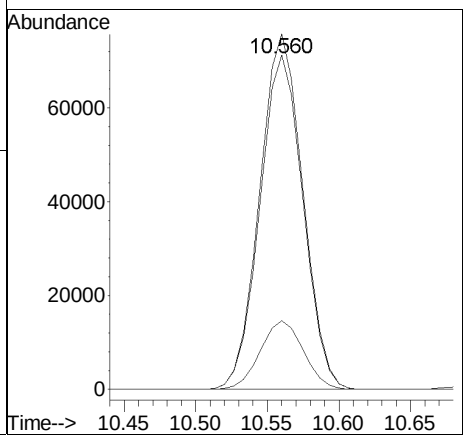


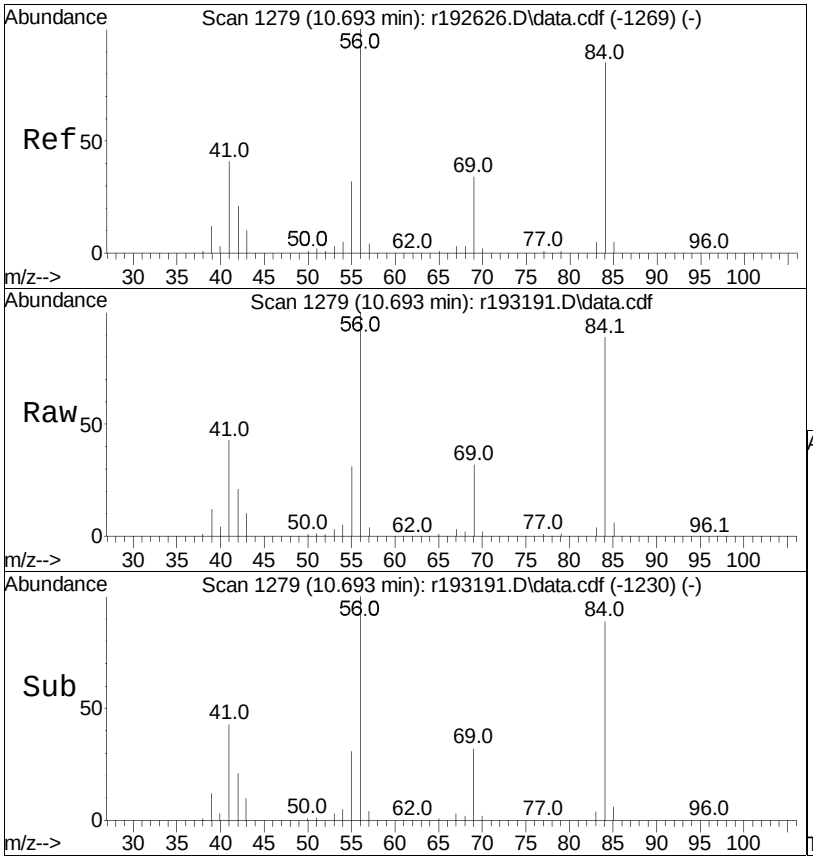


#52
carbon tetrachloride
Concen: 8.66 ppbV
RT: 10.560 min Scan# 1259
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:117 Resp: 158780

Ion	Ratio	Lower	Upper
117	100		
119	94.1	85.4	128.2
82	19.3	22.6	33.8#

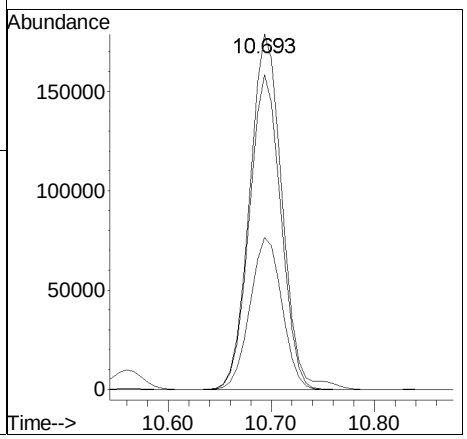


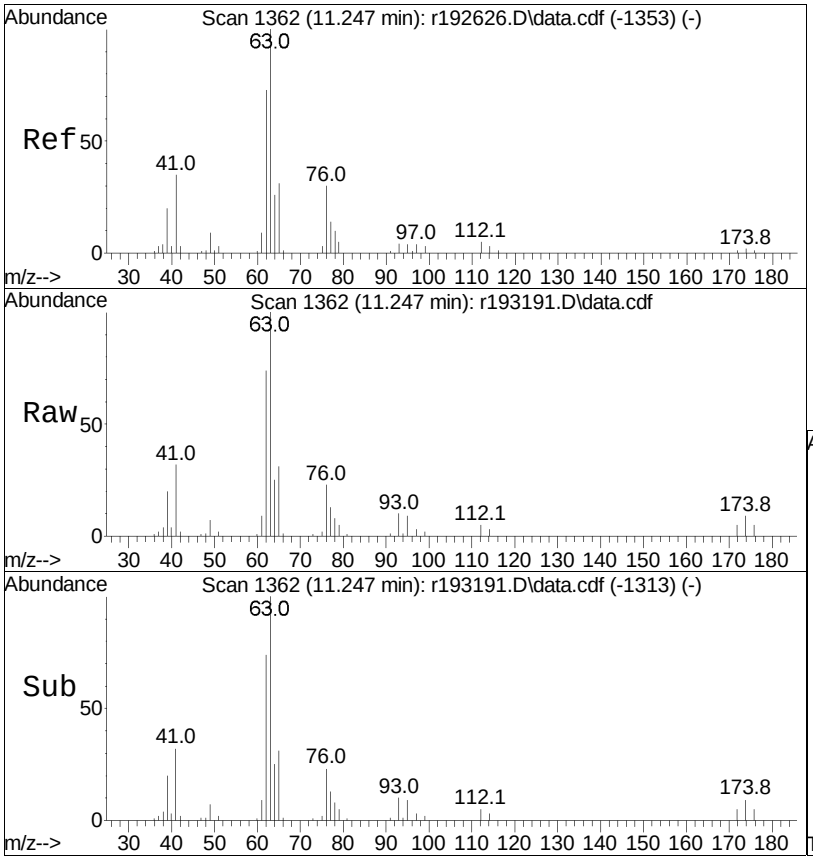


#53
cyclohexane
Concen: 10.29 ppbV
RT: 10.693 min Scan# 1279
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 56 Resp: 390430

Ion	Ratio	Lower	Upper
56	100		
84	88.6	69.8	104.6
41	42.8	32.1	48.1

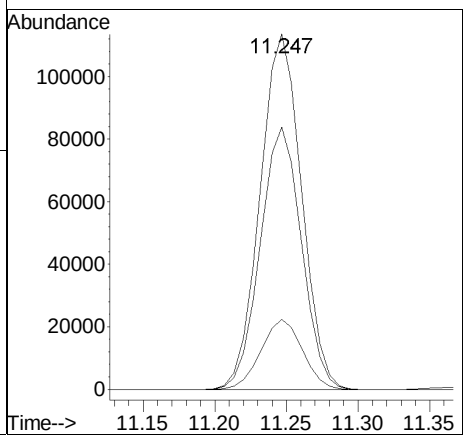


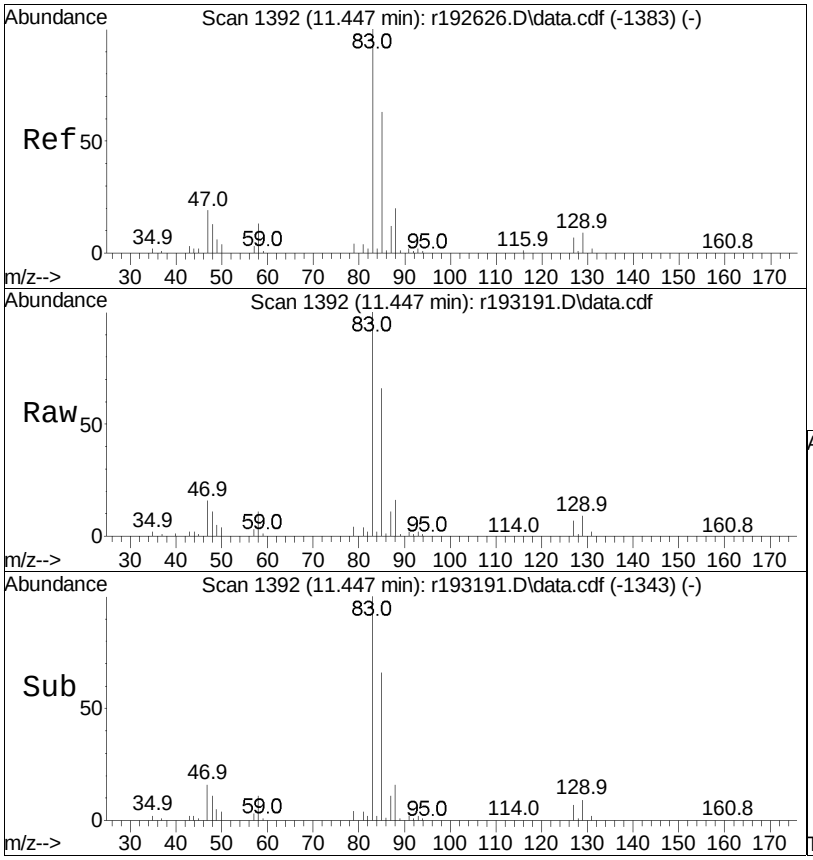


#56
1,2-dichloropropane
Concen: 10.44 ppbV
RT: 11.247 min Scan# 1362
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 63 Resp: 228409

Ion	Ratio	Lower	Upper
63	100		
62	73.8	58.1	87.1
39	19.7	17.6	26.4

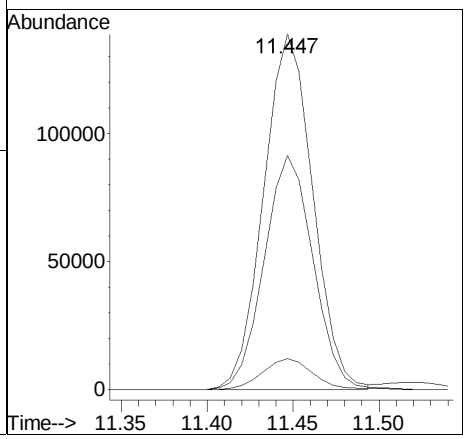


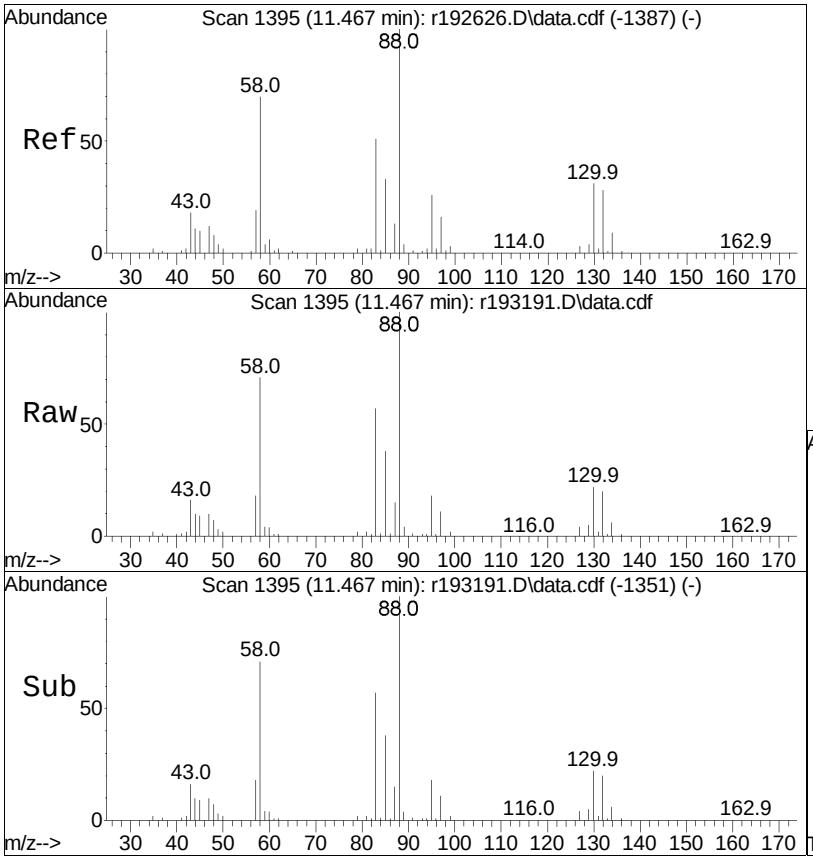


#57
bromodichloromethane
Concen: 9.25 ppbV
RT: 11.447 min Scan# 1392
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 83 Resp: 276018

Ion	Ratio	Lower	Upper
83	100		
85	65.9	49.1	73.7
129	8.7	7.8	11.6

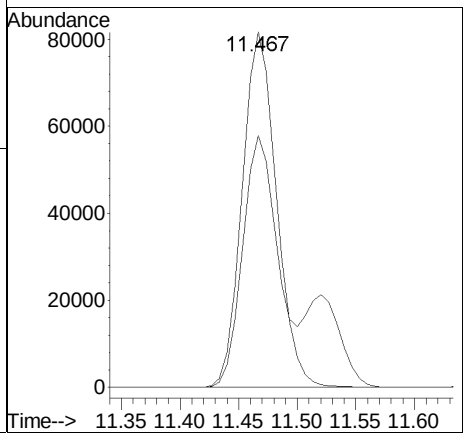


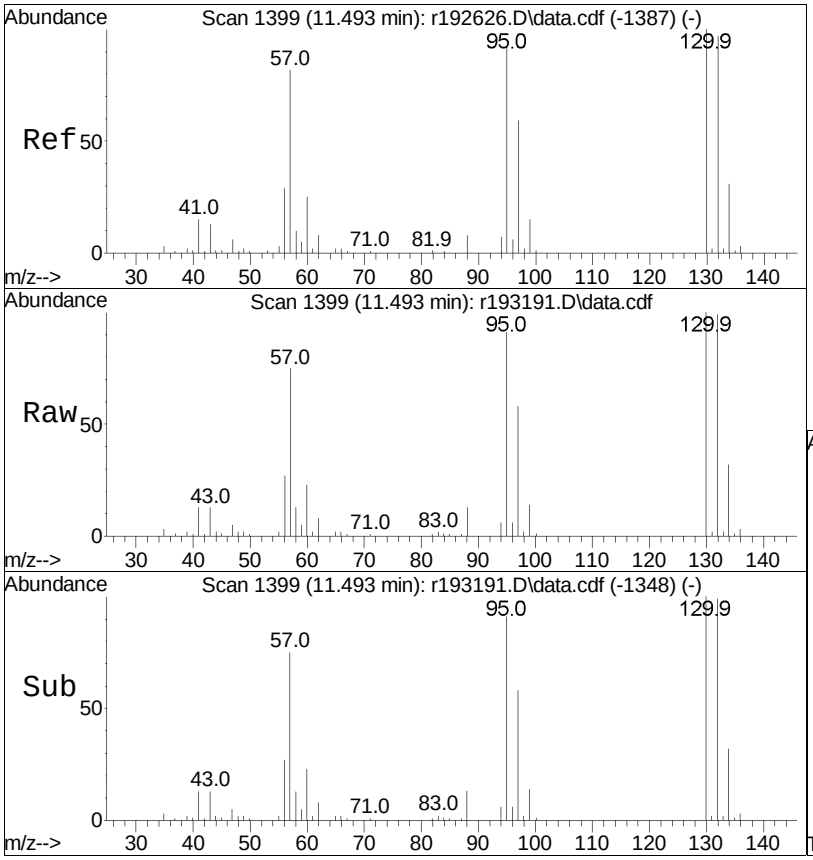


#58
1,4-dioxane
Concen: 10.71 ppbV
RT: 11.467 min Scan# 1395
Delta R.T. -0.033 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 88 Resp: 165900

Ion	Ratio	Lower	Upper
88	100		
58	70.9	70.5	105.7

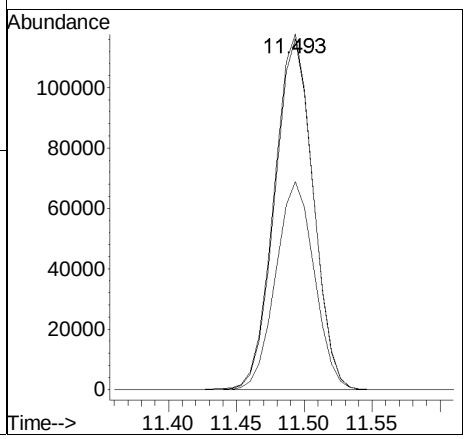


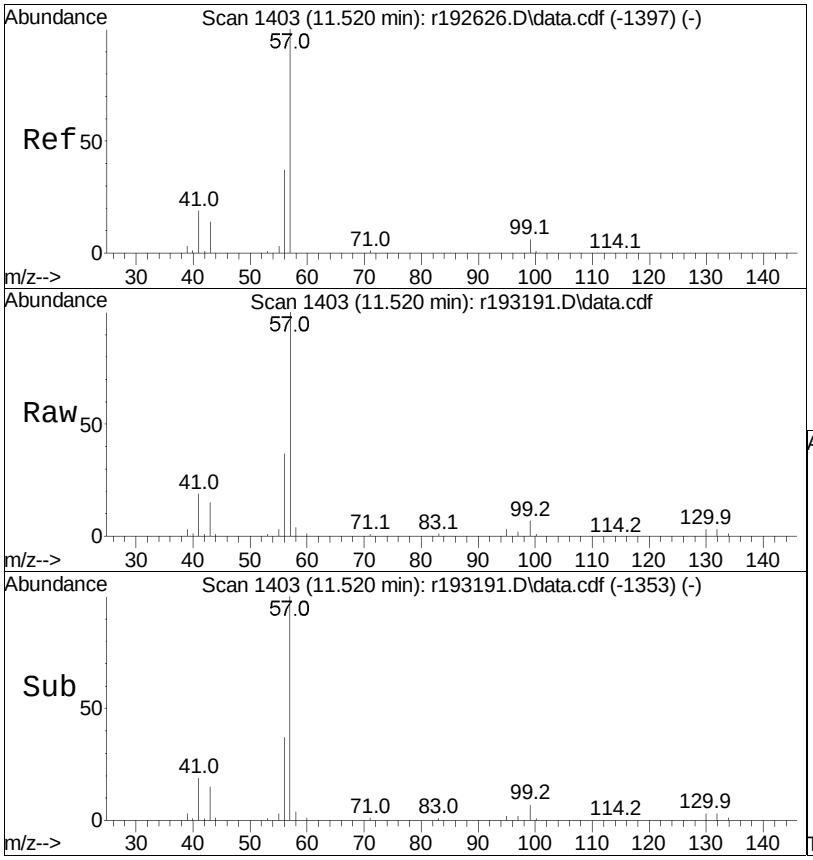


#59
trichloroethene
Concen: 9.60 ppbV
RT: 11.493 min Scan# 1399
Delta R.T. 0.007 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:130 Resp: 234179

Ion	Ratio	Lower	Upper
130	100		
132	98.7	73.8	110.8
97	58.5	46.9	70.3

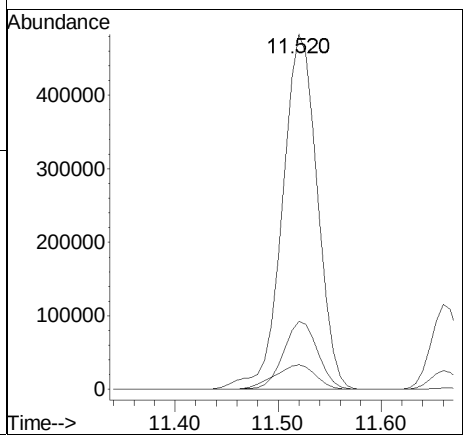


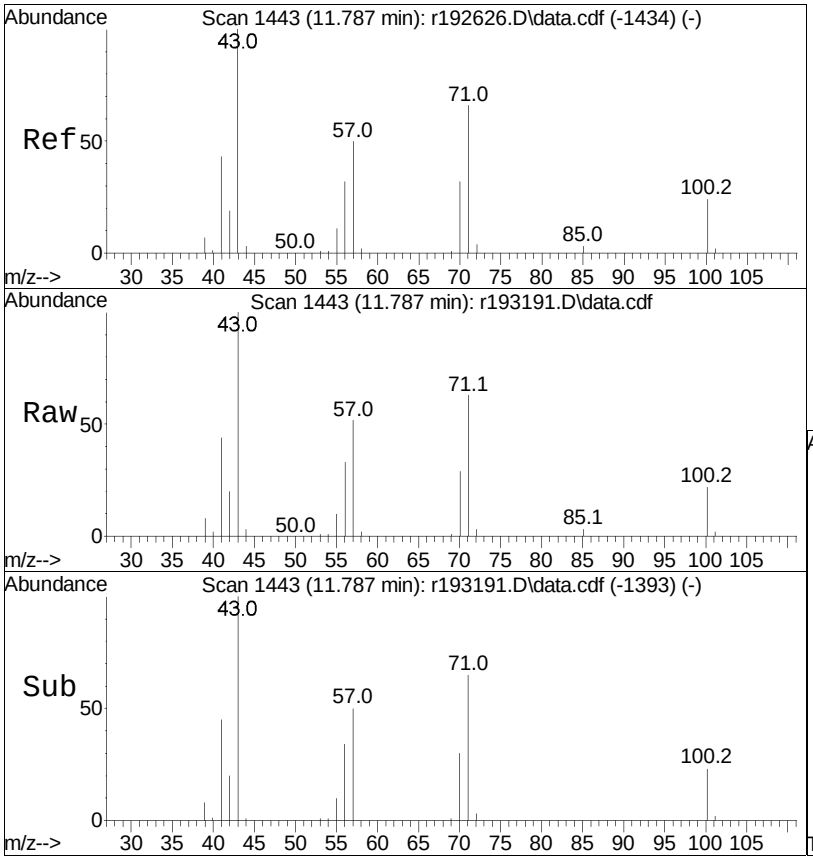


#60
2,2,4-trimethylpentane
Concen: 10.37 ppbV
RT: 11.520 min Scan# 1403
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 57 Resp: 1135194

Ion	Ratio	Lower	Upper
57	100		
99	6.9	6.0	9.0
41	19.2	15.6	23.4

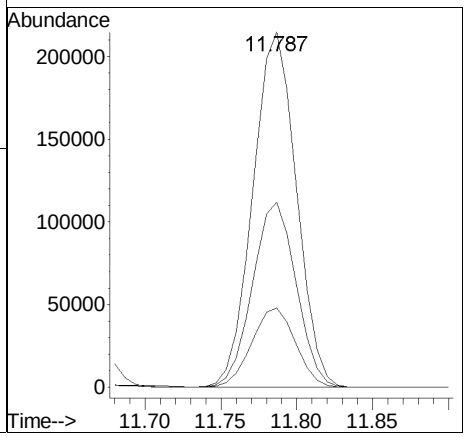


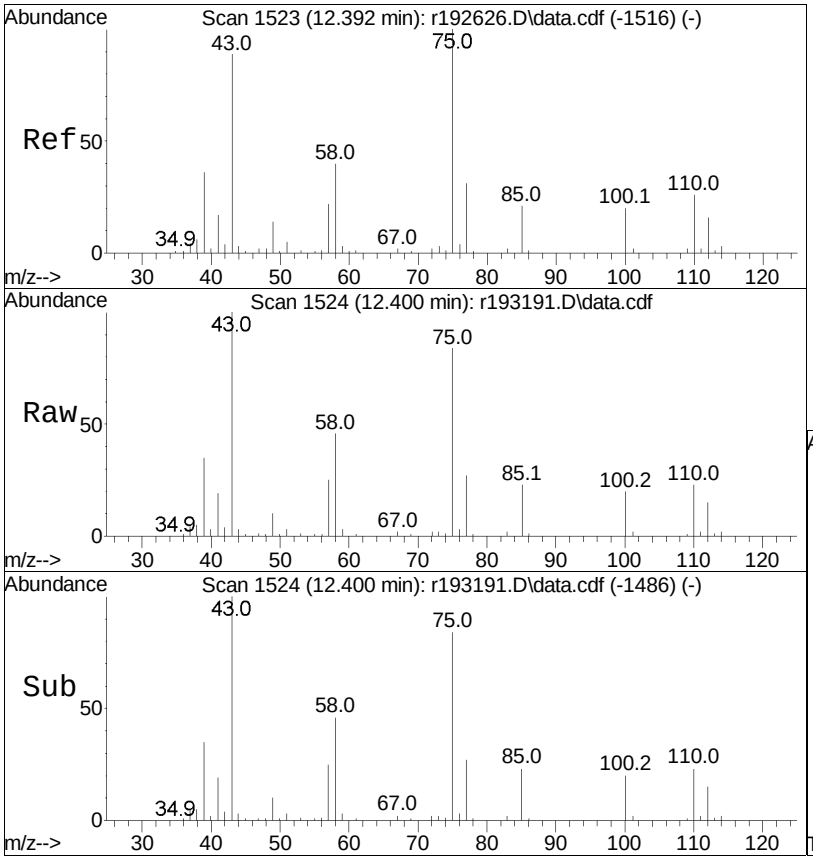


#62
heptane
Concen: 10.12 ppbV
RT: 11.787 min Scan# 1443
Delta R.T. 0.007 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 43 Resp: 428379

Ion	Ratio	Lower	Upper
43	100		
57	52.1	41.0	61.6
100	22.4	21.4	32.2

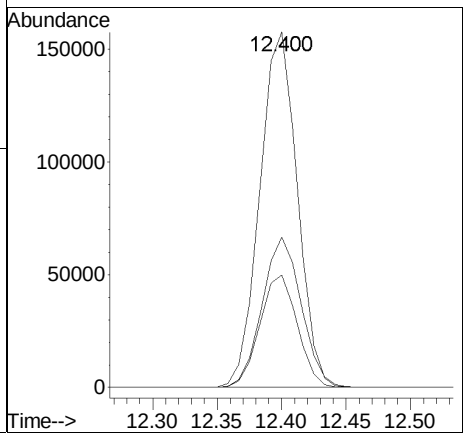


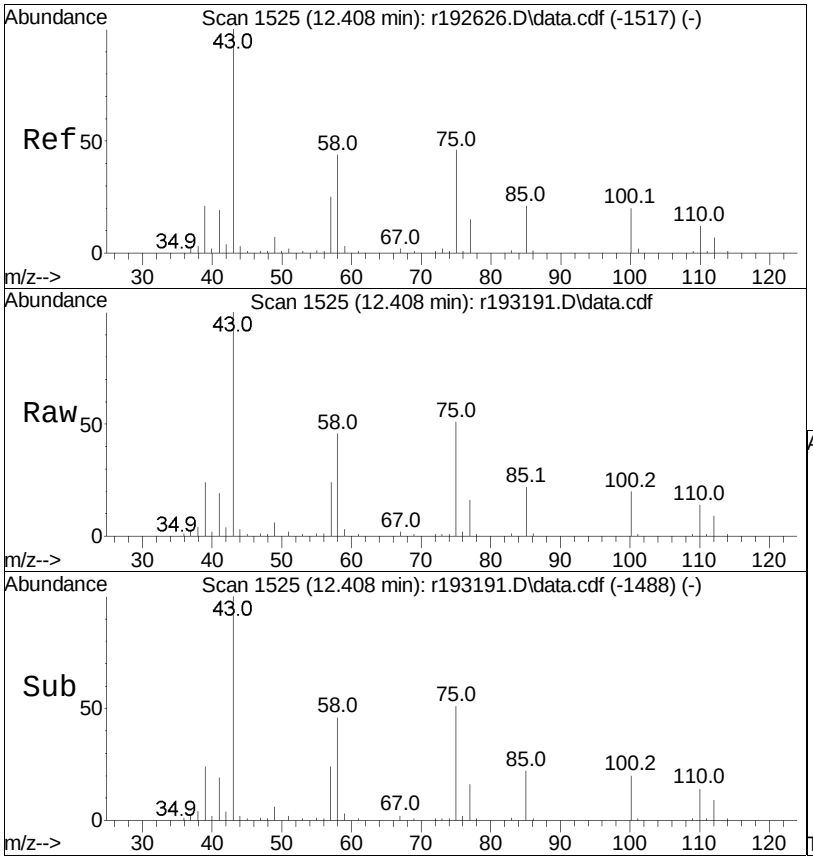


#63
cis-1,3-dichloropropene
Concen: 9.79 ppbV
RT: 12.400 min Scan# 1524
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 75 Resp: 318728

Ion	Ratio	Lower	Upper
75	100		
39	42.3	27.2	40.8#
77	31.6	24.5	36.7

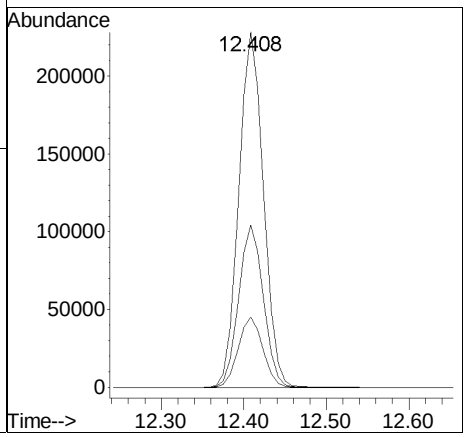


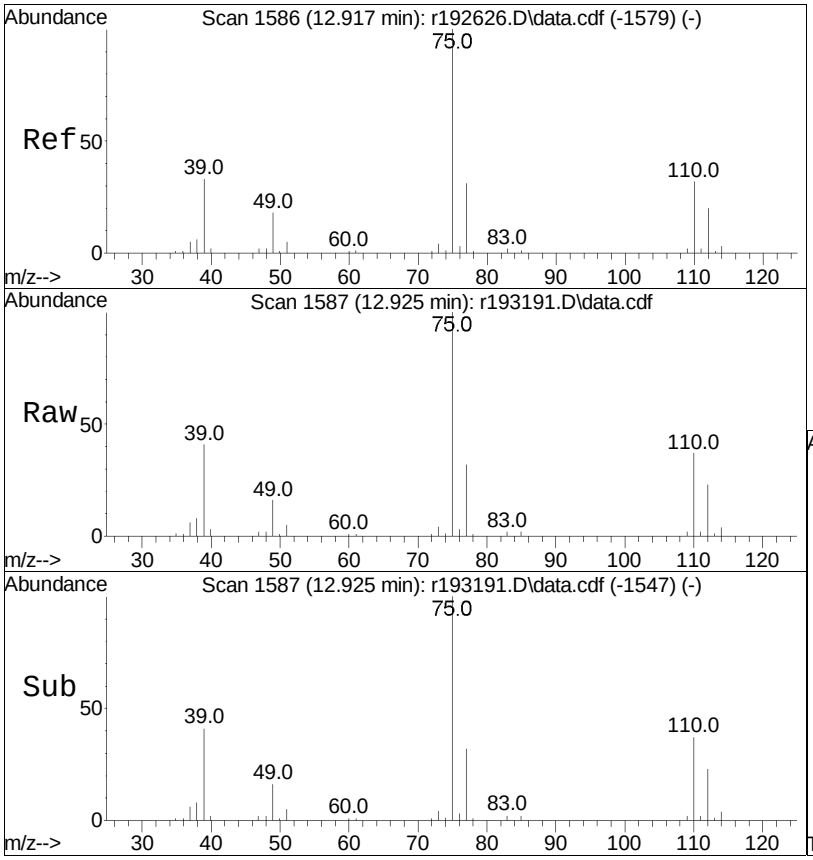


#64
4-methyl-2-pentanone
Concen: 10.41 ppbV
RT: 12.408 min Scan# 1525
Delta R.T. -0.025 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 43 Resp: 473699

Ion	Ratio	Lower	Upper
43	100		
58	45.7	32.9	49.3
100	19.8	15.4	23.2

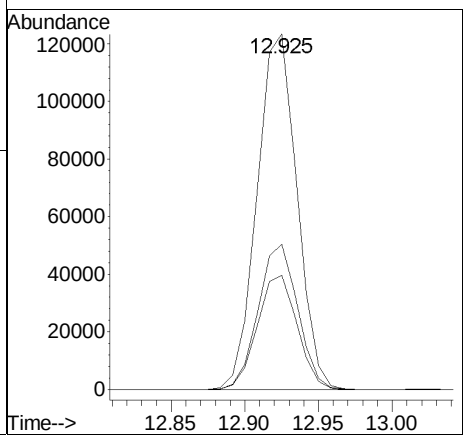


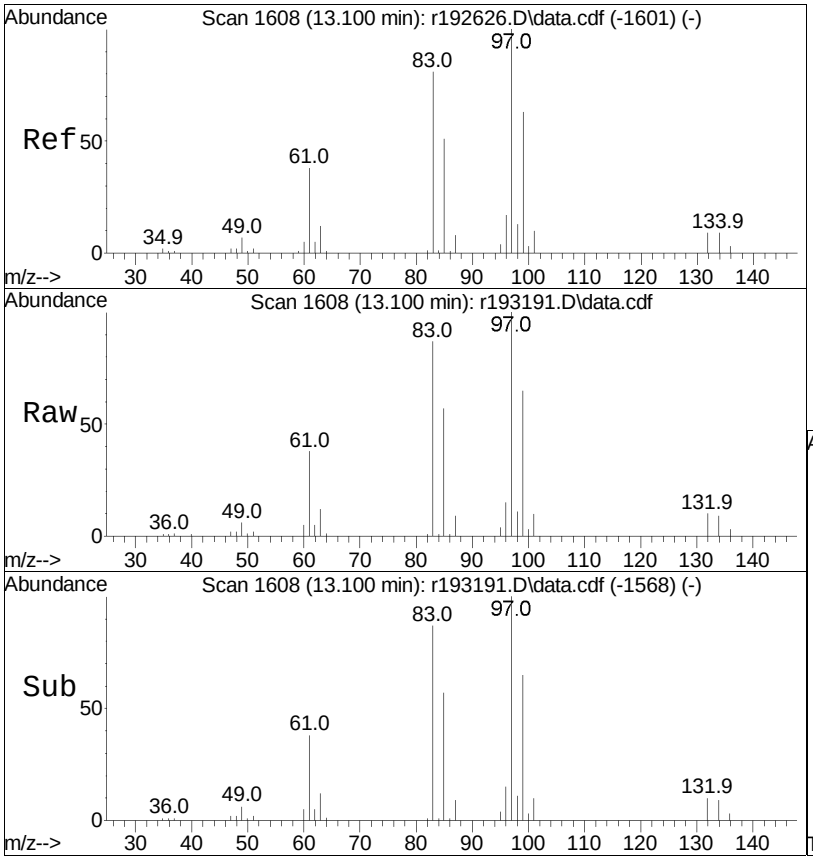


#65
trans-1,3-dichloropropene
Concen: 7.91 ppbV
RT: 12.925 min Scan# 1587
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 75 Resp: 231649

Ion	Ratio	Lower	Upper
75	100		
77	32.1	25.4	38.2
39	40.9	30.6	46.0

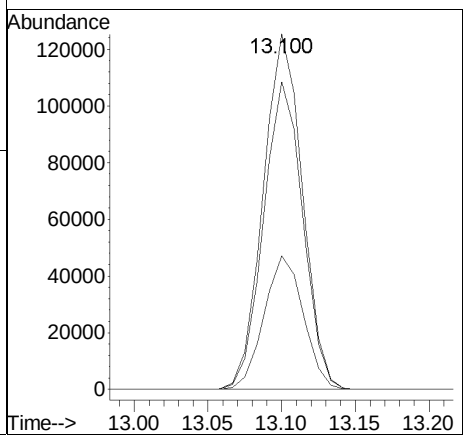


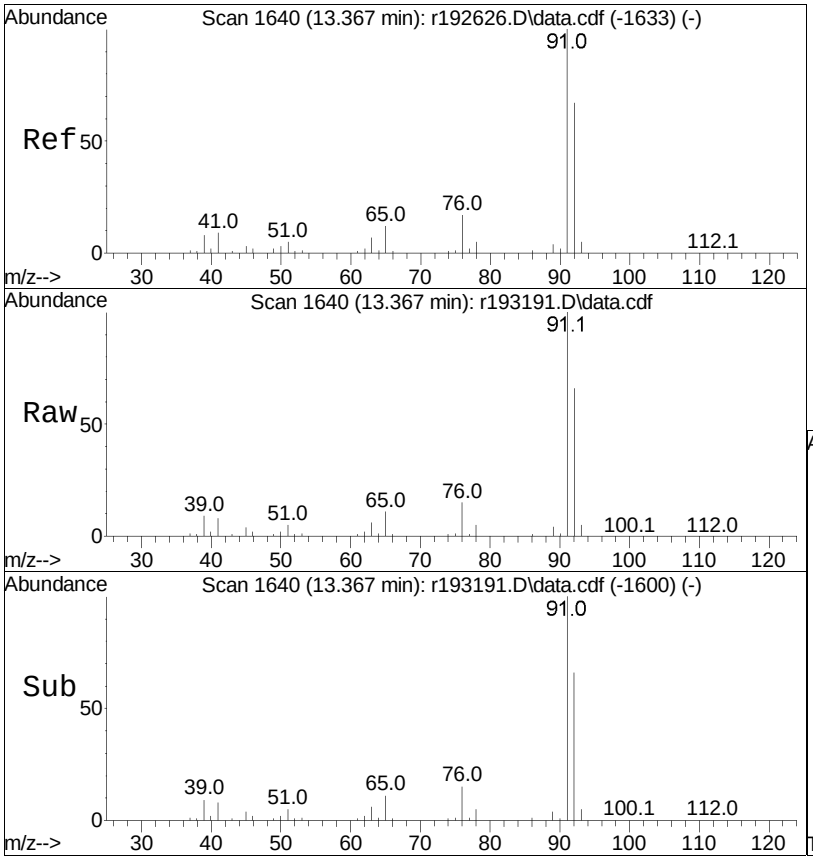


#66
1,1,2-trichloroethane
Concen: 9.74 ppbV
RT: 13.100 min Scan# 1608
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 97 Resp: 232153

Ion	Ratio	Lower	Upper
97	100		
83	86.6	65.8	98.8
61	37.6	31.1	46.7

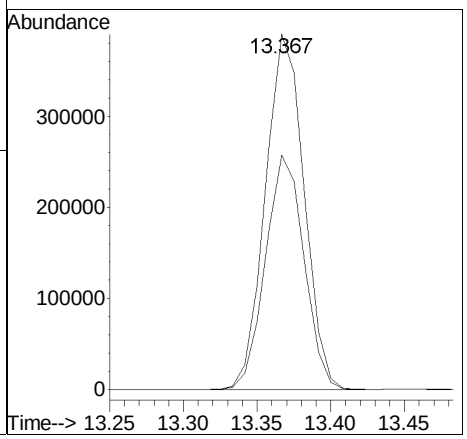


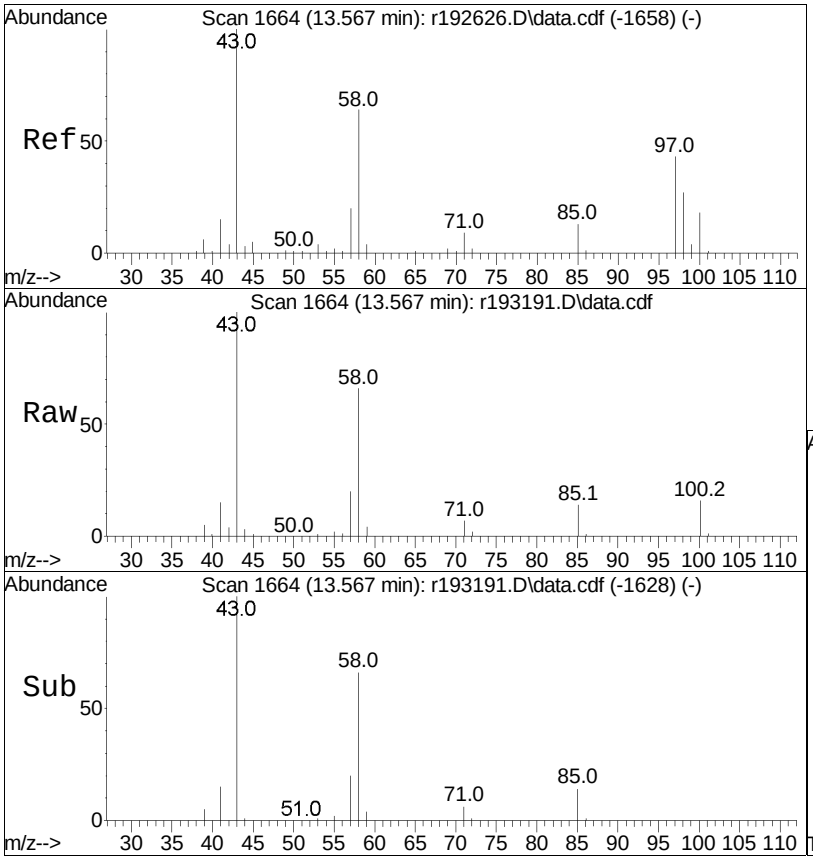


#68
toluene
Concen: 10.82 ppbV
RT: 13.367 min Scan# 1640
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 91 Resp: 712092

Ion	Ratio	Lower	Upper
91	100		
92	65.9	53.3	79.9

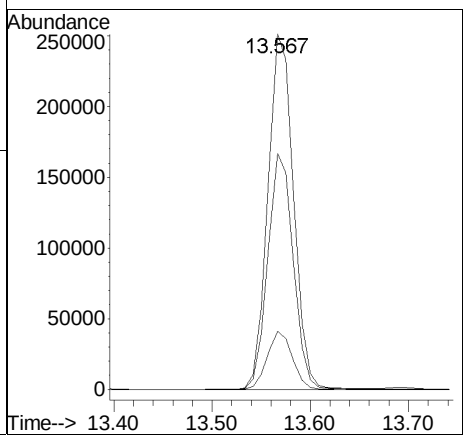


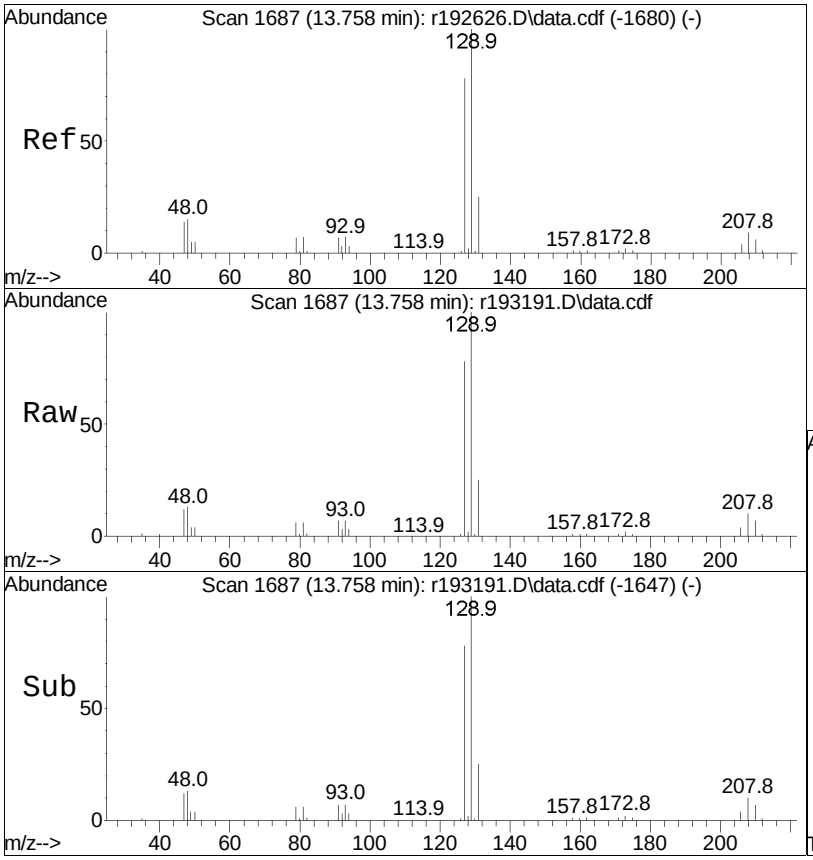


#72
2-hexanone
Concen: 11.92 ppbV
RT: 13.567 min Scan# 1664
Delta R.T. -0.033 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 43 Resp: 455782

Ion	Ratio	Lower	Upper
43	100		
58	66.4	62.6	94.0
100	16.3	26.5	39.7#

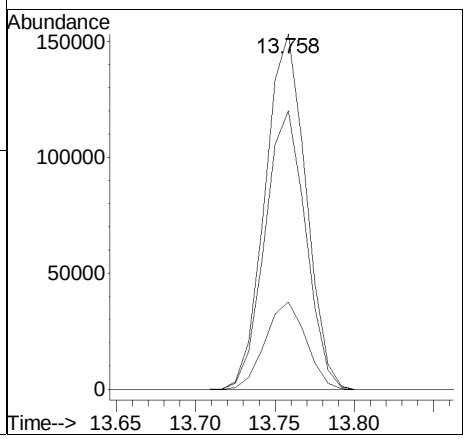


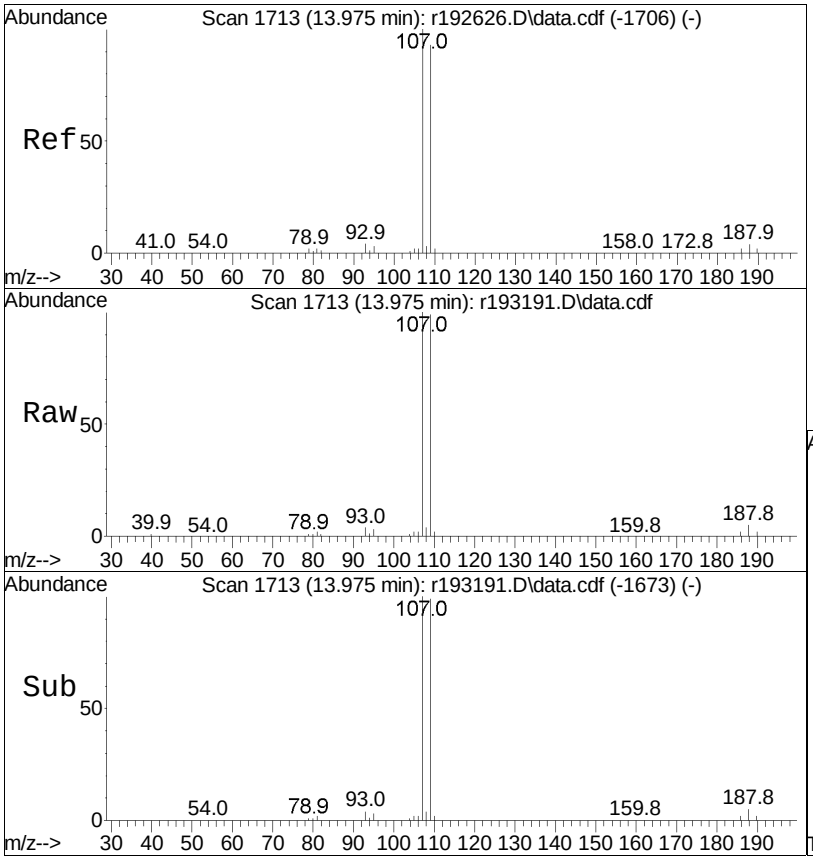


#74
dibromochloromethane
Concen: 10.81 ppbV
RT: 13.758 min Scan# 1687
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:129 Resp: 273299

Ion	Ratio	Lower	Upper
129	100		
127	78.4	60.9	91.3
131	24.6	19.7	29.5

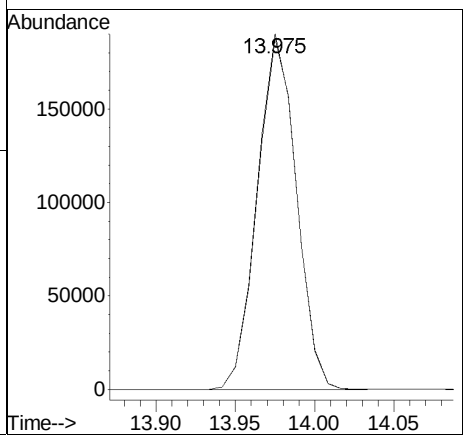


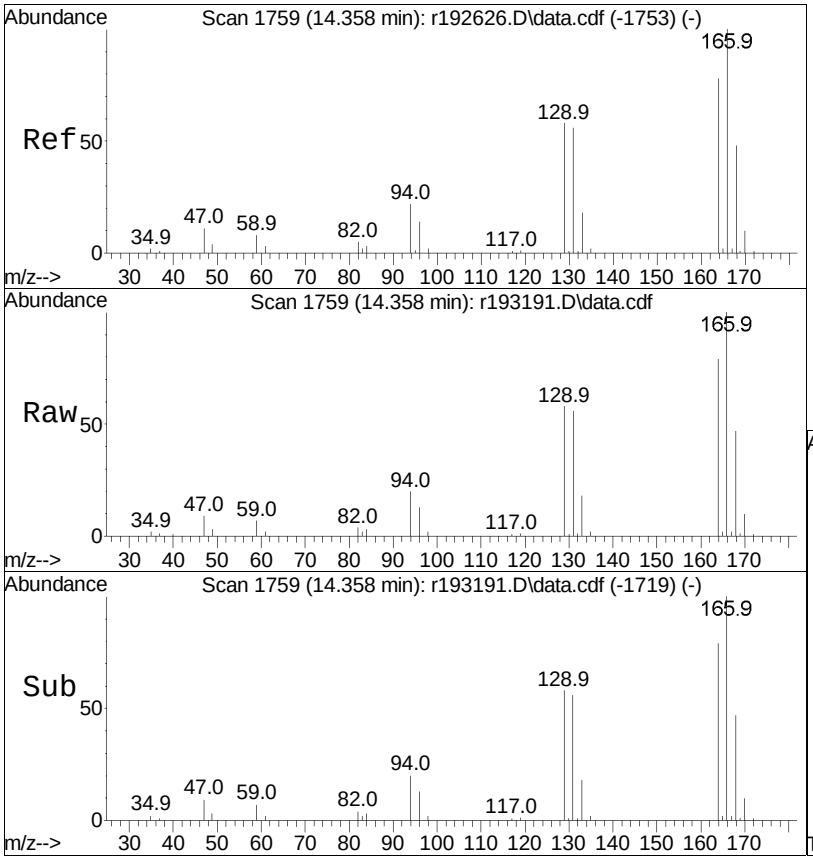


#75
1,2-dibromoethane
Concen: 10.79 ppbV
RT: 13.975 min Scan# 1713
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:107 Resp: 326529

Ion	Ratio	Lower	Upper
107	100		
109	98.9	76.4	114.6

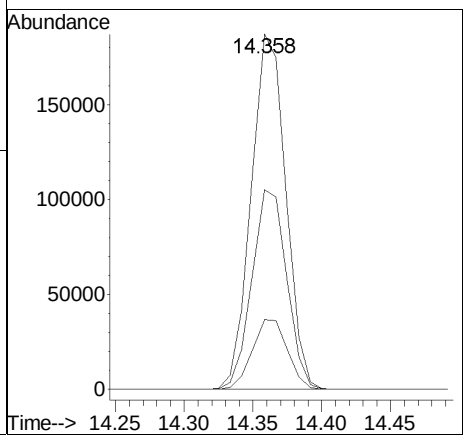


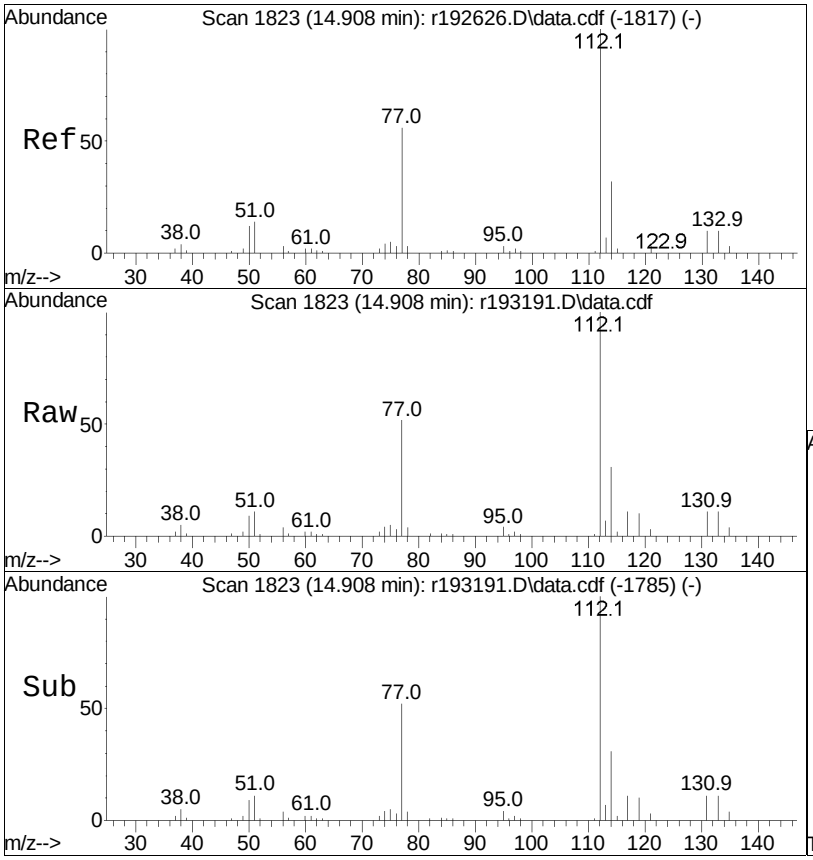


#78
tetrachloroethene
Concen: 11.34 ppbV
RT: 14.358 min Scan# 1759
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:166 Resp: 327900

Ion	Ratio	Lower	Upper
166	100		
131	56.2	46.4	69.6
94	19.6	18.5	27.7

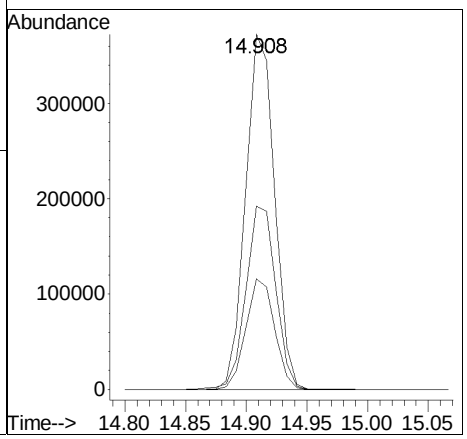


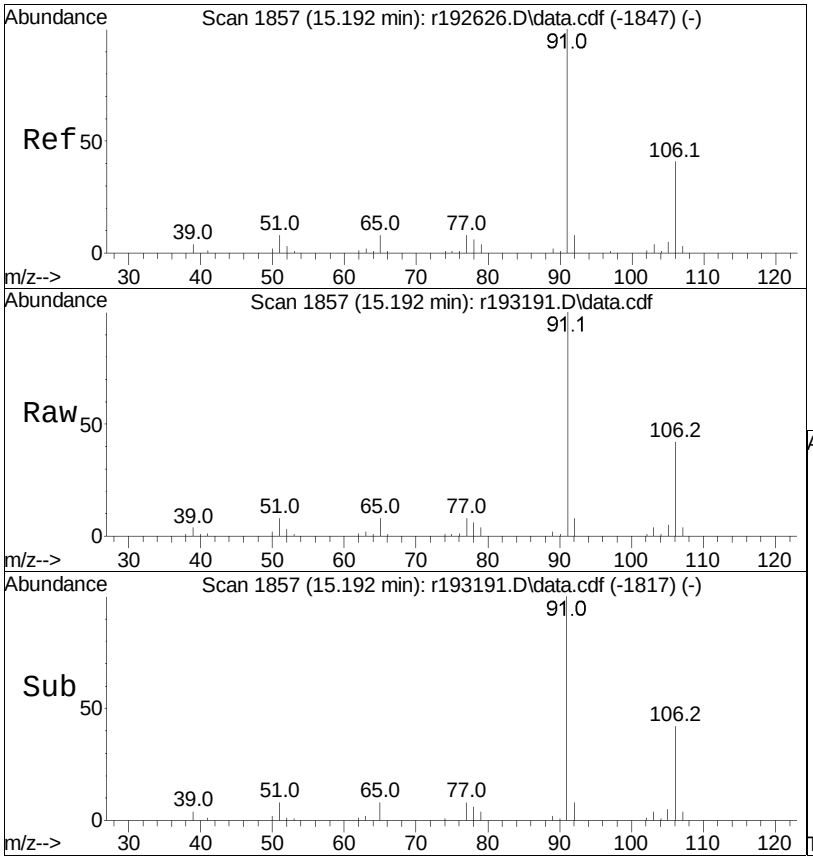


#80
chlorobenzene
Concen: 11.81 ppbV
RT: 14.908 min Scan# 1823
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:112 Resp: 617599

Ion	Ratio	Lower	Upper
112	100		
114	31.1	25.1	37.7
77	51.5	46.2	69.2

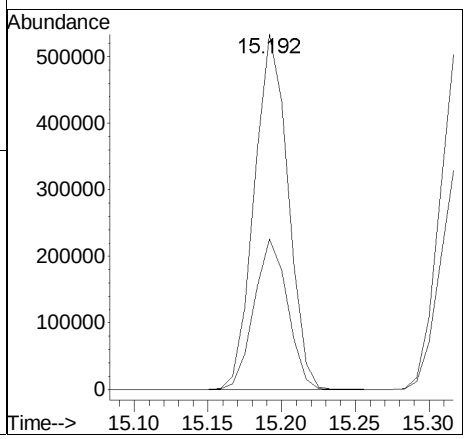


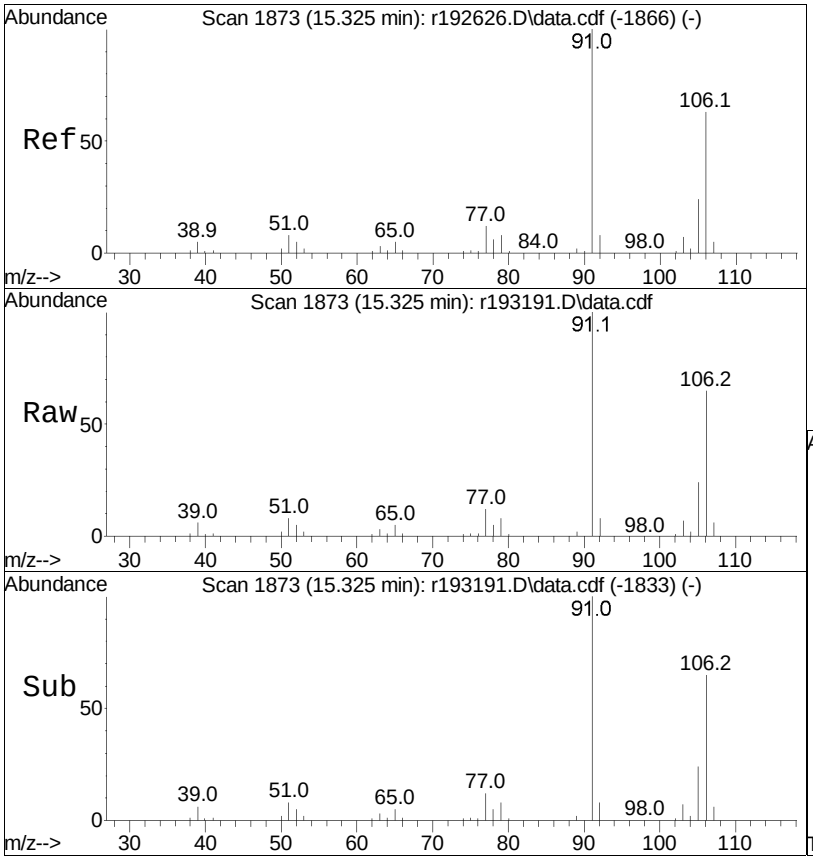


#81
ethylbenzene
Concen: 10.76 ppbV
RT: 15.192 min Scan# 1857
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 91 Resp: 848602

Ion	Ratio	Lower	Upper
91	100		
106	42.3	32.9	49.3

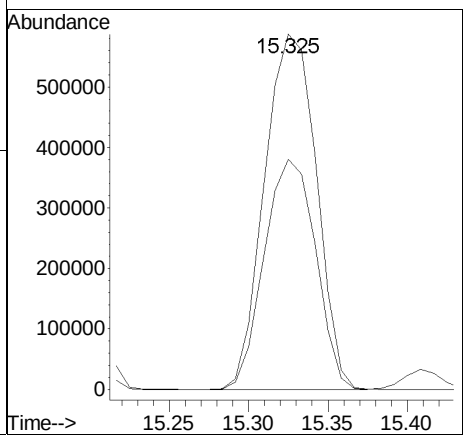


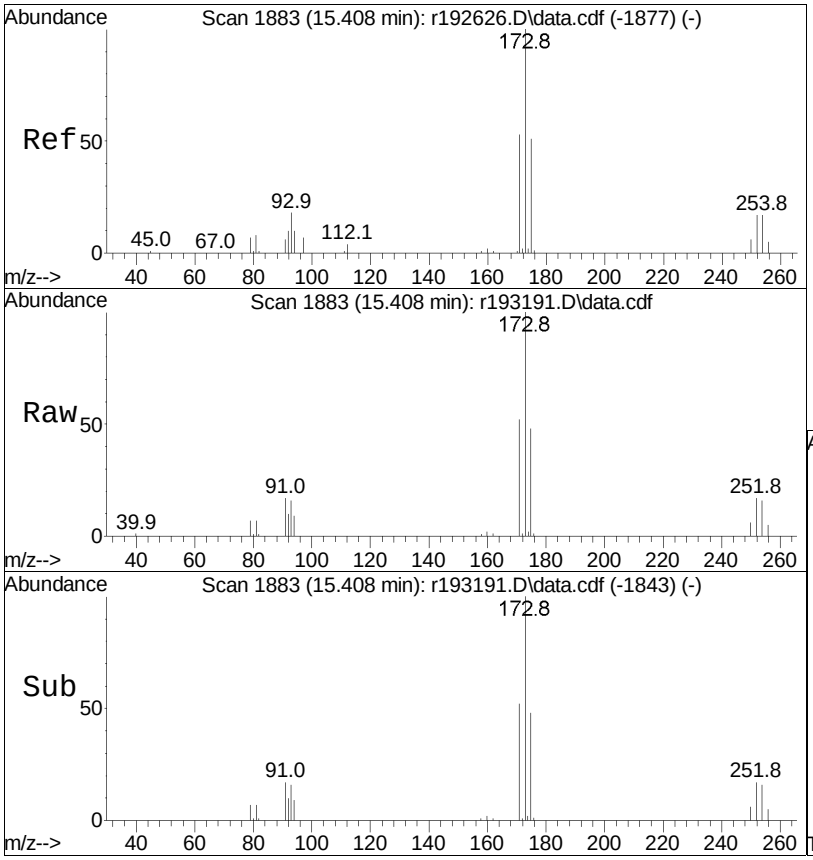


#83
m+p-xylene
Concen: 21.51 ppbV
RT: 15.325 min Scan# 1873
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 91 Resp: 1337977

Ion	Ratio	Lower	Upper
91	100		
106	64.8	51.0	76.4

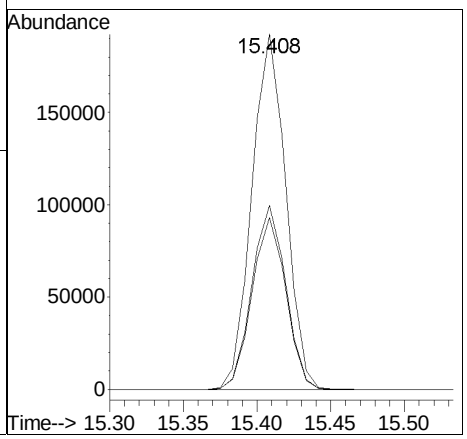


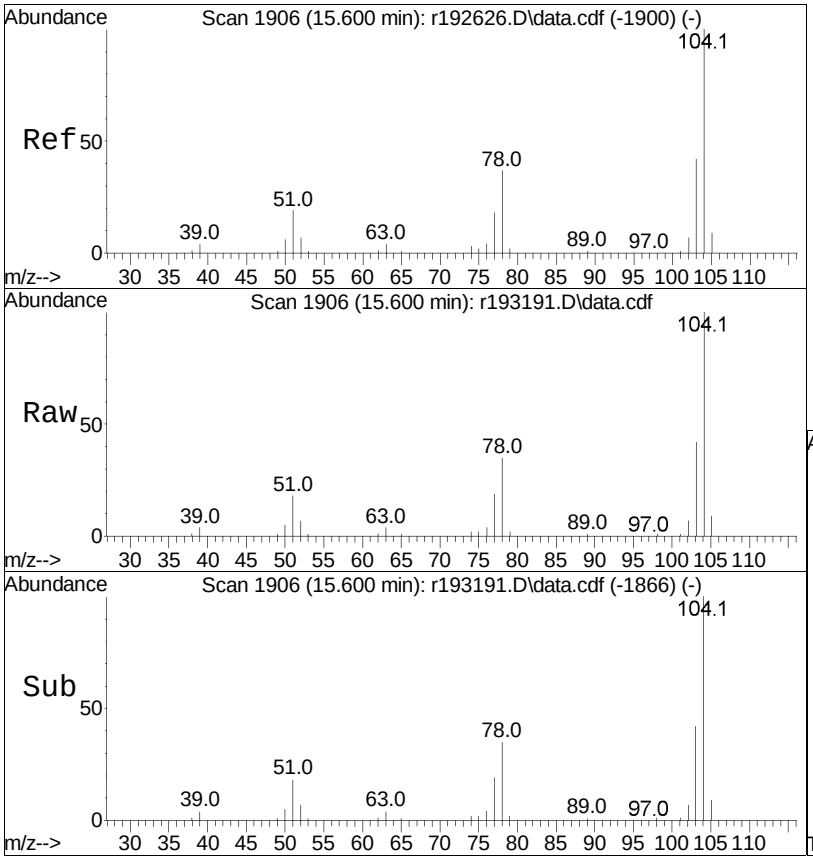


#84
bromoform
Concen: 11.02 ppbV
RT: 15.408 min Scan# 1883
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:173 Resp: 307610

Ion	Ratio	Lower	Upper
173	100		
175	48.4	38.0	57.0
171	51.8	43.2	64.8

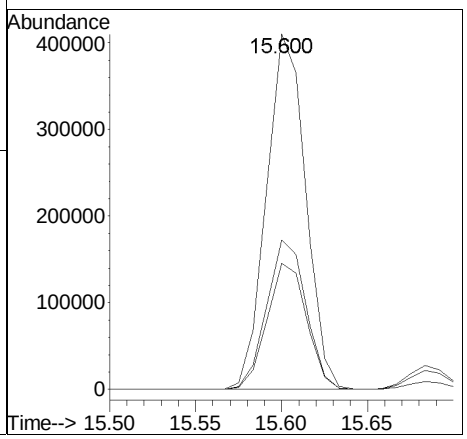


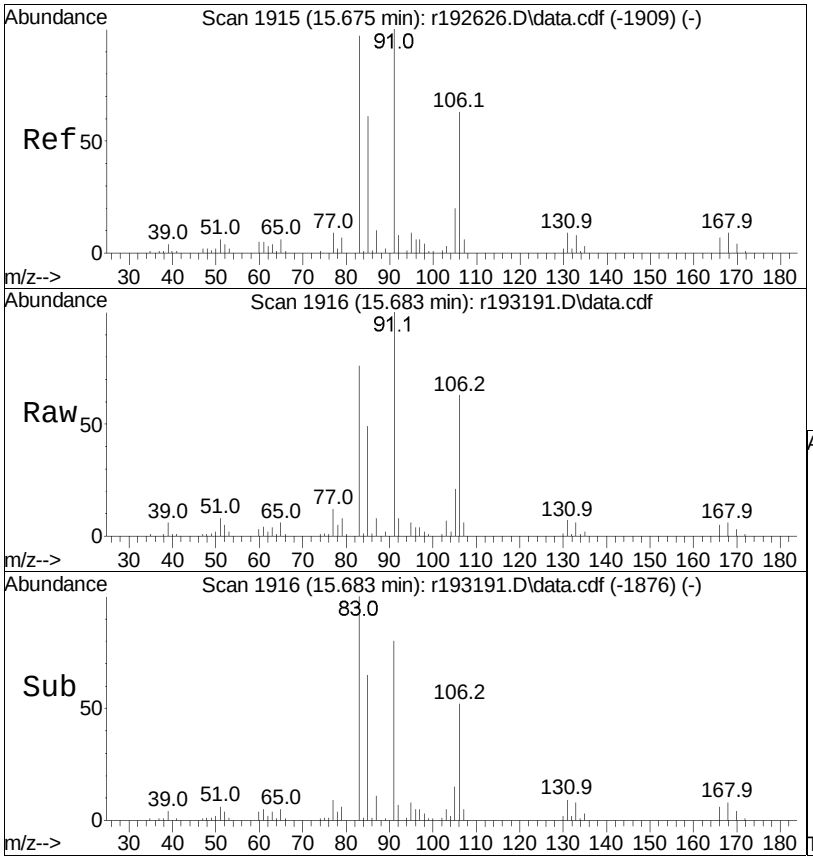


#85
styrene
Concen: 10.79 ppbV
RT: 15.600 min Scan# 1906
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:104 Resp: 649854

Ion	Ratio	Lower	Upper
104	100		
103	42.1	33.4	50.0
78	35.5	30.6	46.0

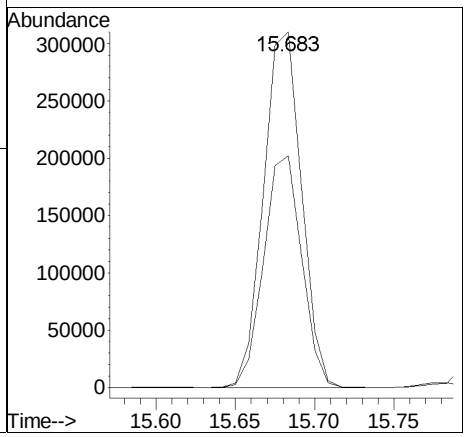


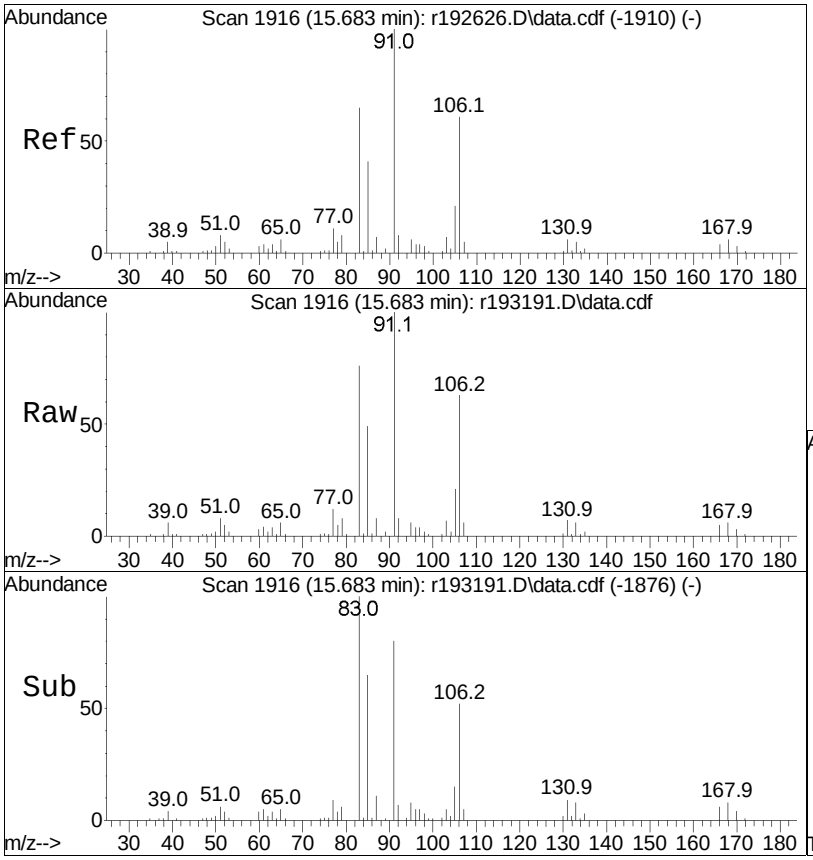


#86
1,1,2,2-tetrachloroethane
Concen: 12.04 ppbV
RT: 15.683 min Scan# 1916
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 83 Resp: 516728

Ion	Ratio	Lower	Upper
83	100		
85	65.2	49.4	74.2

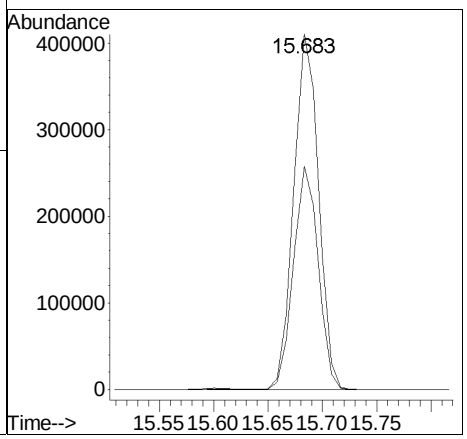


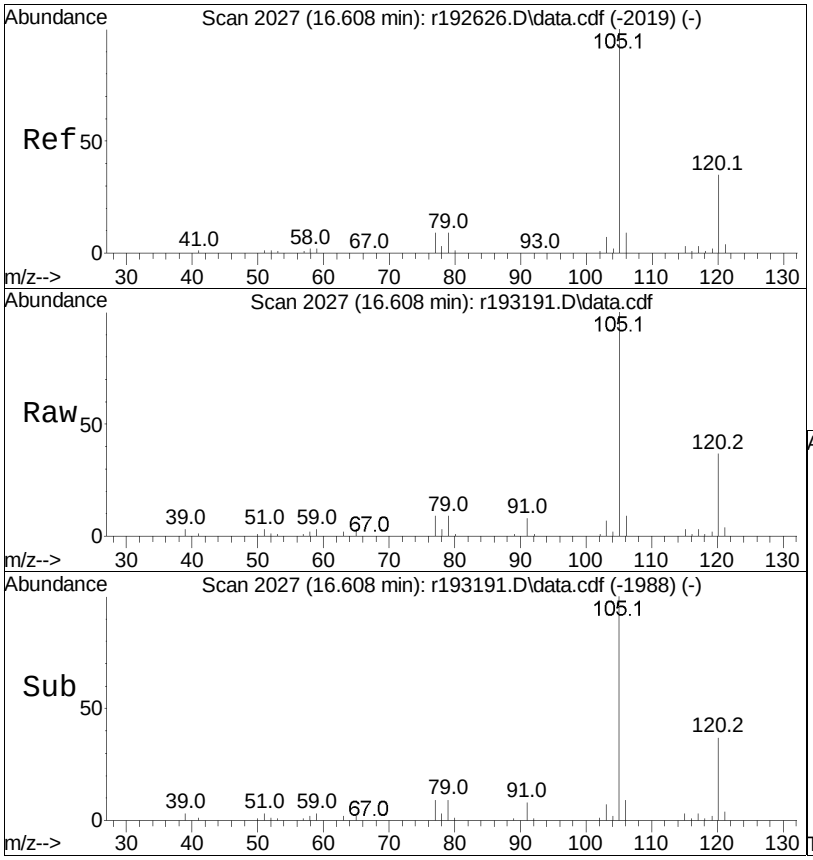


#87
o-xylene
Concen: 10.69 ppbV
RT: 15.683 min Scan# 1916
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 91 Resp: 652185

Ion	Ratio	Lower	Upper
91	100		
106	62.8	47.8	71.8

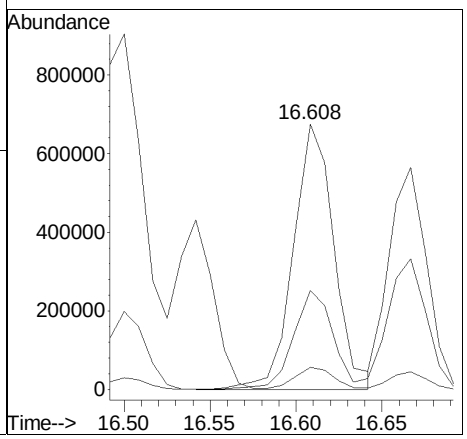


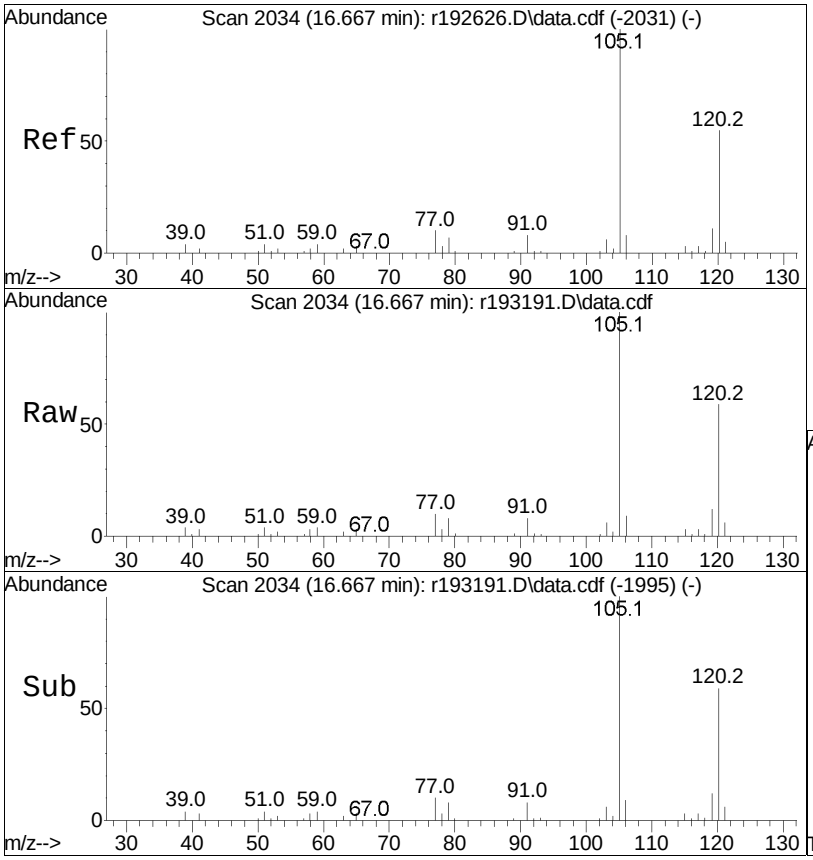


#96
4-ethyl toluene
Concen: 10.73 ppbV
RT: 16.608 min Scan# 2027
Delta R.T. -0.008 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:105 Resp: 1108912

Ion	Ratio	Lower	Upper
105	100		
120	37.3	27.2	40.8
91	8.3	7.0	10.4

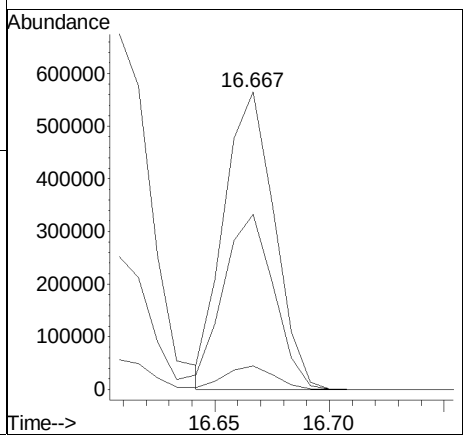


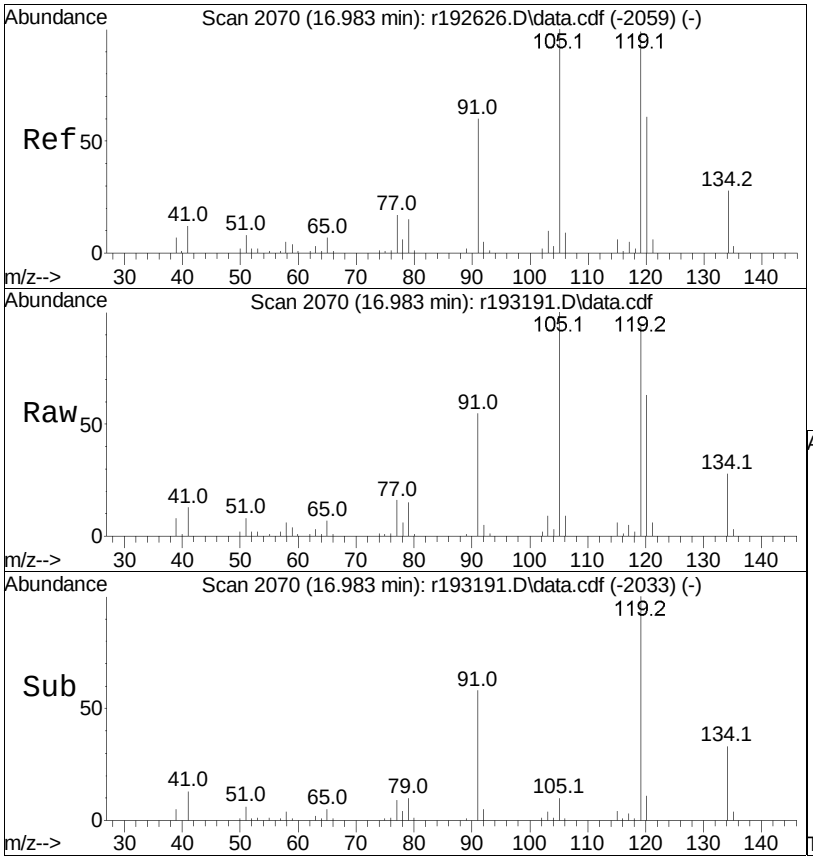


#97
1,3,5-trimethylbenzene
Concen: 10.41 ppbV
RT: 16.667 min Scan# 2034
Delta R.T. -0.008 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:105 Resp: 864333

Ion	Ratio	Lower	Upper
105	100		
120	58.8	42.6	64.0
91	7.9	6.6	9.8

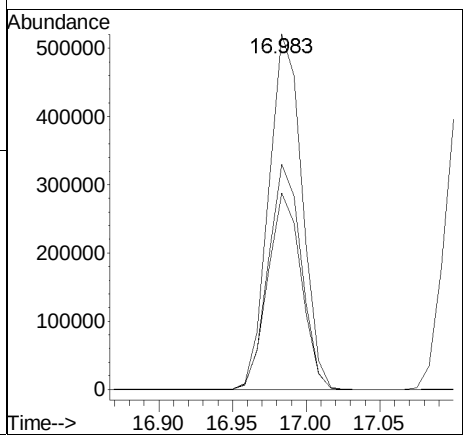


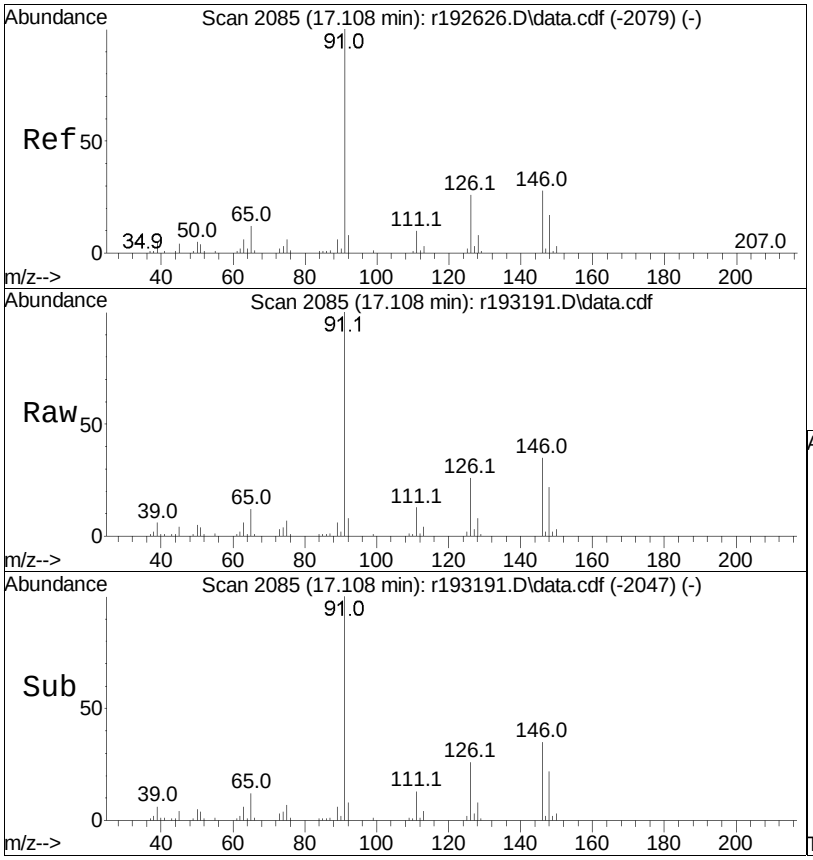


#99
1,2,4-trimethylbenzene
Concen: 10.63 ppbV
RT: 16.983 min Scan# 2070
Delta R.T. -0.008 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:105 Resp: 816769

Ion	Ratio	Lower	Upper
105	100		
120	63.3	49.2	73.8
91	55.2	49.9	74.9

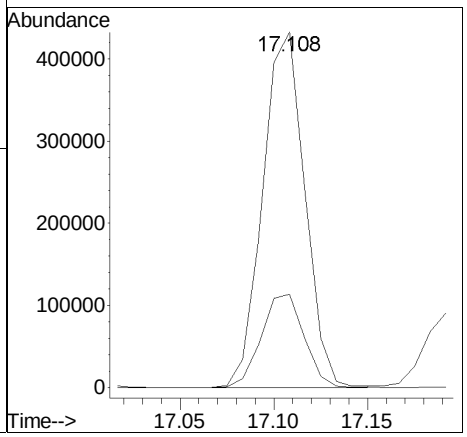


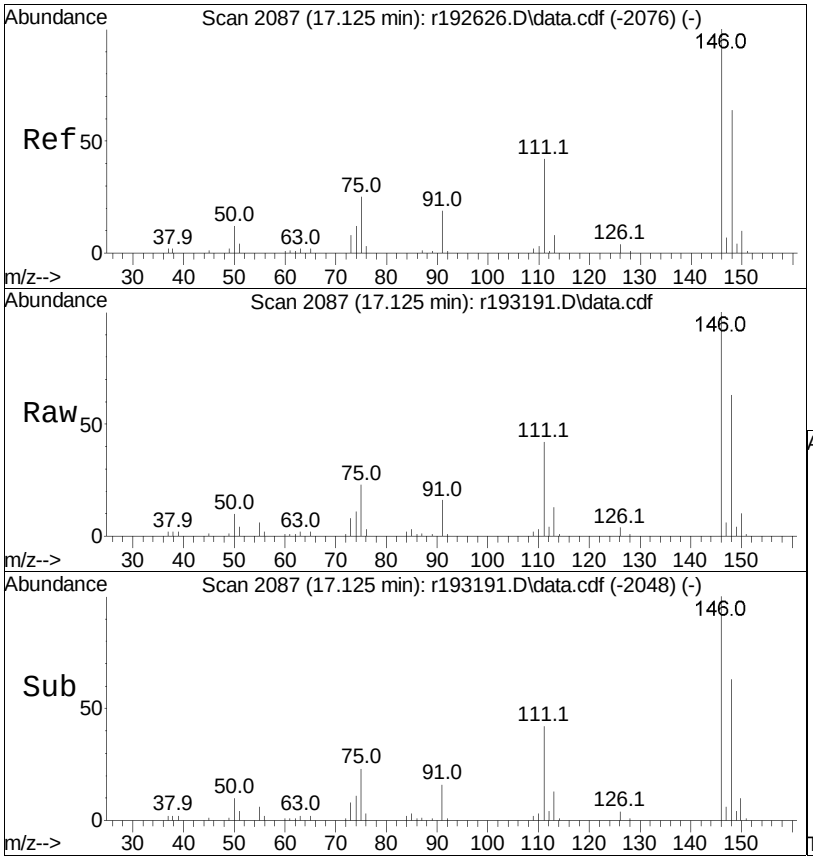


#101
Benzyl Chloride
Concen: 10.91 ppbV
RT: 17.108 min Scan# 2085
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion: 91 Resp: 675058

Ion	Ratio	Lower	Upper
91	100		
126	26.2	20.5	30.7

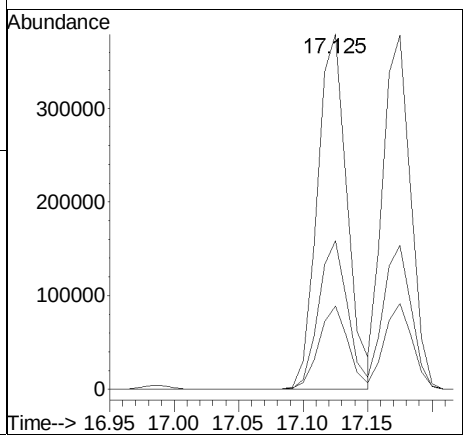


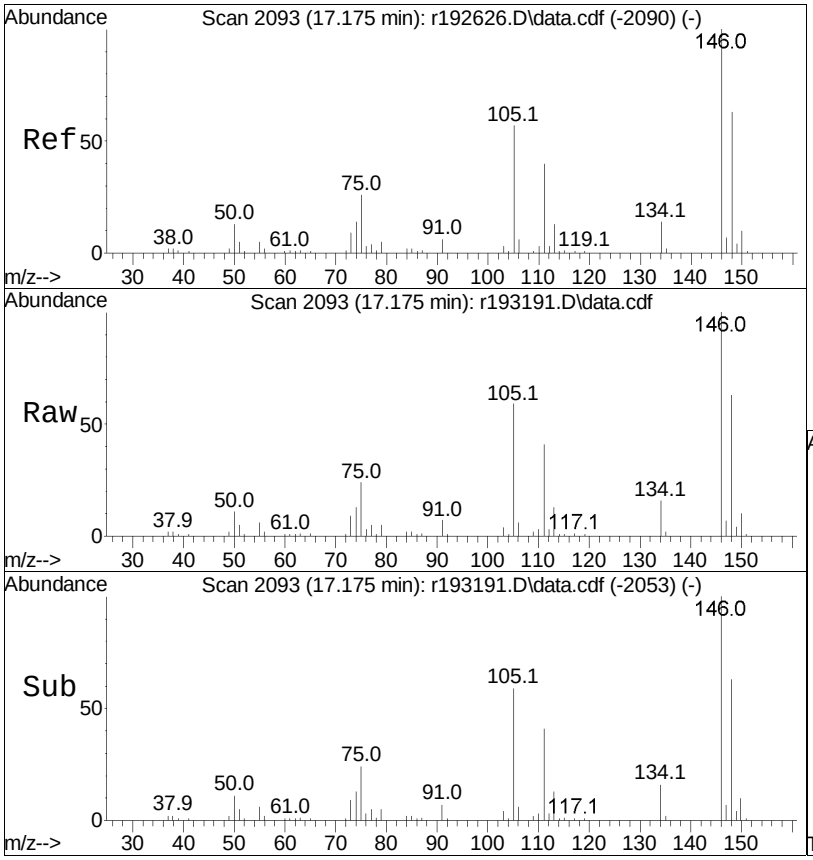


#102
1,3-dichlorobenzene
Concen: 11.60 ppbV
RT: 17.125 min Scan# 2087
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:146 Resp: 610754

Ion	Ratio	Lower	Upper
146	100		
111	41.8	33.6	50.4
75	23.5	20.6	30.8

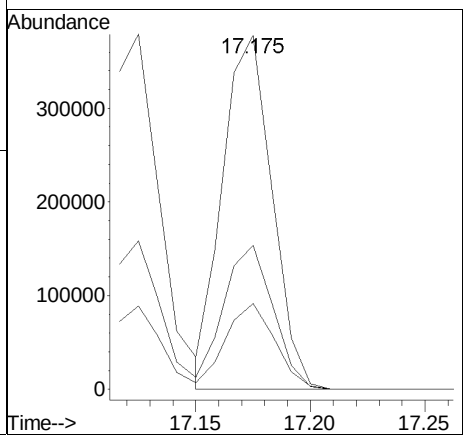


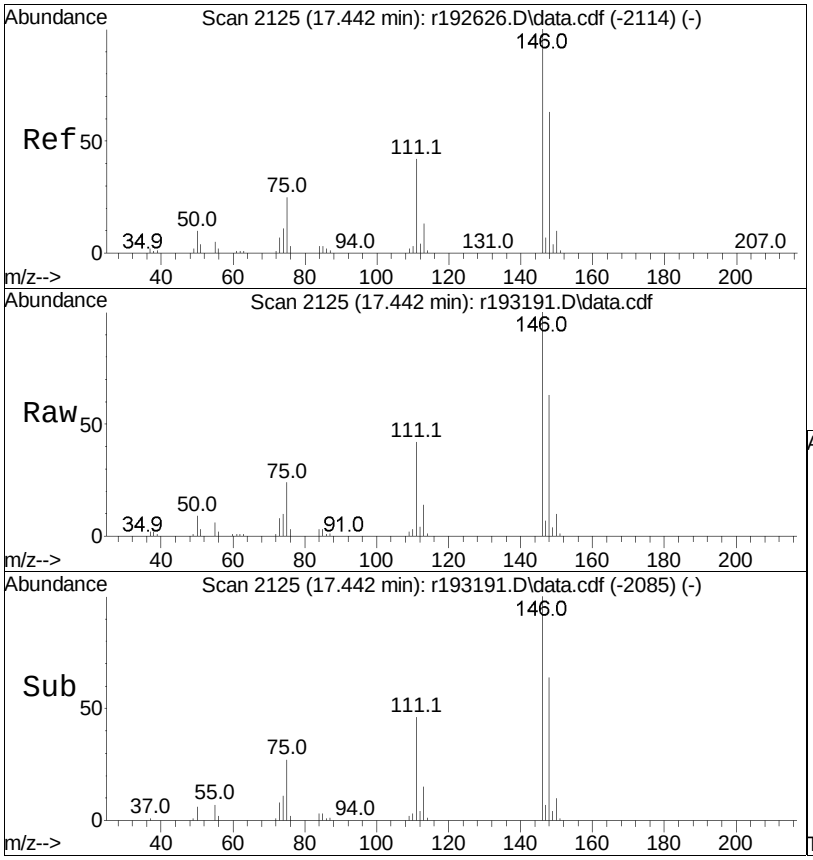


#103
1,4-dichlorobenzene
Concen: 11.28 ppbV
RT: 17.175 min Scan# 2093
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:146 Resp: 568718

Ion	Ratio	Lower	Upper
146	100		
111	40.7	31.1	46.7
75	24.3	20.6	31.0

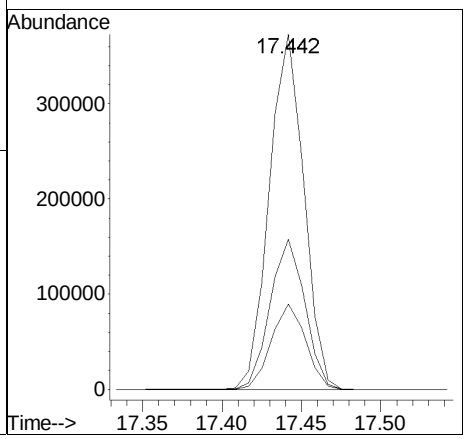


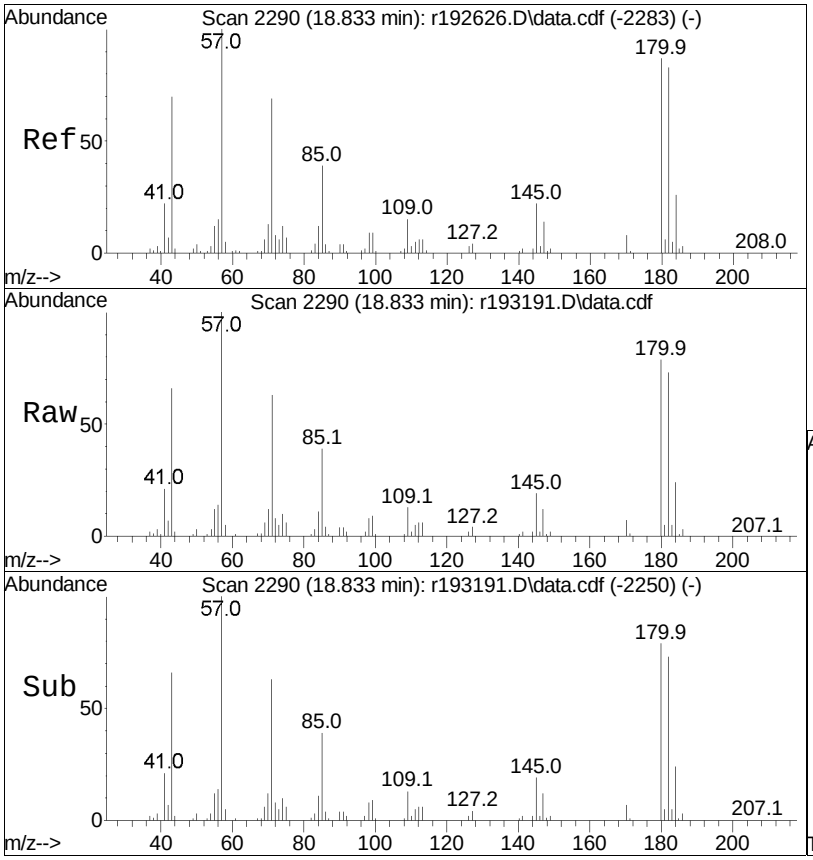


#107
1,2-dichlorobenzene
Concen: 11.33 ppbV
RT: 17.442 min Scan# 2125
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:146 Resp: 565344

Ion	Ratio	Lower	Upper
146	100		
111	42.3	33.1	49.7
75	24.0	20.9	31.3

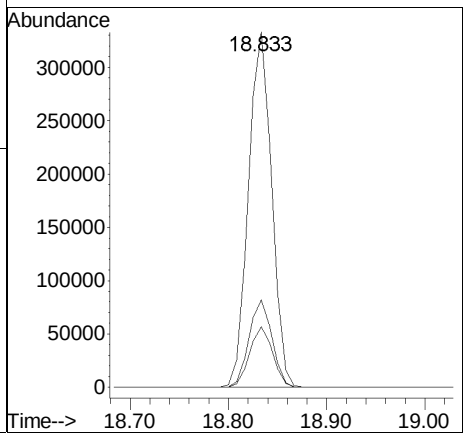


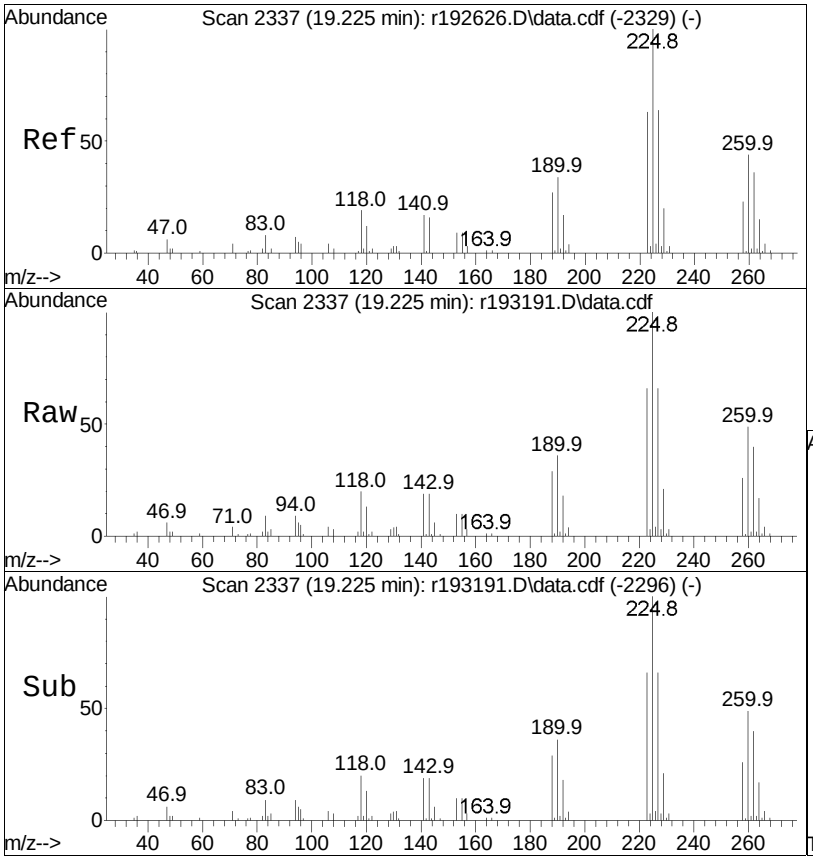


#115
1,2,4-trichlorobenzene
Concen: 12.49 ppbV
RT: 18.833 min Scan# 2290
Delta R.T. 0.000 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:180 Resp: 547929

Ion	Ratio	Lower	Upper
180	100		
145	24.6	21.0	31.4
109	17.1	14.3	21.5

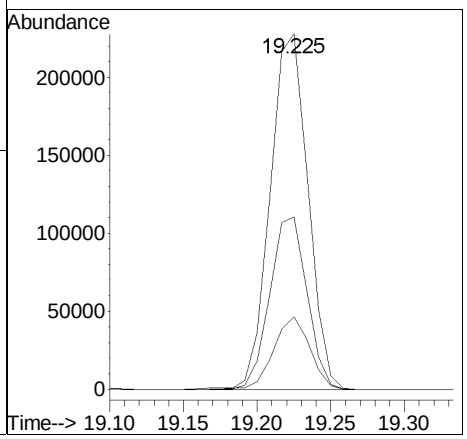




#119
hexachlorobutadiene
Concen: 10.65 ppbV
RT: 19.225 min Scan# 2337
Delta R.T. 0.008 min
Lab File: r193191.D
Acq: 20 Mar 2020 12:51 PM

Tgt Ion:225 Resp: 406023

Ion	Ratio	Lower	Upper
225	100		
260	48.5	34.8	52.2
118	20.5	15.2	22.8



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-3,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	bromochloromethane	10.000	10.000	0.0	95	0.03
2		chlorodifluoromethane	10.000	8.320	16.8	80	0.02
3		propylene	10.000	12.568	-25.7	122	0.02
4		propane	10.000	8.357	16.4	80	0.02
5		dichlorodifluoromethane	10.000	10.640	-6.4	101	0.02
6	C	chloromethane	10.000	11.933	-19.3	115	0.02
7		Freon-114	10.000	11.822	-18.2	112	0.02
8	C	methanol	50.000	52.962	-5.9	99	0.02
9	C	vinyl chloride	10.000	11.513	-15.1	114	0.02
10	C	1,3-butadiene	10.000	10.739	-7.4	104	0.02
11		butane	10.000	12.639	-26.4	123	0.02
13	C	bromomethane	10.000	12.008	-20.1	117	0.02
14	C	chloroethane	10.000	12.115	-21.2	121	0.03
15		ethanol	50.000	50.027	-0.1	91	0.02
16		dichlorofluoromethane	10.000	12.031	-20.3	116	0.02
17	C	vinyl bromide	10.000	11.803	-18.0	113	0.02
18	C	acrolein	10.000	9.009	9.9	88	0.02
19		acetone	50.000	57.892	-15.8	107	0.03
20	C	acetonitrile	10.000	11.358	-13.6	114	0.02
21		trichlorofluoromethane	10.000	12.270	-22.7	120	0.03
22		isopropyl alcohol	25.000	31.270	-25.1	119	0.03
23	C	acrylonitrile	10.000	10.125	-1.3	99	0.03
24		pentane	10.000	13.899	-39.0#	125	0.03
25		ethyl ether	10.000	8.953	10.5	88	0.03
26	C	1,1-dichloroethene	10.000	10.825	-8.2	111	0.03
27		tertiary butyl alcohol	10.000	9.346	6.5	87	0.02
28	C	methylene chloride	10.000	10.990	-9.9	99	0.03
29	C	3-chloropropene	10.000	12.578	-25.8	122	0.03
30	C	carbon disulfide	10.000	9.590	4.1	91	0.03
31		Freon 113	10.000	10.969	-9.7	105	0.02
32		trans-1,2-dichloroethene	10.000	10.801	-8.0	103	0.03
33	C	1,1-dichloroethane	10.000	11.553	-15.5	113	0.03
34	C	MTBE	10.000	10.565	-5.6	99	0.03
35	C	vinyl acetate	10.000	12.258	-22.6	113	0.03
36	C	2-butanone	10.000	12.017	-20.2	115	0.03
37		cis-1,2-dichloroethene	10.000	11.501	-15.0	112	0.03
38		Ethyl Acetate	10.000	11.676	-16.8	115	0.03
39	C	chloroform	10.000	10.239	-2.4	97	0.03
40		Tetrahydrofuran	10.000	11.689	-16.9	113	0.03

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-3,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41		2,2-dichloropropane	10.000	9.498	5.0	87	0.03
42	C	1,2-dichloroethane	10.000	11.184	-11.8	106	0.03
43	I	1,4-difluorobenzene	10.000	10.000	0.0	94	0.03
44	C	hexane	10.000	10.311	-3.1	98	0.03
45		diisopropyl ether	10.000	9.611	3.9	92	0.03
46		tert-butyl ethyl ether	10.000	9.819	1.8	92	0.03
48	C	1,1,1-trichloroethane	10.000	11.348	-13.5	106	0.03
49		1,1-dichloropropene	10.000	9.904	1.0	92	0.03
50	C	benzene	10.000	9.732	2.7	93	0.03
52	C	carbon tetrachloride	10.000	10.765	-7.7	96	0.03
53		cyclohexane	10.000	10.077	-0.8	97	0.03
54		tert-amyl methyl ether	10.000	9.936	0.6	91	0.03
55		dibromomethane	10.000	10.263	-2.6	97	0.03
56	C	1,2-dichloropropane	10.000	12.262	-22.6	118	0.03
57		bromodichloromethane	10.000	9.885	1.2	91	0.03
58	C	1,4-dioxane	10.000	11.035	-10.4	105	0.03
59	C	trichloroethene	10.000	11.995	-19.9	114	0.03
60	C	2,2,4-trimethylpentane	10.000	10.581	-5.8	100	0.03
61		methyl methacrylate	10.000	9.528	4.7	79	0.03
62		heptane	10.000	12.312	-23.1	115	0.03
63	C	cis-1,3-dichloropropene	10.000	11.071	-10.7	103	0.03
64	C	4-methyl-2-pentanone	10.000	12.784	-27.8	116	0.03
65		trans-1,3-dichloropropene	10.000	9.578	4.2	88	0.03
66	C	1,1,2-trichloroethane	10.000	11.527	-15.3	111	0.03
67	I	chlorobenzene-D5	10.000	10.000	0.0	87	0.02
68	C	toluene	10.000	12.007	-20.1	109	0.03
71		1,3-dichloropropane	10.000	10.355	-3.6	89	0.03
72		2-hexanone	10.000	14.029	-40.3#	114	0.03
74		dibromochloromethane	10.000	12.935	-29.4	110	0.02
75	C	1,2-dibromoethane	10.000	11.247	-12.5	99	0.02
76		butyl acetate	10.000	10.198	-2.0	87	0.03
77		octane	10.000	10.159	-1.6	89	0.03
78	C	tetrachloroethene	10.000	11.519	-15.2	102	0.02
79		1,1,1,2-tetrachloroethane	10.000	11.547	-15.5	100	0.02
80	C	chlorobenzene	10.000	11.441	-14.4	101	0.03
81	C	ethylbenzene	10.000	12.181	-21.8	108	0.02
83	C	m+p-xylene	20.000	24.782	-23.9	108	0.03

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-3,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
84	C	bromoform	10.000	11.876	-18.8	97	0.02
85	C	styrene	10.000	11.498	-15.0	99	0.02
86	C	1,1,2,2-tetrachloroethane	10.000	12.390	-23.9	105	0.03
87	C	o-xylene	10.000	12.932	-29.3	111	0.03
88		1,2,3-trichloropropane	10.000	10.143	-1.4	86	0.02
89		nonane	10.000	11.999	-20.0	102	0.03
91	C	isopropylbenzene	10.000	10.863	-8.6	93	0.03
92		bromobenzene	10.000	10.109	-1.1	84	0.03
93		2-chlorotoluene	10.000	11.332	-13.3	99	0.02
94		n-propylbenzene	10.000	11.320	-13.2	97	0.03
95		4-chlorotoluene	10.000	11.196	-12.0	97	0.02
96		4-ethyl toluene	10.000	11.539	-15.4	97	0.02
97		1,3,5-trimethylbenzene	10.000	12.097	-21.0	104	0.02
98		tert-butylbenzene	10.000	11.810	-18.1	95	0.03
99		1,2,4-trimethylbenzene	10.000	12.988	-29.9	106	0.03
100		decane	10.000	11.197	-12.0	93	0.02
101	C	Benzyl Chloride	10.000	12.634	-26.3	93	0.03
102		1,3-dichlorobenzene	10.000	12.104	-21.0	103	0.03
103	C	1,4-dichlorobenzene	10.000	12.115	-21.2	98	0.02
104		sec-butylbenzene	10.000	11.013	-10.1	90	0.02
106		p-isopropyltoluene	10.000	10.956	-9.6	85	0.02
107		1,2-dichlorobenzene	10.000	12.085	-20.9	103	0.02
108		n-butylbenzene	10.000	12.027	-20.3	96	0.02
111	C	1,2-dibromo-3-chloropropane	10.000	11.516	-15.2	85	0.03
112		undecane	10.000	11.620	-16.2	92	0.03
114		dodecane	10.000	11.903	-19.0	86	0.02
115	C	1,2,4-trichlorobenzene	10.000	13.816	-38.2#	101	0.02
116		naphthalene	10.000	12.417	-24.2	89	0.02
117		1,2,3-trichlorobenzene	10.000	11.679	-16.8	82	0.02
119	C	hexachlorobutadiene	10.000	14.611	-46.1#	120	0.02

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 2

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-3,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.583	49	353543	10.000	ppbV	0.03
Standard Area = 353543			Recovery = 100.00%			
43) 1,4-difluorobenzene	11.847	114	970632	10.000	ppbV	0.03
Standard Area = 970632			Recovery = 100.00%			
67) chlorobenzene-D5	16.567	54	139948	10.000	ppbV	0.02
Standard Area = 139948			Recovery = 100.00%			
System Monitoring Compounds						
Target Compounds						Qvalue
5) dichlorodifluoromethane	4.000	85	340013	10.640	ppbV	99
6) chloromethane	4.180	50	175228	11.933	ppbV	96
7) Freon-114	4.306	85	459629	11.822	ppbV	94
9) vinyl chloride	4.438	62	197192	11.513	ppbV	97
10) 1,3-butadiene	4.606	54	184419	10.739	ppbV	87
13) bromomethane	4.924	94	170280	12.008	ppbV	95
14) chloroethane	5.146	64	105516	12.115	ppbV	97
15) ethanol	5.320	31	688947	50.027	ppbV #	80
17) vinyl bromide	5.570	106	192187	11.803	ppbV	99
19) acetone	5.880	43	1327673	57.892	ppbV #	84
21) trichlorofluoromethane	6.090	101	305977	12.270	ppbV	98
22) isopropyl alcohol	6.213	45	916909	31.270	ppbV #	96
26) 1,1-dichloroethene	6.864	61	254062	10.825	ppbV	92
27) tertiary butyl alcohol	6.942	59	328459	9.346	ppbV	98
28) methylene chloride	7.032	49	242639	10.990	ppbV	99
29) 3-chloropropene	7.170	41	364211	12.578	ppbV	93
30) carbon disulfide	7.320	76	618756	9.590	ppbV	97
31) Freon 113	7.356	101	373192	10.969	ppbV	99
32) trans-1,2-dichloroethene	8.158	61	296925	10.801	ppbV	97
33) 1,1-dichloroethane	8.392	63	374044	11.553	ppbV	100
34) MTBE	8.475	73	592185	10.565	ppbV	97
36) 2-butanone	8.875	43	522608	12.017	ppbV	96
37) cis-1,2-dichloroethene	9.392	61	272820	11.501	ppbV	97
38) Ethyl Acetate	9.692	61	84761	11.676	ppbV	99
39) chloroform	9.742	83	351512	10.239	ppbV	97
40) Tetrahydrofuran	10.183	42	318057	11.689	ppbV	94
42) 1,2-dichloroethane	10.592	62	211882	11.184	ppbV	96

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-3,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) hexane	9.650	57	371246	10.311	ppbV		97
48) 1,1,1-trichloroethane	10.875	97	311625	11.348	ppbV		98
50) benzene	11.407	78	683936	9.732	ppbV		99
52) carbon tetrachloride	11.580	117	274453	10.765	ppbV		97
53) cyclohexane	11.720	56	393017	10.077	ppbV		94
56) 1,2-dichloropropane	12.360	63	261176	12.262	ppbV		99
57) bromodichloromethane	12.593	83	370778	9.885	ppbV		98
58) 1,4-dioxane	12.627	88	177883	11.035	ppbV		100
59) trichloroethene	12.640	130	314176	11.995	ppbV		98
60) 2,2,4-trimethylpentane	12.687	57	1212430	10.581	ppbV		95
62) heptane	13.007	43	554356	12.312	ppbV		92
63) cis-1,3-dichloropropene	13.658	75	377301	11.071	ppbV		96
64) 4-methyl-2-pentanone	13.692	43	648864	12.784	ppbV		94
65) trans-1,3-dichloropropene	14.275	75	303555	9.578	ppbV		95
66) 1,1,2-trichloroethane	14.475	97	268889	11.527	ppbV		94
68) toluene	14.792	91	852731	12.007	ppbV		100
72) 2-hexanone	15.067	43	584802	14.029	ppbV	#	87
74) dibromochloromethane	15.233	129	396414	12.935	ppbV		99
75) 1,2-dibromoethane	15.483	107	380331	11.247	ppbV		99
78) tetrachloroethene	15.950	166	359495	11.519	ppbV		93
80) chlorobenzene	16.608	112	647553	11.441	ppbV		97
81) ethylbenzene	16.958	91	1030325	12.181	ppbV		95
83) m+p-xylene	17.117	91	1716028	24.782	ppbV		94
84) bromoform	17.183	173	339273	11.876	ppbV		100
85) styrene	17.442	104	710531	11.498	ppbV		98
86) 1,1,2,2-tetrachloroethane	17.533	83	598789	12.390	ppbV		99
87) o-xylene	17.533	91	877460	12.932	ppbV		95
96) 4-ethyl toluene	18.592	105	1260588	11.539	ppbV		97
97) 1,3,5-trimethylbenzene	18.650	105	1074869	12.097	ppbV		96
99) 1,2,4-trimethylbenzene	18.983	105	1073784	12.988	ppbV		95
101) Benzyl Chloride	19.100	91	730511	12.634	ppbV		98
102) 1,3-dichlorobenzene	19.108	146	615768	12.104	ppbV		99
103) 1,4-dichlorobenzene	19.158	146	586145	12.115	ppbV		97
107) 1,2-dichlorobenzene	19.433	146	586153	12.085	ppbV		100
115) 1,2,4-trichlorobenzene	20.900	180	417816	13.816	ppbV		100
119) hexachlorobutadiene	21.333	225	547909	14.611	ppbV		99

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

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-3,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

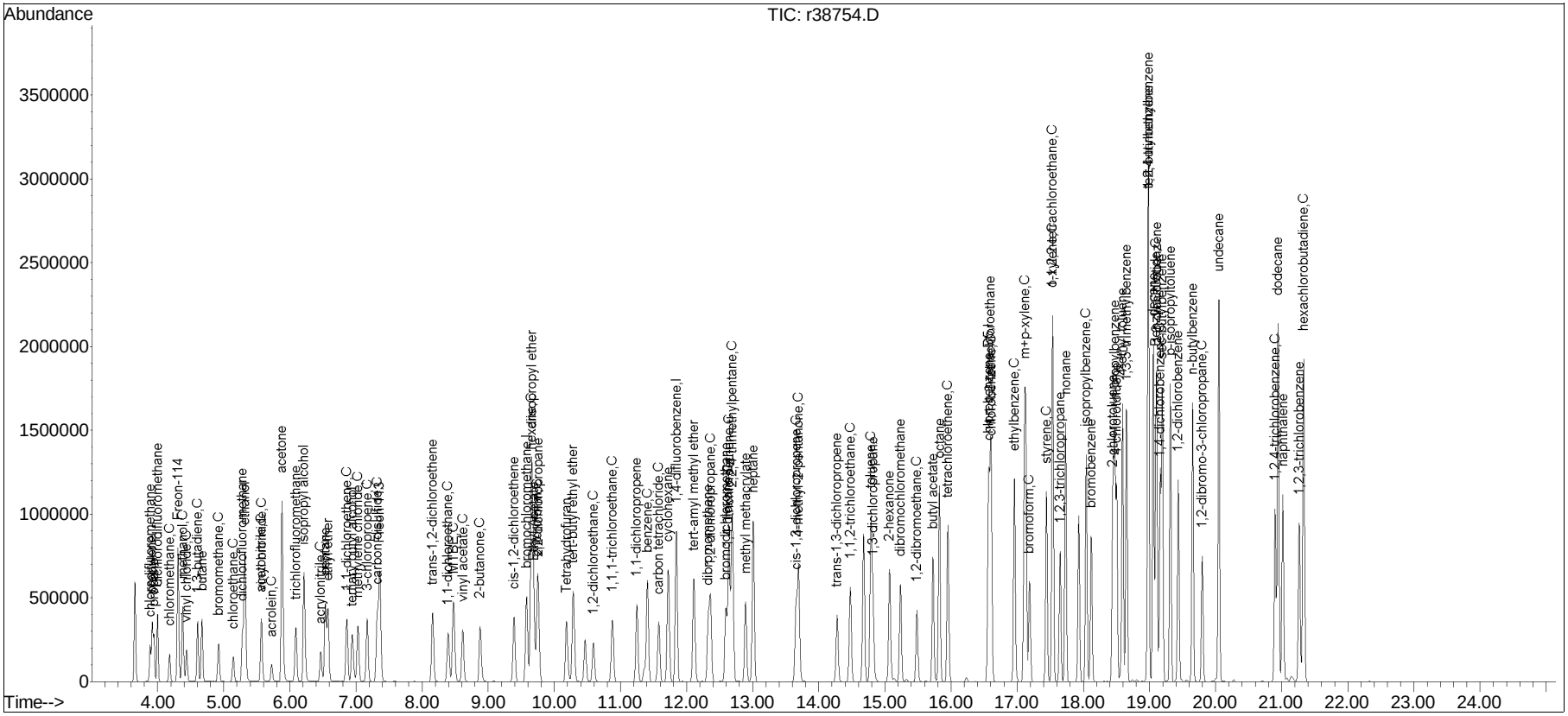
CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : Default-LCS-AP2 - All compounds listed

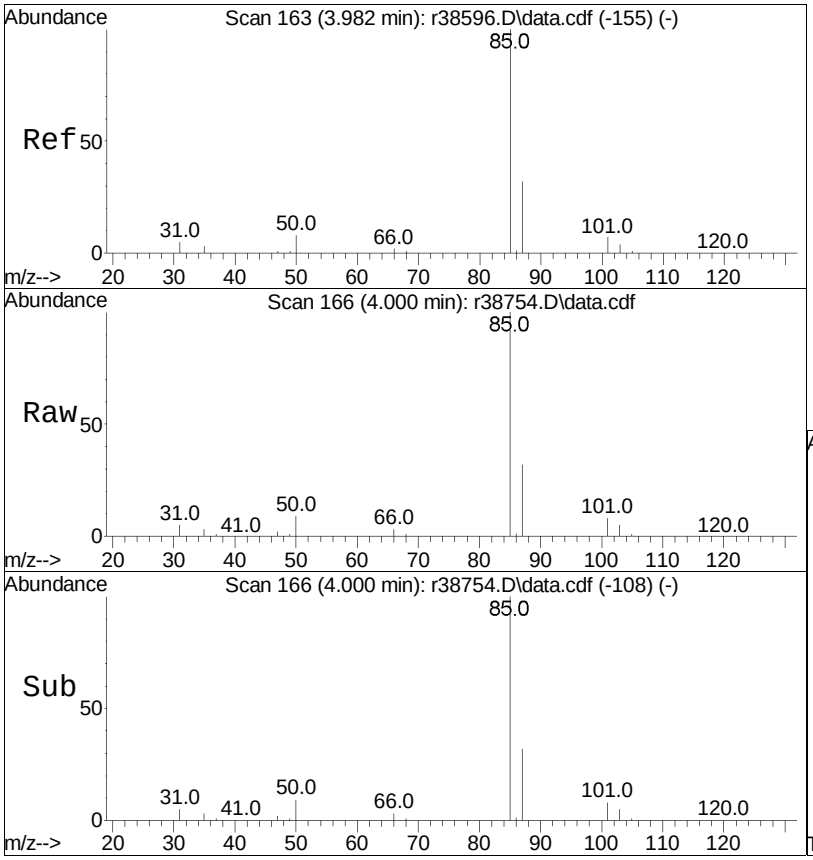
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Sub List : Default-LCS-AP2 - All compounds listed0320T\r38754.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38754.D
Acq On : 20 Mar 2020 1:32 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-3,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:43:06 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

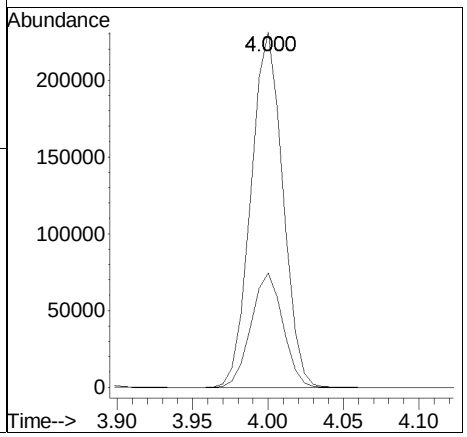


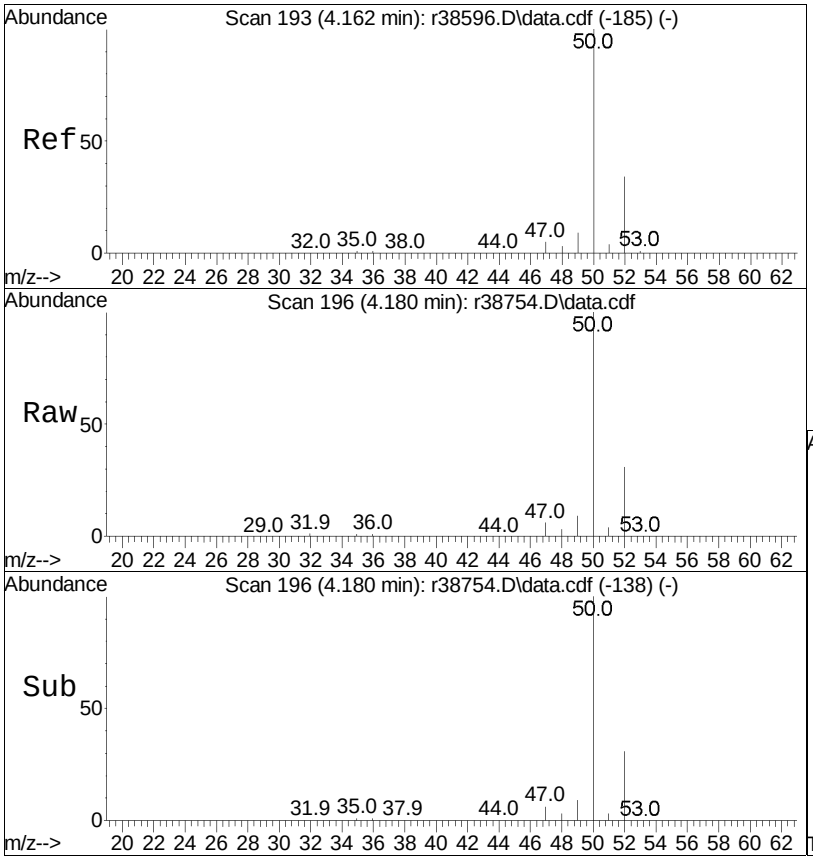


#5
dichlorodifluoromethane
Concen: 10.64 ppbV
RT: 4.000 min Scan# 166
Delta R.T. 0.018 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 85 Resp: 340013

Ion	Ratio	Lower	Upper
85	100		
87	32.2	25.4	38.0

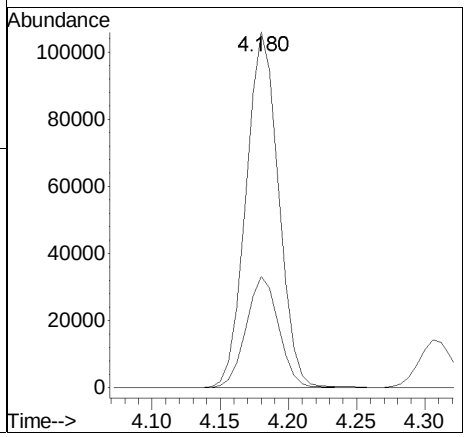


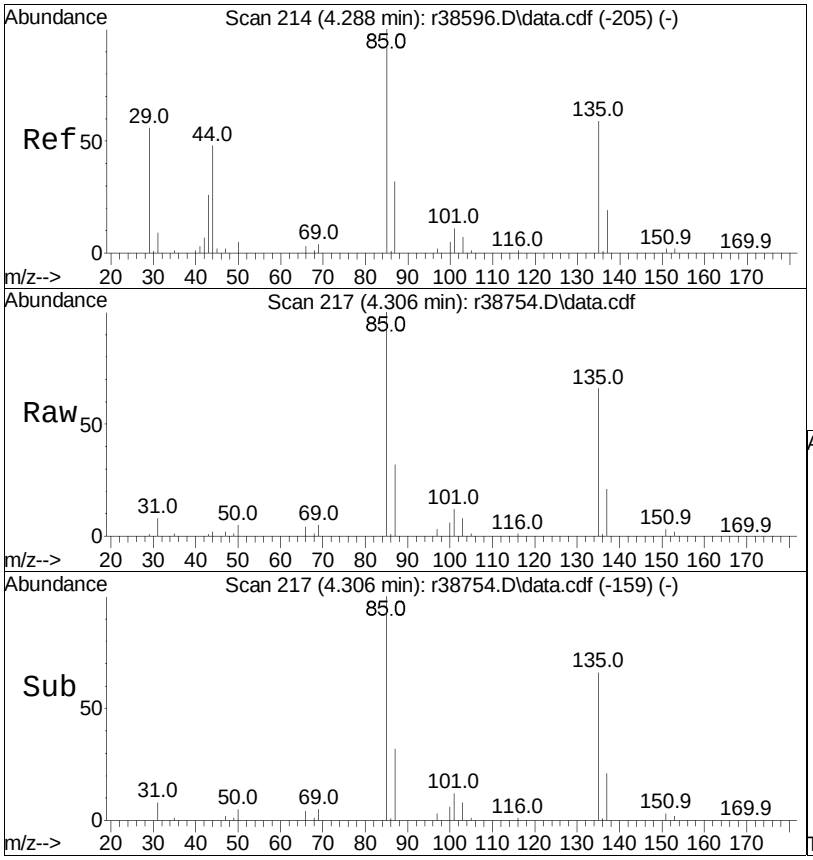


#6
chloromethane
Concen: 11.93 ppbV
RT: 4.180 min Scan# 196
Delta R.T. 0.018 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 50 Resp: 175228

Ion	Ratio	Lower	Upper
50	100		
52	31.3	26.9	40.3

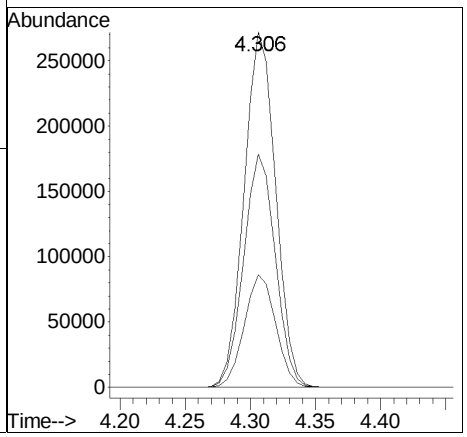


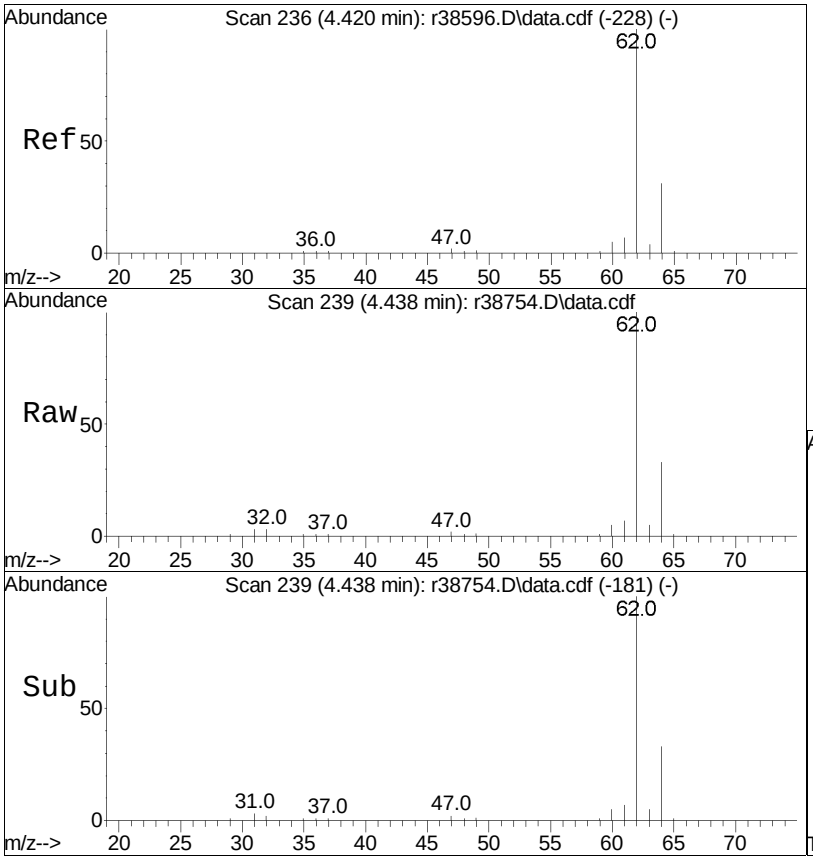


#7
Freon-114
Concen: 11.82 ppbV
RT: 4.306 min Scan# 217
Delta R.T. 0.018 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 85 Resp: 459629

Ion	Ratio	Lower	Upper
85	100		
87	31.7	25.4	38.0
135	65.6	47.1	70.7

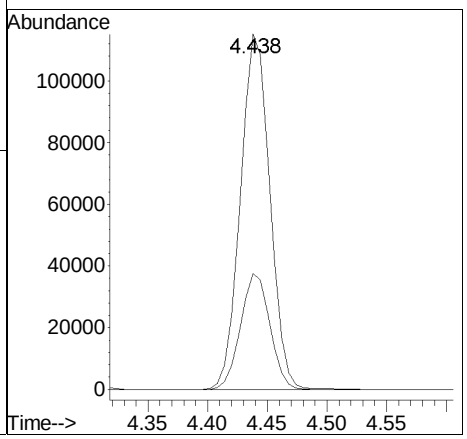


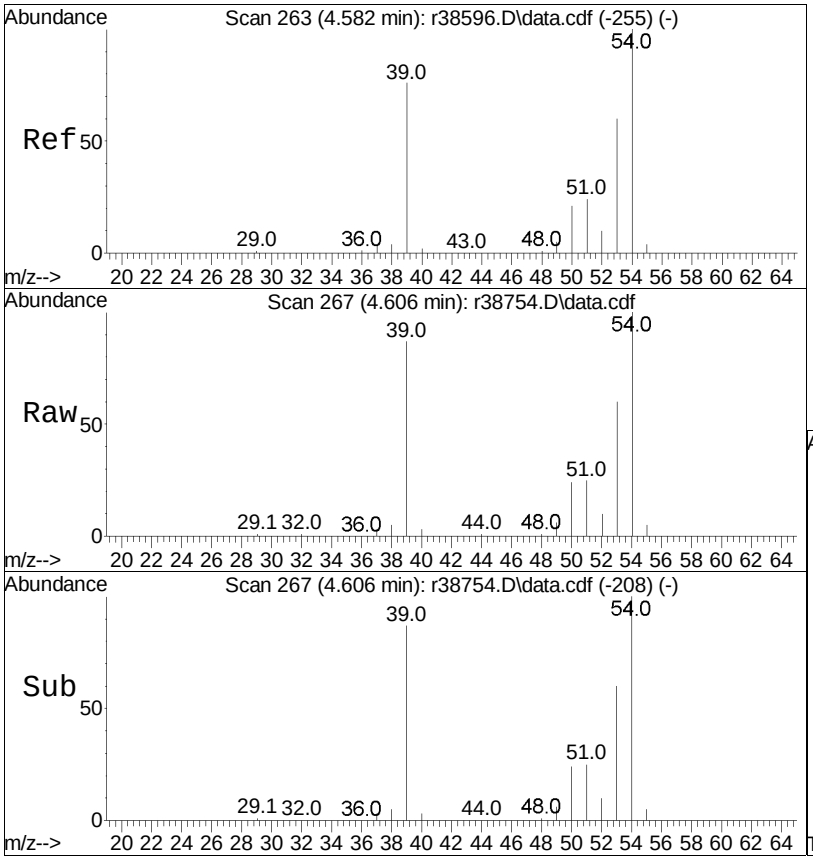


#9
vinyl chloride
Concen: 11.51 ppbV
RT: 4.438 min Scan# 239
Delta R.T. 0.018 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 62 Resp: 197192

Ion	Ratio	Lower	Upper
62	100		
64	32.6	24.6	36.8

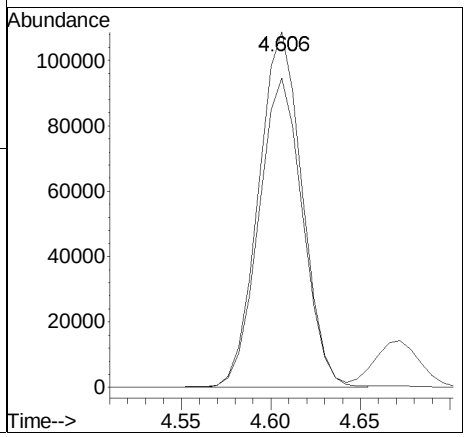


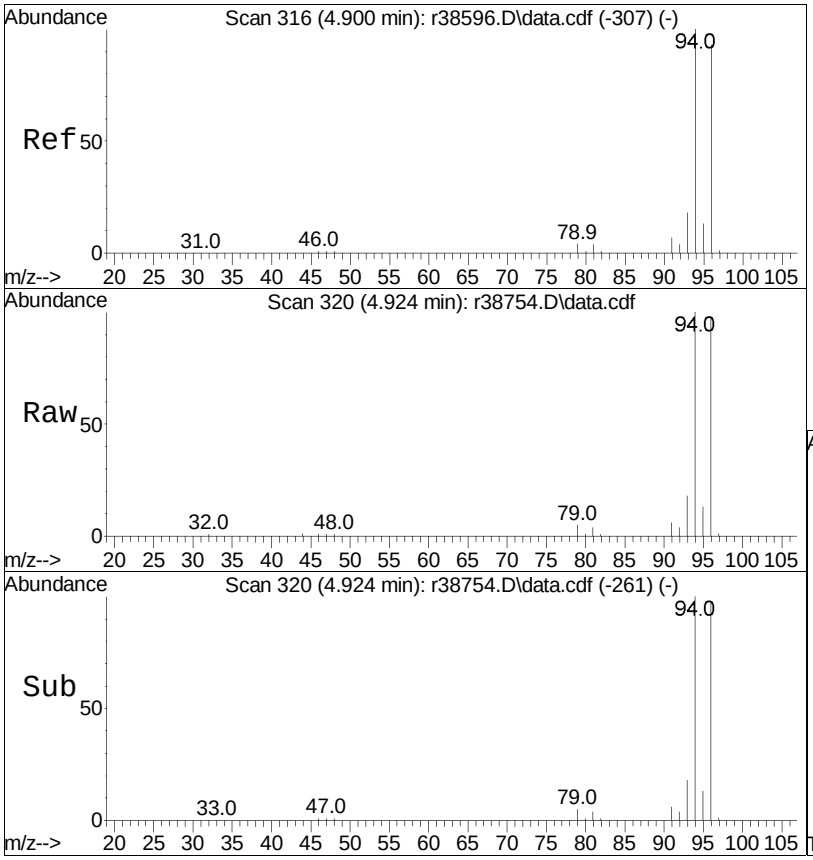


#10
1,3-butadiene
Concen: 10.74 ppbV
RT: 4.606 min Scan# 267
Delta R.T. 0.024 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 54 Resp: 184419

Ion	Ratio	Lower	Upper
54	100		
39	87.0	60.9	91.3

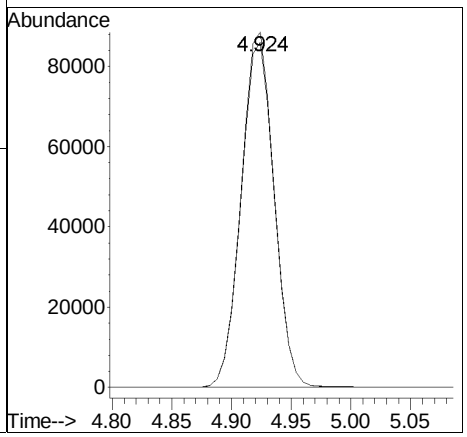


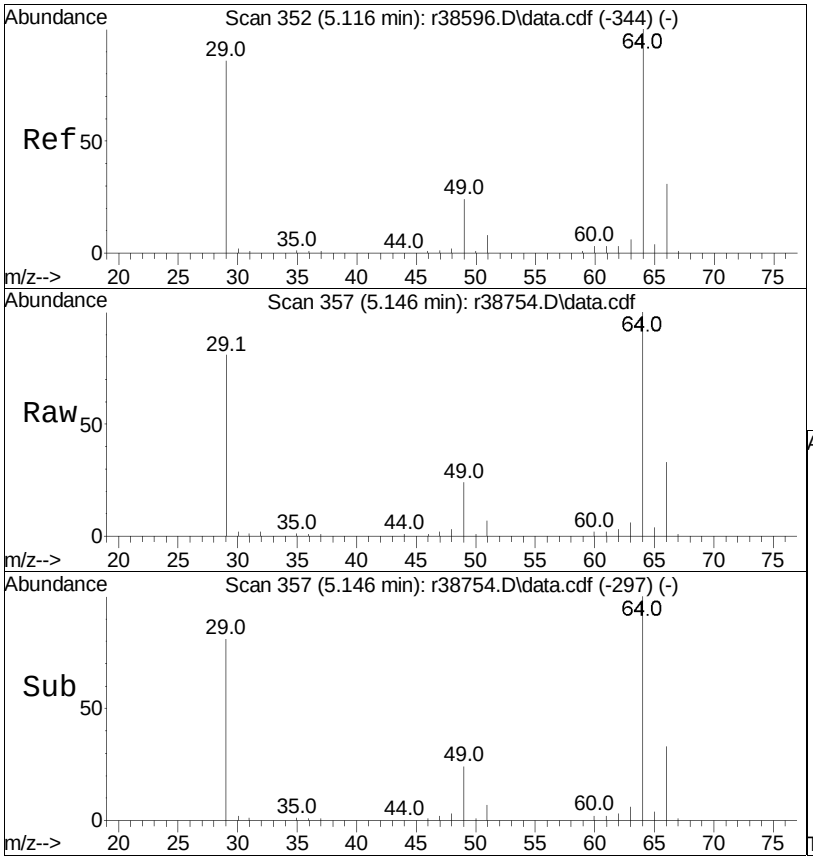


#13
bromomethane
Concen: 12.01 ppbV
RT: 4.924 min Scan# 320
Delta R.T. 0.024 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 94 Resp: 170280

Ion	Ratio	Lower	Upper
94	100		
96	97.2	74.2	111.4

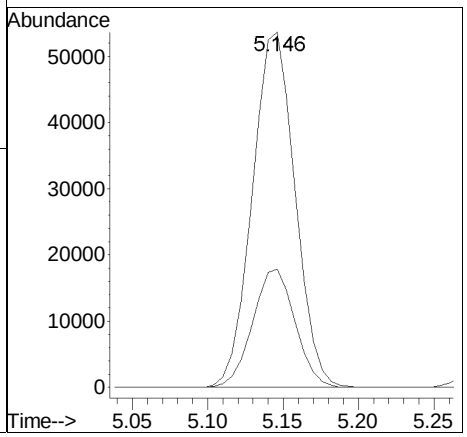


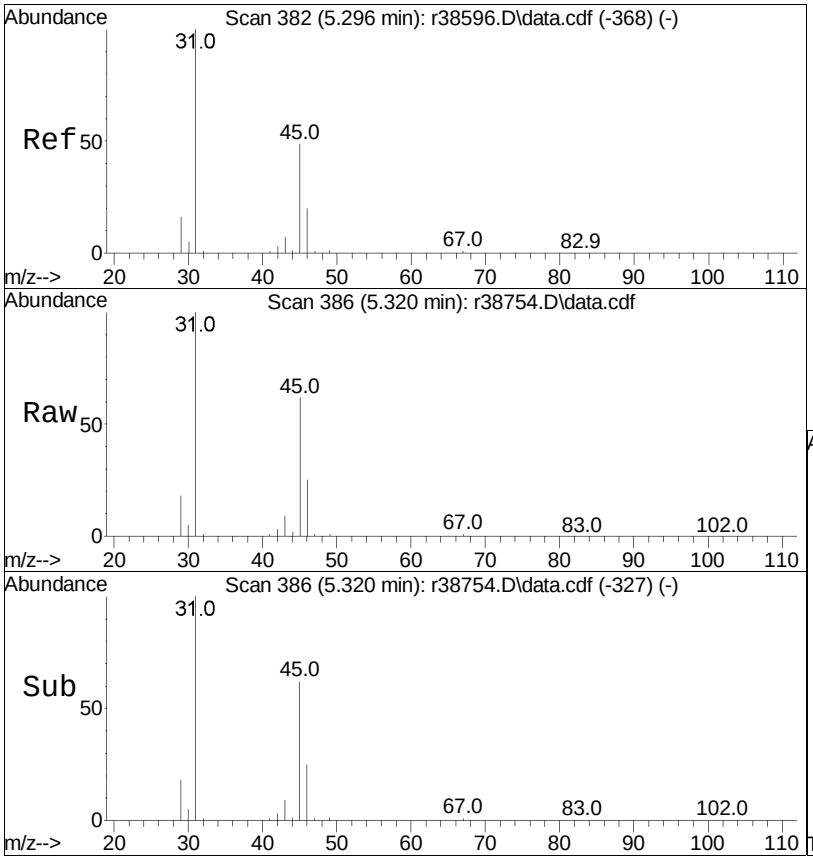


#14
chloroethane
Concen: 12.11 ppbV
RT: 5.146 min Scan# 357
Delta R.T. 0.030 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 64 Resp: 105516

Ion	Ratio	Lower	Upper
64	100		
66	33.3	25.1	37.7

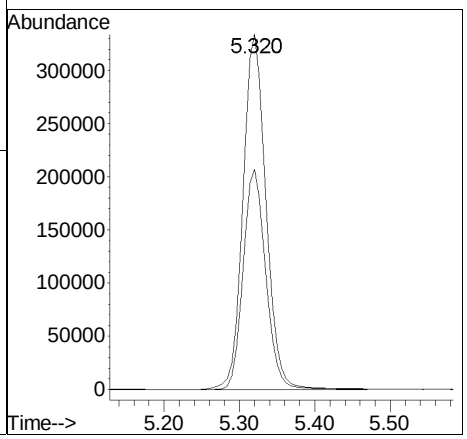


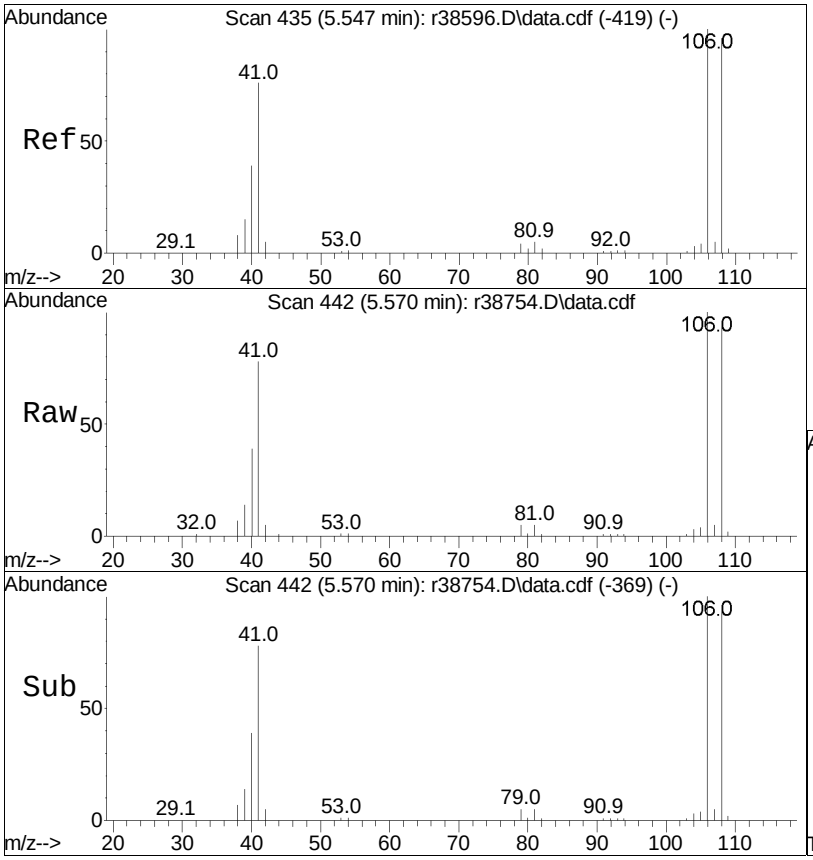


#15
ethanol
Concen: 50.03 ppbV
RT: 5.320 min Scan# 386
Delta R.T. 0.024 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 31 Resp: 688947

Ion	Ratio	Lower	Upper
31	100		
45	62.0	39.0	58.4#

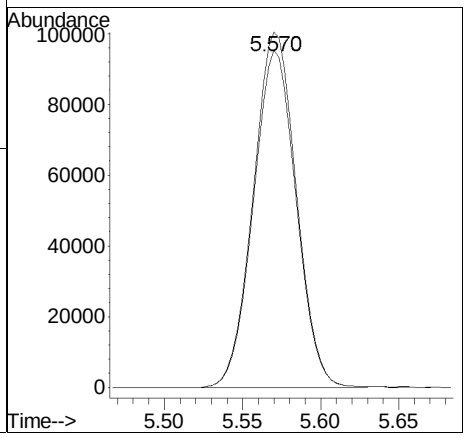


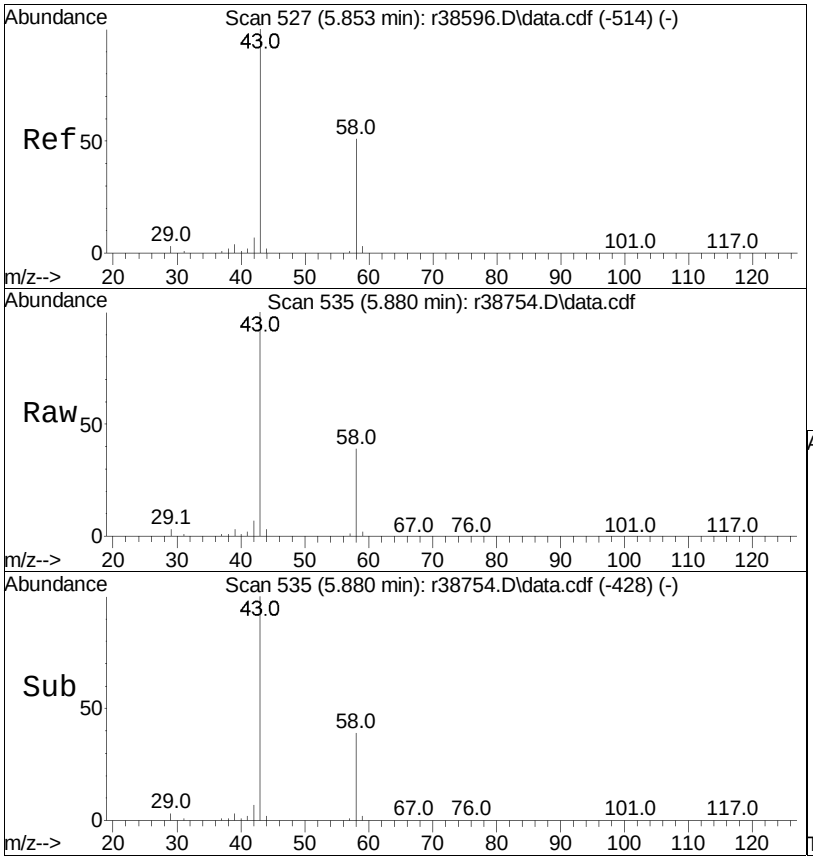


#17
vinyl bromide
Concen: 11.80 ppbV
RT: 5.570 min Scan# 442
Delta R.T. 0.023 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:106 Resp: 192187

Ion	Ratio	Lower	Upper
106	100		
108	95.0	76.8	115.2

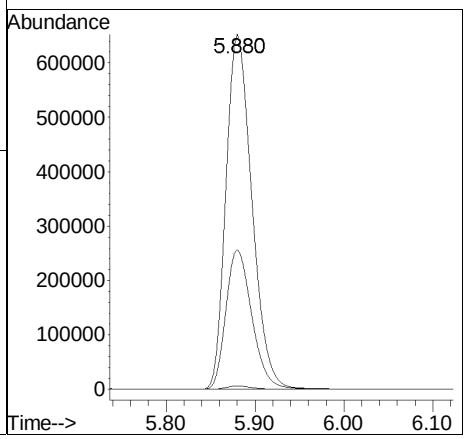


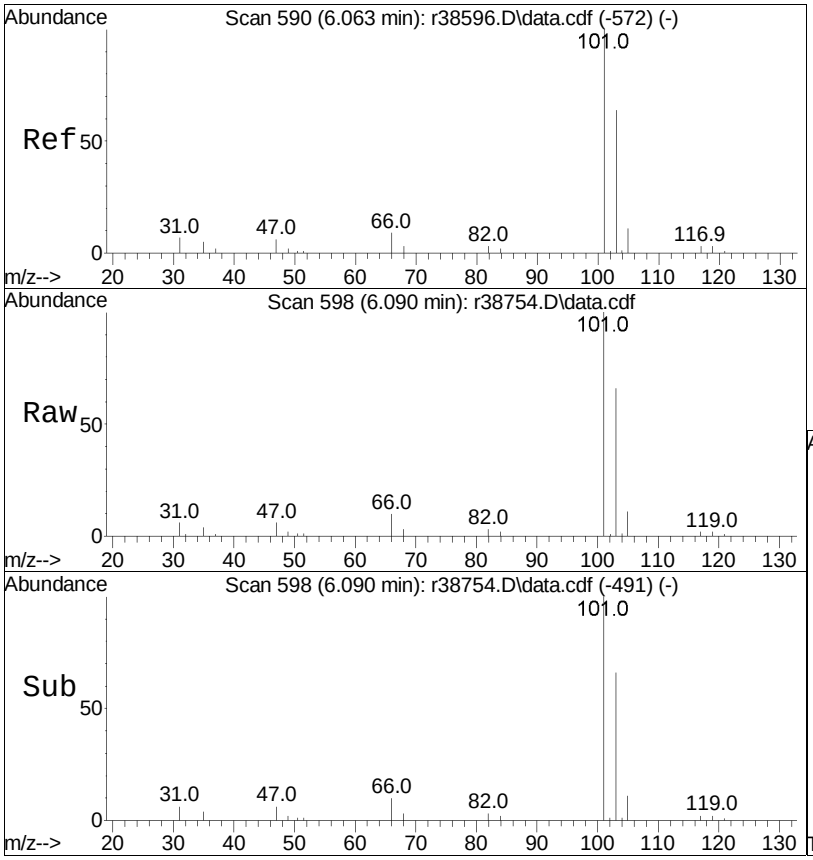


#19
acetone
Concen: 57.89 ppbV
RT: 5.880 min Scan# 535
Delta R.T. 0.027 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 43 Resp: 1327673

Ion	Ratio	Lower	Upper
43	100		
58	39.4	40.6	60.8#
57	1.0	1.0	1.6#

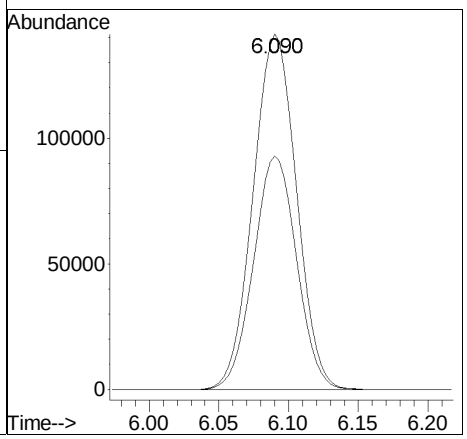


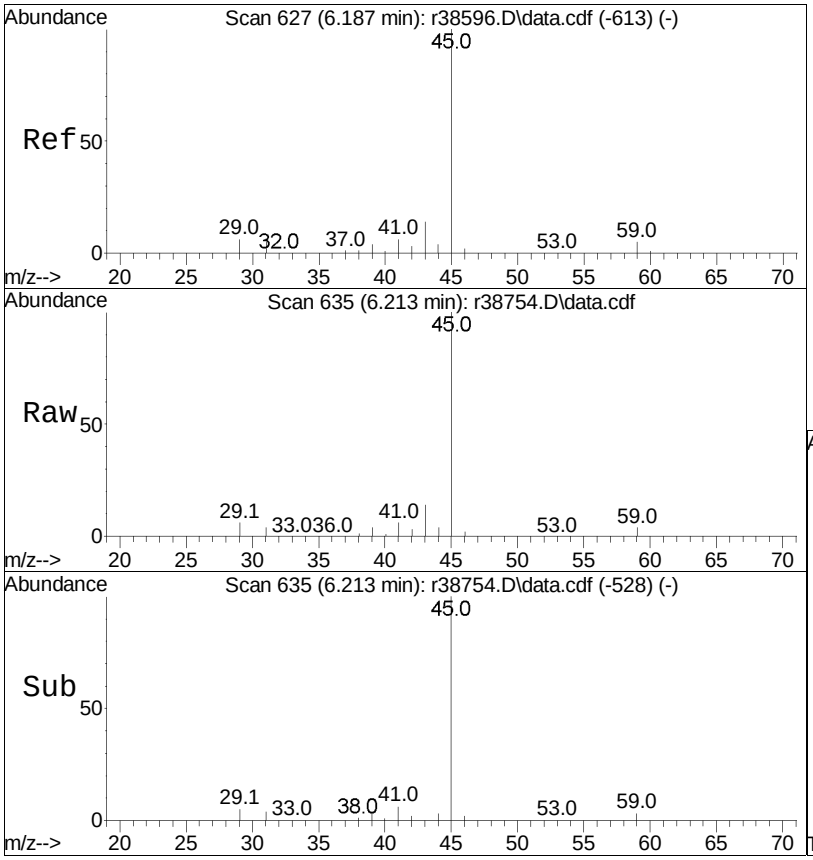


#21
trichlorofluoromethane
Concen: 12.27 ppbV
RT: 6.090 min Scan# 598
Delta R.T. 0.027 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:101 Resp: 305977

Ion	Ratio	Lower	Upper
101	100		
103	65.7	51.4	77.0

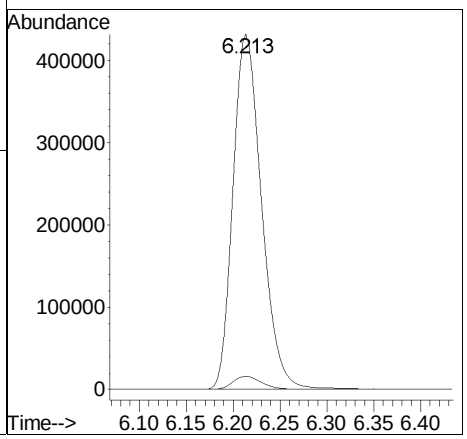


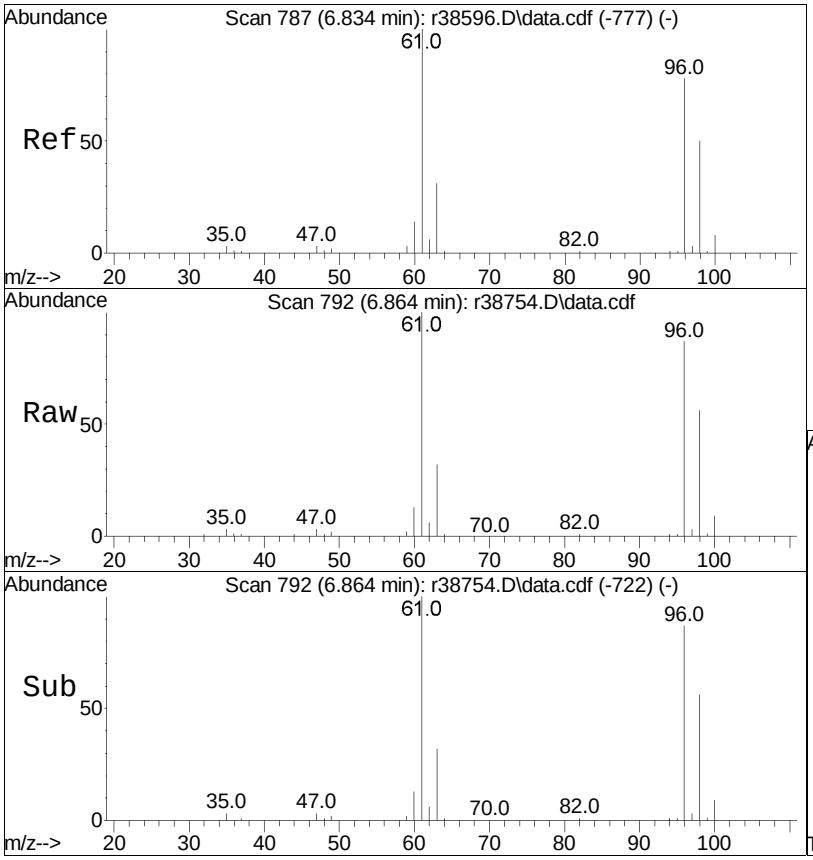


#22
isopropyl alcohol
Concen: 31.27 ppbV
RT: 6.213 min Scan# 635
Delta R.T. 0.027 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 45 Resp: 916909

Ion	Ratio	Lower	Upper
45	100		
59	3.7	3.9	5.9#

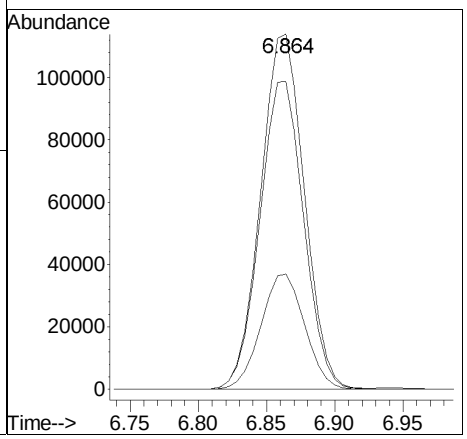


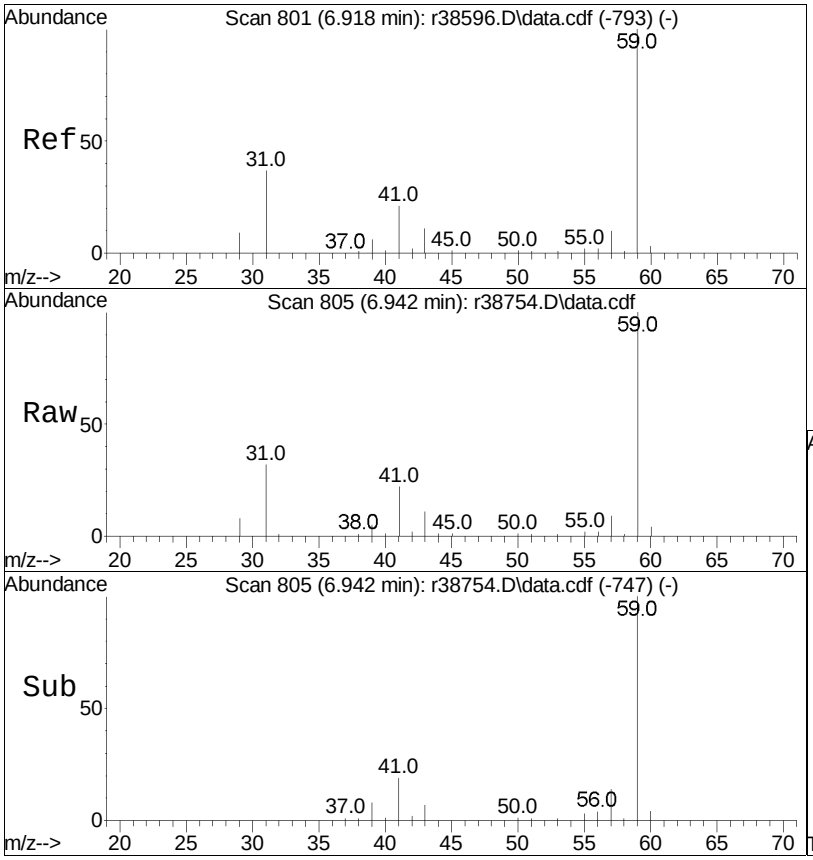


#26
1,1-dichloroethene
Concen: 10.83 ppbV
RT: 6.864 min Scan# 792
Delta R.T. 0.030 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 61 Resp: 254062

Ion	Ratio	Lower	Upper
61	100		
96	86.6	62.4	93.6
63	32.5	24.4	36.6

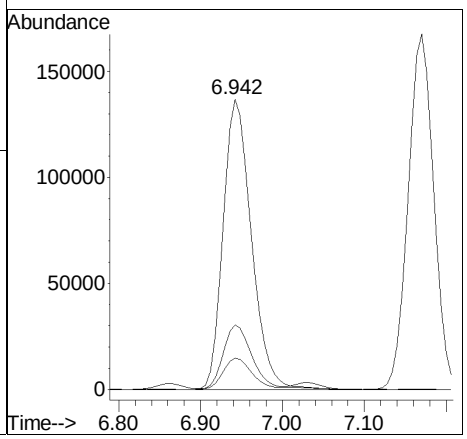


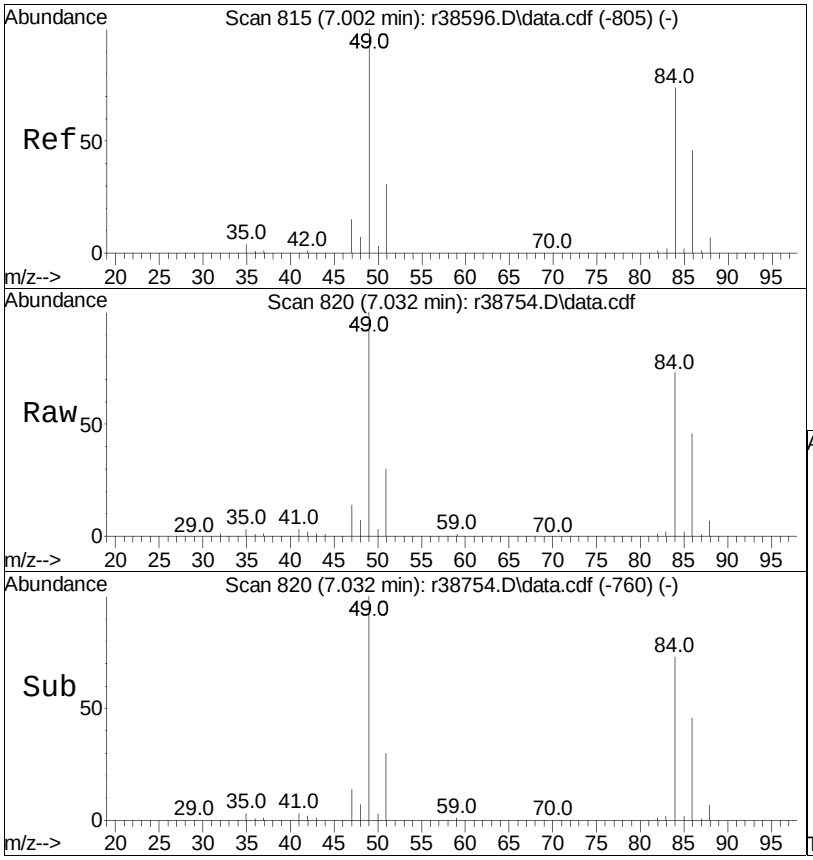


#27
tertiary butyl alcohol
Concen: 9.35 ppbV
RT: 6.942 min Scan# 805
Delta R.T. 0.024 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 59 Resp: 328459

Ion	Ratio	Lower	Upper
59	100		
41	22.3	16.9	25.3
43	10.8	8.9	13.3

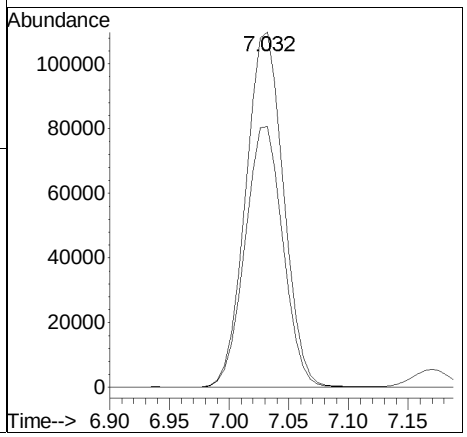


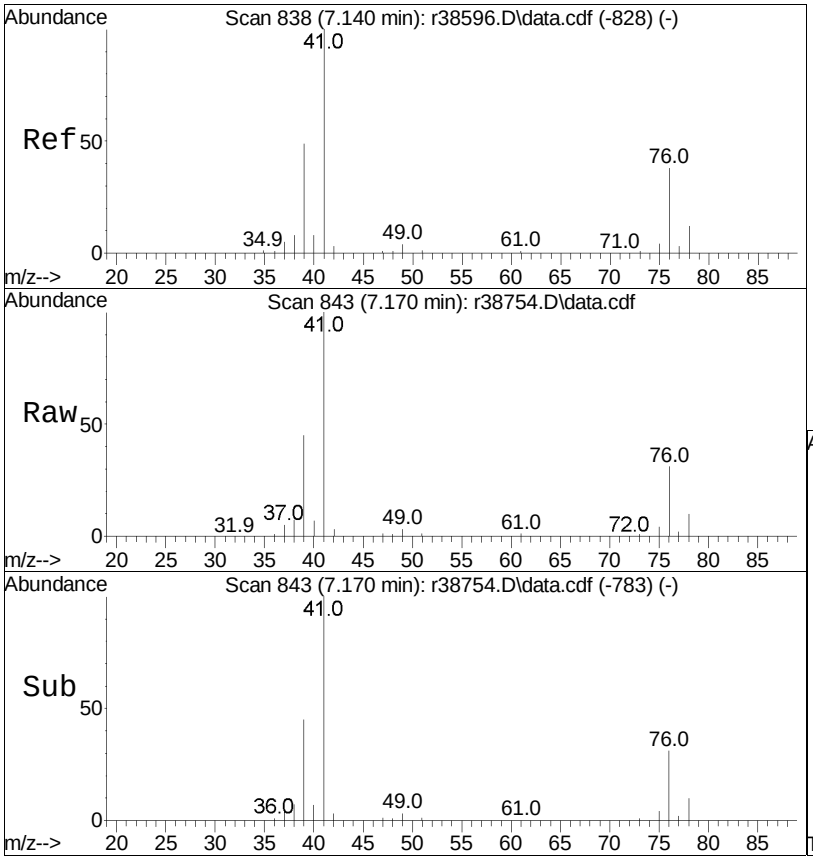


#28
methylene chloride
Concen: 10.99 ppbV
RT: 7.032 min Scan# 820
Delta R.T. 0.030 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 49 Resp: 242639

Ion	Ratio	Lower	Upper
49	100		
84	73.4	59.3	88.9

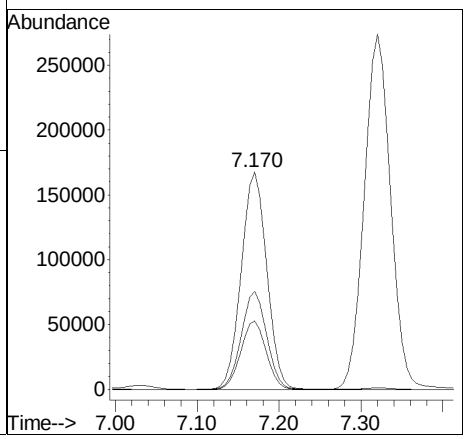


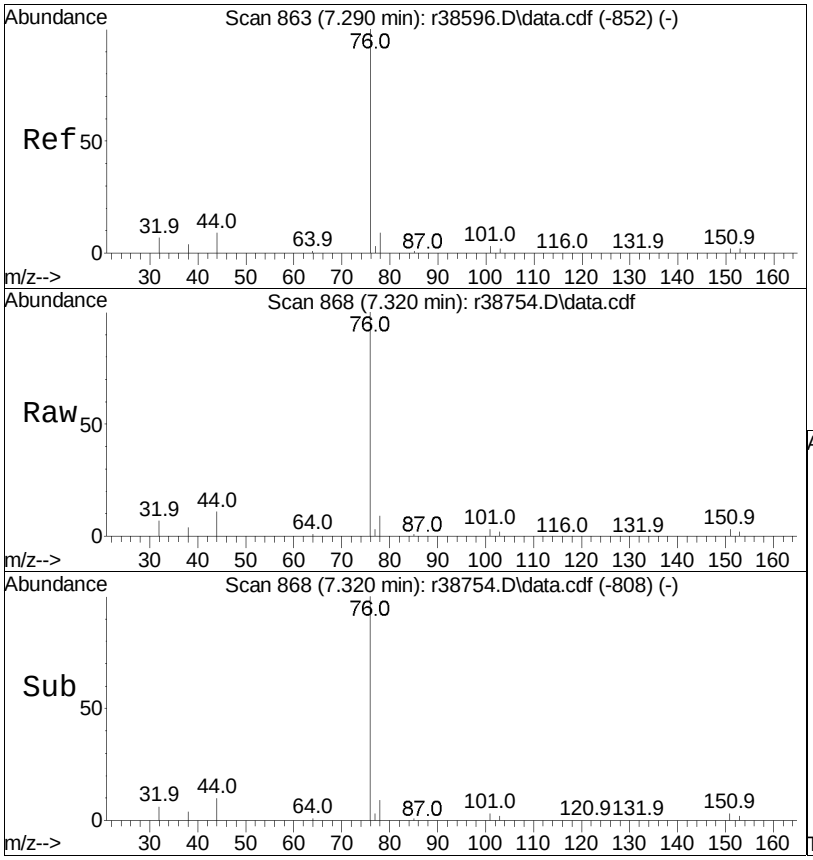


#29
3-chloropropene
Concen: 12.58 ppbV
RT: 7.170 min Scan# 843
Delta R.T. 0.030 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 41 Resp: 364211

Ion	Ratio	Lower	Upper
41	100		
39	45.2	38.8	58.2
76	31.5	30.0	45.0

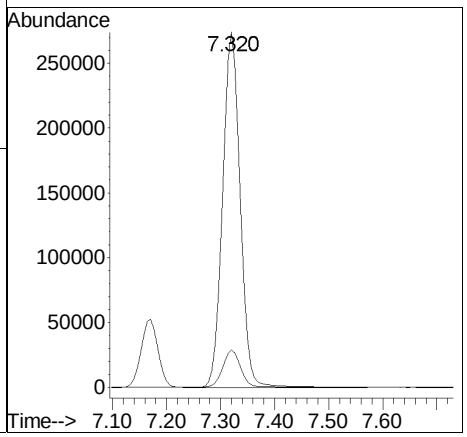


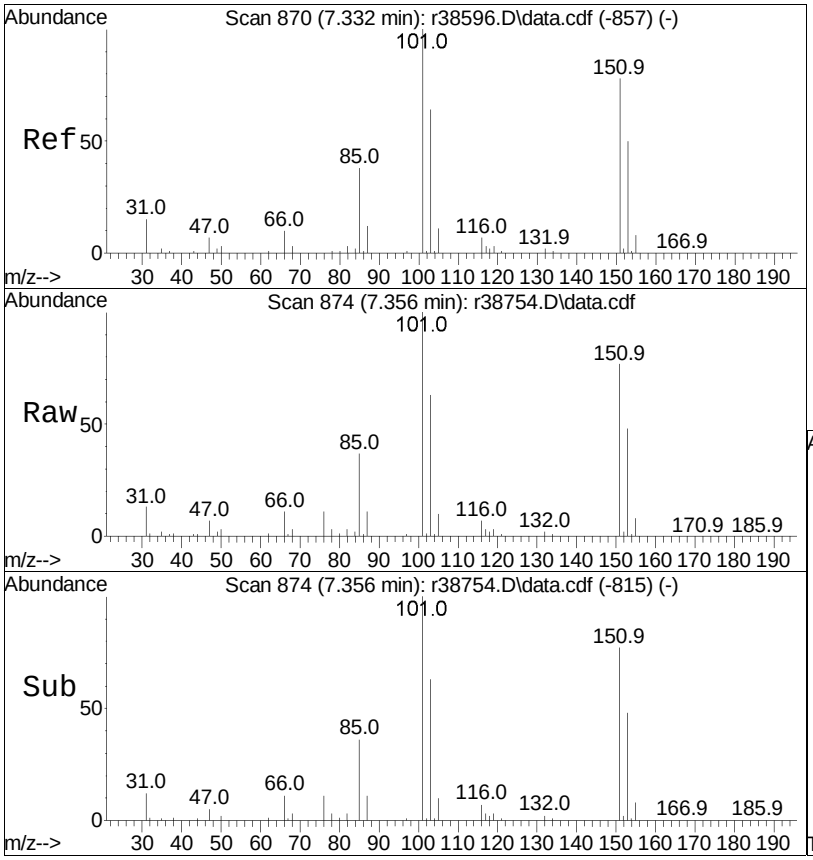


#30
carbon disulfide
Concen: 9.59 ppbV
RT: 7.320 min Scan# 868
Delta R.T. 0.030 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 76 Resp: 618756

Ion	Ratio	Lower	Upper
76	100		
44	10.6	7.4	11.2

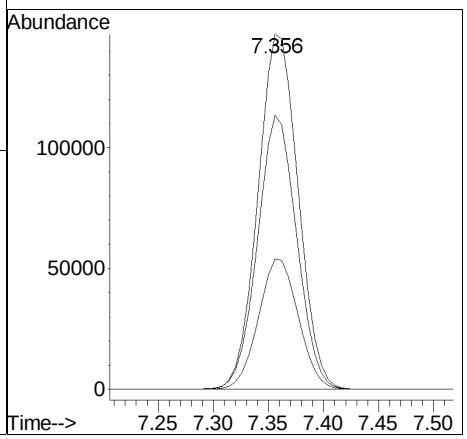


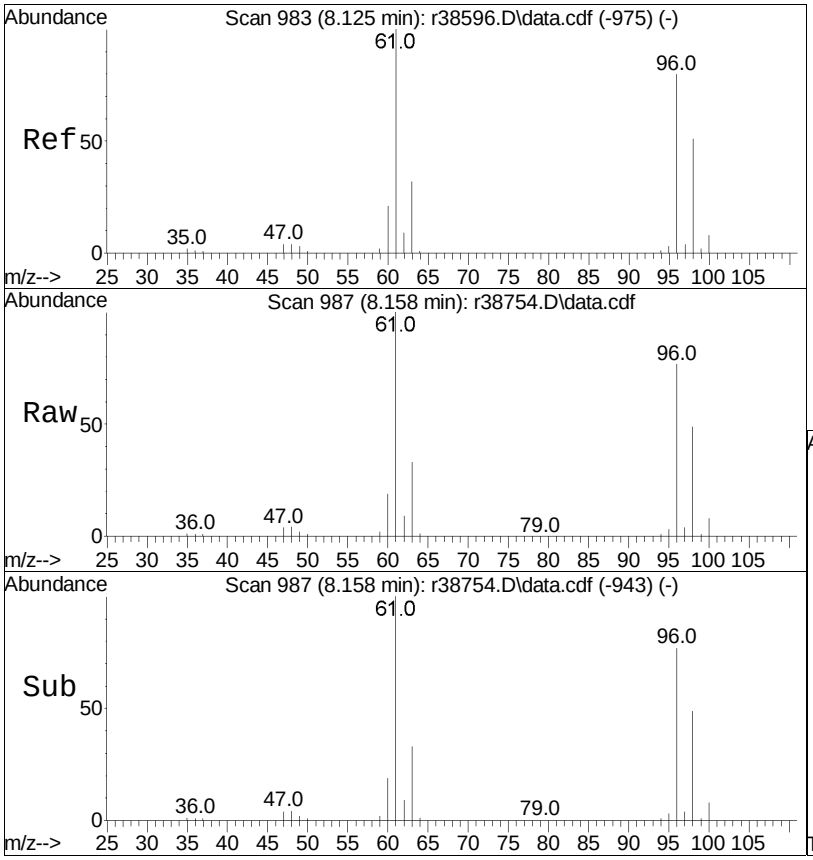


#31
Freon 113
Concen: 10.97 ppbV
RT: 7.356 min Scan# 874
Delta R.T. 0.024 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:101 Resp: 373192

Ion	Ratio	Lower	Upper
101	100		
85	36.7	30.6	45.8
151	77.2	62.4	93.6

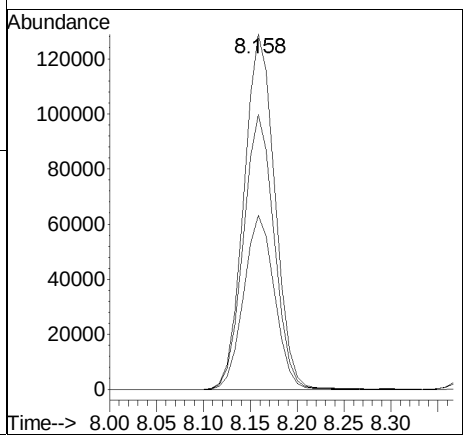


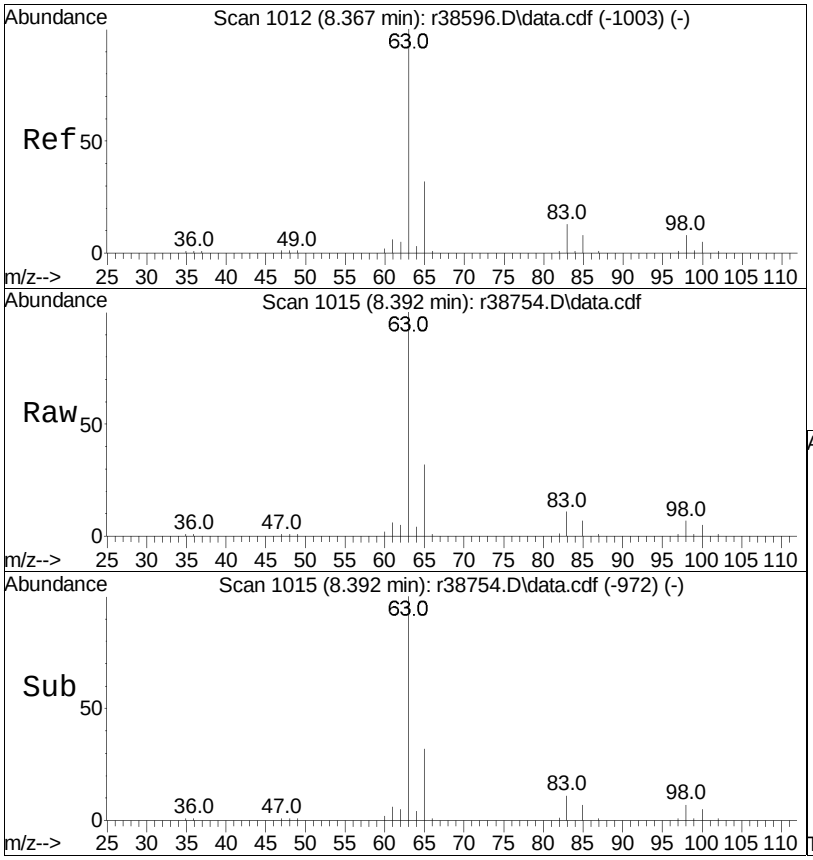


#32
trans-1,2-dichloroethene
Concen: 10.80 ppbV
RT: 8.158 min Scan# 987
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 61 Resp: 296925

Ion	Ratio	Lower	Upper
61	100		
96	77.3	64.2	96.4
98	49.0	41.1	61.7

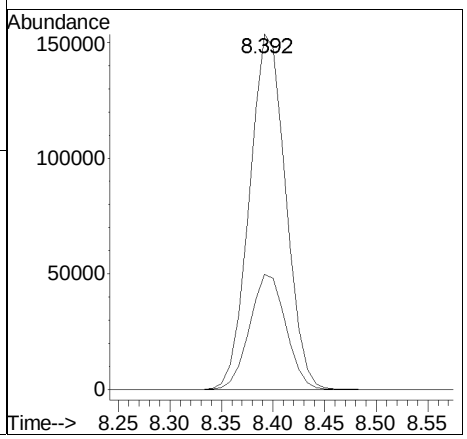


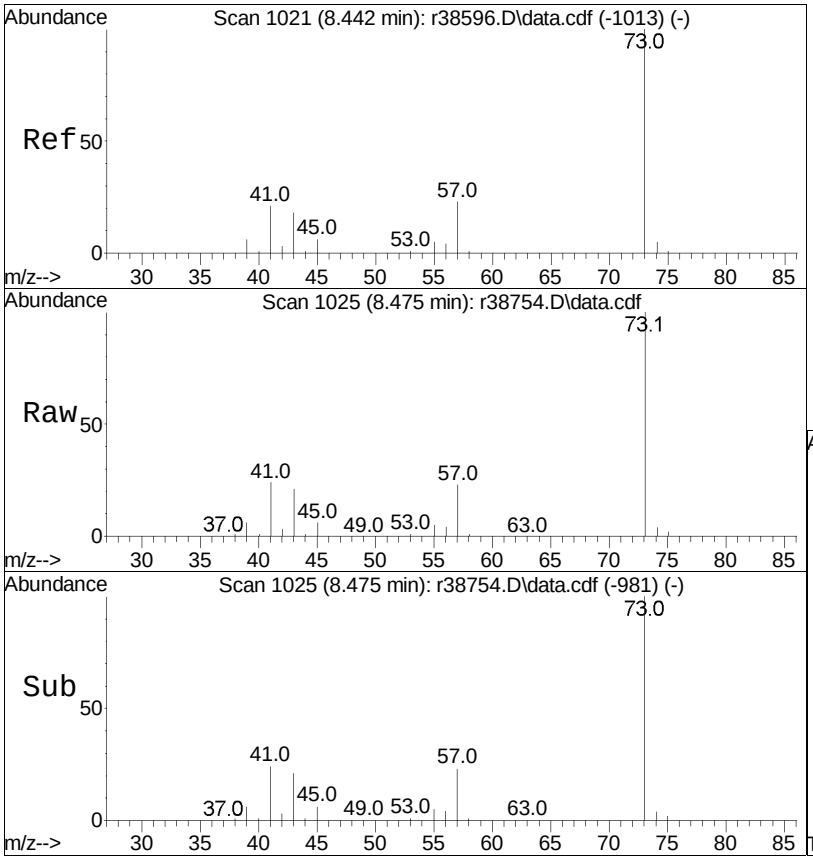


#33
1,1-dichloroethane
Concen: 11.55 ppbV
RT: 8.392 min Scan# 1015
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 63 Resp: 374044

Ion	Ratio	Lower	Upper
63	100		
65	32.4	25.8	38.6

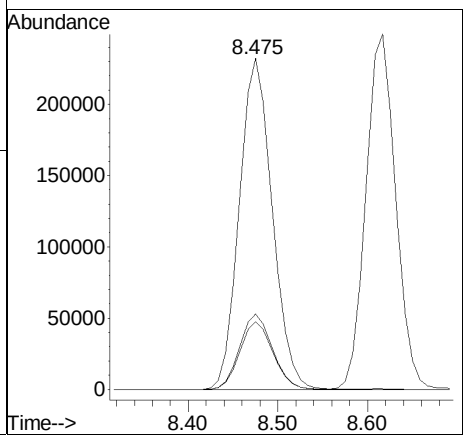


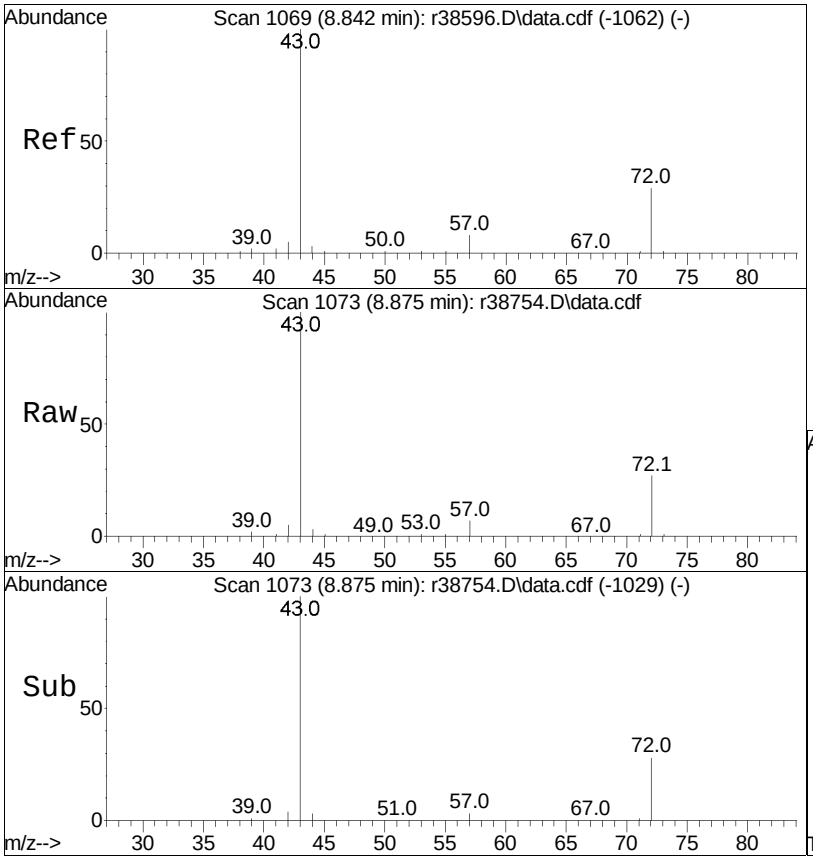


#34
MTBE
Concen: 10.56 ppbV
RT: 8.475 min Scan# 1025
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 73 Resp: 592185

Ion	Ratio	Lower	Upper
73	100		
57	22.8	18.7	28.1
43	20.5	14.6	21.8

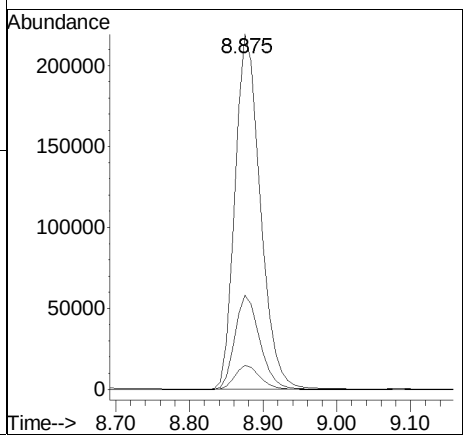


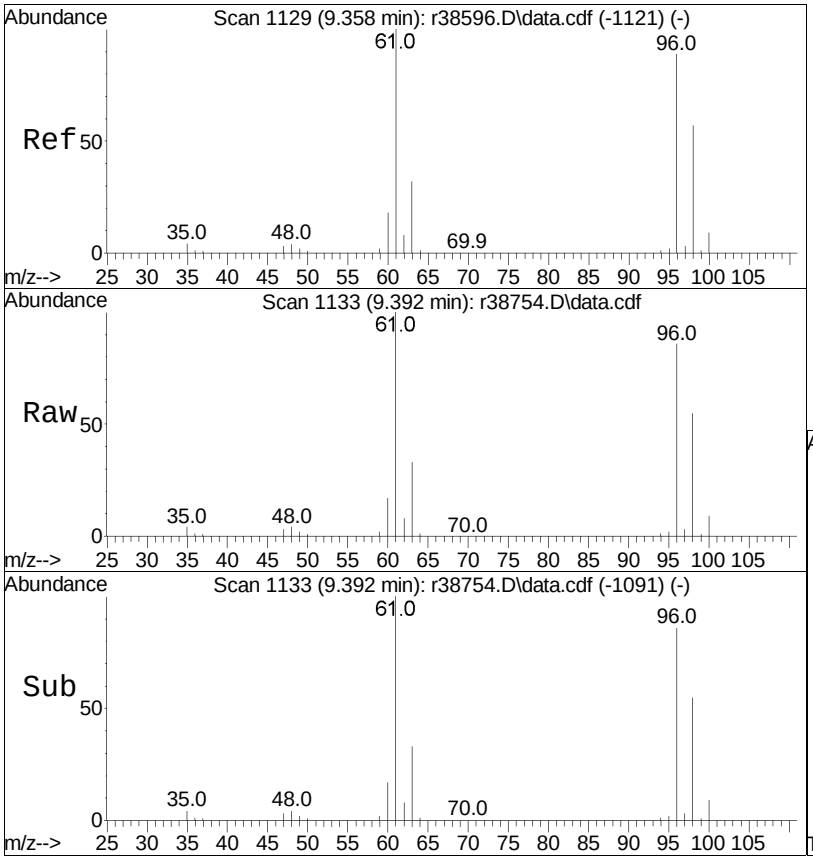


#36
2-butanone
Concen: 12.02 ppbV
RT: 8.875 min Scan# 1073
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 43 Resp: 522608

Ion	Ratio	Lower	Upper
43	100		
72	26.5	23.1	34.7
57	6.8	6.3	9.5

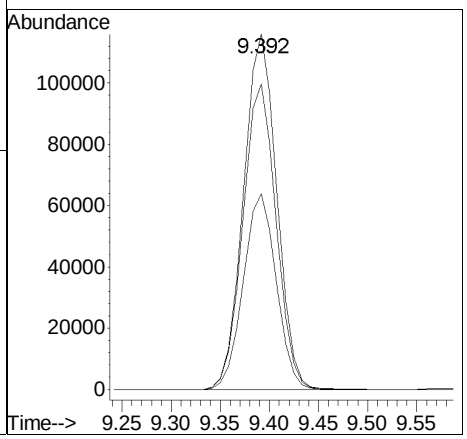


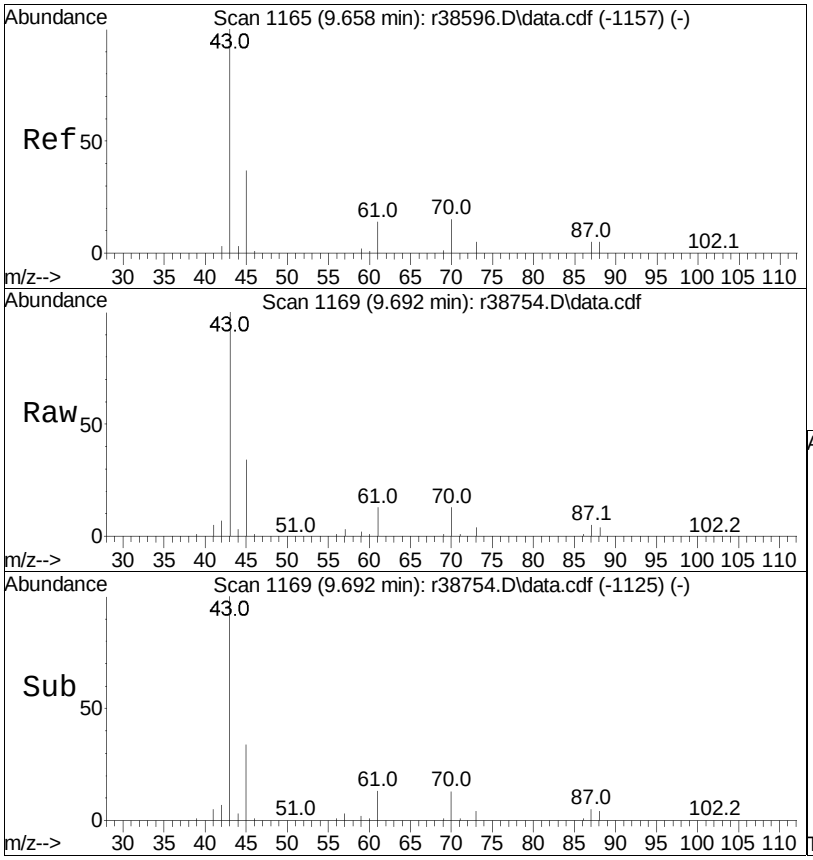


#37
cis-1,2-dichloroethene
Concen: 11.50 ppbV
RT: 9.392 min Scan# 1133
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 61 Resp: 272820

Ion	Ratio	Lower	Upper
61	100		
96	85.9	71.2	106.8
98	55.1	45.4	68.0

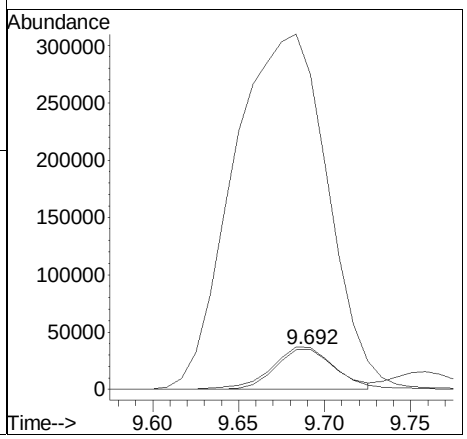


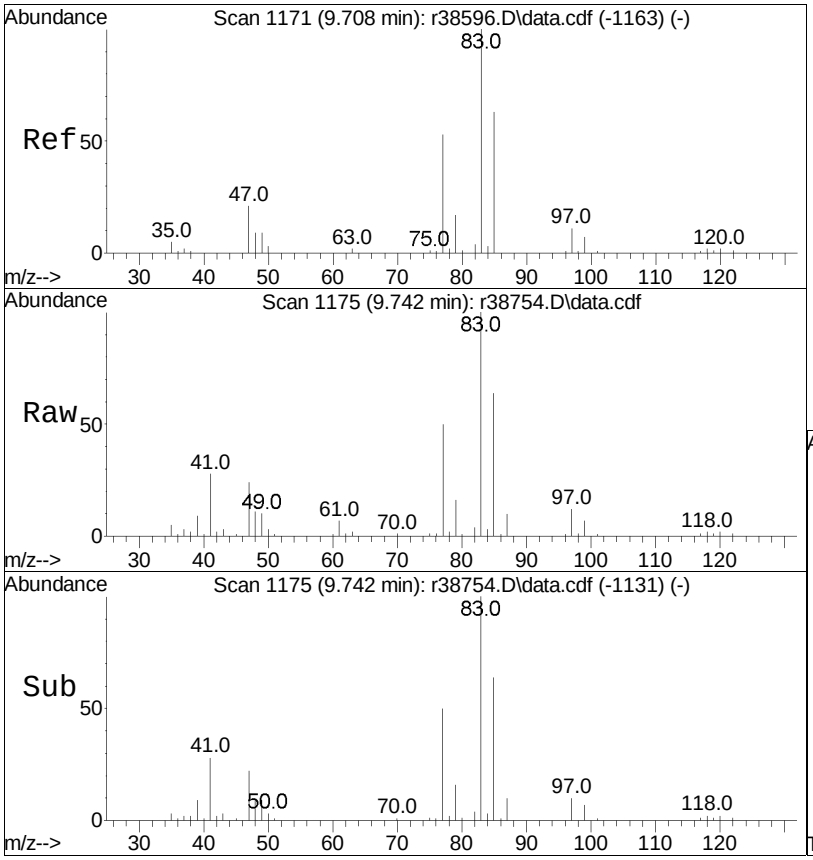


#38
Ethyl Acetate
Concen: 11.68 ppbV
RT: 9.692 min Scan# 1169
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 61 Resp: 84761

Ion	Ratio	Lower	Upper
61	100		
70	104.3	85.8	128.6
43	785.7	631.4	947.2

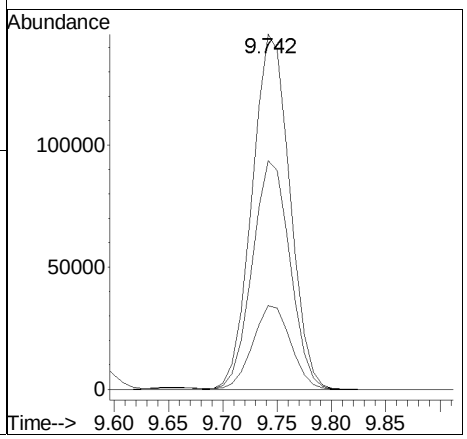


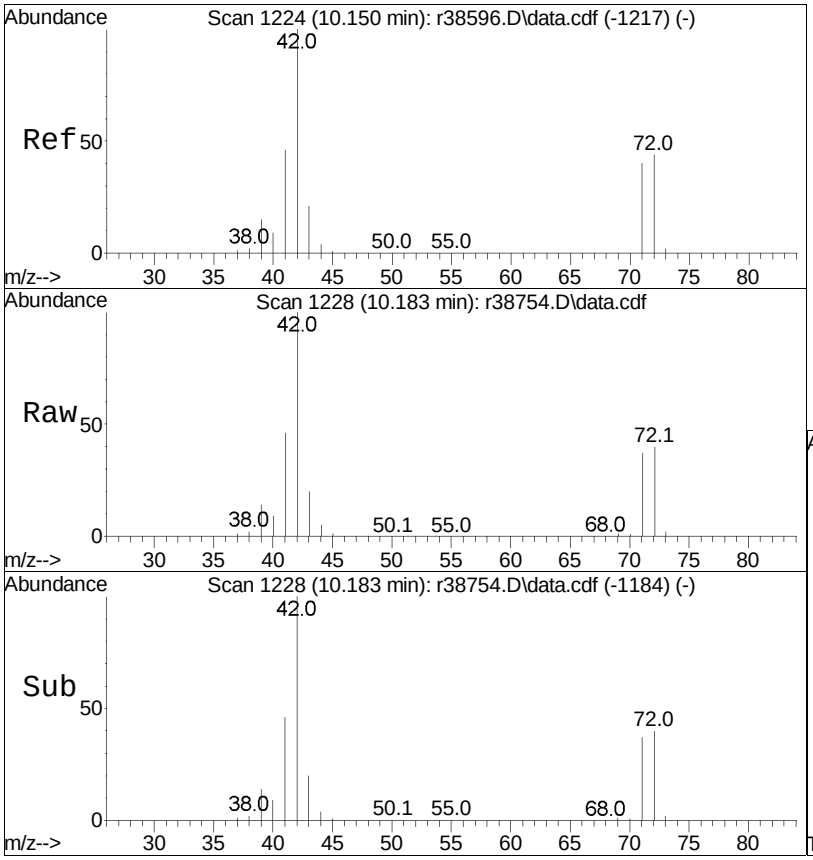


#39
chloroform
Concen: 10.24 ppbV
RT: 9.742 min Scan# 1175
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 83 Resp: 351512

Ion	Ratio	Lower	Upper
83	100		
85	64.4	50.4	75.6
47	23.6	16.9	25.3

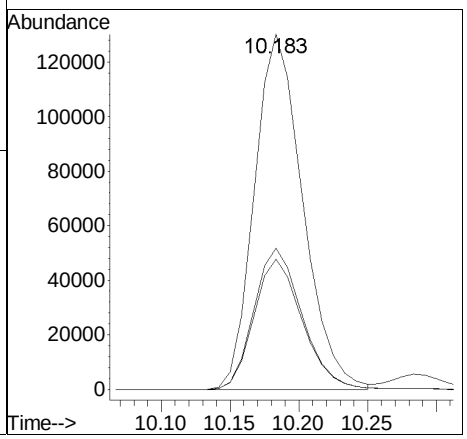


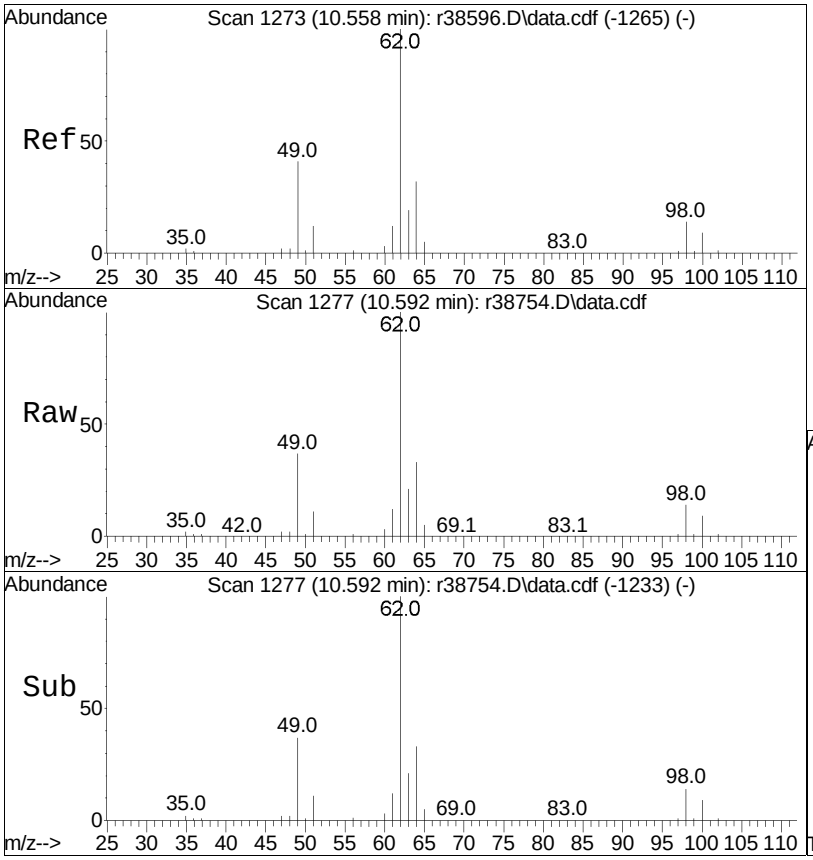


#40
Tetrahydrofuran
Concen: 11.69 ppbV
RT: 10.183 min Scan# 1228
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 42 Resp: 318057

Ion	Ratio	Lower	Upper
42	100		
71	36.7	31.8	47.8
72	39.8	35.2	52.8

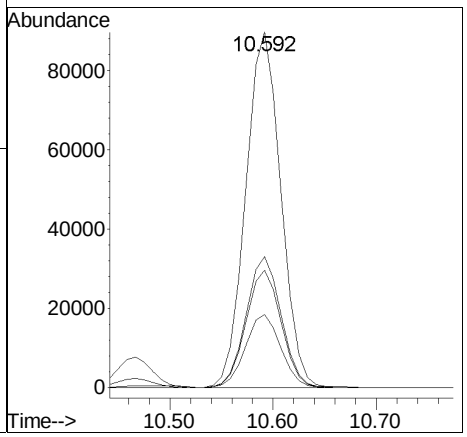


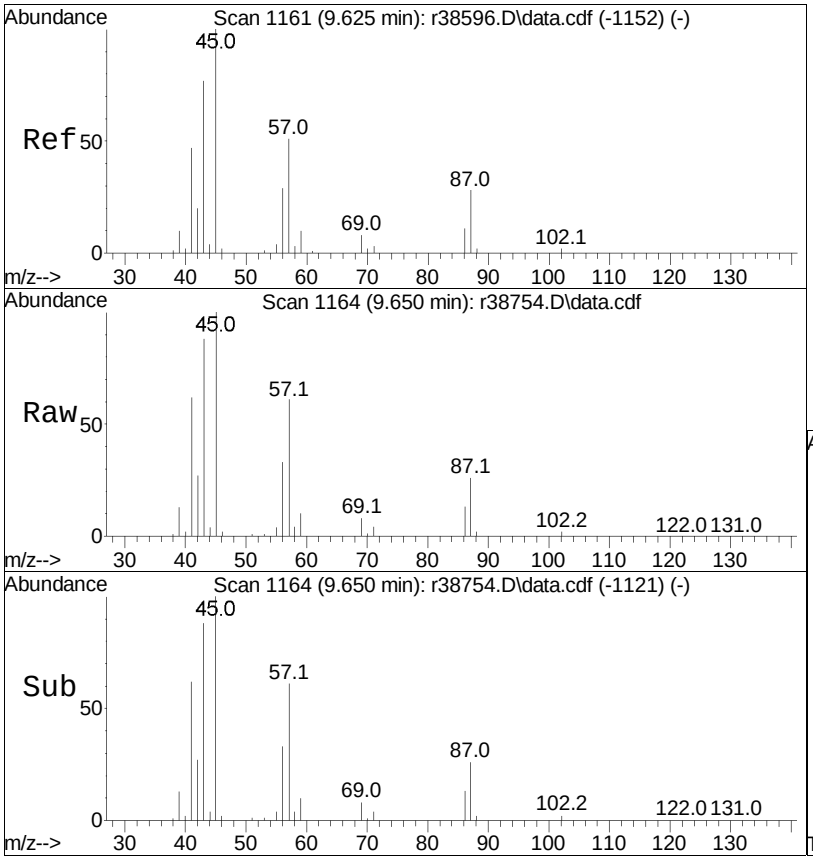


#42
1,2-dichloroethane
Concen: 11.18 ppbV
RT: 10.592 min Scan# 1277
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 62 Resp: 211882

Ion	Ratio	Lower	Upper
62	100		
64	33.0	25.4	38.0
49	36.8	32.6	48.8
63	20.6	15.5	23.3

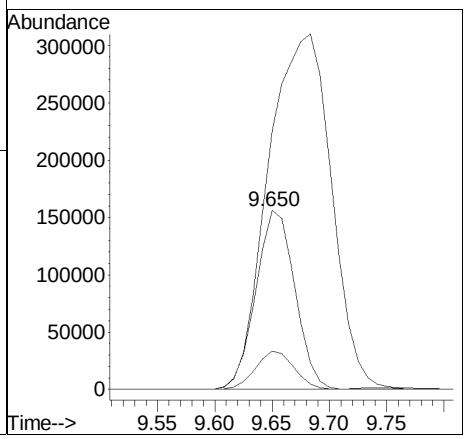


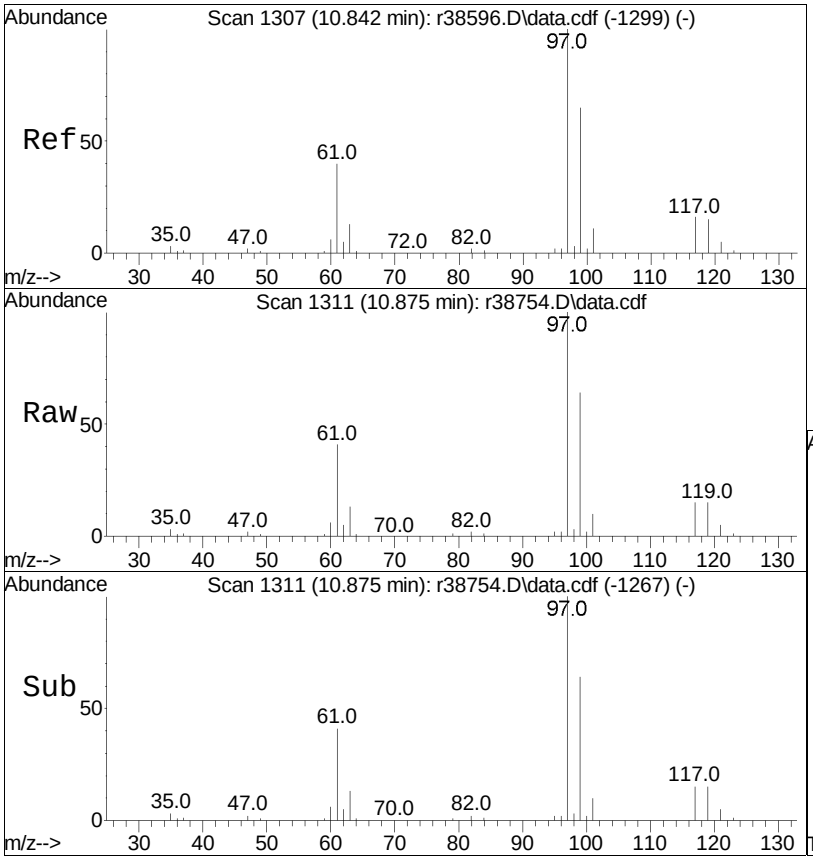


#44
hexane
Concen: 10.31 ppbV
RT: 9.650 min Scan# 1164
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 57 Resp: 371246

Ion	Ratio	Lower	Upper
57	100		
43	144.5	119.3	178.9
86	21.5	17.0	25.6

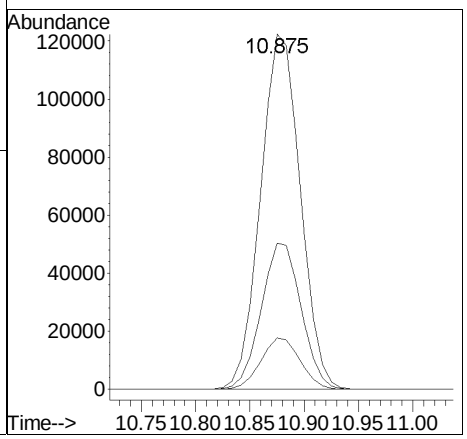


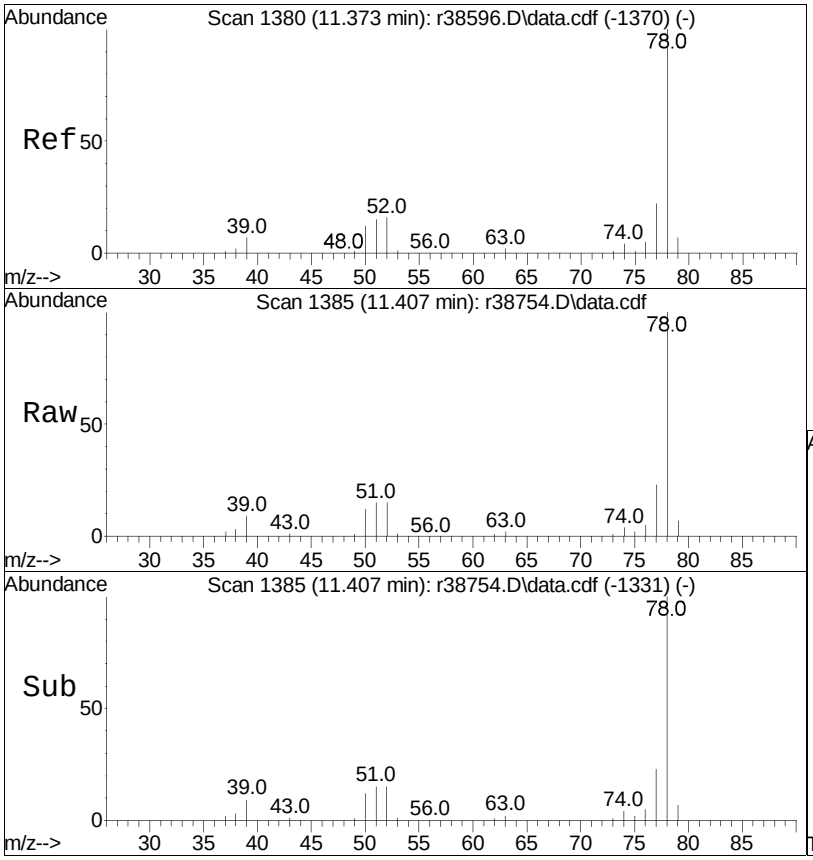


#48
1,1,1-trichloroethane
Concen: 11.35 ppbV
RT: 10.875 min Scan# 1311
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 97 Resp: 311625

Ion	Ratio	Lower	Upper
97	100		
61	41.2	31.8	47.8
119	14.5	11.8	17.6

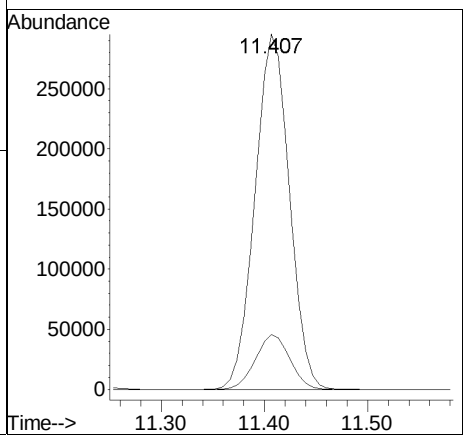


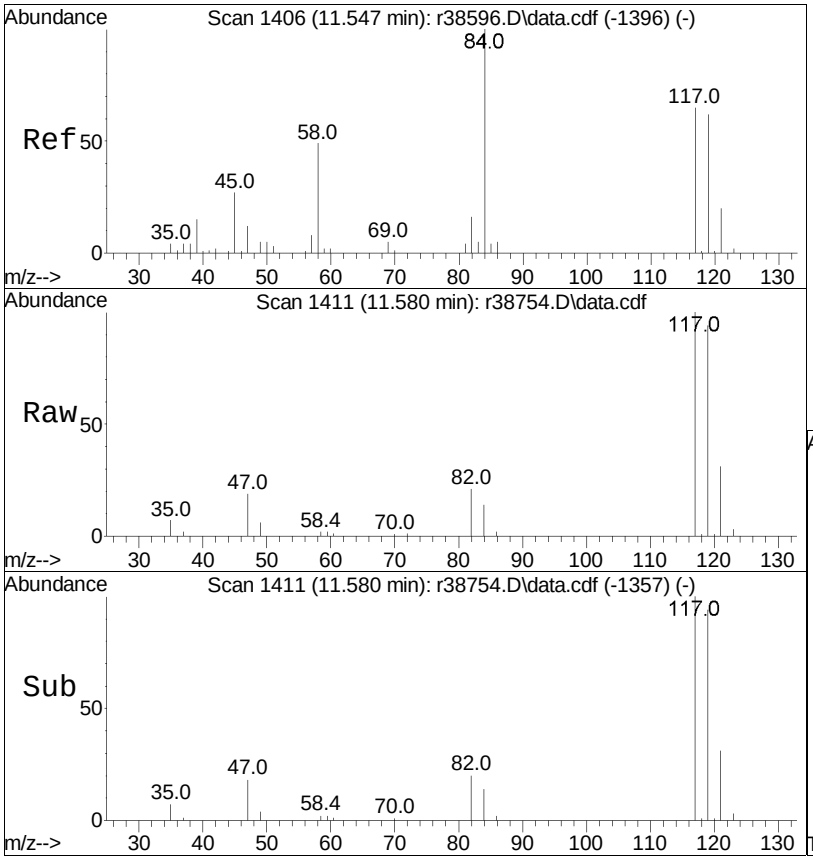


#50
benzene
Concen: 9.73 ppbV
RT: 11.407 min Scan# 1385
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 78 Resp: 683936

Ion	Ratio	Lower	Upper
78	100		
52	15.4	12.6	18.8

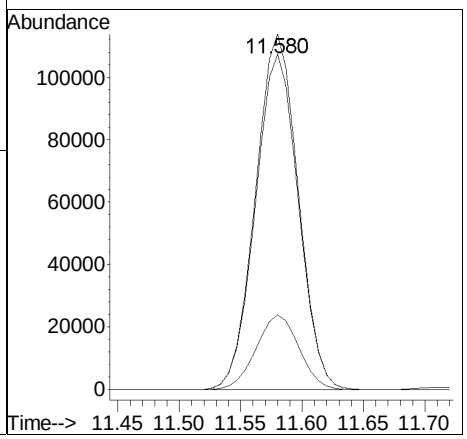


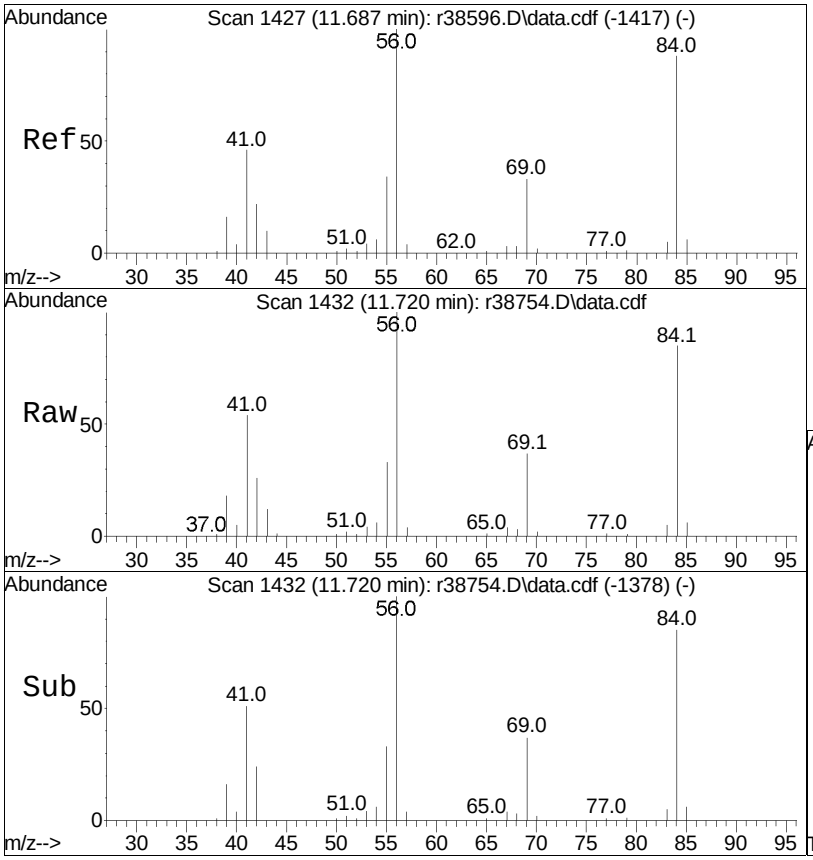


#52
carbon tetrachloride
Concen: 10.76 ppbV
RT: 11.580 min Scan# 1411
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:117 Resp: 274453

Ion	Ratio	Lower	Upper
117	100		
119	94.3	76.6	114.8
82	21.0	20.1	30.1

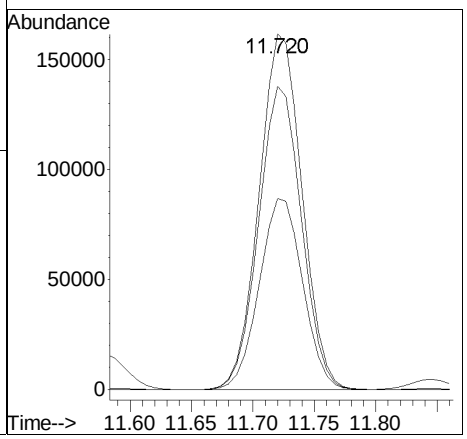


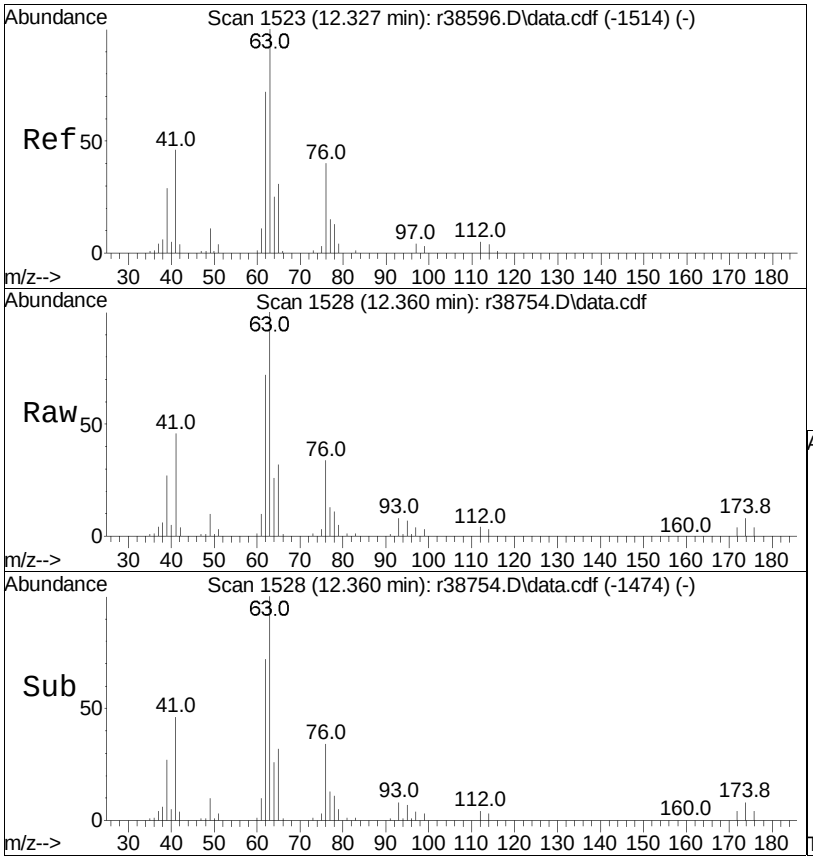


#53
cyclohexane
Concen: 10.08 ppbV
RT: 11.720 min Scan# 1432
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 56 Resp: 393017

Ion	Ratio	Lower	Upper
56	100		
84	85.3	70.2	105.2
41	53.7	36.9	55.3

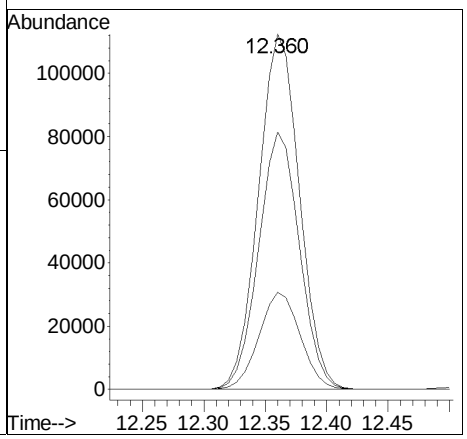


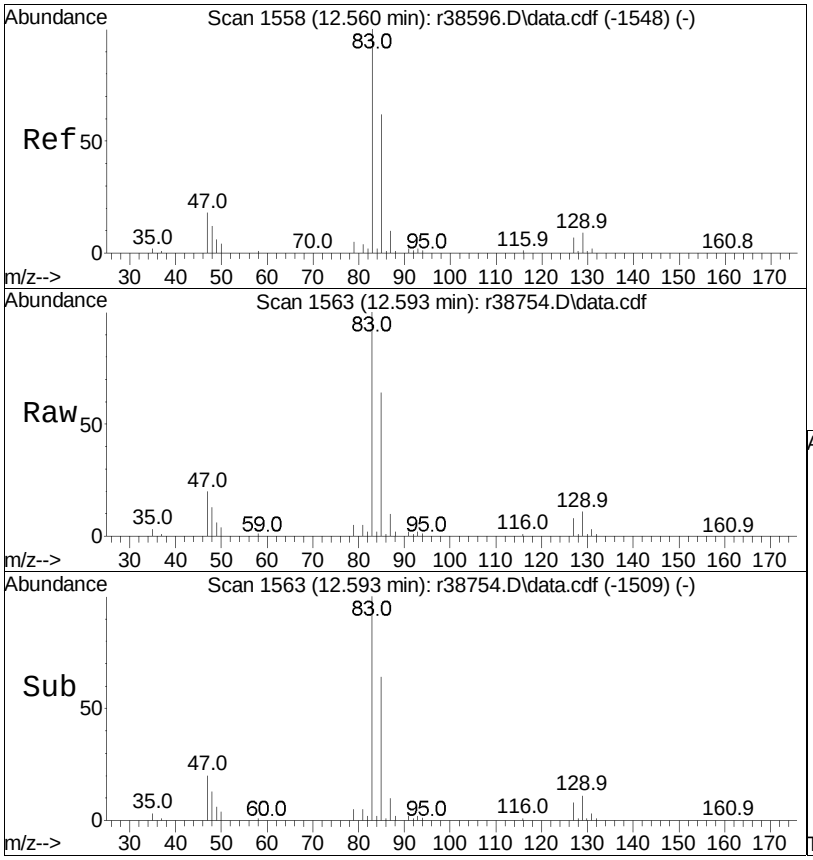


#56
1,2-dichloropropane
Concen: 12.26 ppbV
RT: 12.360 min Scan# 1528
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 63 Resp: 261176

Ion	Ratio	Lower	Upper
63	100		
62	72.5	57.7	86.5
39	27.3	23.3	34.9

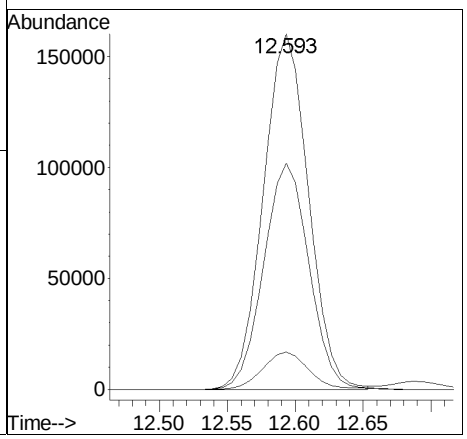


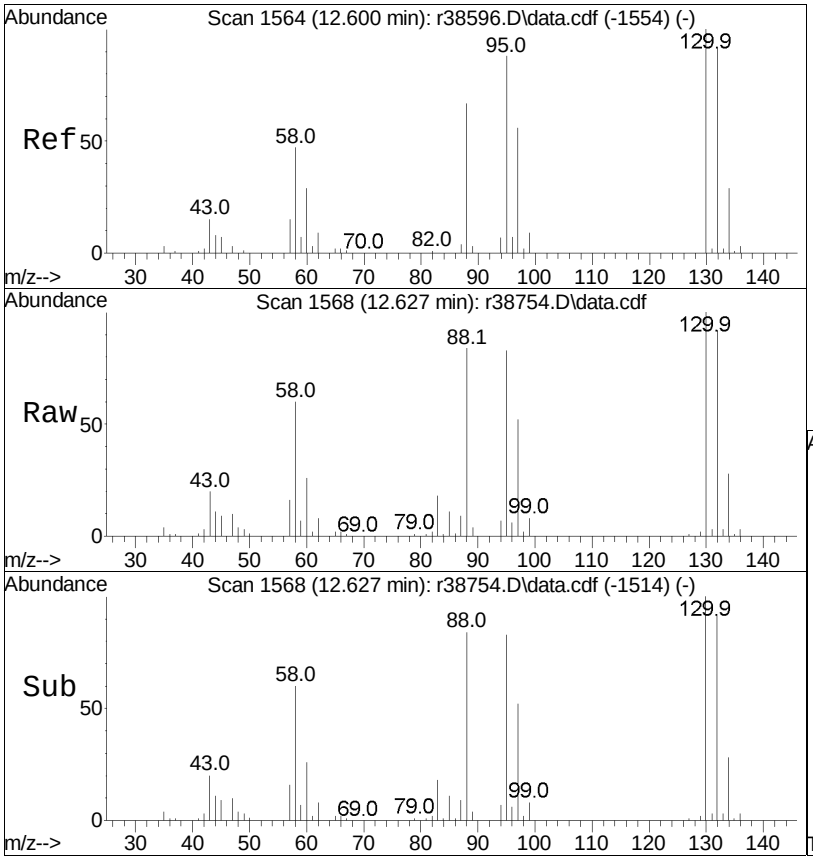


#57
bromodichloromethane
Concen: 9.89 ppbV
RT: 12.593 min Scan# 1563
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 83 Resp: 370778

Ion	Ratio	Lower	Upper
83	100		
85	63.7	50.0	75.0
129	10.5	7.2	10.8

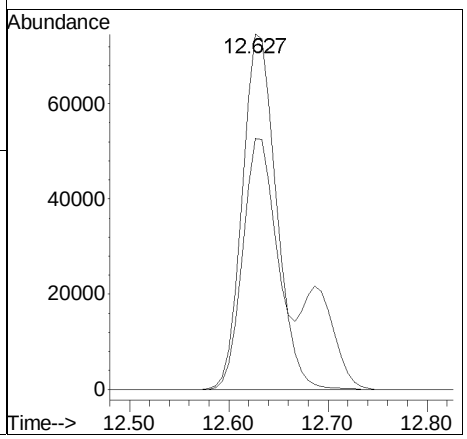


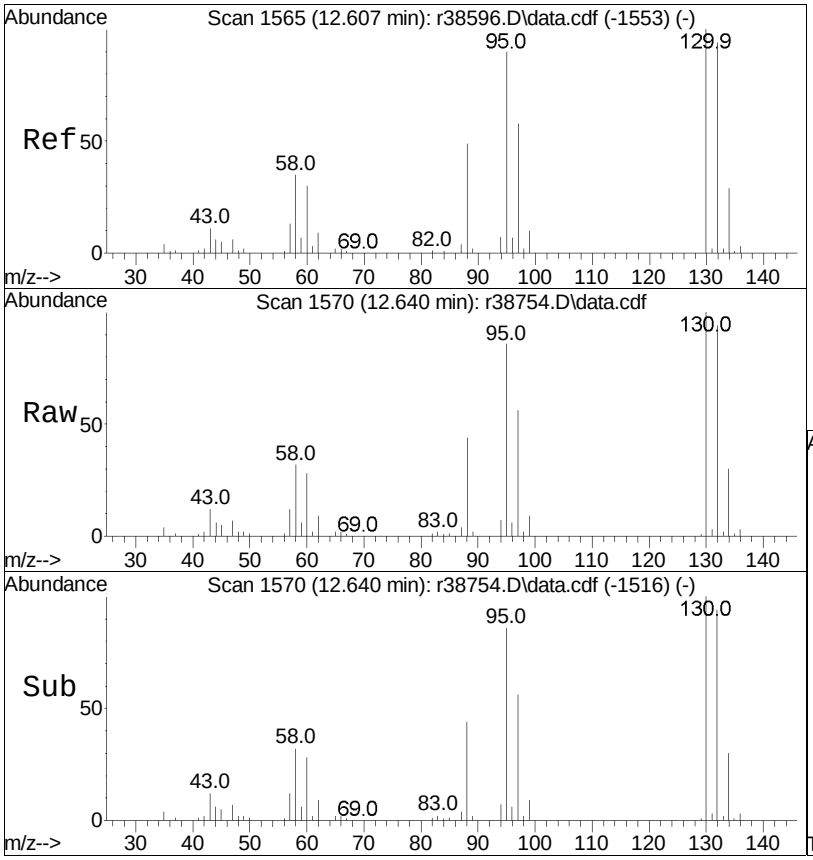


#58
1,4-dioxane
Concen: 11.03 ppbV
RT: 12.627 min Scan# 1568
Delta R.T. 0.027 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 88 Resp: 177883

Ion	Ratio	Lower	Upper
88	100		
58	70.6	56.6	85.0

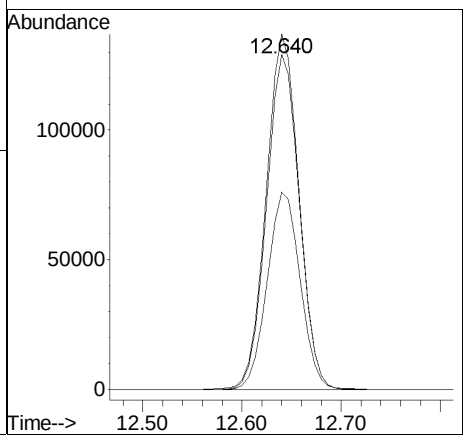


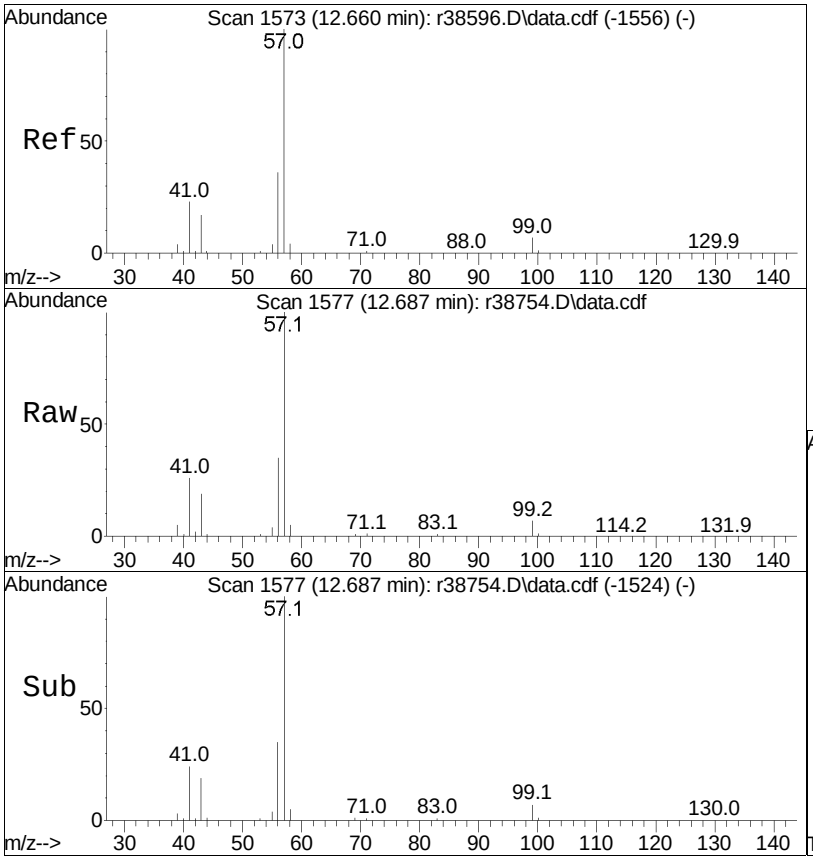


#59
trichloroethene
Concen: 12.00 ppbV
RT: 12.640 min Scan# 1570
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:130 Resp: 314176

Ion	Ratio	Lower	Upper
130	100		
132	94.3	75.0	112.4
97	55.5	46.6	69.8

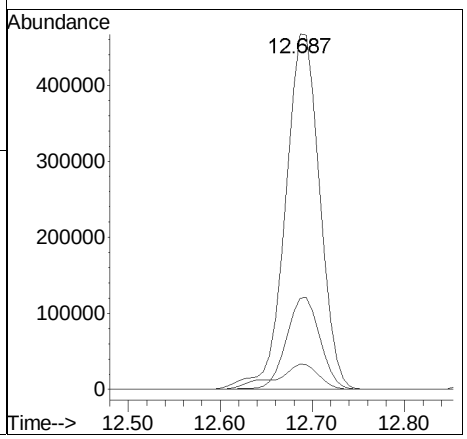


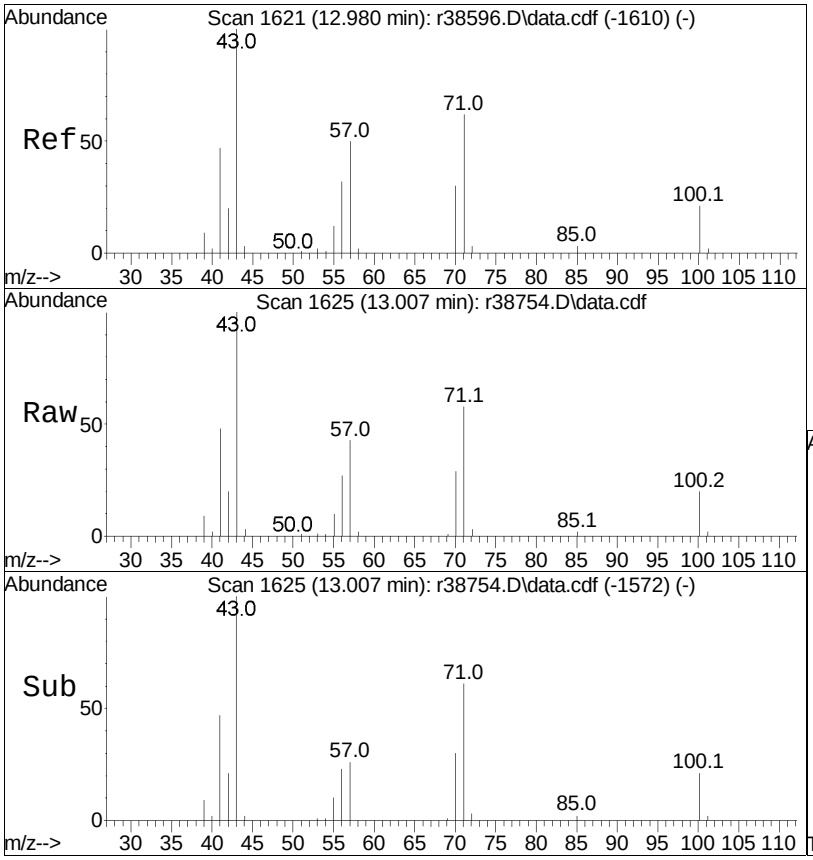


#60
2,2,4-trimethylpentane
Concen: 10.58 ppbV
RT: 12.687 min Scan# 1577
Delta R.T. 0.027 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 57 Resp: 1212430

Ion	Ratio	Lower	Upper
57	100		
99	7.1	5.4	8.2
41	25.7	18.2	27.2

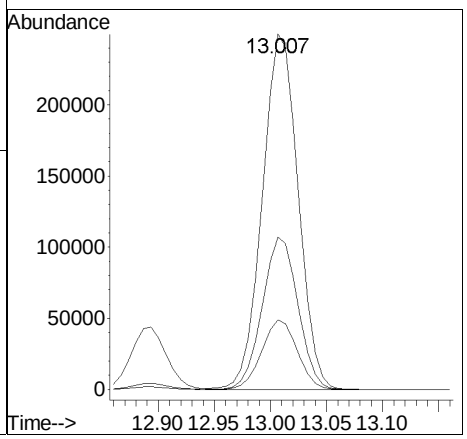


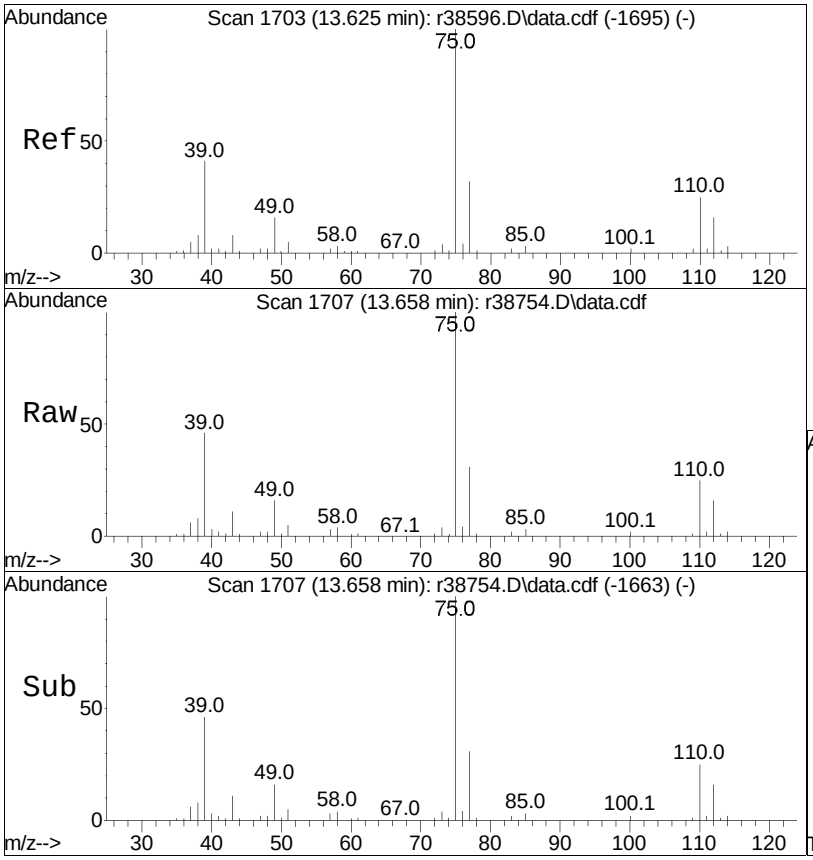


#62
heptane
Concen: 12.31 ppbV
RT: 13.007 min Scan# 1625
Delta R.T. 0.027 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 43 Resp: 554356

Ion	Ratio	Lower	Upper
43	100		
57	42.8	39.8	59.6
100	19.6	17.3	25.9

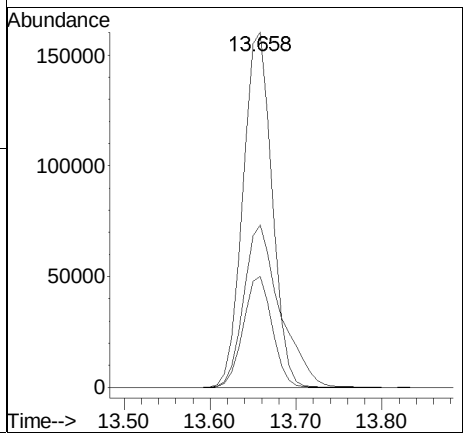


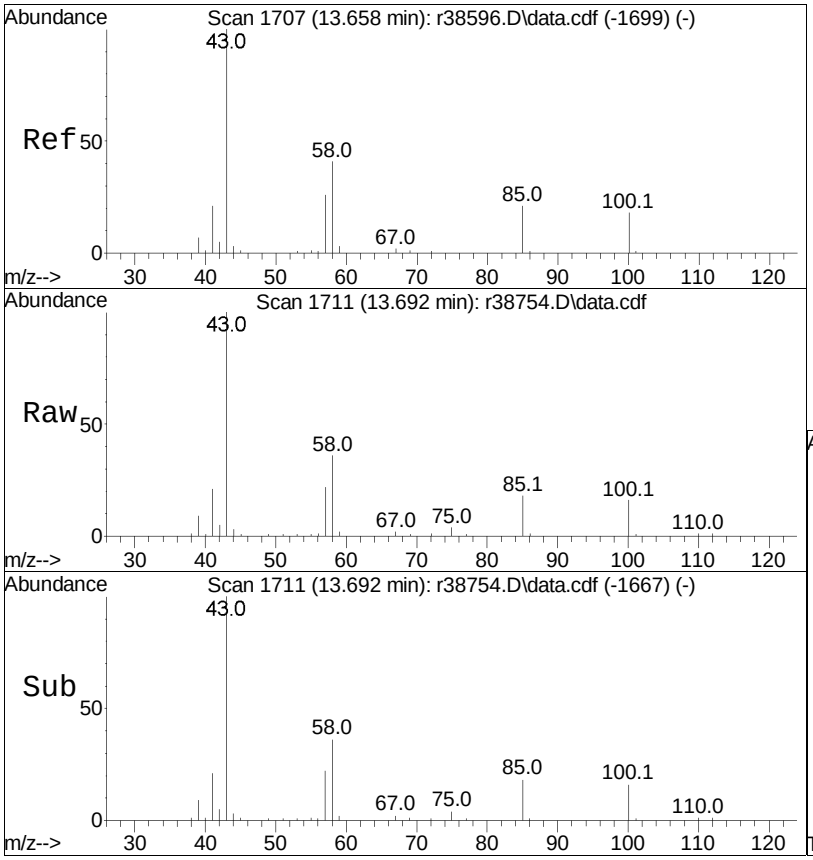


#63
cis-1,3-dichloropropene
Concen: 11.07 ppbV
RT: 13.658 min Scan# 1707
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 75 Resp: 377301

Ion	Ratio	Lower	Upper
75	100		
39	45.7	33.0	49.6
77	31.3	25.4	38.0

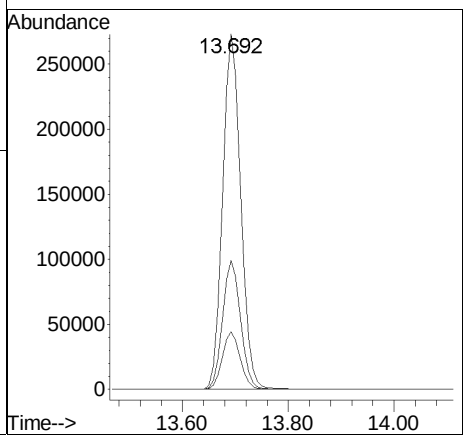


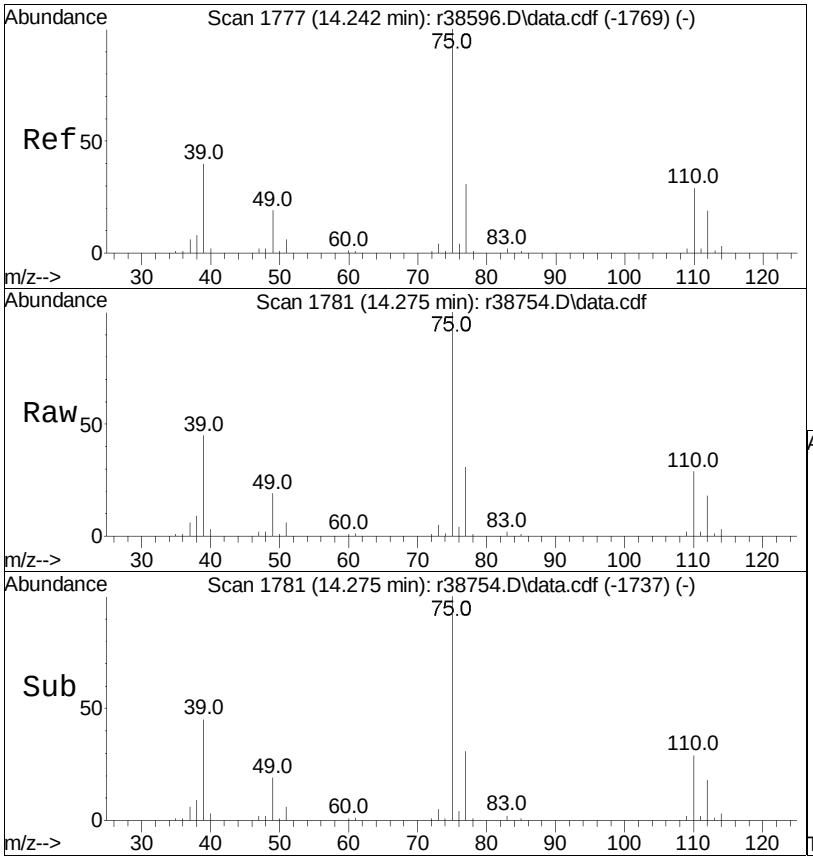


#64
4-methyl-2-pentanone
Concen: 12.78 ppbV
RT: 13.692 min Scan# 1711
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 43 Resp: 648864

Ion	Ratio	Lower	Upper
43	100		
58	36.3	32.5	48.7
100	16.2	14.7	22.1

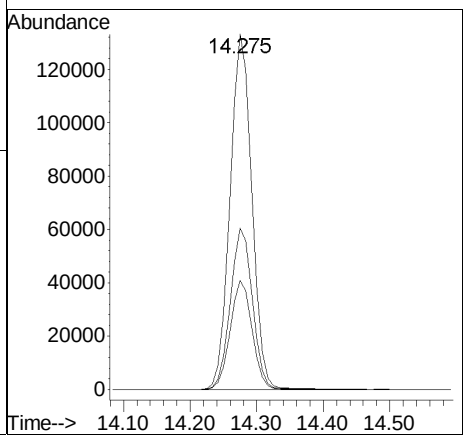


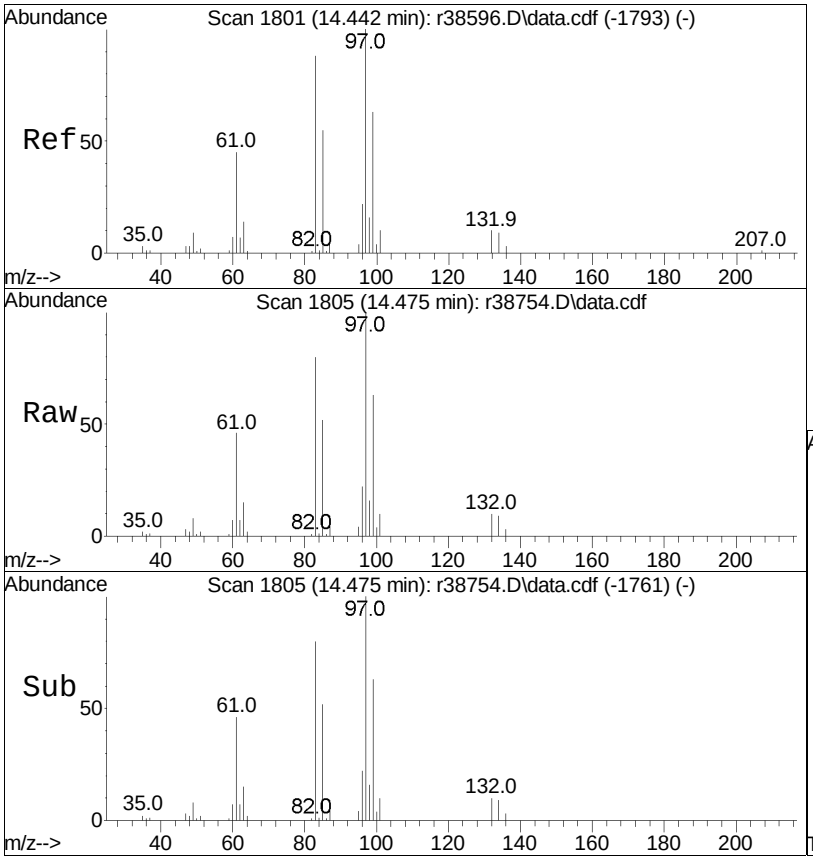


#65
trans-1,3-dichloropropene
Concen: 9.58 ppbV
RT: 14.275 min Scan# 1781
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 75 Resp: 303555

Ion	Ratio	Lower	Upper
75	100		
77	30.8	25.2	37.8
39	45.4	32.3	48.5

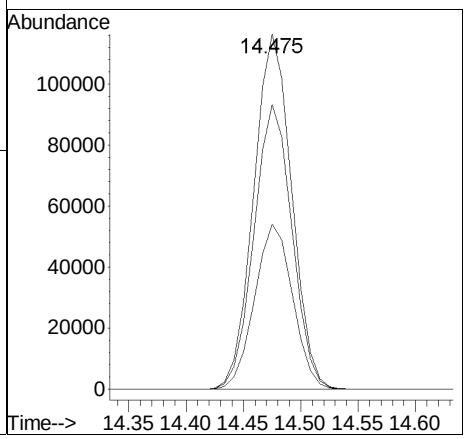


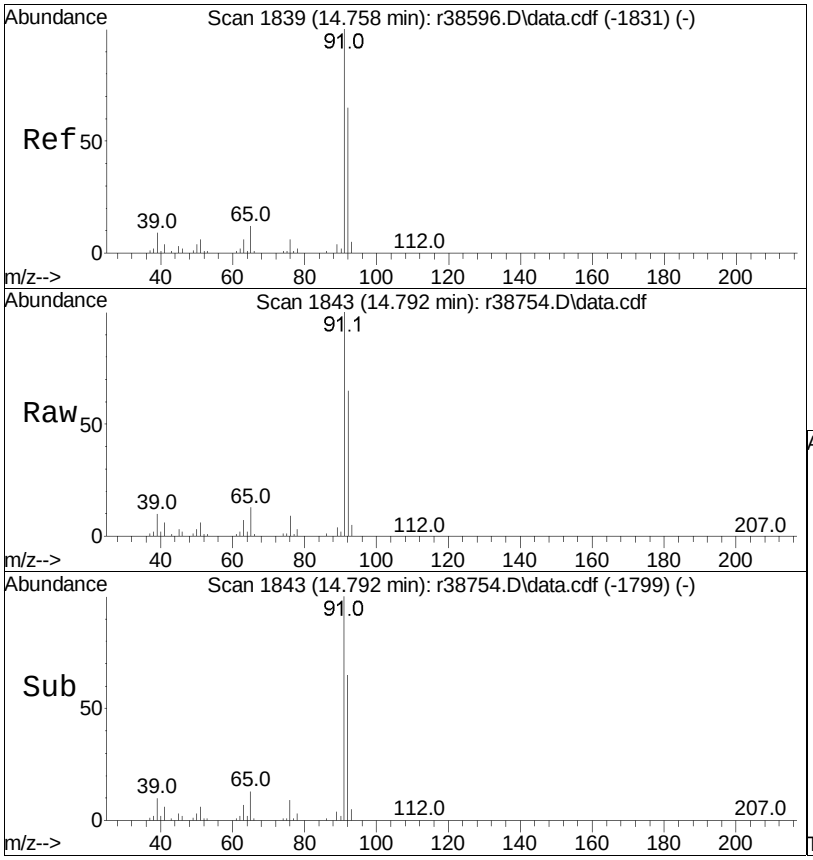


#66
1,1,2-trichloroethane
Concen: 11.53 ppbV
RT: 14.475 min Scan# 1805
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 97 Resp: 268889

Ion	Ratio	Lower	Upper
97	100		
83	80.2	70.2	105.4
61	46.5	36.3	54.5

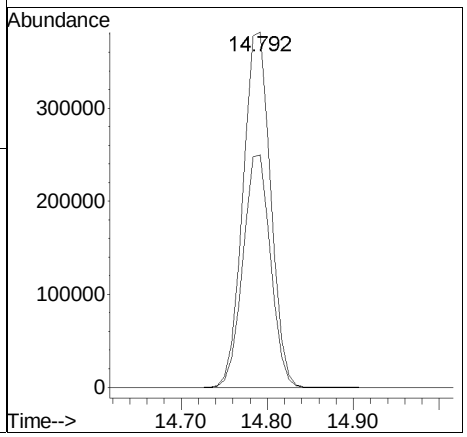


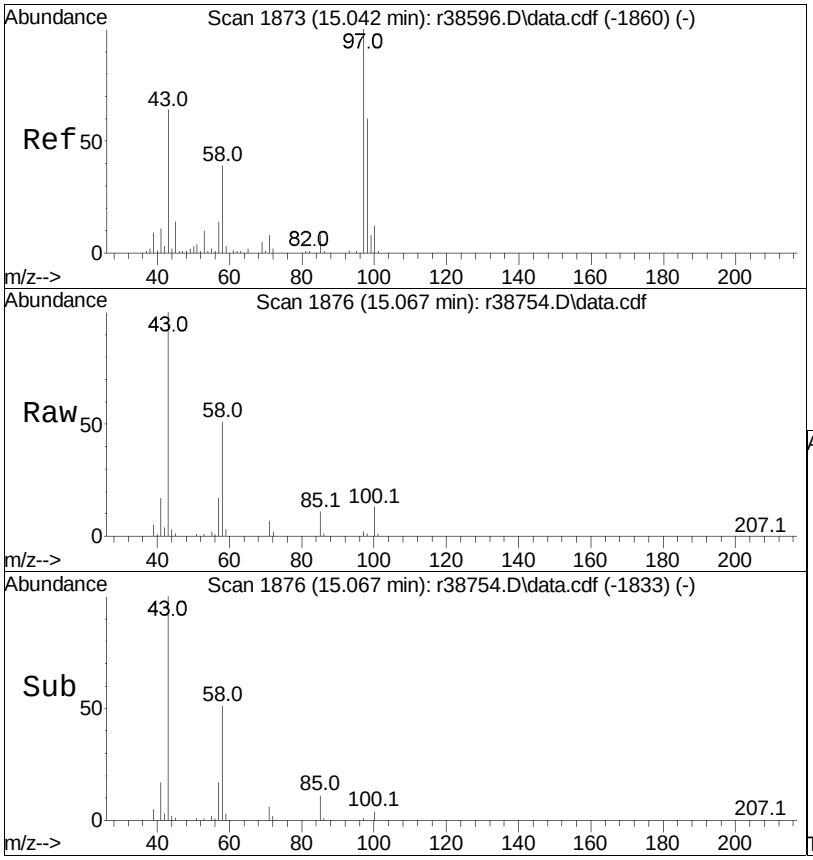


#68
toluene
Concen: 12.01 ppbV
RT: 14.792 min Scan# 1843
Delta R.T. 0.033 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 91 Resp: 852731

Ion	Ratio	Lower	Upper
91	100		
92	65.4	52.4	78.6

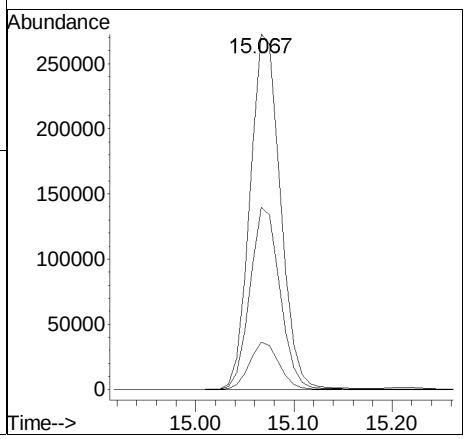


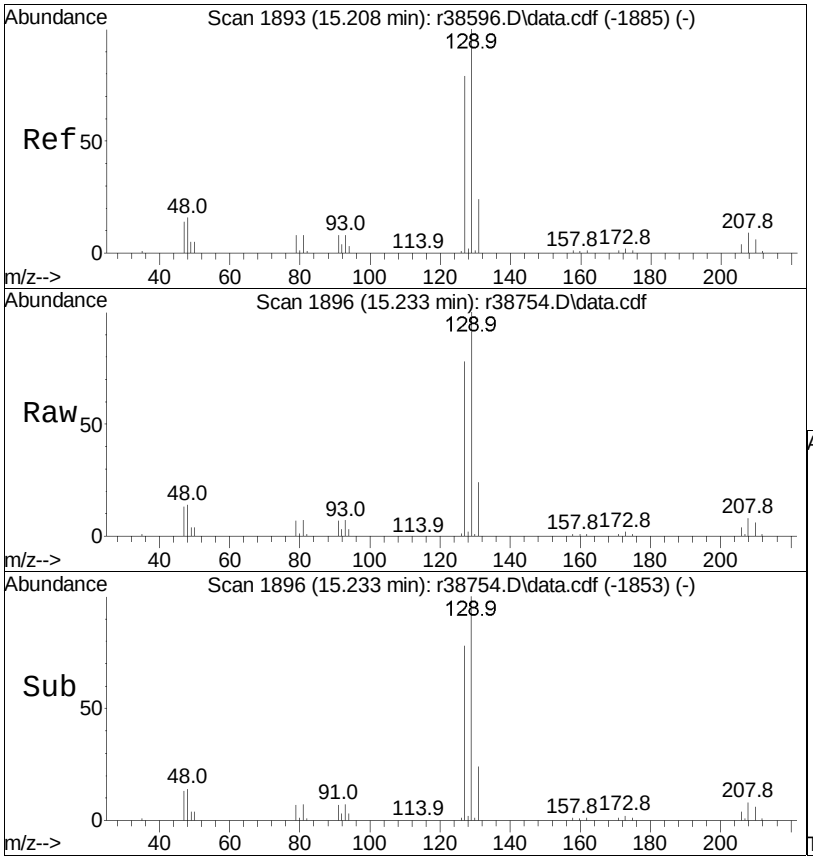


#72
2-hexanone
Concen: 14.03 ppbV
RT: 15.067 min Scan# 1876
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 43 Resp: 584802

Ion	Ratio	Lower	Upper
43	100		
58	51.2	49.3	73.9
100	13.3	14.9	22.3#

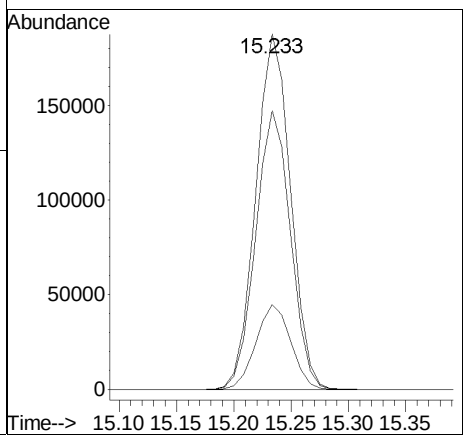


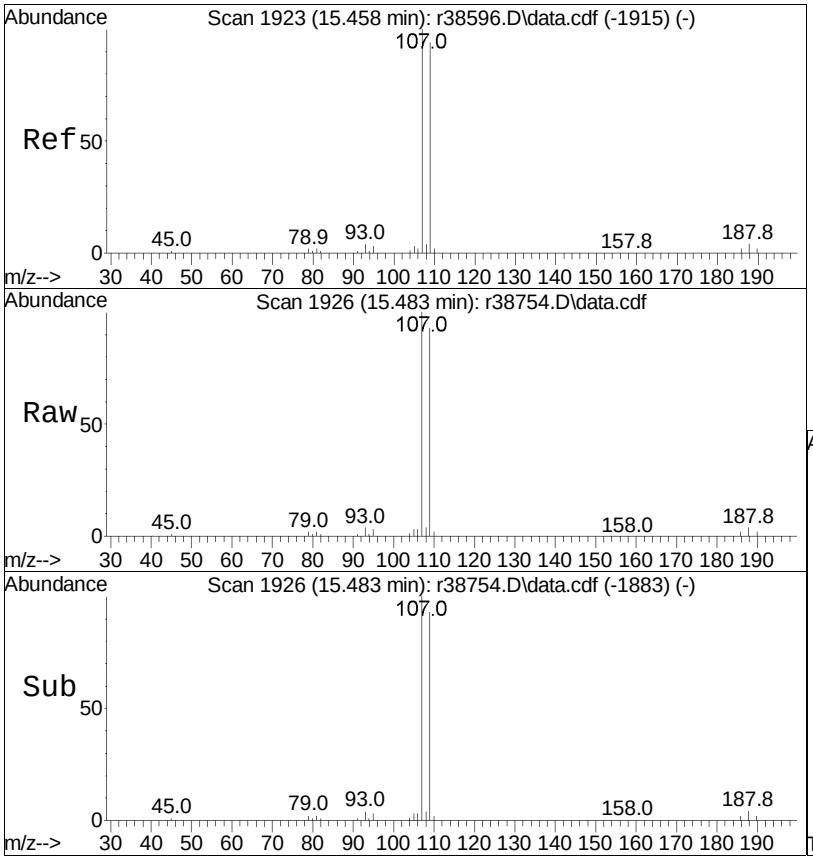


#74
dibromochloromethane
Concen: 12.94 ppbV
RT: 15.233 min Scan# 1896
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:129 Resp: 396414

Ion	Ratio	Lower	Upper
129	100		
127	78.5	63.5	95.3
131	23.9	19.3	28.9

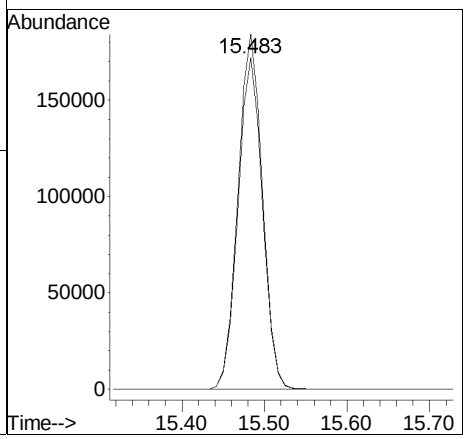


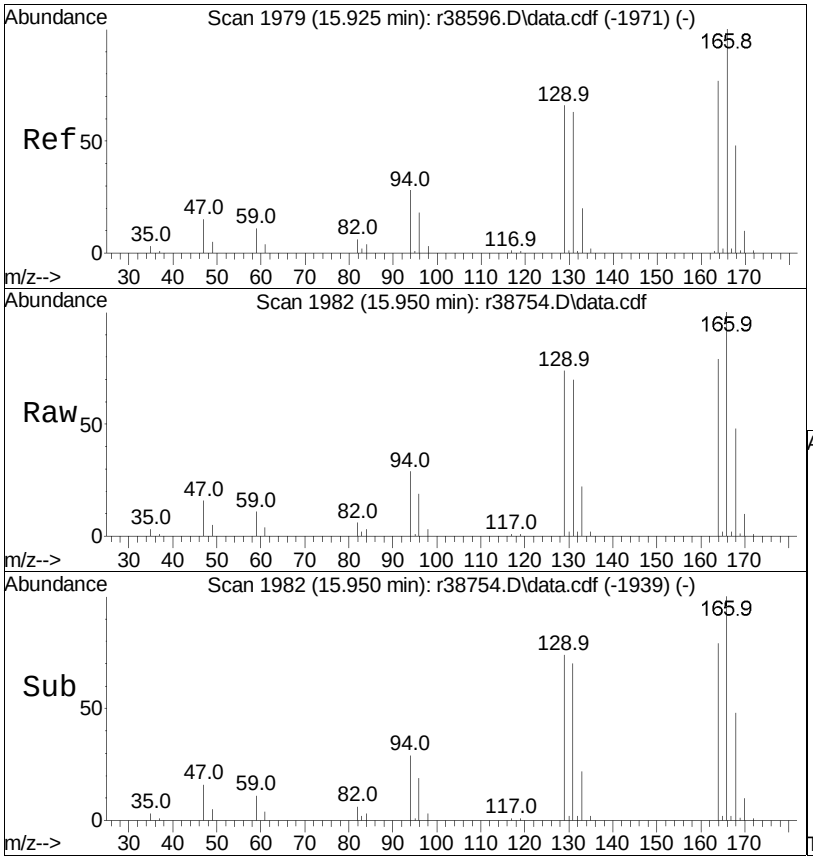


#75
1,2-dibromoethane
Concen: 11.25 ppbV
RT: 15.483 min Scan# 1926
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:107 Resp: 380331

Ion	Ratio	Lower	Upper
107	100		
109	93.4	75.2	112.8

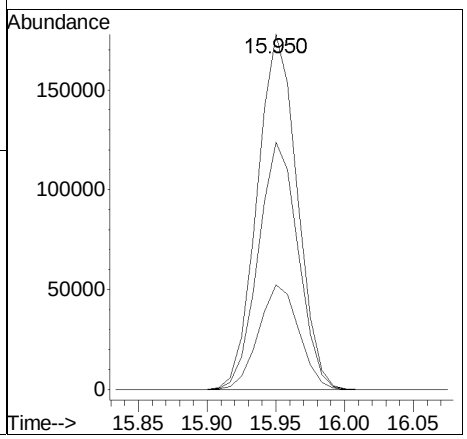


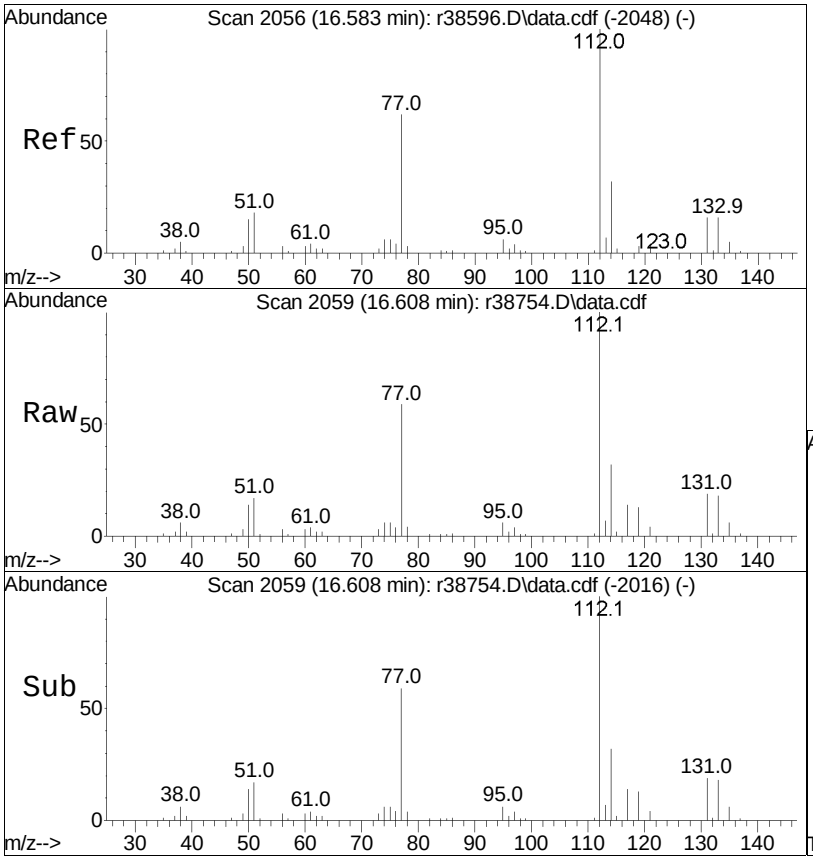


#78
tetrachloroethene
Concen: 11.52 ppbV
RT: 15.950 min Scan# 1982
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:166 Resp: 359495

Ion	Ratio	Lower	Upper
166	100		
131	69.5	50.3	75.5
94	29.4	22.5	33.7

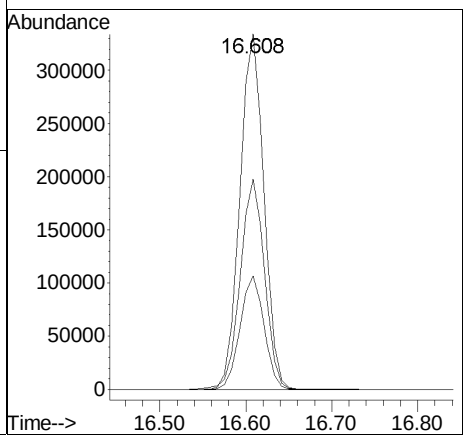


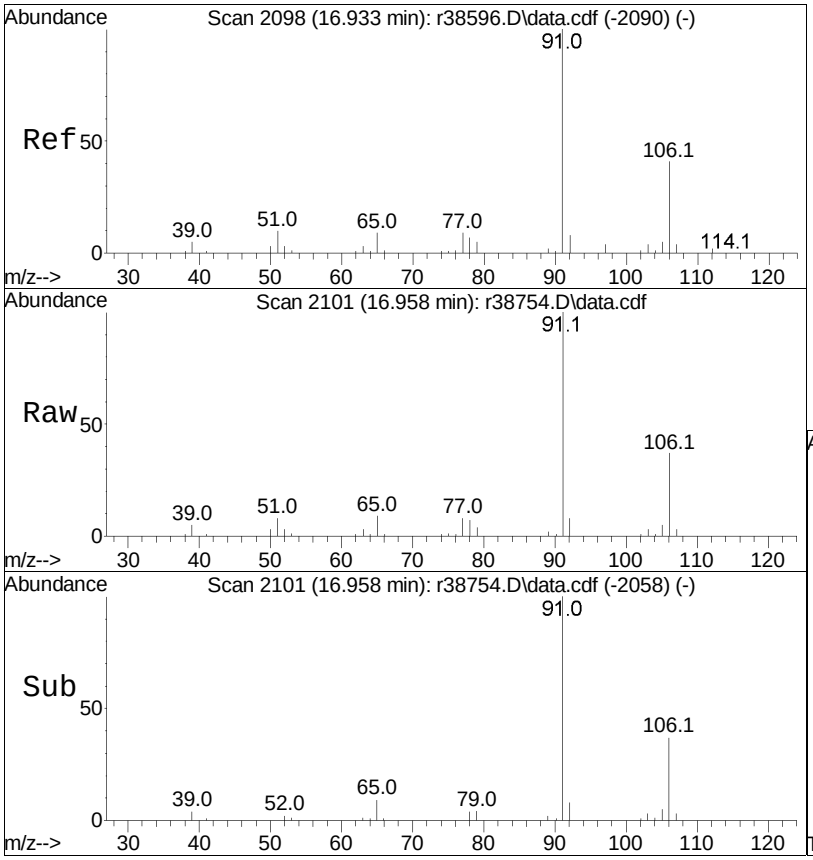


#80
chlorobenzene
Concen: 11.44 ppbV
RT: 16.608 min Scan# 2059
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:112 Resp: 647553

Ion	Ratio	Lower	Upper
112	100		
114	31.9	25.7	38.5
77	59.1	49.9	74.9

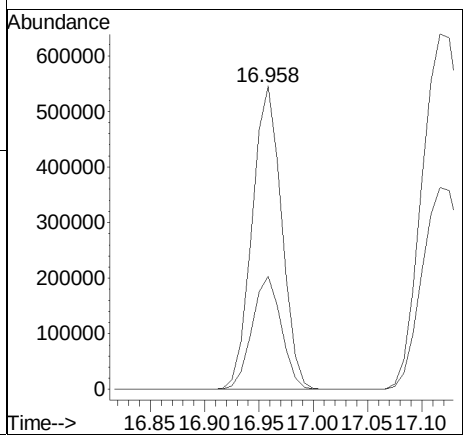


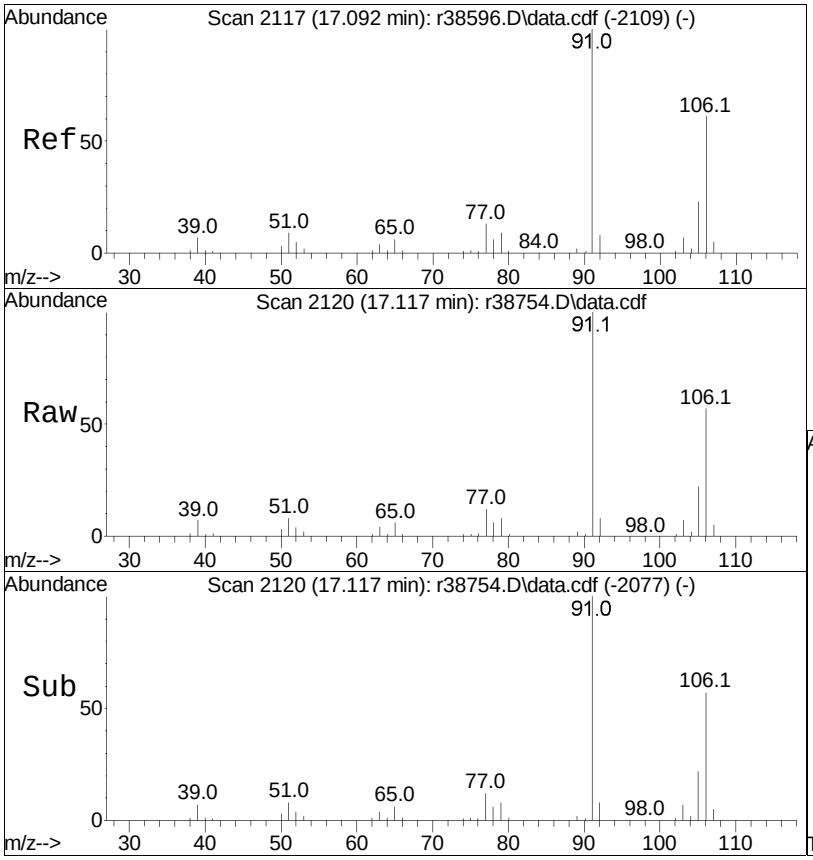


#81
ethylbenzene
Concen: 12.18 ppbV
RT: 16.958 min Scan# 2101
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 91 Resp: 1030325

Ion	Ratio	Lower	Upper
91	100		
106	37.3	32.6	48.8

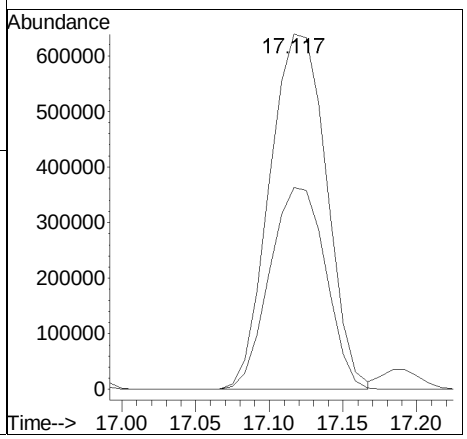


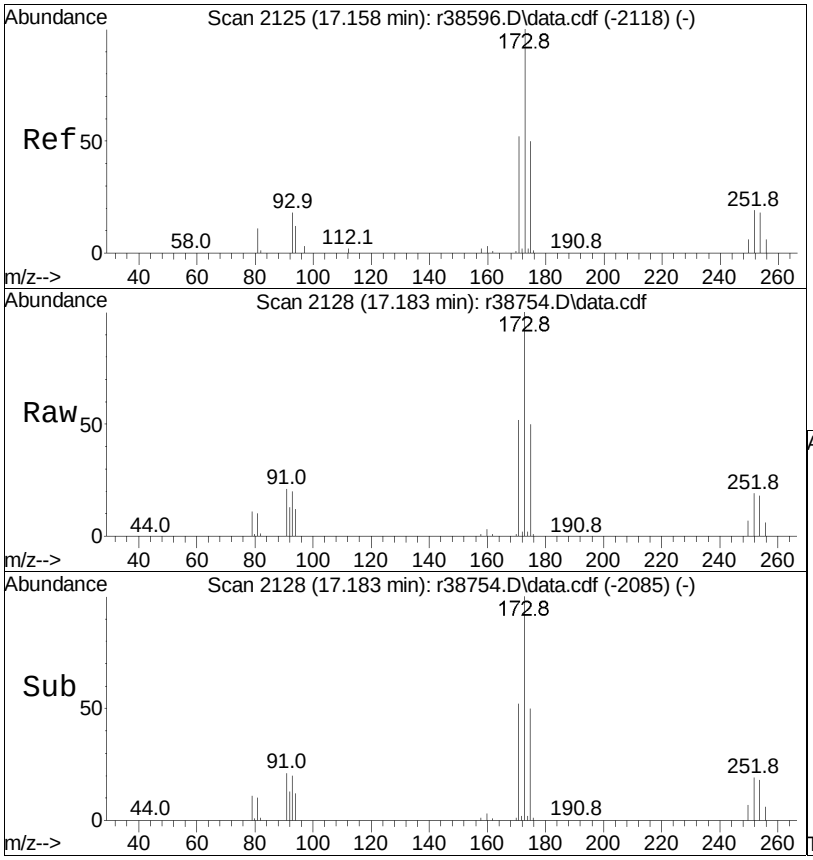


#83
m+p-xylene
Concen: 24.78 ppbV
RT: 17.117 min Scan# 2120
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 91 Resp: 1716028

Ion	Ratio	Lower	Upper
91	100		
106	56.8	49.0	73.6

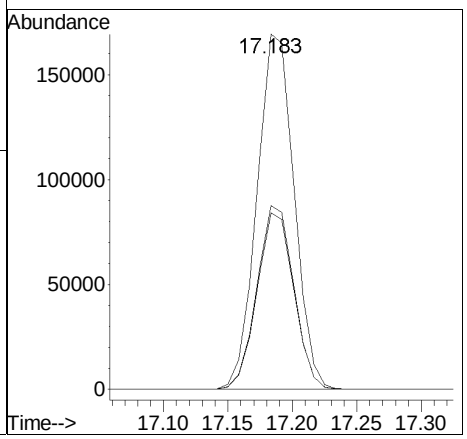


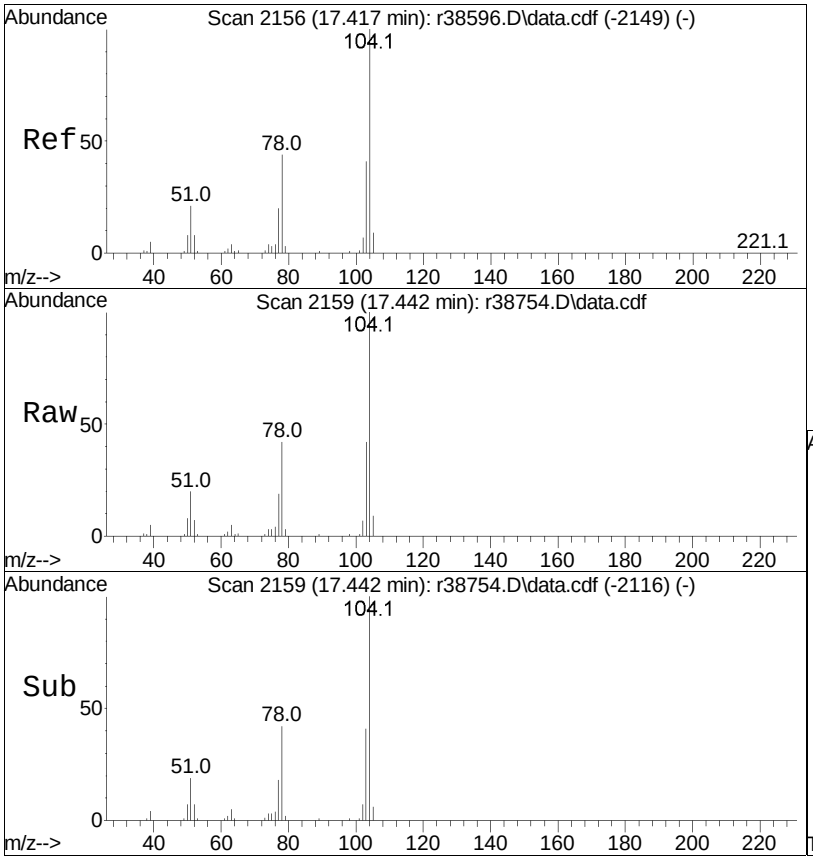


#84
bromoform
Concen: 11.88 ppbV
RT: 17.183 min Scan# 2128
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:173 Resp: 339273

Ion	Ratio	Lower	Upper
173	100		
175	49.7	39.8	59.8
171	51.7	41.4	62.0

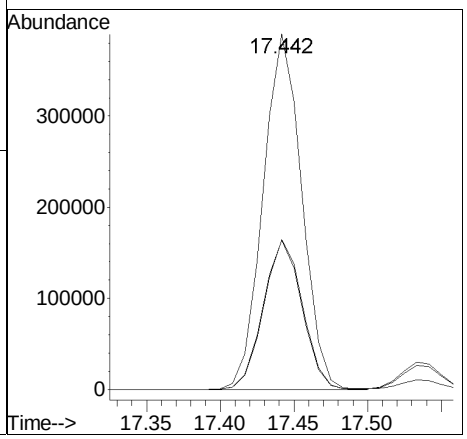


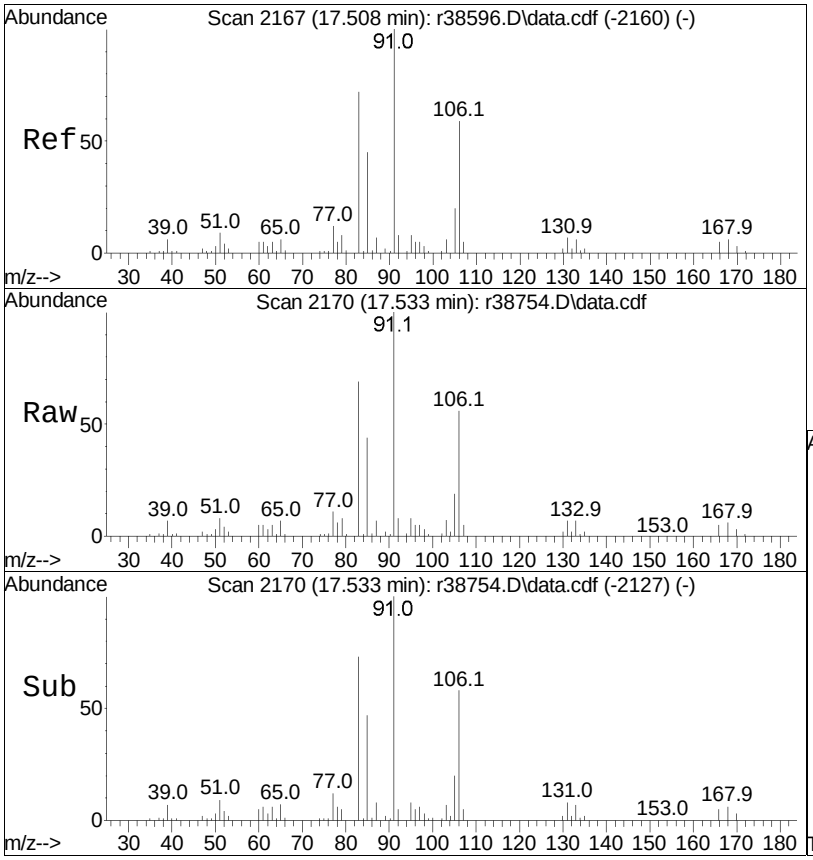


#85
styrene
Concen: 11.50 ppbV
RT: 17.442 min Scan# 2159
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:104 Resp: 710531

Ion	Ratio	Lower	Upper
104	100		
103	42.0	33.1	49.7
78	42.2	35.0	52.6

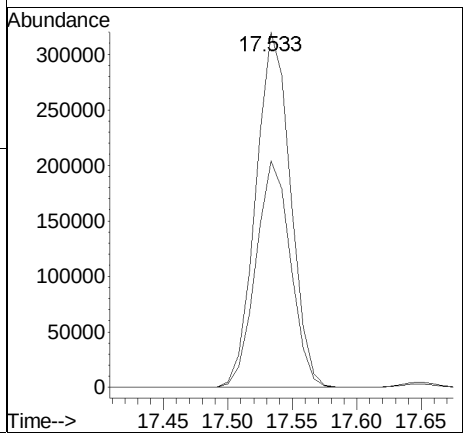


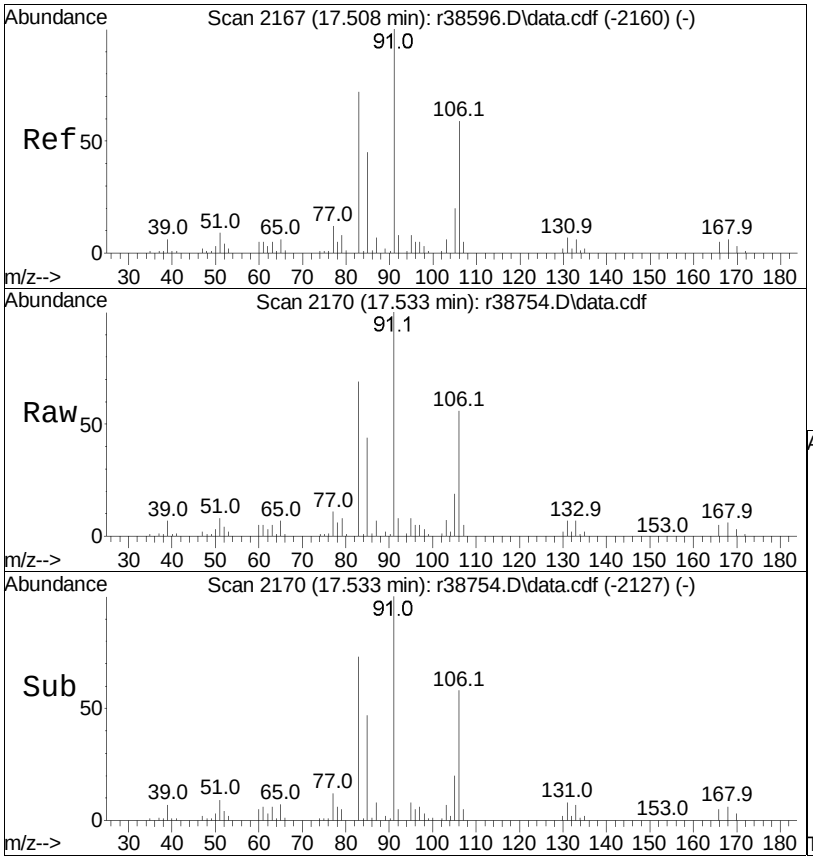


#86
1,1,2,2-tetrachloroethane
Concen: 12.39 ppbV
RT: 17.533 min Scan# 2170
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 83 Resp: 598789

Ion	Ratio	Lower	Upper
83	100		
85	63.7	50.4	75.6

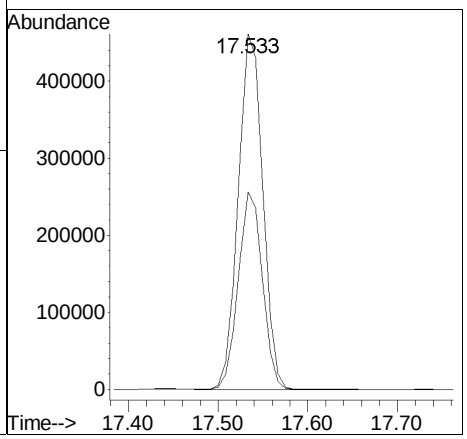


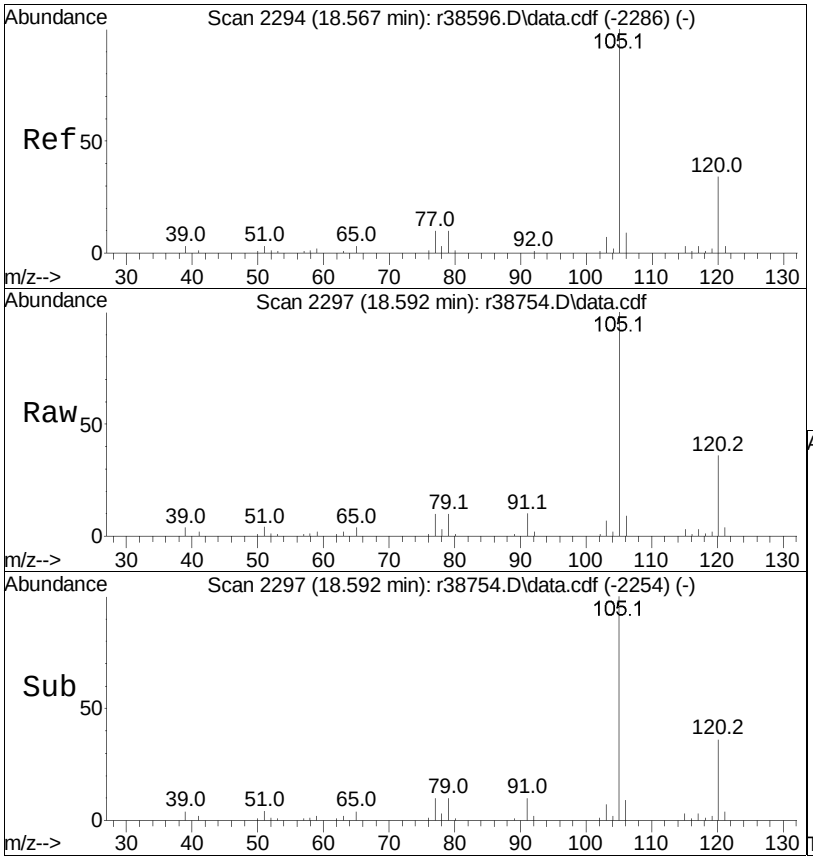


#87
o-xylene
Concen: 12.93 ppbV
RT: 17.533 min Scan# 2170
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 91 Resp: 877460

Ion	Ratio	Lower	Upper
91	100		
106	55.6	47.4	71.0

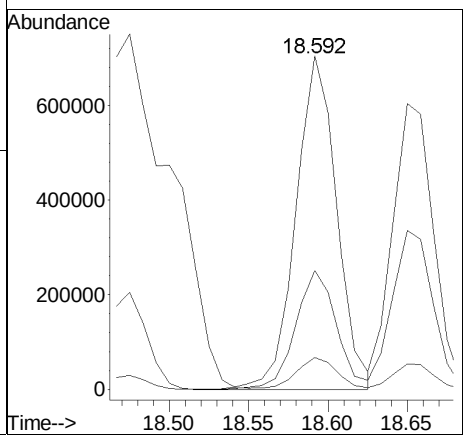


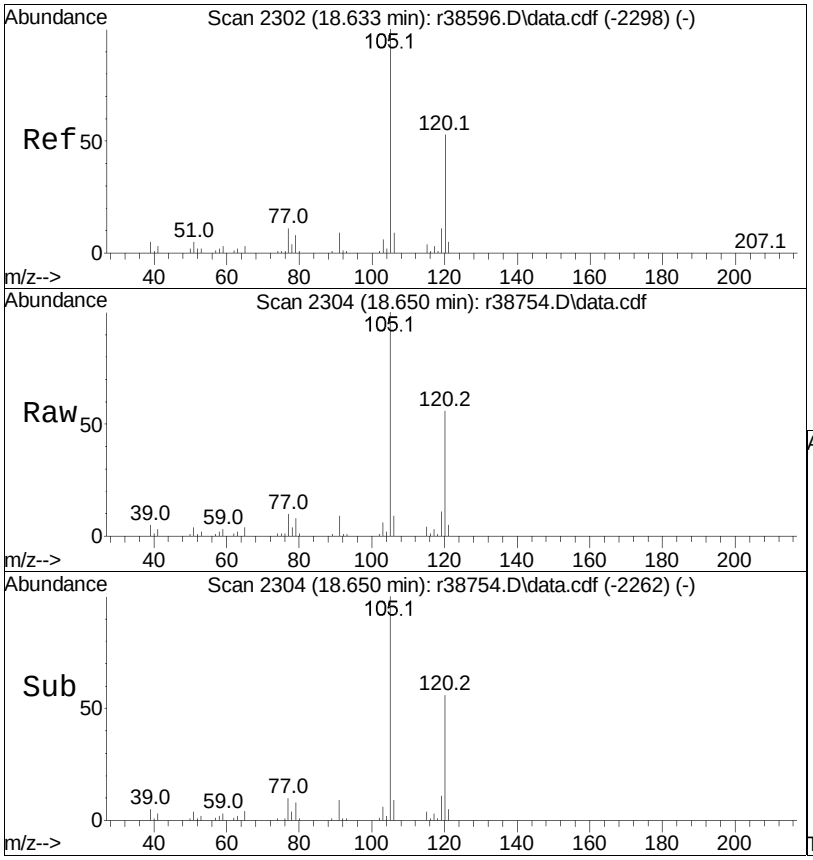


#96
4-ethyl toluene
Concen: 11.54 ppbV
RT: 18.592 min Scan# 2297
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:105 Resp: 1260588

Ion	Ratio	Lower	Upper
105	100		
120	35.7	27.0	40.4
91	9.6	7.4	11.0

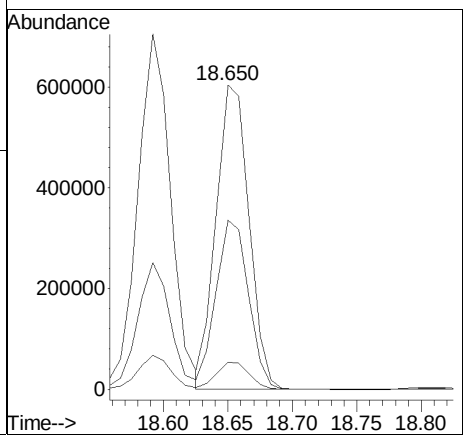


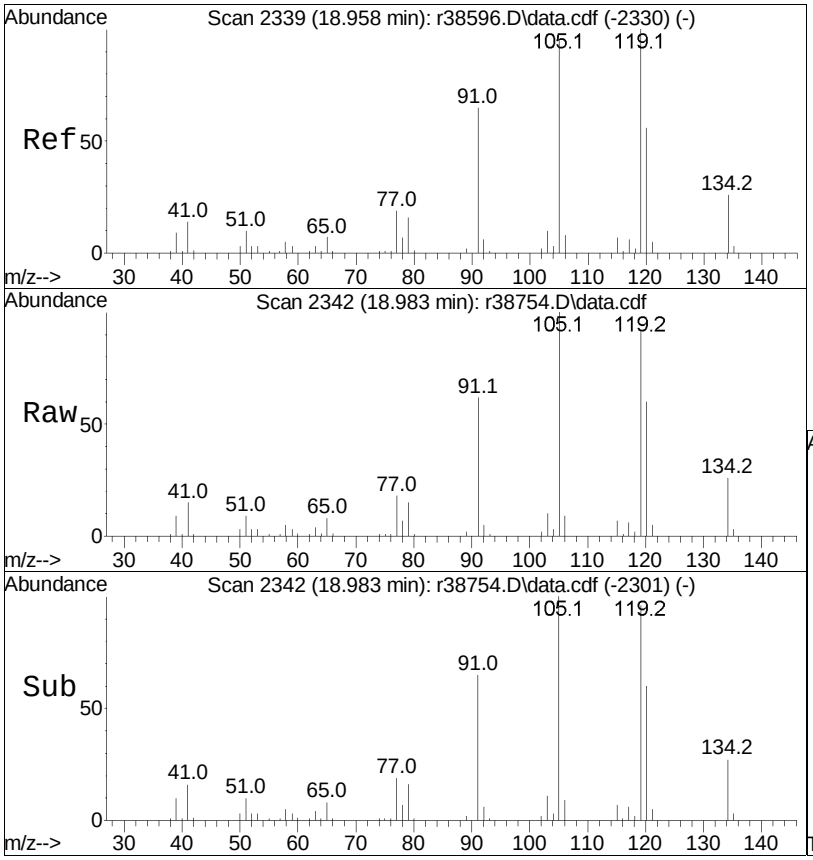


#97
1,3,5-trimethylbenzene
Concen: 12.10 ppbV
RT: 18.650 min Scan# 2304
Delta R.T. 0.017 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:105 Resp: 1074869

Ion	Ratio	Lower	Upper
105	100		
120	55.6	41.6	62.4
91	8.9	7.0	10.4

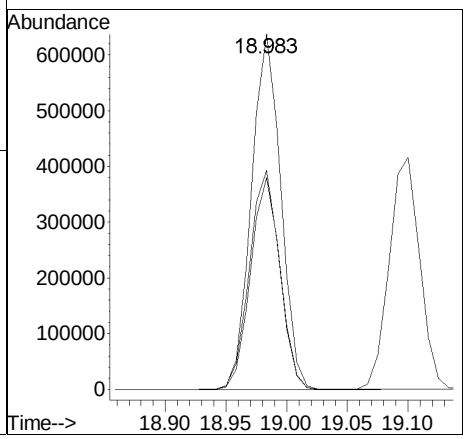


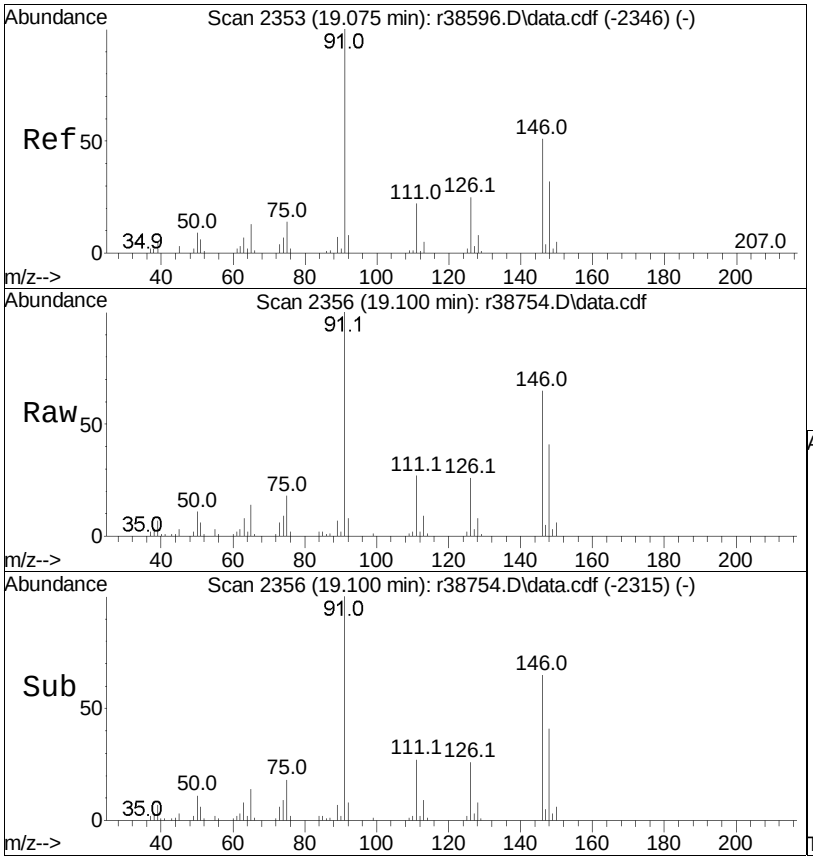


#99
1,2,4-trimethylbenzene
Concen: 12.99 ppbV
RT: 18.983 min Scan# 2342
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:105 Resp: 1073784

Ion	Ratio	Lower	Upper
105	100		
120	59.5	47.1	70.7
91	61.6	55.0	82.6

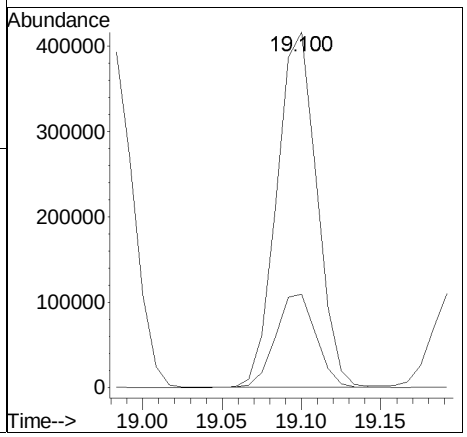


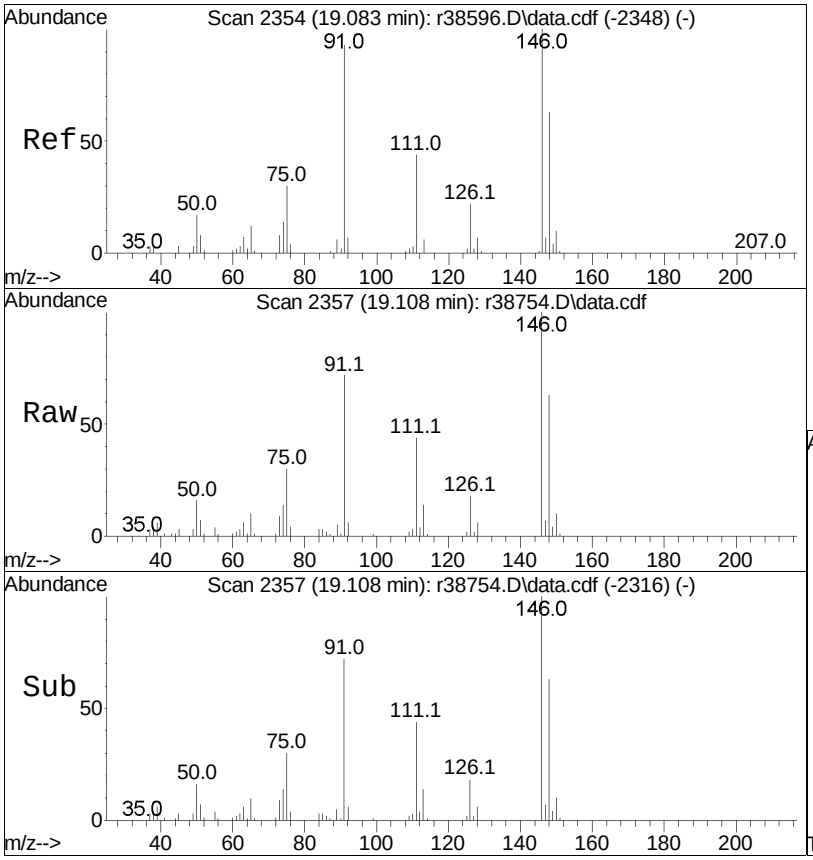


#101
Benzyl Chloride
Concen: 12.63 ppbV
RT: 19.100 min Scan# 2356
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion: 91 Resp: 730511

Ion	Ratio	Lower	Upper
91	100		
126	26.2	20.1	30.1

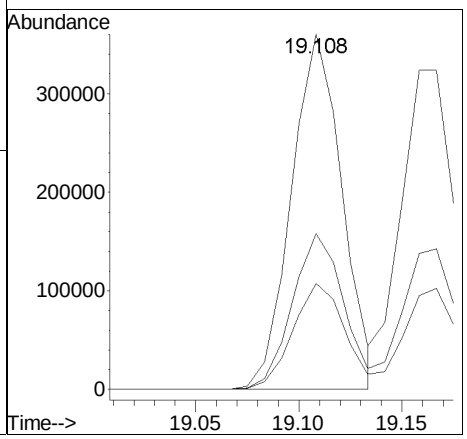


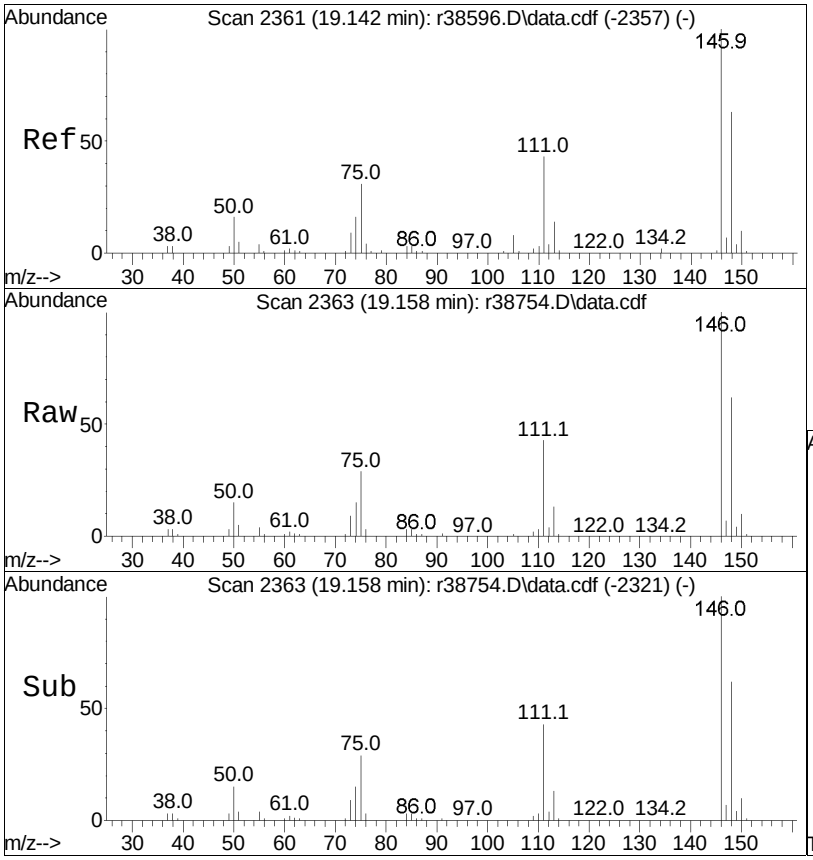


#102
1,3-dichlorobenzene
Concen: 12.10 ppbV
RT: 19.108 min Scan# 2357
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:146 Resp: 615768

Ion	Ratio	Lower	Upper
146	100		
111	43.8	35.5	53.3
75	29.8	23.8	35.6

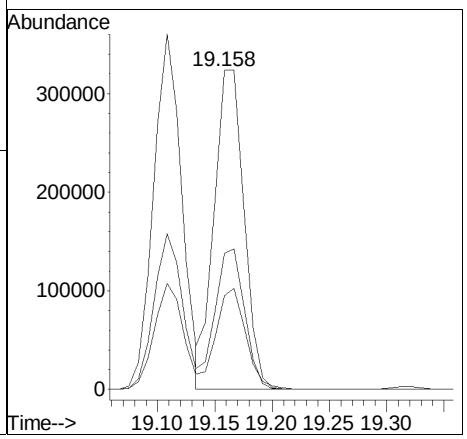


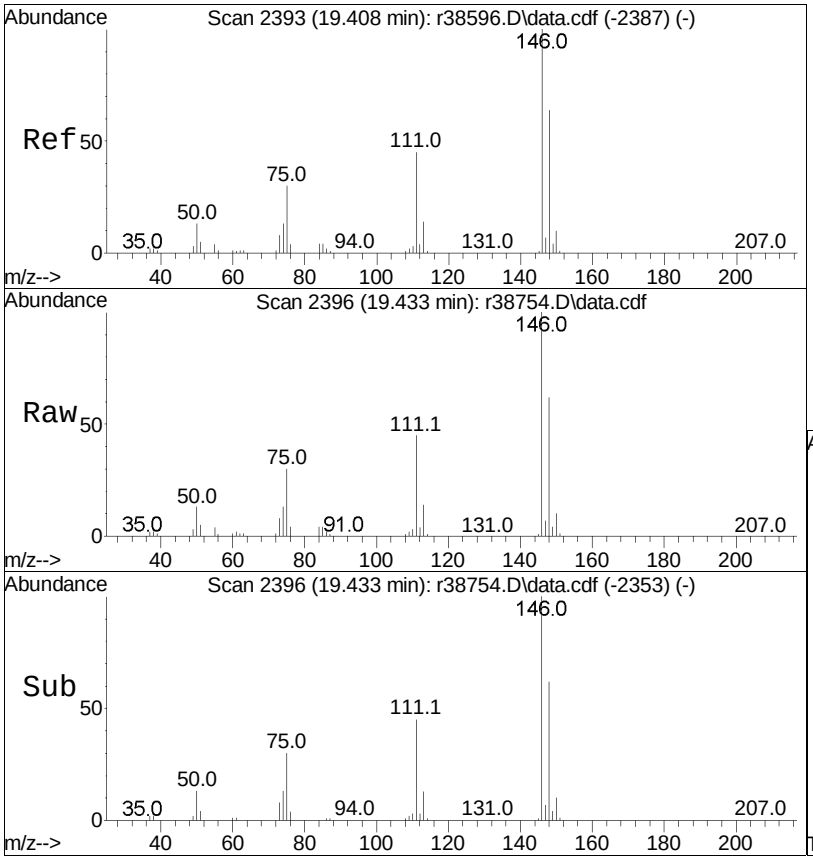


#103
1,4-dichlorobenzene
Concen: 12.12 ppbV
RT: 19.158 min Scan# 2363
Delta R.T. 0.017 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:146 Resp: 586145

Ion	Ratio	Lower	Upper
146	100		
111	42.6	34.9	52.3
75	29.4	25.2	37.8

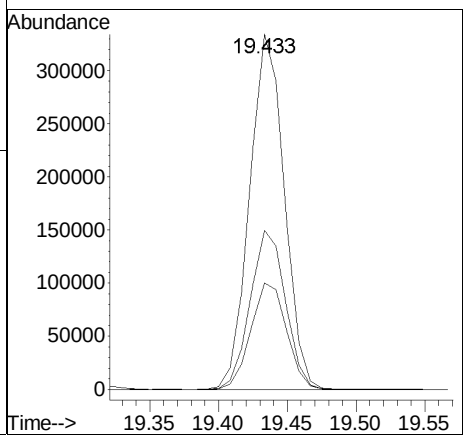


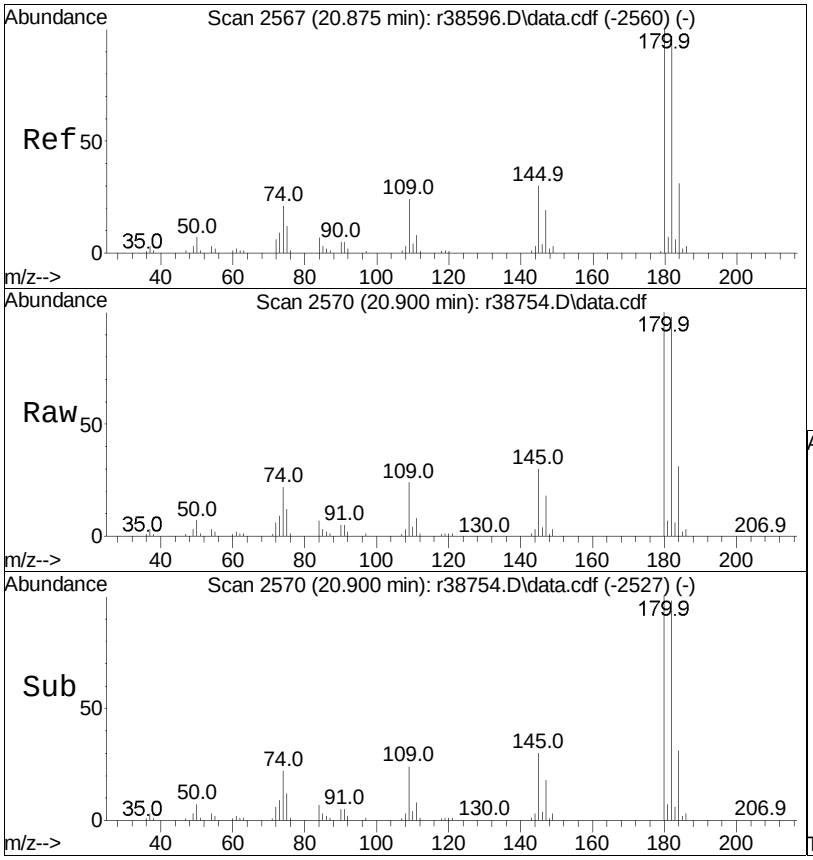


#107
1,2-dichlorobenzene
Concen: 12.08 ppbV
RT: 19.433 min Scan# 2396
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:146 Resp: 586153

Ion	Ratio	Lower	Upper
146	100		
111	44.8	36.0	54.0
75	29.9	24.0	36.0

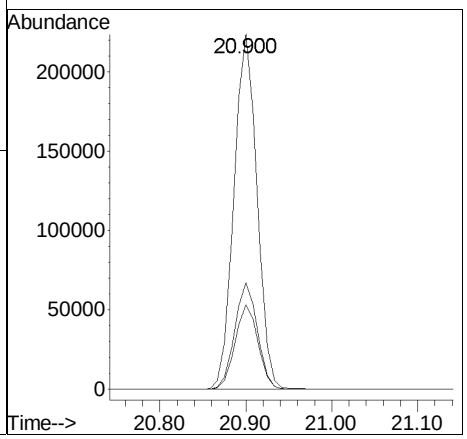


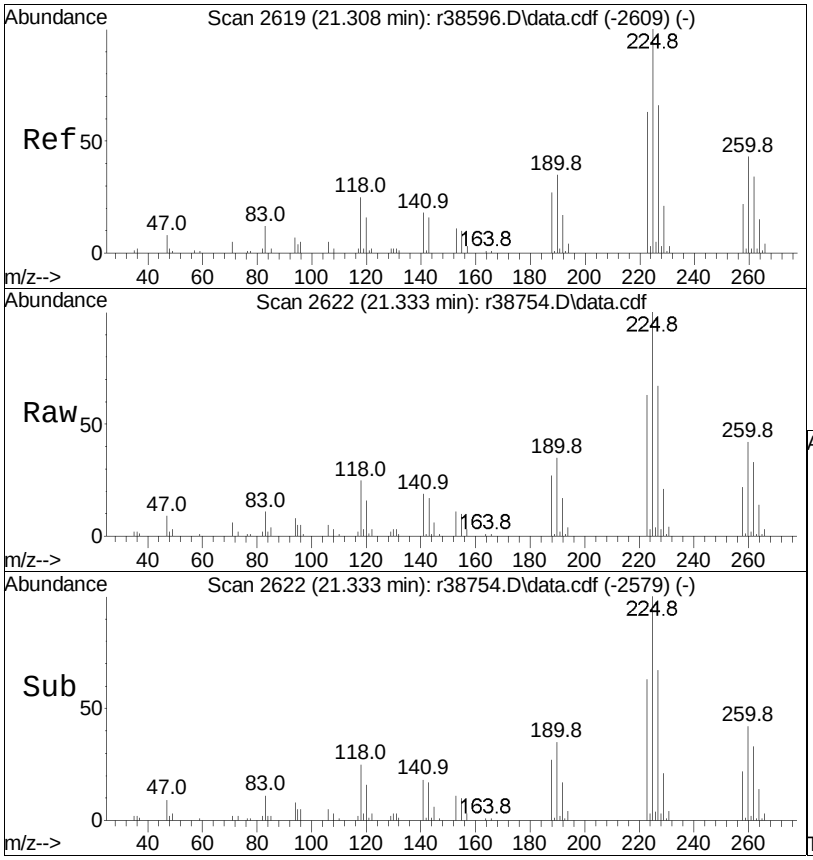


#115
1,2,4-trichlorobenzene
Concen: 13.82 ppbV
RT: 20.900 min Scan# 2570
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:180 Resp: 417816

Ion	Ratio	Lower	Upper
180	100		
145	30.0	23.8	35.6
109	23.8	19.0	28.4

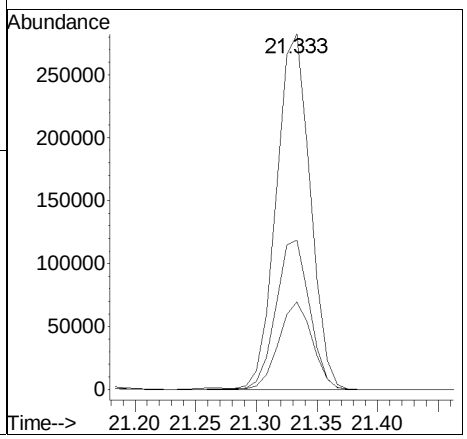




#119
hexachlorobutadiene
Concen: 14.61 ppbV
RT: 21.333 min Scan# 2622
Delta R.T. 0.025 min
Lab File: r38754.D
Acq: 20 Mar 2020 1:32 PM

Tgt Ion:225 Resp: 547909

Ion	Ratio	Lower	Upper
225	100		
260	42.0	34.4	51.6
118	24.7	20.2	30.2



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38760.D
Acq On : 20 Mar 2020 7:03 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-5,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 18:26:07 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : TO15-NY-7-SIM - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.583	49	387385	10.000	ppbV	0.03
Standard Area = 353543			Recovery = 109.57%			
43) 1,4-difluorobenzene	11.847	114	1015739	10.000	ppbV	0.03
Standard Area = 970632			Recovery = 104.65%			
67) chlorobenzene-D5	16.567	54	143702	10.000	ppbV	0.02
Standard Area = 139948			Recovery = 102.68%			
System Monitoring Compounds						
Target Compounds						Qvalue
5) dichlorodifluoromethane	4.000	85	15396	0.440	ppbV	99
6) chloromethane	4.186	50	13080	0.813	ppbV	96
7) Freon-114	4.312		0	N.D.		
10) 1,3-butadiene	4.612	54	26934	1.431	ppbV	95
13) bromomethane	0.000		0	N.D.		
14) chloroethane	0.000		0	N.D.		
15) ethanol	5.326	31	1691621	112.105	ppbV #	85
17) vinyl bromide	0.000		0	N.D.		
19) acetone	5.900	43	368049M6	14.646	ppbV	
21) trichlorofluoromethane	6.097	101	5652	0.207	ppbV	96
22) isopropyl alcohol	6.223	45	501655	15.614	ppbV	97
27) tertiary butyl alcohol	6.972	59	3327	0.086	ppbV #	1
28) methylene chloride	7.038	49	3131	0.129	ppbV	93
29) 3-chloropropene	0.000		0	N.D.	d	
30) carbon disulfide	7.326		0	N.D.		
31) Freon 113	7.368	101	2394	0.064	ppbV	90
32) trans-1,2-dichloroethene	8.100		0	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.	d	
34) MTBE	0.000		0	N.D.	d	
36) 2-butanone	8.892	43	52289	1.097	ppbV	97
38) Ethyl Acetate	0.000		0	N.D.	d	
39) chloroform	9.750	83	2737M4	0.073	ppbV	
40) Tetrahydrofuran	10.208	42	12522	0.420	ppbV	96
42) 1,2-dichloroethane	0.000		0	N.D.	d	
44) hexane	9.658	57	2094813	55.598	ppbV #	47
50) benzene	11.413	78	491062	6.677	ppbV	99
53) cyclohexane	11.727	56	977209	23.943	ppbV	97

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38760.D
Acq On : 20 Mar 2020 7:03 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-5,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 18:26:07 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320T\r38754.D
Sub List : TO15-NY-7-SIM - .

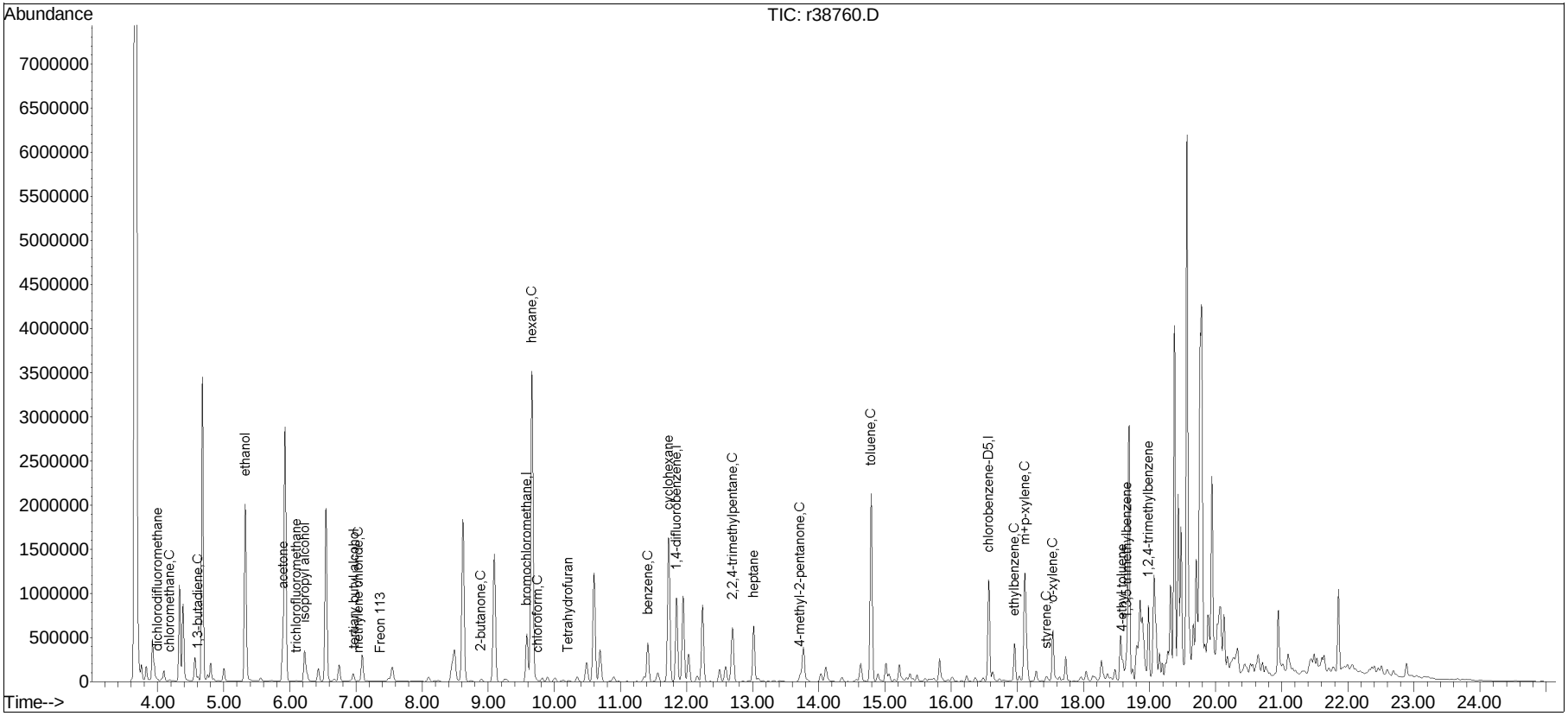
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
56) 1,2-dichloropropane	0.000		0	N.D.	d	
57) bromodichloromethane	0.000		0	N.D.	d	
58) 1,4-dioxane	0.000		0	N.D.		
60) 2,2,4-trimethylpentane	12.693	57	616199	5.139	ppbV #	88
62) heptane	13.013	43	363040	7.705	ppbV	92
63) cis-1,3-dichloropropene	0.000		0	N.D.		
64) 4-methyl-2-pentanone	13.717	43	35353	0.666	ppbV #	89
65) trans-1,3-dichloropropene	0.000		0	N.D.		
66) 1,1,2-trichloroethane	0.000		0	N.D.	d	
68) toluene	14.792	91	1827164	25.055	ppbV	100
72) 2-hexanone	0.000		0	N.D.	d	
74) dibromochloromethane	0.000		0	N.D.		
75) 1,2-dibromoethane	0.000		0	N.D.		
80) chlorobenzene	0.000		0	N.D.	d	
81) ethylbenzene	16.958	91	362734	4.176	ppbV	95
83) m+p-xylene	17.117	91	1056494	14.859	ppbV	95
84) bromoform	0.000		0	N.D.		
85) styrene	17.442	104	19911	0.314	ppbV	99
86) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	d	
87) o-xylene	17.542	91	404052	5.799	ppbV	92
96) 4-ethyl toluene	18.592	105	110428M6	0.984	ppbV	
97) 1,3,5-trimethylbenzene	18.658	105	122815	1.346	ppbV	97
99) 1,2,4-trimethylbenzene	18.983	105	442091	5.208	ppbV #	56
101) Benzyl Chloride	0.000		0	N.D.	d	
102) 1,3-dichlorobenzene	0.000		0	N.D.	d	
103) 1,4-dichlorobenzene	19.167		0	N.D.		
107) 1,2-dichlorobenzene	0.000		0	N.D.		
115) 1,2,4-trichlorobenzene	20.908		0	N.D.		
119) hexachlorobutadiene	0.000		0	N.D.		

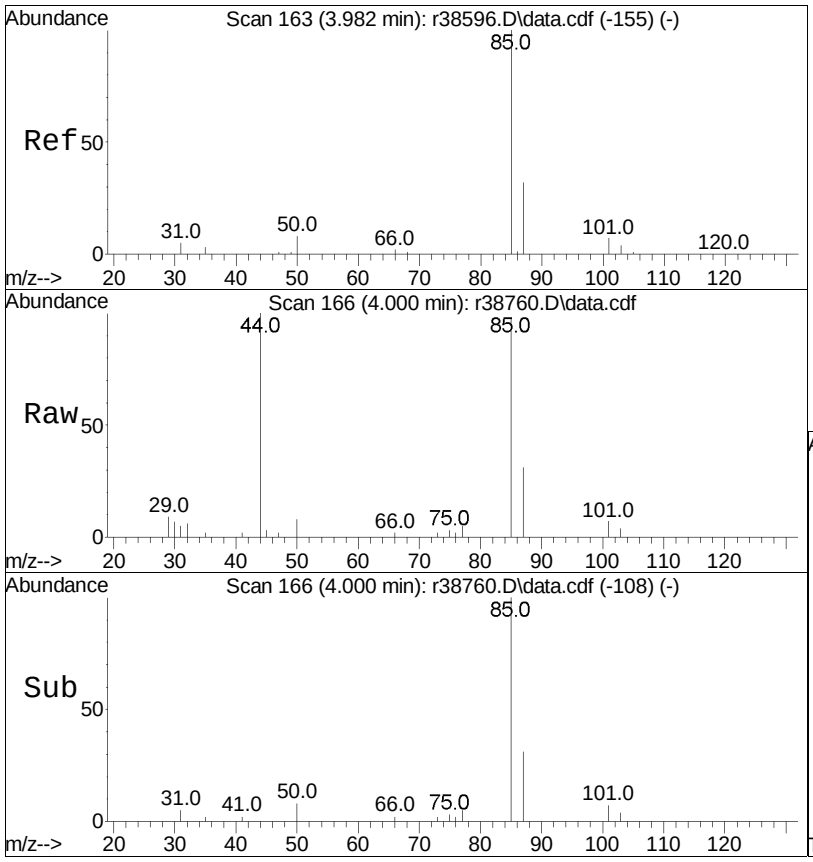
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : TO15-NY-7-SIM - .\Airpiano3\2020\03\200320T\r38754.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320T\
Data File : r38760.D
Acq On : 20 Mar 2020 7:03 PM
Operator : AIRPIANO3:EW
Sample : WG1353541-5,3,250,250
Misc : WG1353541,ICAL16594
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 18:26:07 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320T\TFS3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 17:27:58 2020
Response via : Initial Calibration

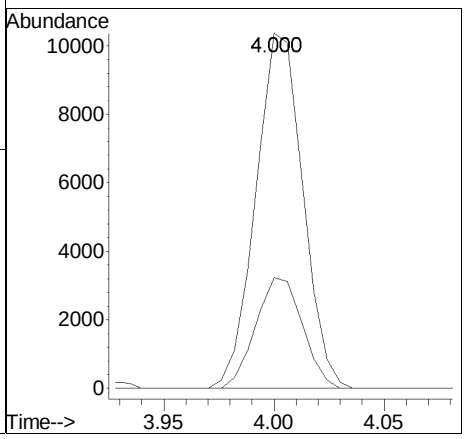


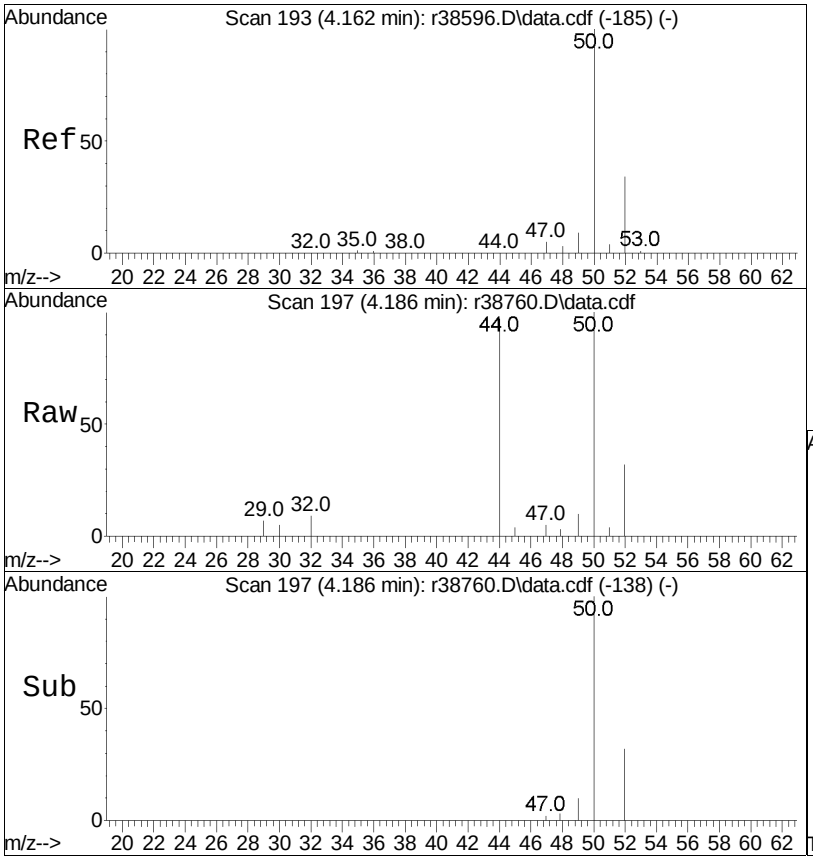


#5
dichlorodifluoromethane
Concen: 0.44 ppbV
RT: 4.000 min Scan# 166
Delta R.T. 0.018 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 85 Resp: 15396

Ion	Ratio	Lower	Upper
85	100		
87	31.2	25.4	38.0

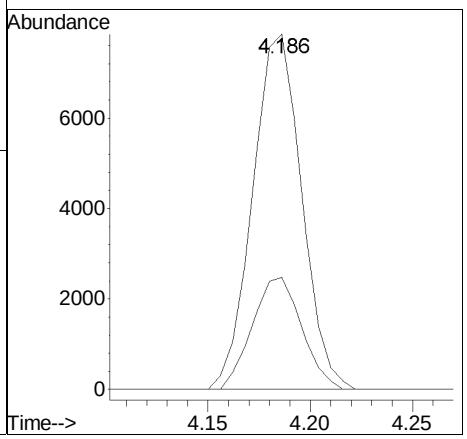


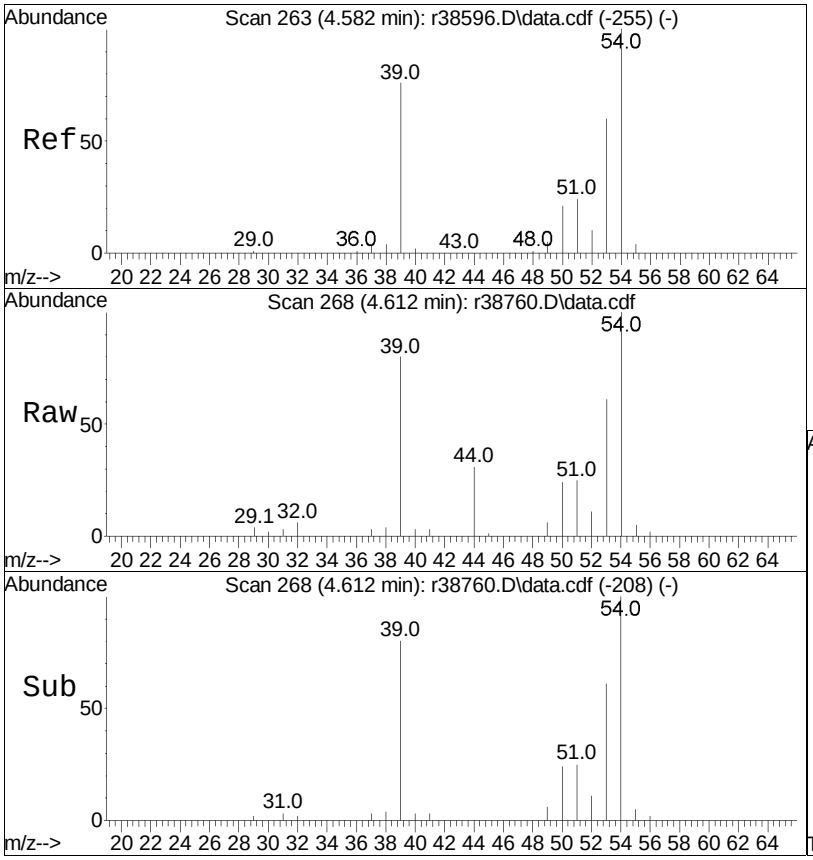


#6
chloromethane
Concen: 0.81 ppbV
RT: 4.186 min Scan# 197
Delta R.T. 0.024 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 50 Resp: 13080

Ion	Ratio	Lower	Upper
50	100		
52	31.5	26.9	40.3

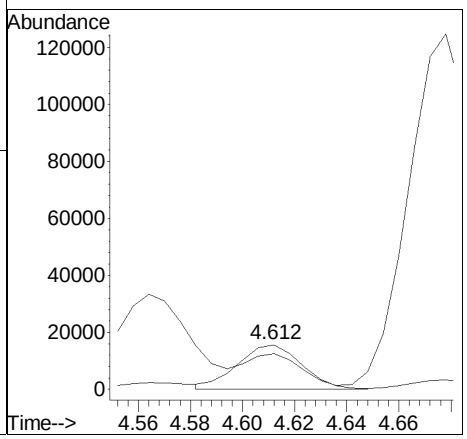


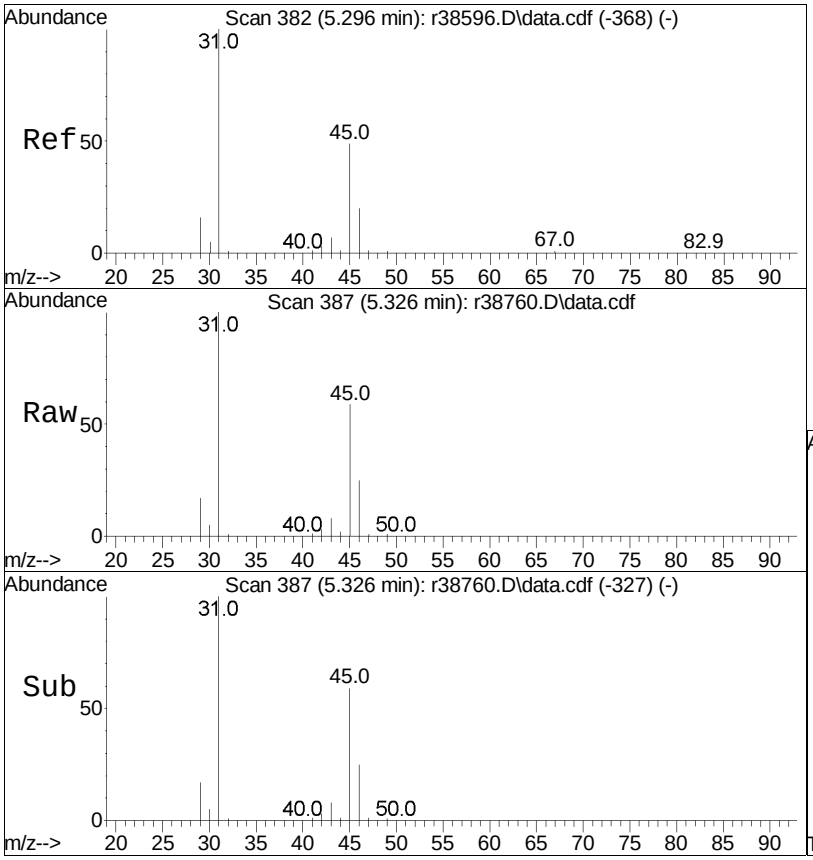


#10
1,3-butadiene
Concen: 1.43 ppbV
RT: 4.612 min Scan# 268
Delta R.T. 0.030 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 54 Resp: 26934

Ion	Ratio	Lower	Upper
54	100		
39	80.2	60.9	91.3

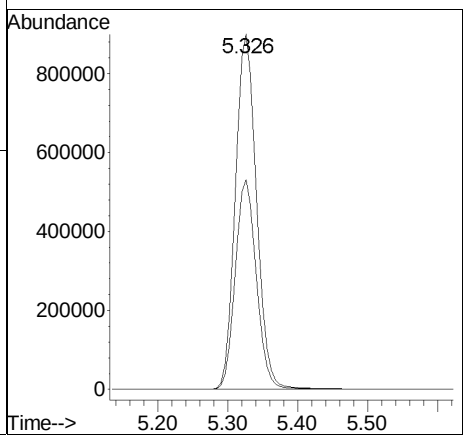


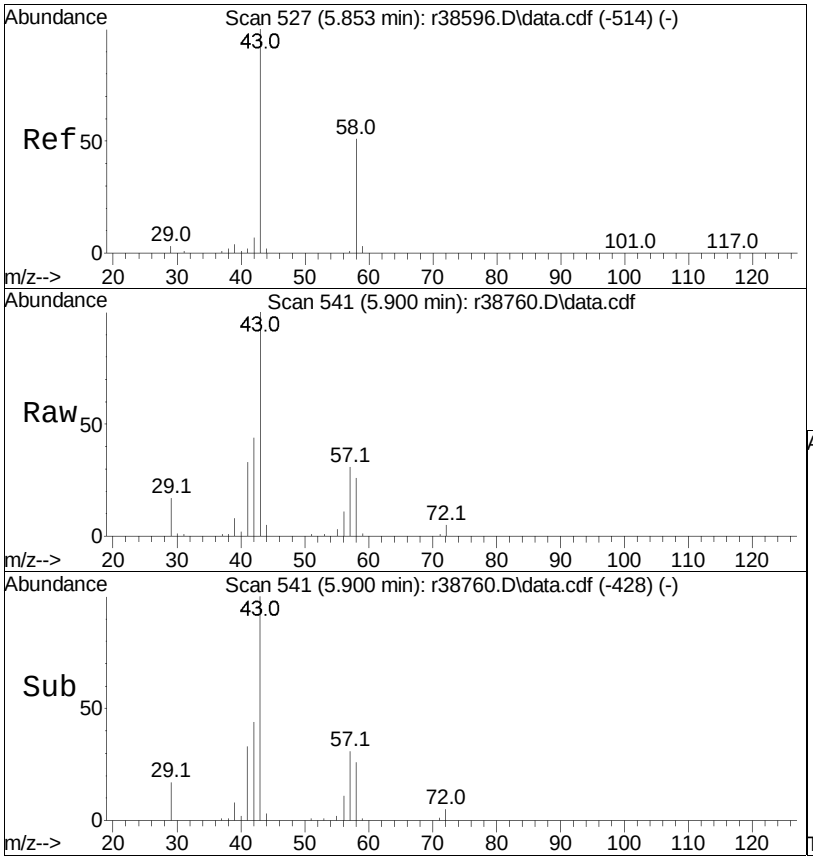


#15
ethanol
Concen: 112.11 ppbV
RT: 5.326 min Scan# 387
Delta R.T. 0.030 min
Lab File: r38760.D
Acq: 20 Mar 2020   7:03 PM

Tgt Ion: 31 Resp: 1691621

Ion	Ratio	Lower	Upper
31	100		
45	59.1	39.0	58.4#

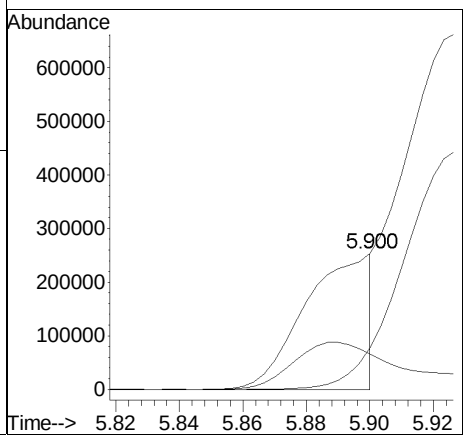


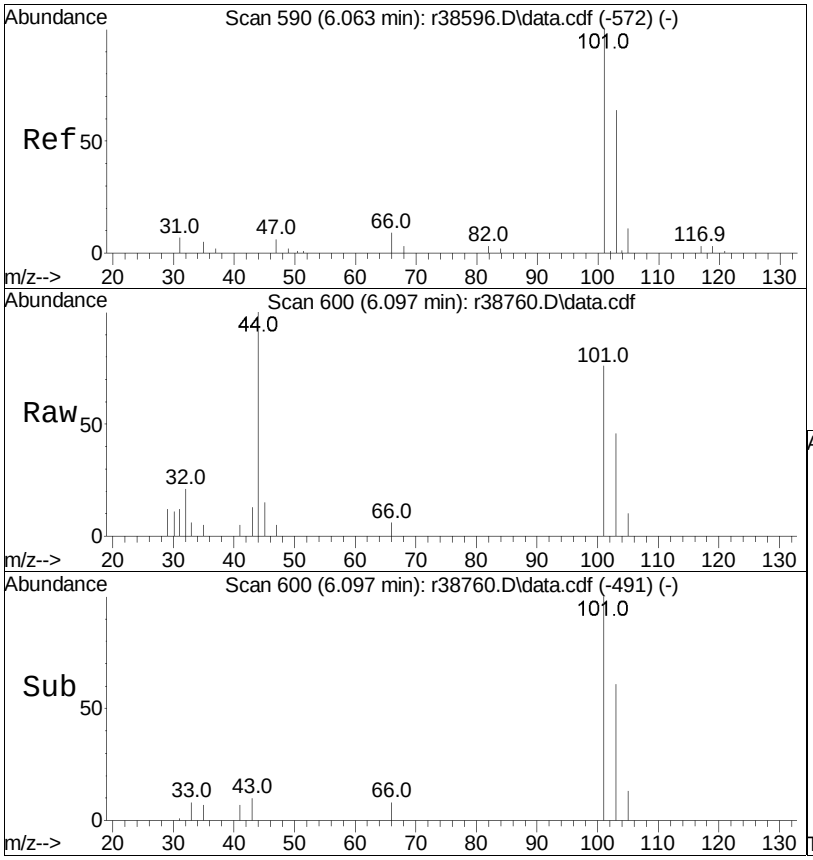


#19
acetone
Concen: 14.65 ppbV m
RT: 5.900 min Scan# 541
Delta R.T. 0.047 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 43 Resp: 368049

Ion	Ratio	Lower	Upper
43	100		
58	26.1	40.6	60.8#
57	30.5	1.0	1.6#

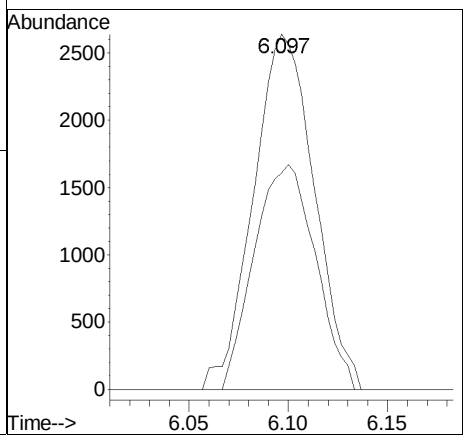


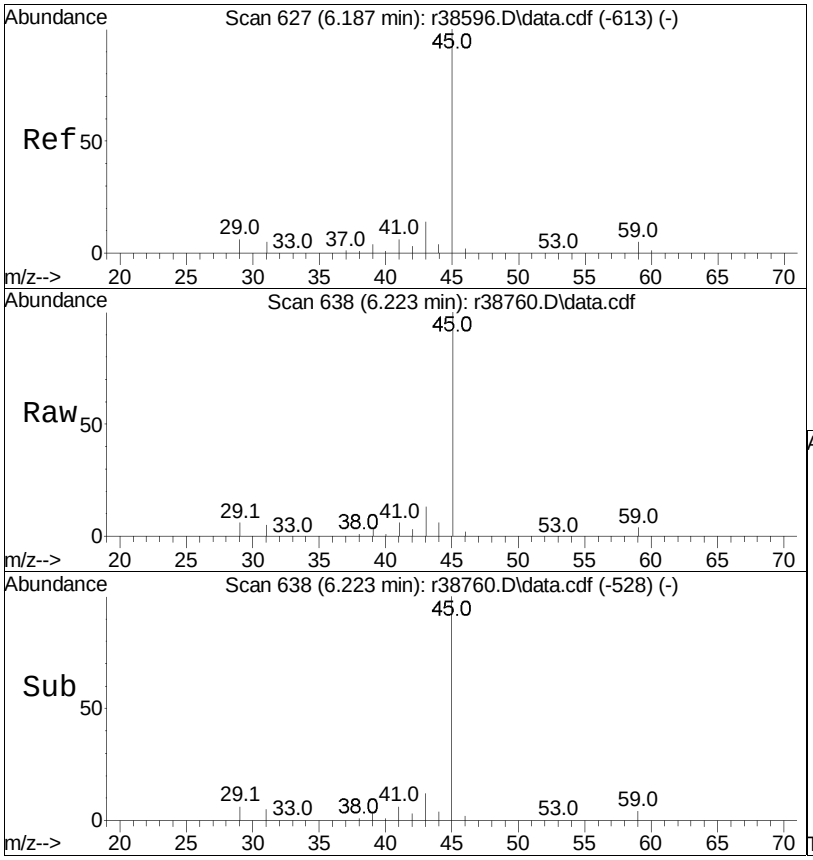


#21
trichlorofluoromethane
Concen: 0.21 ppbV
RT: 6.097 min Scan# 600
Delta R.T. 0.033 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion:101 Resp: 5652

Ion	Ratio	Lower	Upper
101	100		
103	61.0	51.4	77.0

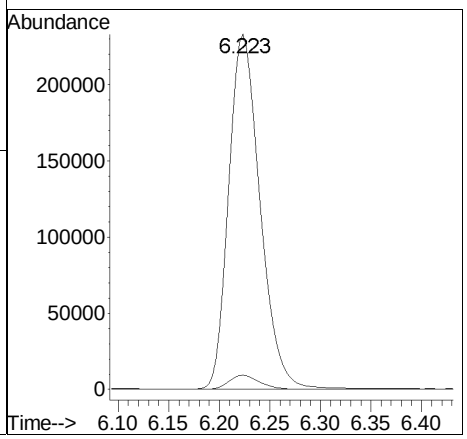


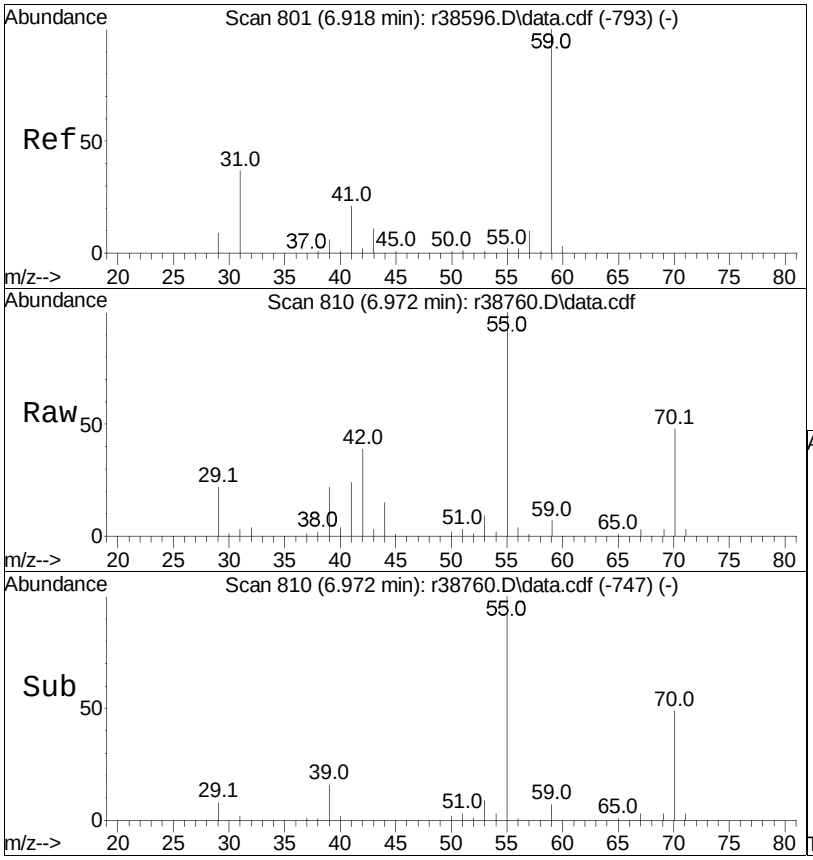


#22
isopropyl alcohol
Concen: 15.61 ppbV
RT: 6.223 min Scan# 638
Delta R.T. 0.037 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 45 Resp: 501655

Ion	Ratio	Lower	Upper
45	100		
59	4.0	3.9	5.9

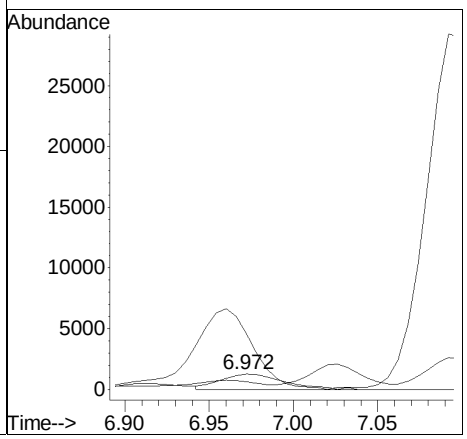


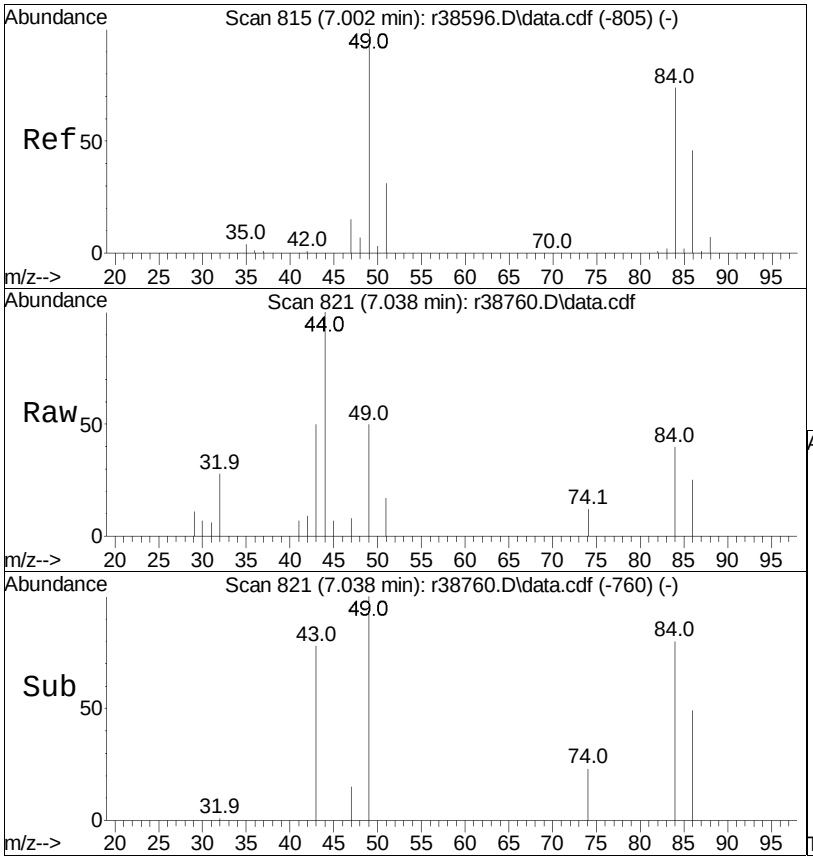


#27
tertiary butyl alcohol
Concen: 0.09 ppbV
RT: 6.972 min Scan# 810
Delta R.T. 0.054 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 59 Resp: 3327

Ion	Ratio	Lower	Upper
59	100		
41	362.6	16.9	25.3#
43	49.8	8.9	13.3#

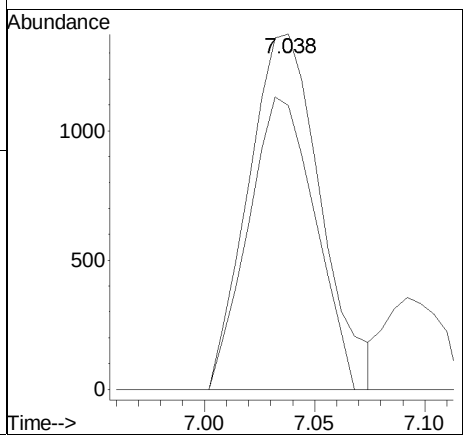


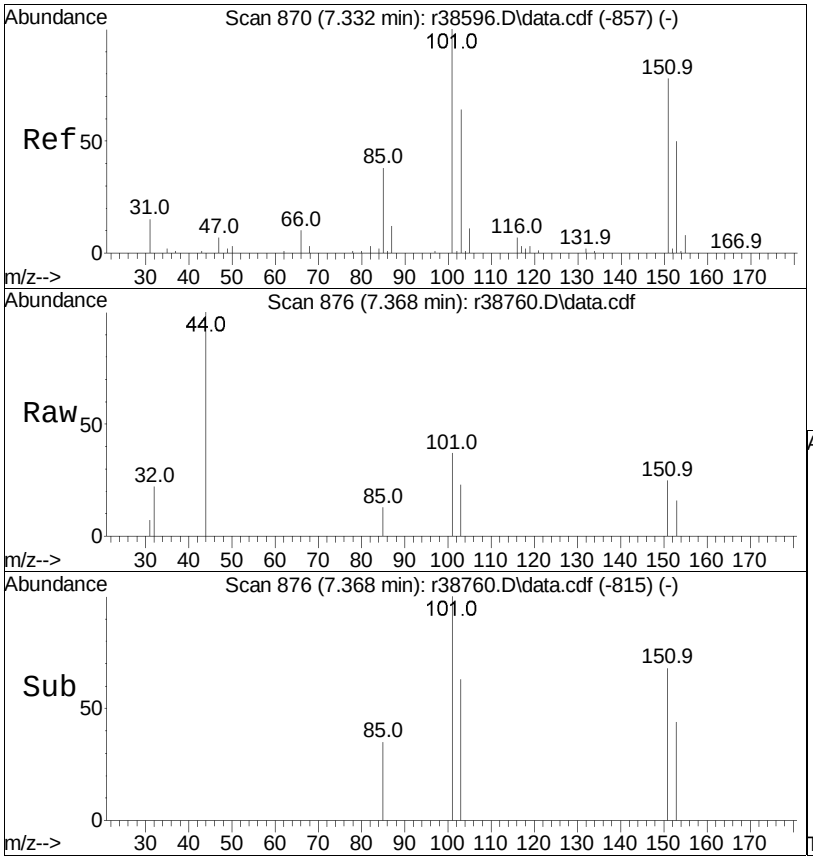


#28
methylene chloride
Concen: 0.13 ppbV
RT: 7.038 min Scan# 821
Delta R.T. 0.036 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 49 Resp: 3131

Ion	Ratio	Lower	Upper
49	100		
84	79.9	59.3	88.9

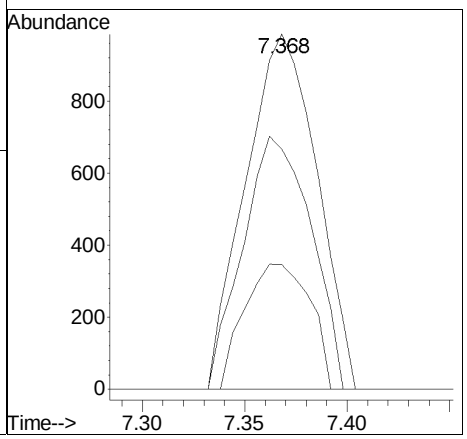


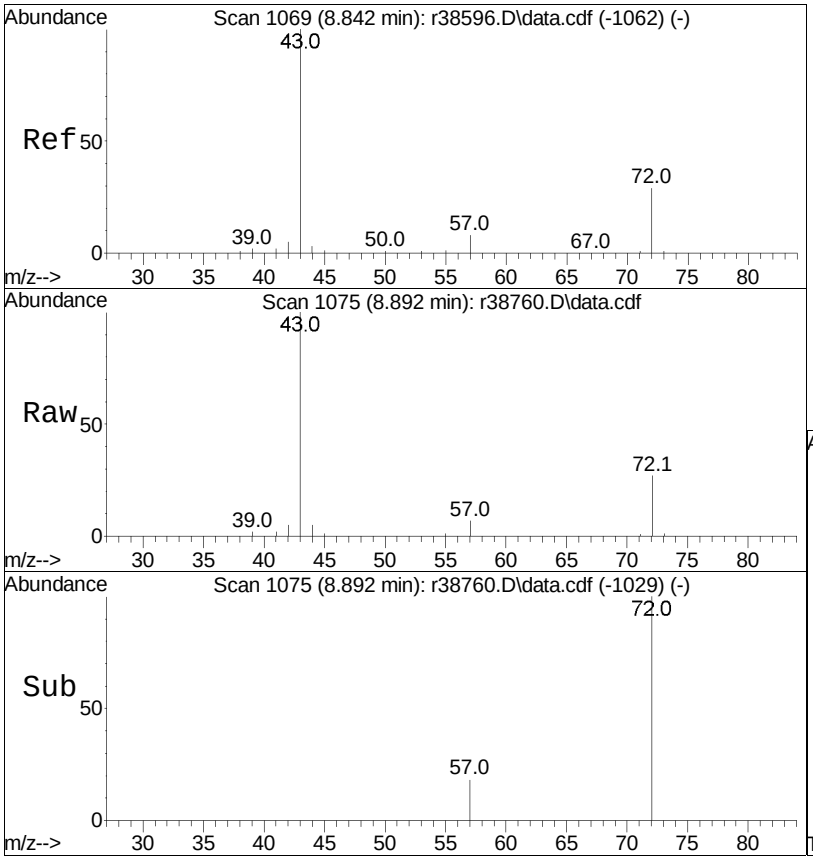


#31
Freon 113
Concen: 0.06 ppbV
RT: 7.368 min Scan# 876
Delta R.T. 0.036 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion:101 Resp: 2394

Ion	Ratio	Lower	Upper
101	100		
85	35.1	30.6	45.8
151	67.6	62.4	93.6

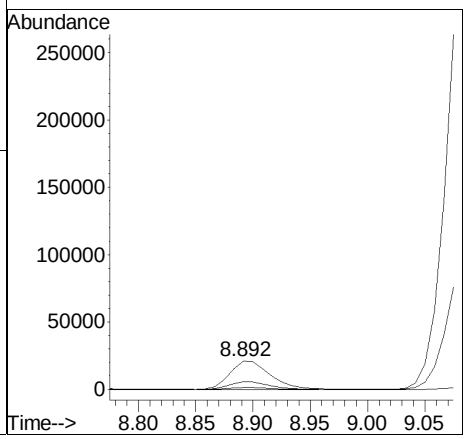


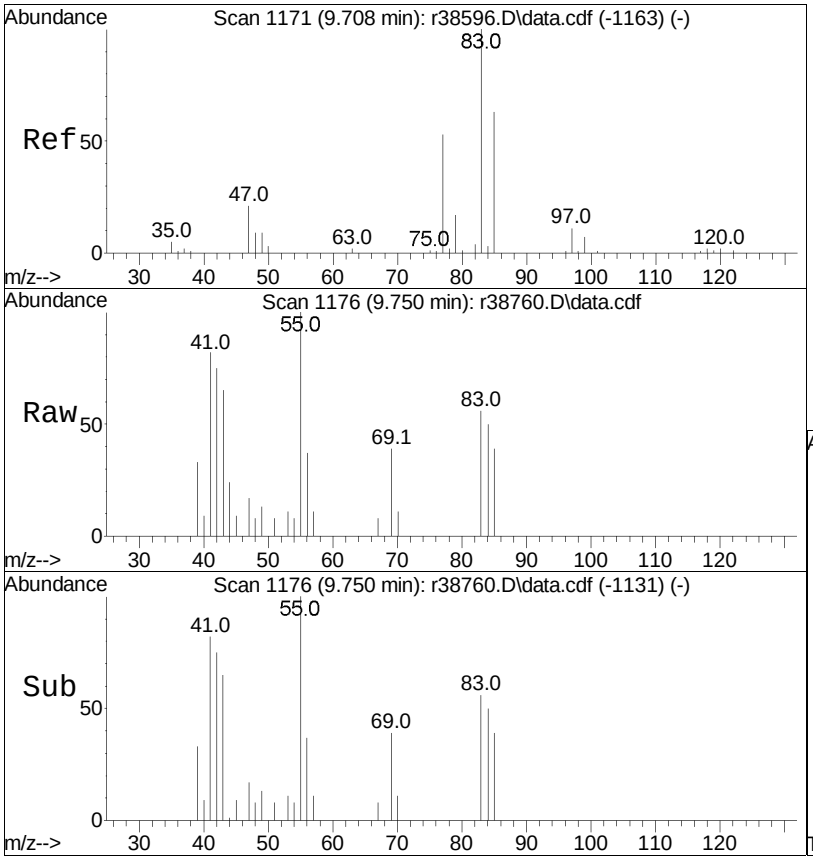


#36
2-butanone
Concen: 1.10 ppbV
RT: 8.892 min Scan# 1075
Delta R.T. 0.050 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 43 Resp: 52289

Ion	Ratio	Lower	Upper
43	100		
72	27.1	23.1	34.7
57	6.8	6.3	9.5

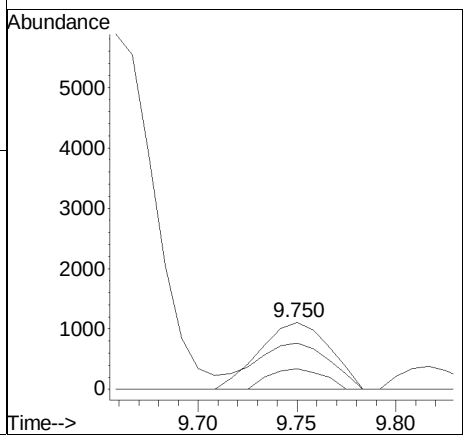


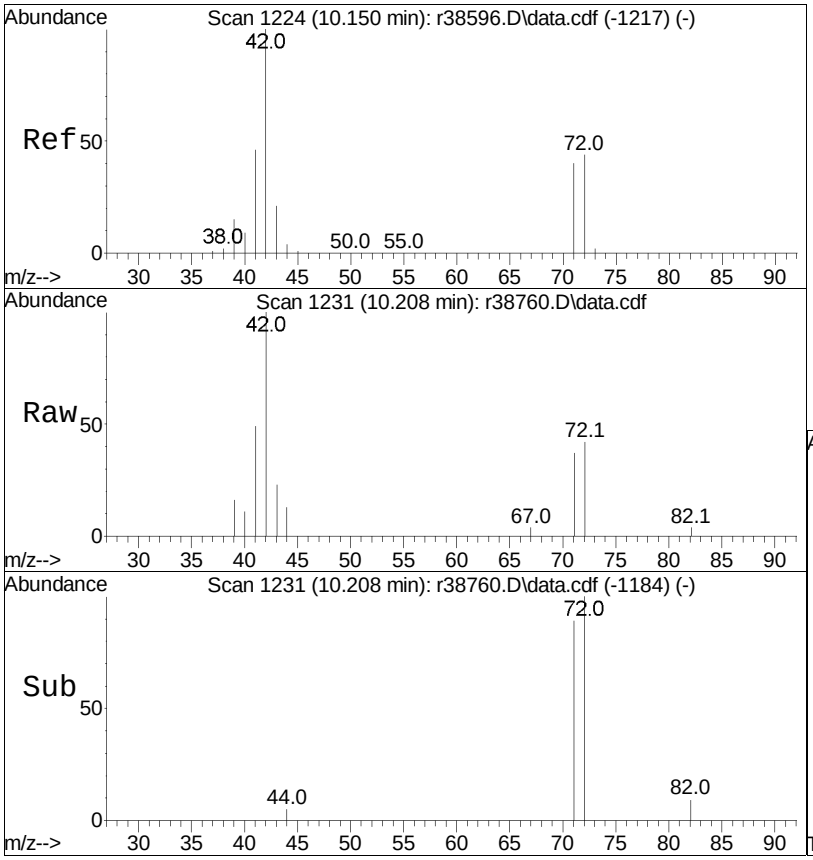


#39
chloroform
Concen: 0.07 ppbV m
RT: 9.750 min Scan# 1176
Delta R.T. 0.042 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 83 Resp: 2737

Ion	Ratio	Lower	Upper
83	100		
85	69.2	50.4	75.6
47	30.9	16.9	25.3#

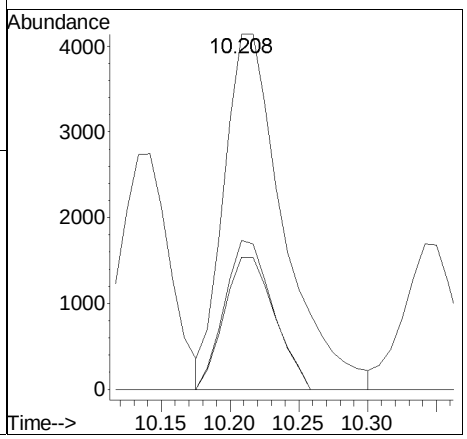


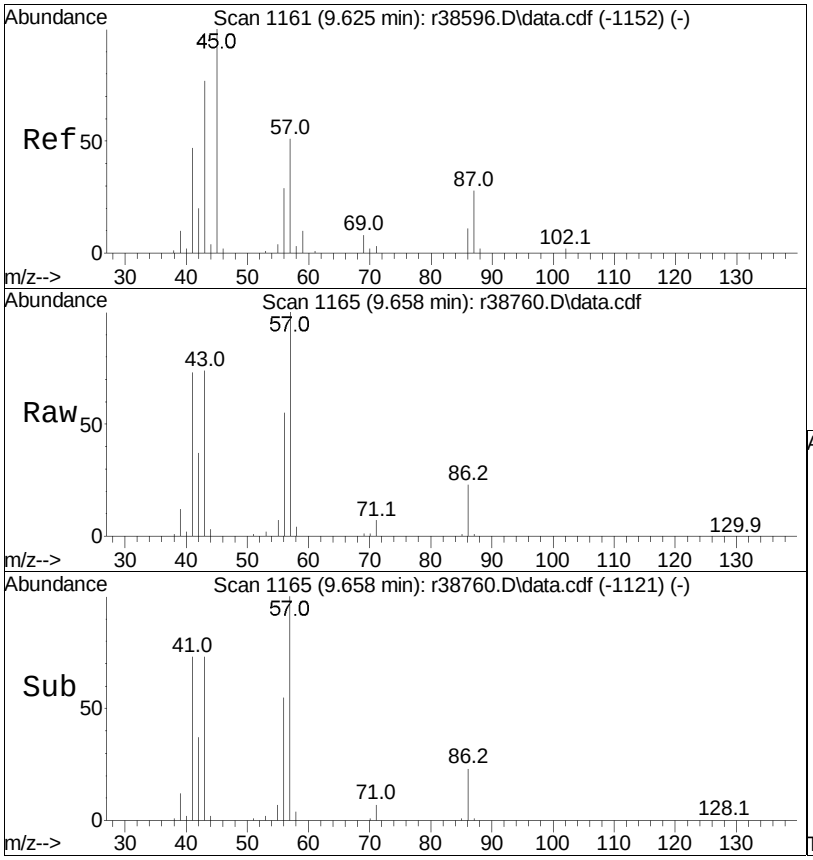


#40
Tetrahydrofuran
Concen: 0.42 ppbV
RT: 10.208 min Scan# 1231
Delta R.T. 0.058 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 42 Resp: 12522

Ion	Ratio	Lower	Upper
42	100		
71	37.3	31.8	47.8
72	42.0	35.2	52.8

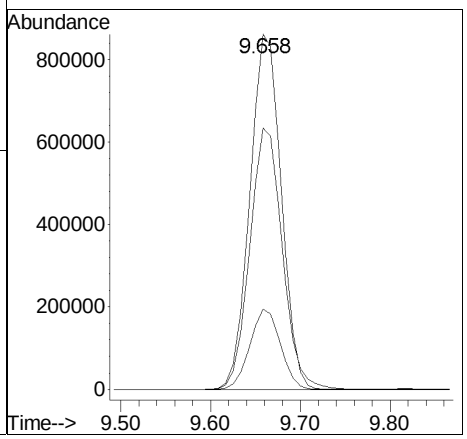


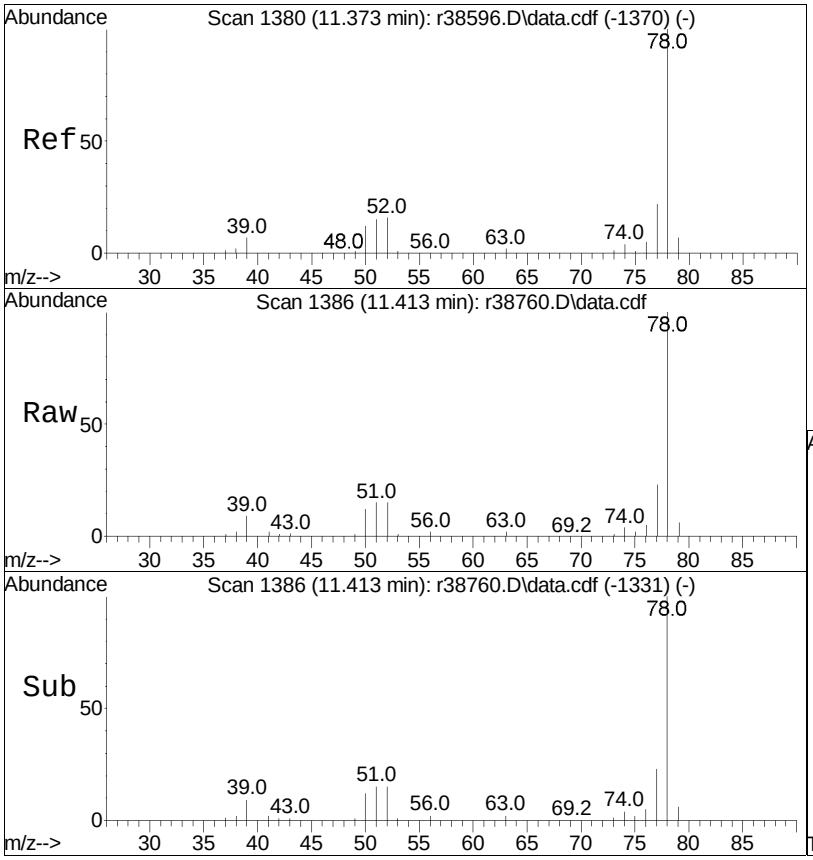


#44
hexane
Concen: 55.60 ppbV
RT: 9.658 min Scan# 1165
Delta R.T. 0.033 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 57 Resp: 2094813

Ion	Ratio	Lower	Upper
57	100		
43	73.5	119.3	178.9#
86	22.6	17.0	25.6

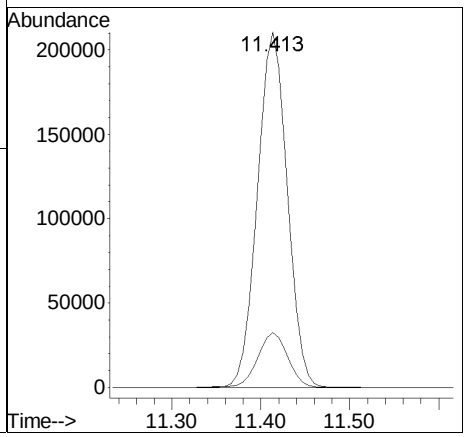


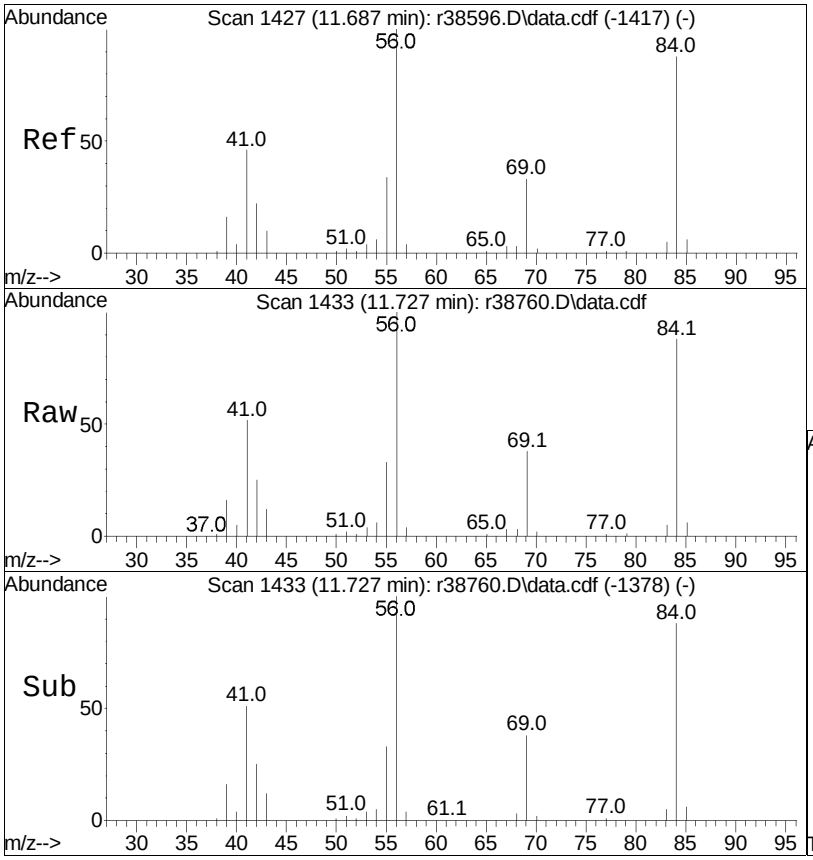


#50
benzene
Concen: 6.68 ppbV
RT: 11.413 min Scan# 1386
Delta R.T. 0.040 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 78 Resp: 491062

Ion	Ratio	Lower	Upper
78	100		
52	15.4	12.6	18.8

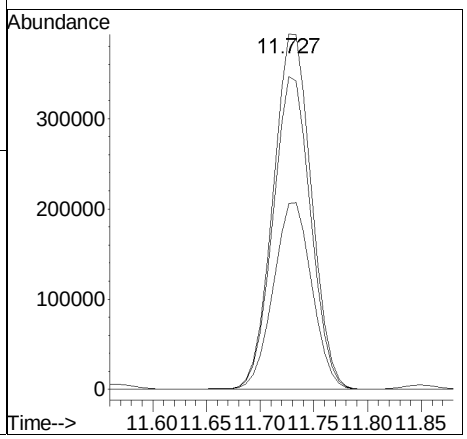


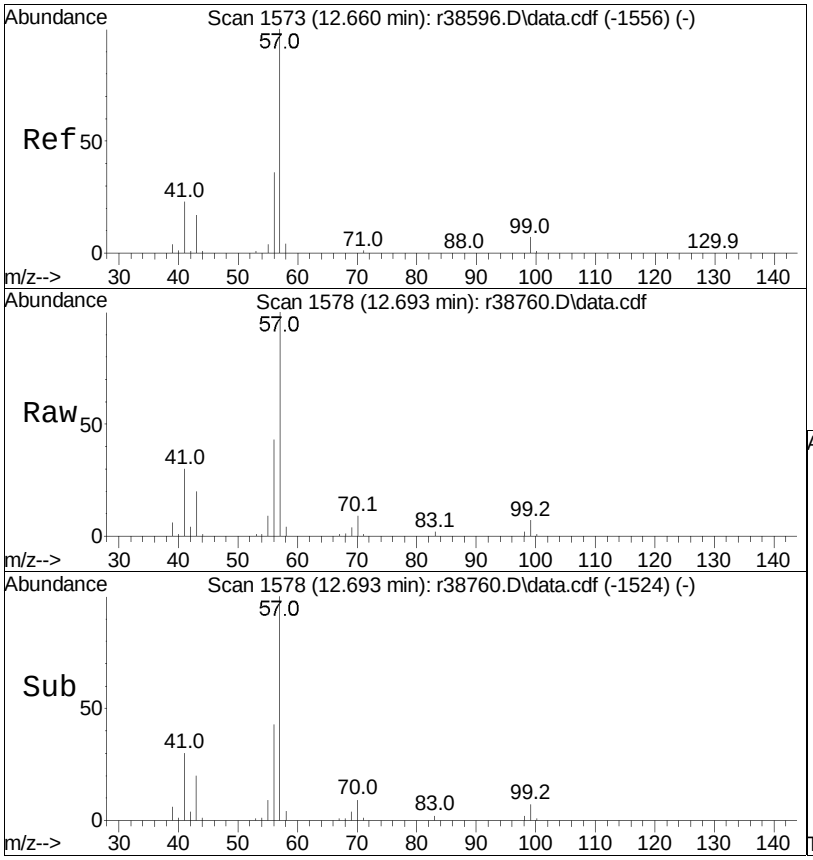


#53
cyclohexane
Concen: 23.94 ppbV
RT: 11.727 min Scan# 1433
Delta R.T. 0.040 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 56 Resp: 977209

Ion	Ratio	Lower	Upper
56	100		
84	88.0	70.2	105.2
41	52.3	36.9	55.3

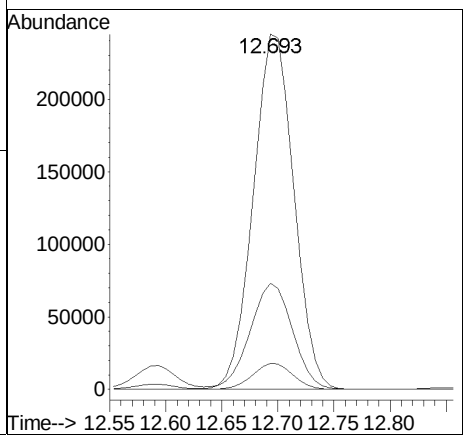


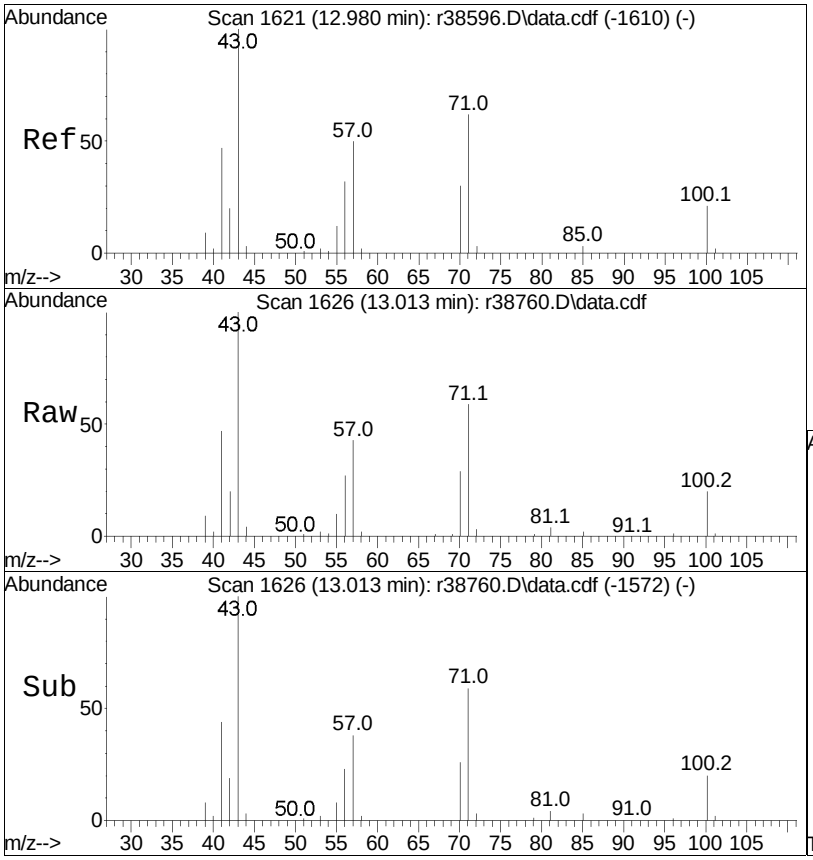


#60
2,2,4-trimethylpentane
Concen: 5.14 ppbV
RT: 12.693 min Scan# 1578
Delta R.T. 0.033 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 57 Resp: 616199

Ion	Ratio	Lower	Upper
57	100		
99	7.4	5.4	8.2
41	29.9	18.2	27.2#

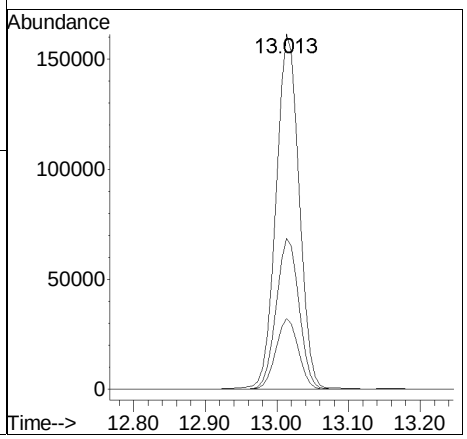


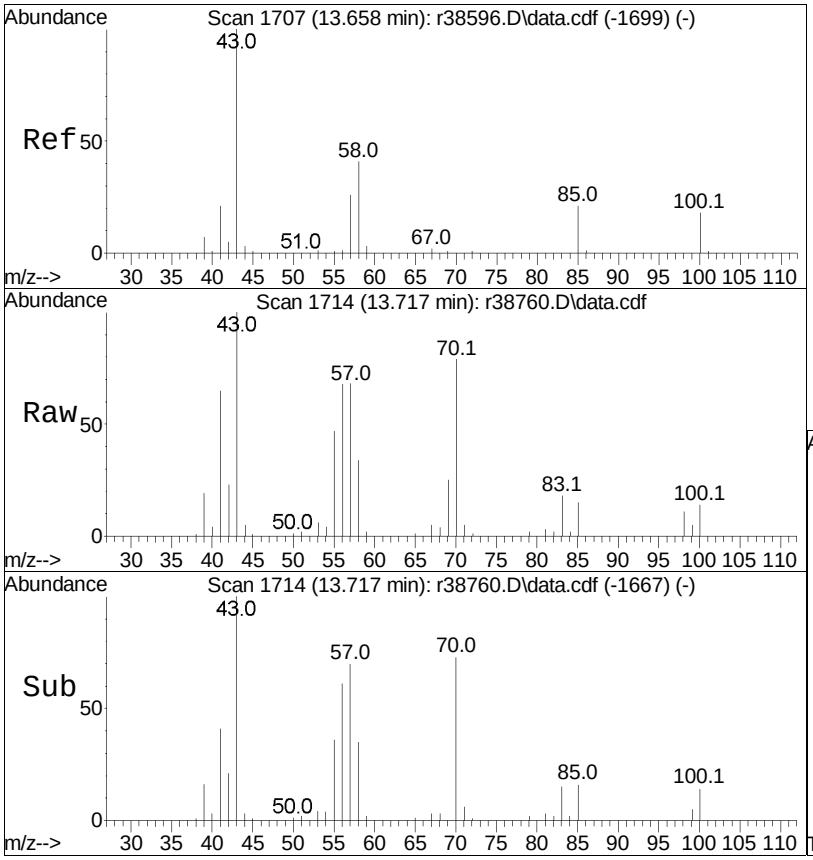


#62
heptane
Concen: 7.70 ppbV
RT: 13.013 min Scan# 1626
Delta R.T. 0.033 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 43 Resp: 363040

Ion	Ratio	Lower	Upper
43	100		
57	42.5	39.8	59.6
100	20.0	17.3	25.9

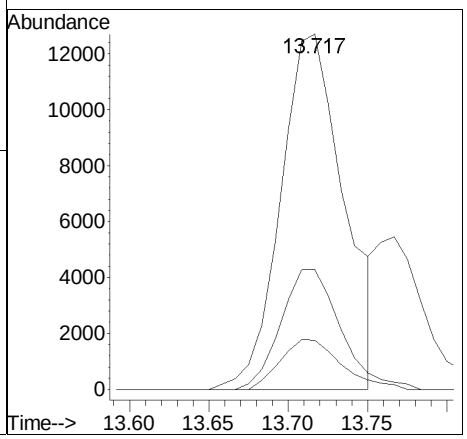


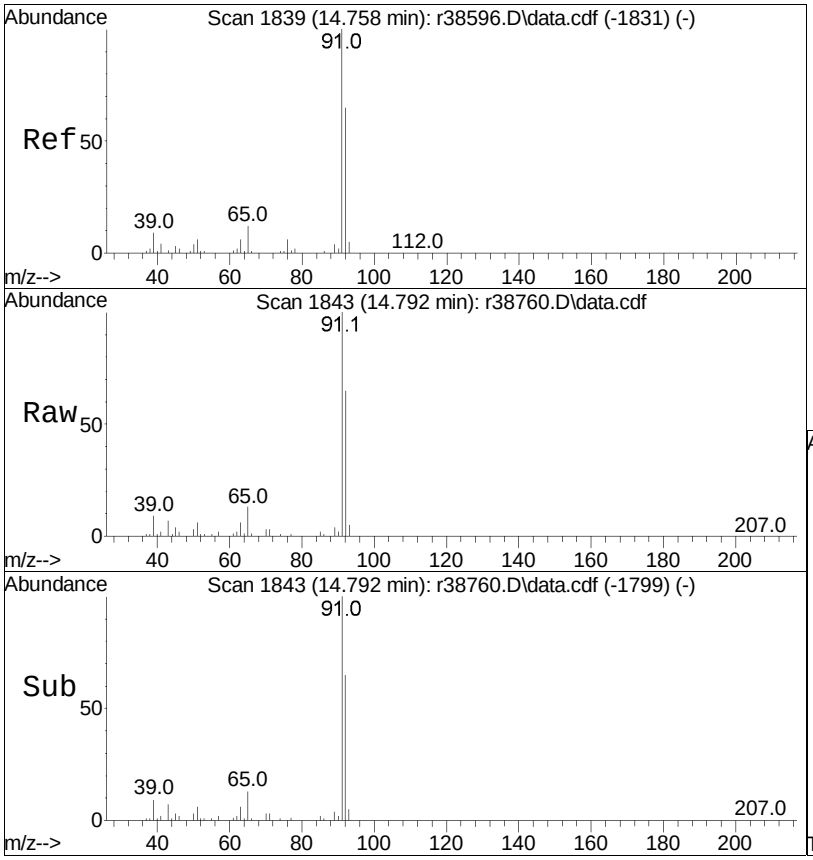


#64
4-methyl-2-pentanone
Concen: 0.67 ppbV
RT: 13.717 min Scan# 1714
Delta R.T. 0.058 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 43 Resp: 35353

Ion	Ratio	Lower	Upper
43	100		
58	33.8	32.5	48.7
100	13.9	14.7	22.1#

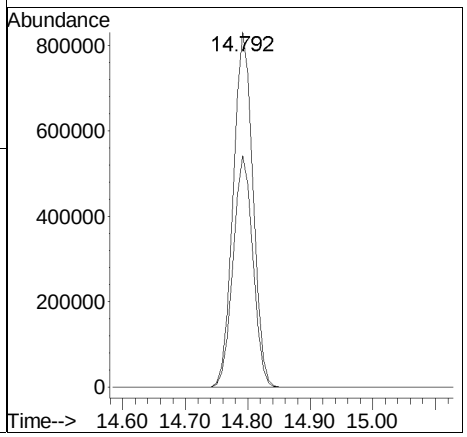


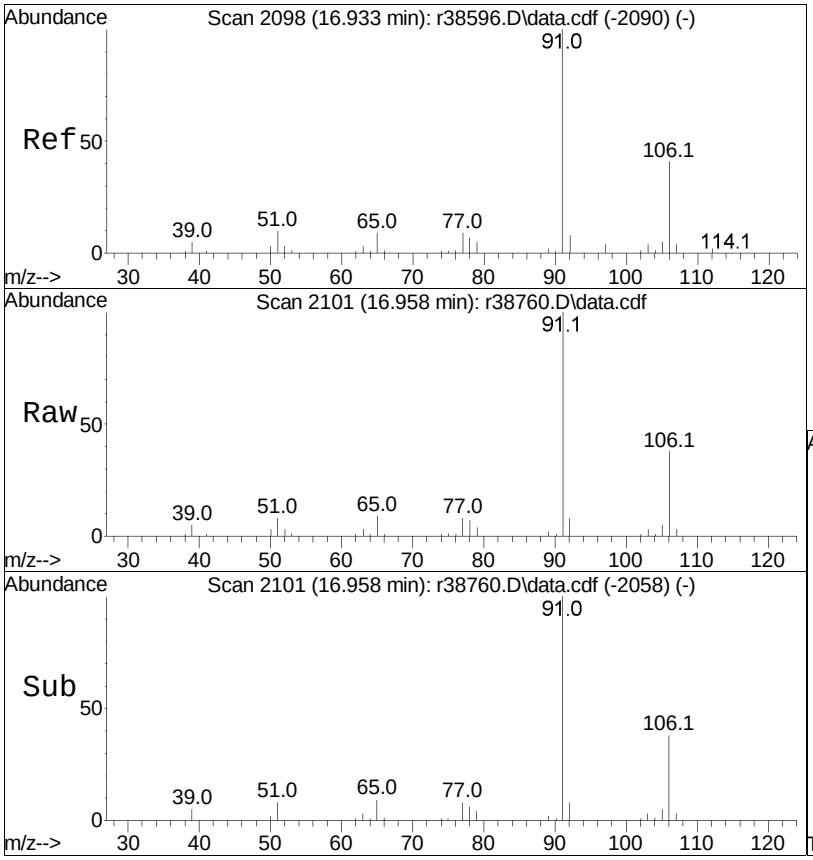


#68
toluene
Concen: 25.06 ppbV
RT: 14.792 min Scan# 1843
Delta R.T. 0.033 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 91 Resp: 1827164

Ion	Ratio	Lower	Upper
91	100		
92	65.2	52.4	78.6

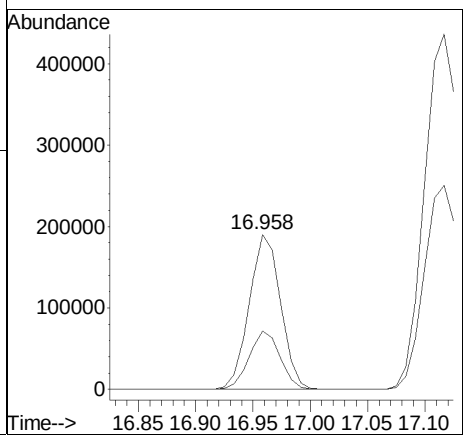


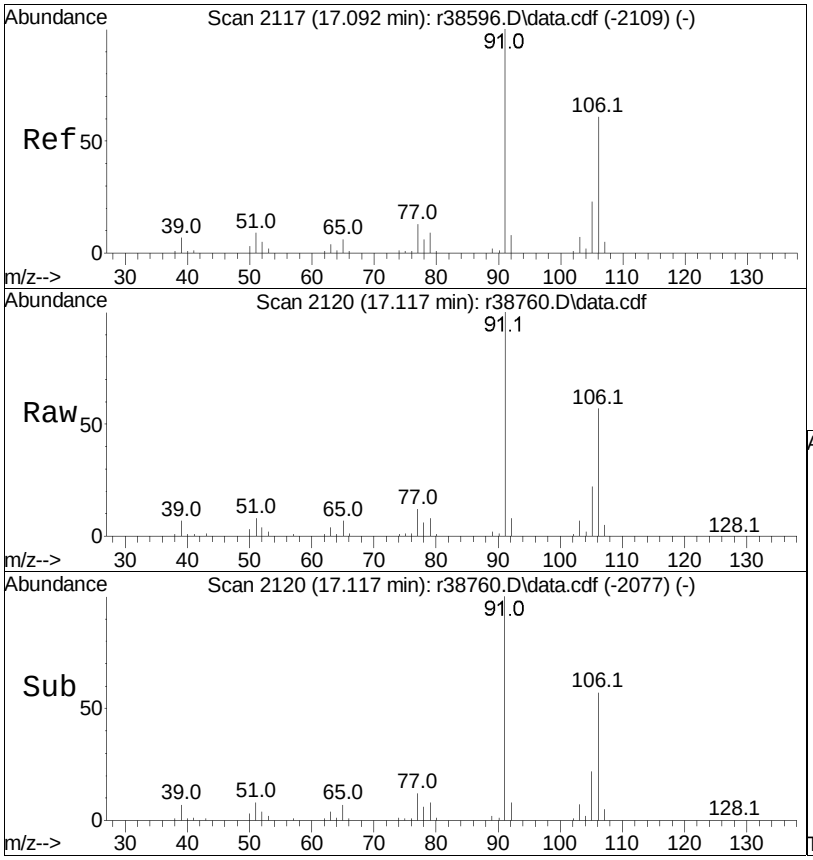


#81
ethylbenzene
Concen: 4.18 ppbV
RT: 16.958 min Scan# 2101
Delta R.T. 0.025 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 91 Resp: 362734

Ion	Ratio	Lower	Upper
91	100		
106	37.8	32.6	48.8

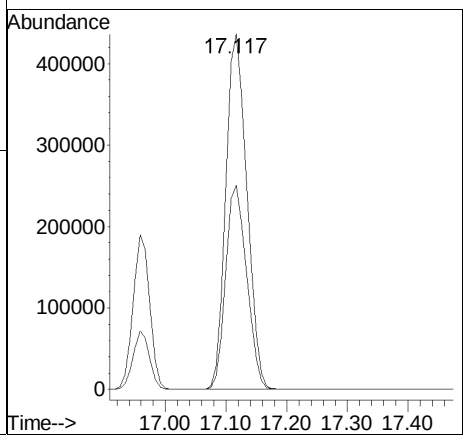


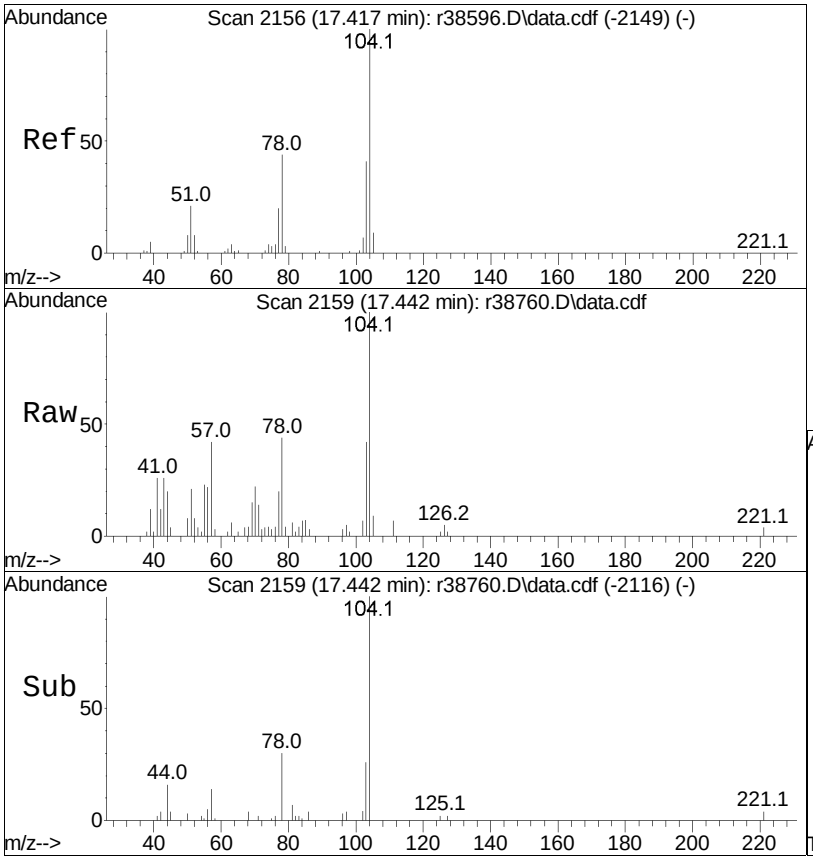


#83
m+p-xylene
Concen: 14.86 ppbV
RT: 17.117 min Scan# 2120
Delta R.T. 0.025 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 91 Resp: 1056494

Ion	Ratio	Lower	Upper
91	100		
106	57.4	49.0	73.6

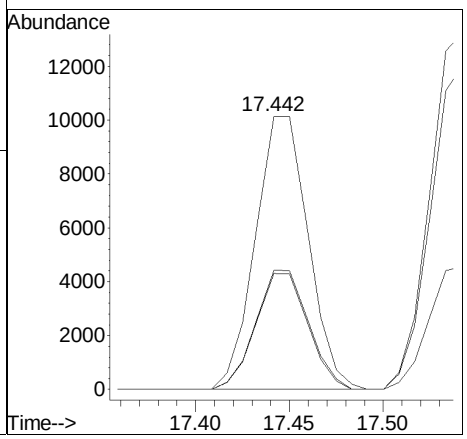


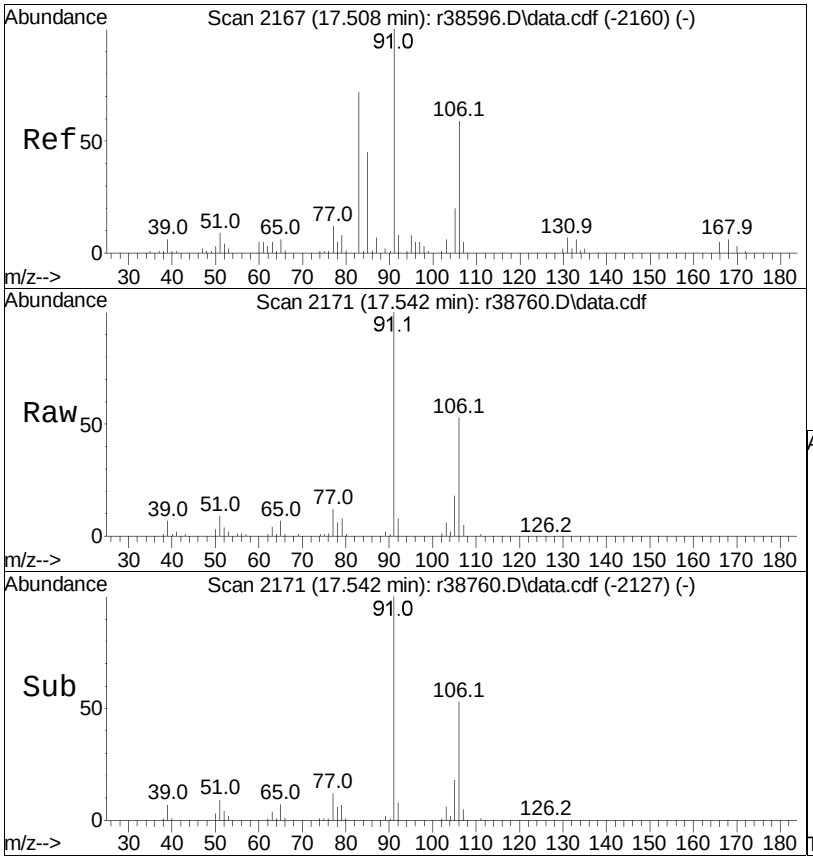


#85
styrene
Concen: 0.31 ppbV
RT: 17.442 min Scan# 2159
Delta R.T. 0.025 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion:104 Resp: 19911

Ion	Ratio	Lower	Upper
104	100		
103	42.4	33.1	49.7
78	43.6	35.0	52.6

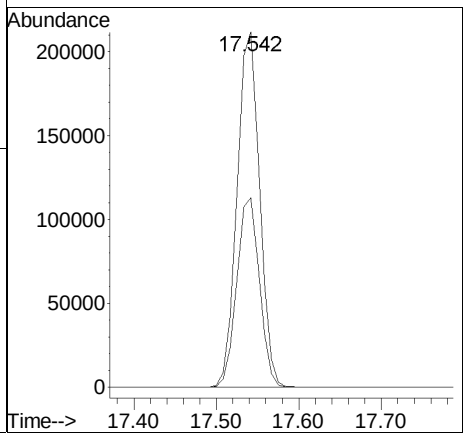


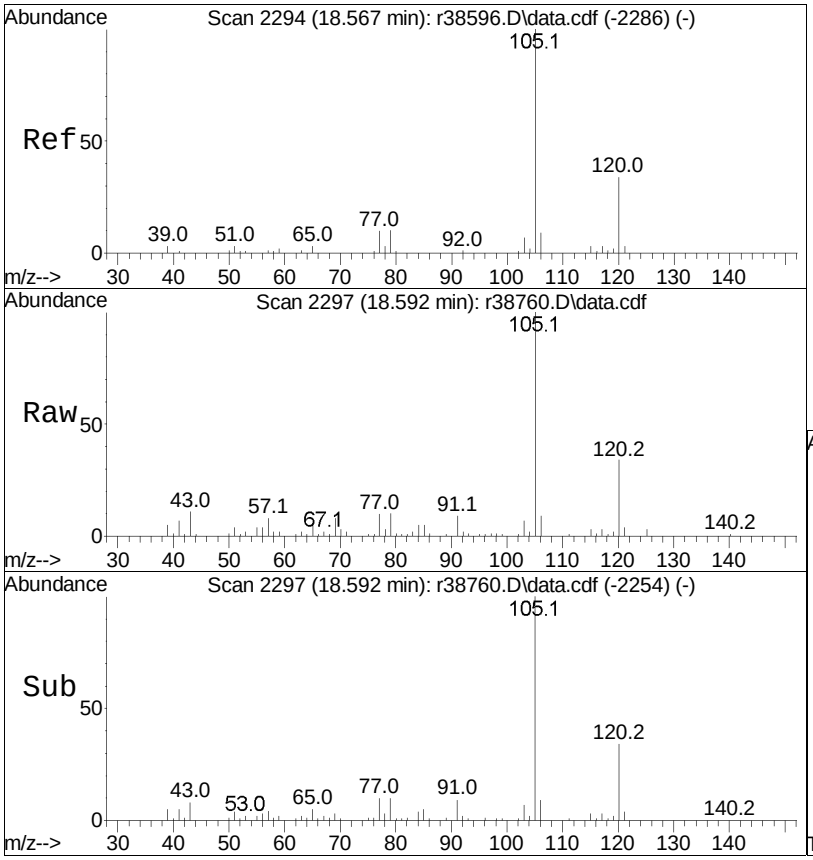


#87
o-xylene
Concen: 5.80 ppbV
RT: 17.542 min Scan# 2171
Delta R.T. 0.033 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion: 91 Resp: 404052

Ion	Ratio	Lower	Upper
91	100		
106	53.4	47.4	71.0

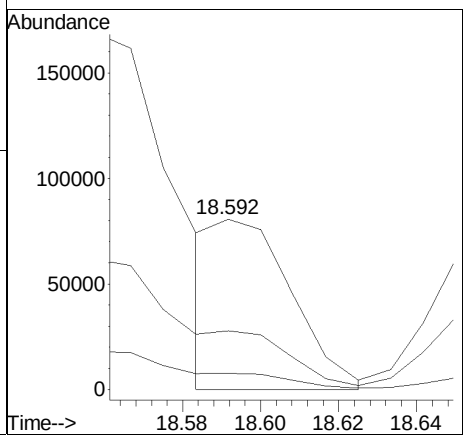


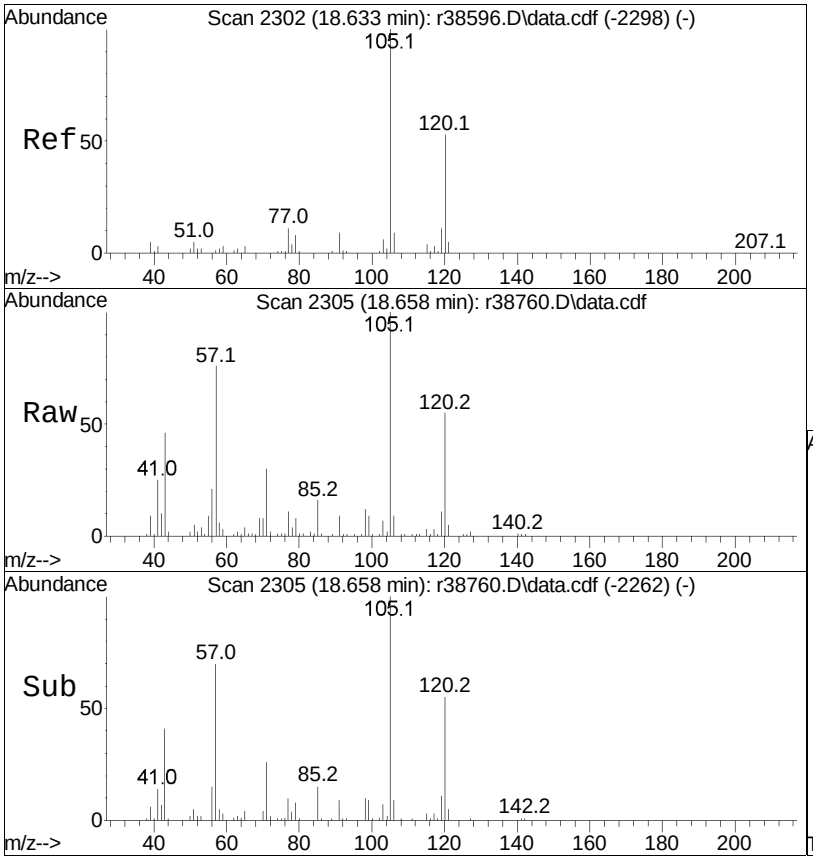


#96
4-ethyl toluene
Concen: 0.98 ppbV m
RT: 18.592 min Scan# 2297
Delta R.T. 0.025 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion:105 Resp: 110428

Ion	Ratio	Lower	Upper
105	100		
120	34.5	27.0	40.4
91	9.5	7.4	11.0

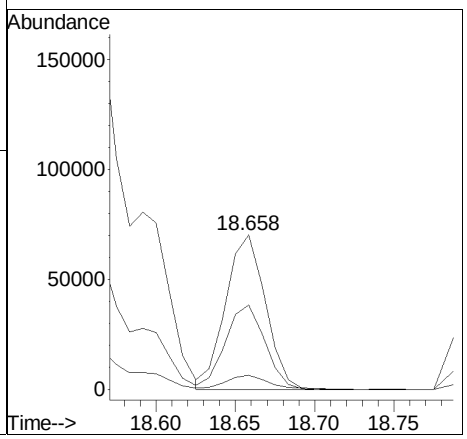


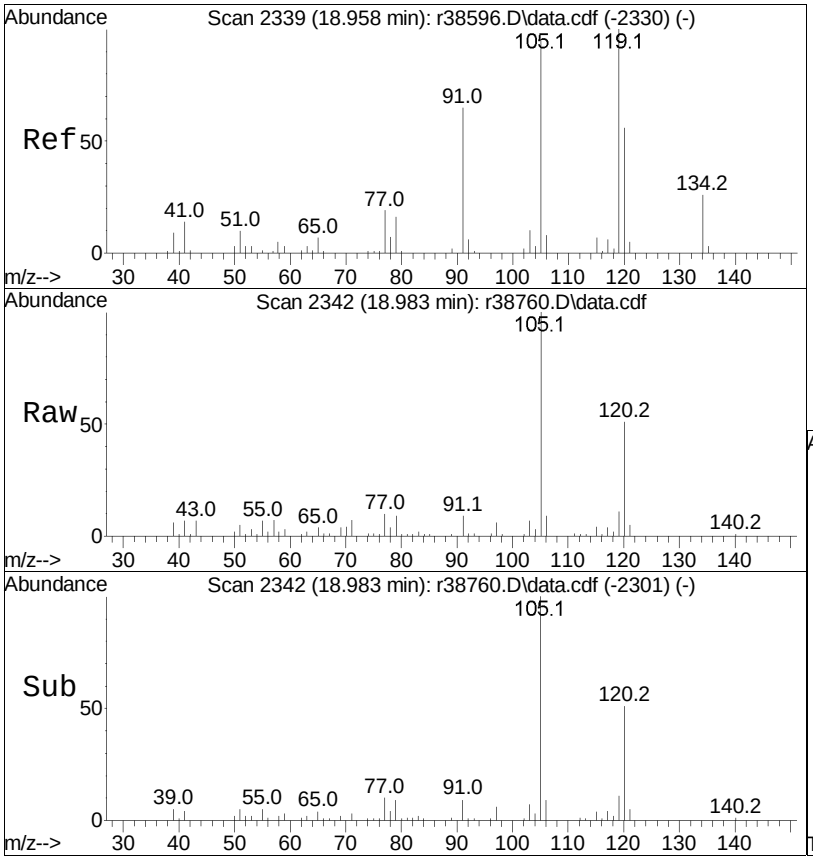


#97
1,3,5-trimethylbenzene
Concen: 1.35 ppbV
RT: 18.658 min Scan# 2305
Delta R.T. 0.025 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion:105 Resp: 122815

Ion	Ratio	Lower	Upper
105	100		
120	54.6	41.6	62.4
91	9.1	7.0	10.4

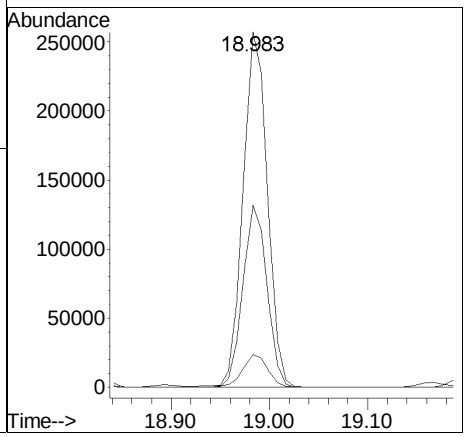




#99
1,2,4-trimethylbenzene
Concen: 5.21 ppbV
RT: 18.983 min Scan# 2342
Delta R.T. 0.025 min
Lab File: r38760.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion:105 Resp: 442091

Ion	Ratio	Lower	Upper
105	100		
120	51.2	47.1	70.7
91	9.2	55.0	82.6#

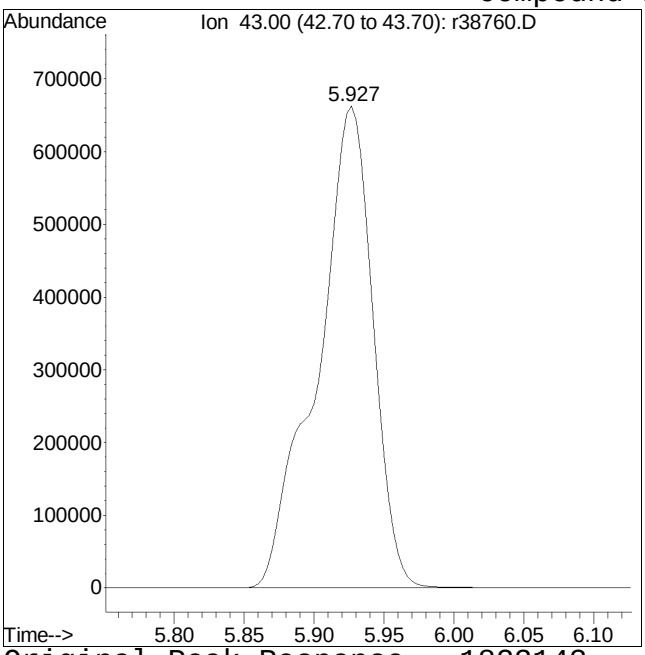


Manual Integration Report

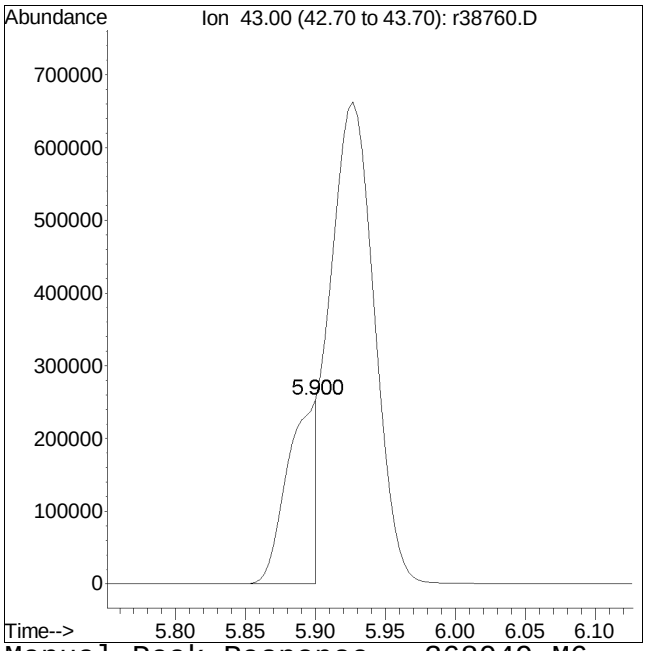
Data Path : O:\Forensics\Data\AirpianoQ
Data File : r38760.D
Date Inj'd : 3/20/2020 0:7: 3
Sample : WG1353541-5,3,250,250

Method : TFS3_200312.M
Operator : AIRPIANO3:EW
Instrument :
Quant Date : 3/21/2020 8:05 am

Compound #19: acetone



Original Peak Response = 1823143



Manual Peak Response = 368049 M6

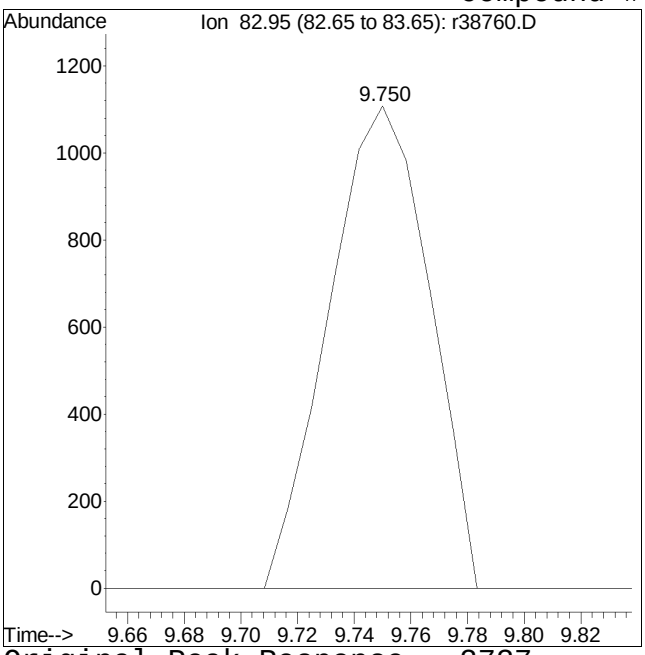
M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Manual Integration Report

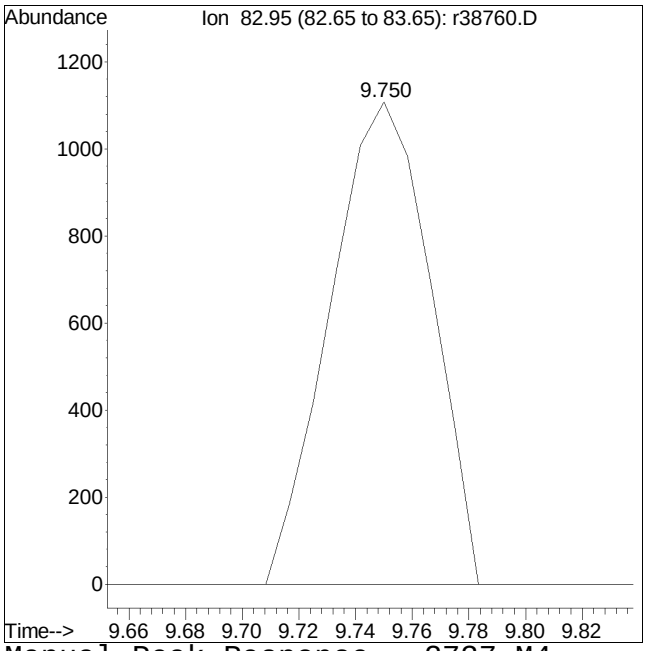
Data Path : O:\Forensics\Data\AirpianoQ
Data File : r38760.D
Date Inj'd : 3/20/2020 0:7: 3
Sample : WG1353541-5,3,250,250

Method : TFS3_200312.M
Operator : AIRPIANO3:EW
Instrument :
Quant Date : 3/21/2020 8:05 am

Compound #39: chloroform



Original Peak Response = 2737



Manual Peak Response = 2737 M4

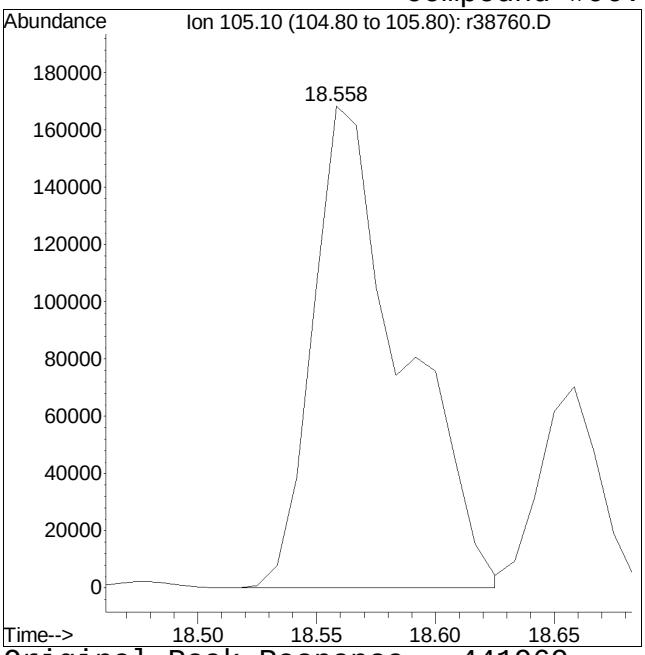
M4 = Poor automated baseline construction.

Manual Integration Report

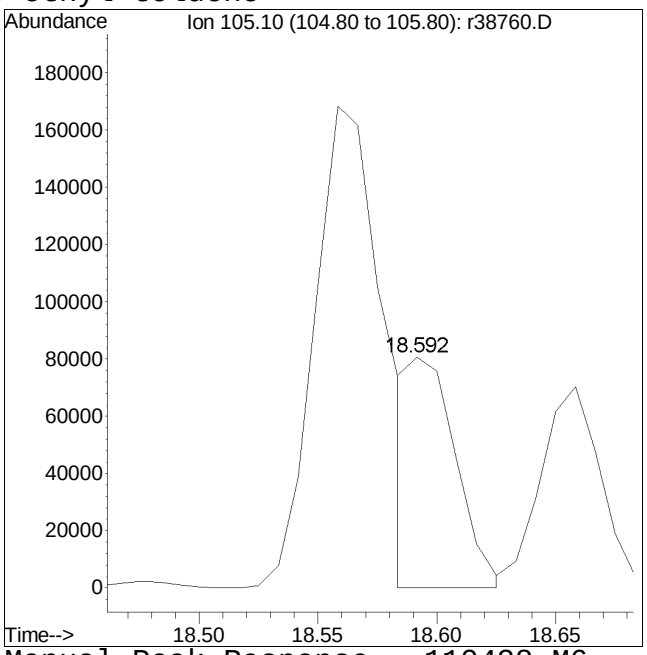
Data Path : O:\Forensics\Data\AirpianoQ
Data File : r38760.D
Date Inj'd : 3/20/2020 0:7: 3
Sample : WG1353541-5,3,250,250

Method : TFS3_200312.M
Operator : AIRPIANO3:EW
Instrument :
Quant Date : 3/21/2020 8:05 am

Compound #96: 4-ethyl toluene



Original Peak Response = 441969



Manual Peak Response = 110428 M6

M6 = Misassignment of peak valley by automated integration (poor split of 2 peaks).

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193198.D
Acq On : 20 Mar 2020 7:17 PM
Operator : AIRLAB19:EW
Sample : WG1353556-5,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:12:50 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY-7-SIM - .

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) bromochloromethane	8.792	49	350711	10.000	ppbV		0.00
Standard Area = 288364			Recovery = 121.62%				
43) 1,4-difluorobenzene	10.753	114	1038160	10.000	ppbV		0.00
Standard Area = 940727			Recovery = 110.36%				
67) chlorobenzene-D5	14.883	54	131953	10.000	ppbV		0.00
Standard Area = 108860			Recovery = 121.21%				
System Monitoring Compounds							
Target Compounds							Qvalue
5) dichlorodifluoromethane	3.568	85	9846	0.501	ppbV		100
6) chloromethane	3.778	50	6975	0.555	ppbV		99
7) Freon-114	0.000		0	N.D.	d		
10) 1,3-butadiene	4.246		0	N.D.			
13) bromomethane	0.000		0	N.D.			
14) chloroethane	0.000		0	N.D.			
15) ethanol	4.936	31	146956	14.341	ppbV	#	67
17) vinyl bromide	0.000		0	N.D.			
19) acetone	5.503	43	44811	2.379	ppbV		97
21) trichlorofluoromethane	5.700	101	4487	0.217	ppbV		100
22) isopropyl alcohol	5.787	45	37325	1.043	ppbV		99
27) tertiary butyl alcohol	0.000		0	N.D.	d		
28) methylene chloride	6.546	49	5360	0.233	ppbV		90
29) 3-chloropropene	0.000		0	N.D.	d		
30) carbon disulfide	6.858		0	N.D.			
31) Freon 113	6.834	101	1993	0.059	ppbV		95
32) trans-1,2-dichloroethene	0.000		0	N.D.			
33) 1,1-dichloroethane	0.000		0	N.D.			
34) MTBE	0.000		0	N.D.			
36) 2-butanone	8.175	43	13906	0.329	ppbV		95
38) Ethyl Acetate	8.842	61	2999	0.418	ppbV	#	54
39) chloroform	8.917	83	2161	0.074	ppbV	#	93
40) Tetrahydrofuran	9.358	42	3518	0.124	ppbV		100
42) 1,2-dichloroethane	0.000		0	N.D.			
44) hexane	8.833	57	12564	0.330	ppbV	#	60
50) benzene	10.413	78	20020	0.267	ppbV		99
53) cyclohexane	10.700	56	4222	0.101	ppbV	#	94
56) 1,2-dichloropropane	0.000		0	N.D.			
57) bromodichloromethane	0.000		0	N.D.	d		

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193198.D
Acq On : 20 Mar 2020 7:17 PM
Operator : AIRLAB19:EW
Sample : WG1353556-5,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:12:50 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airlab19\2020\03\200320T\r193190.D
Sub List : TO15-NY-7-SIM - .

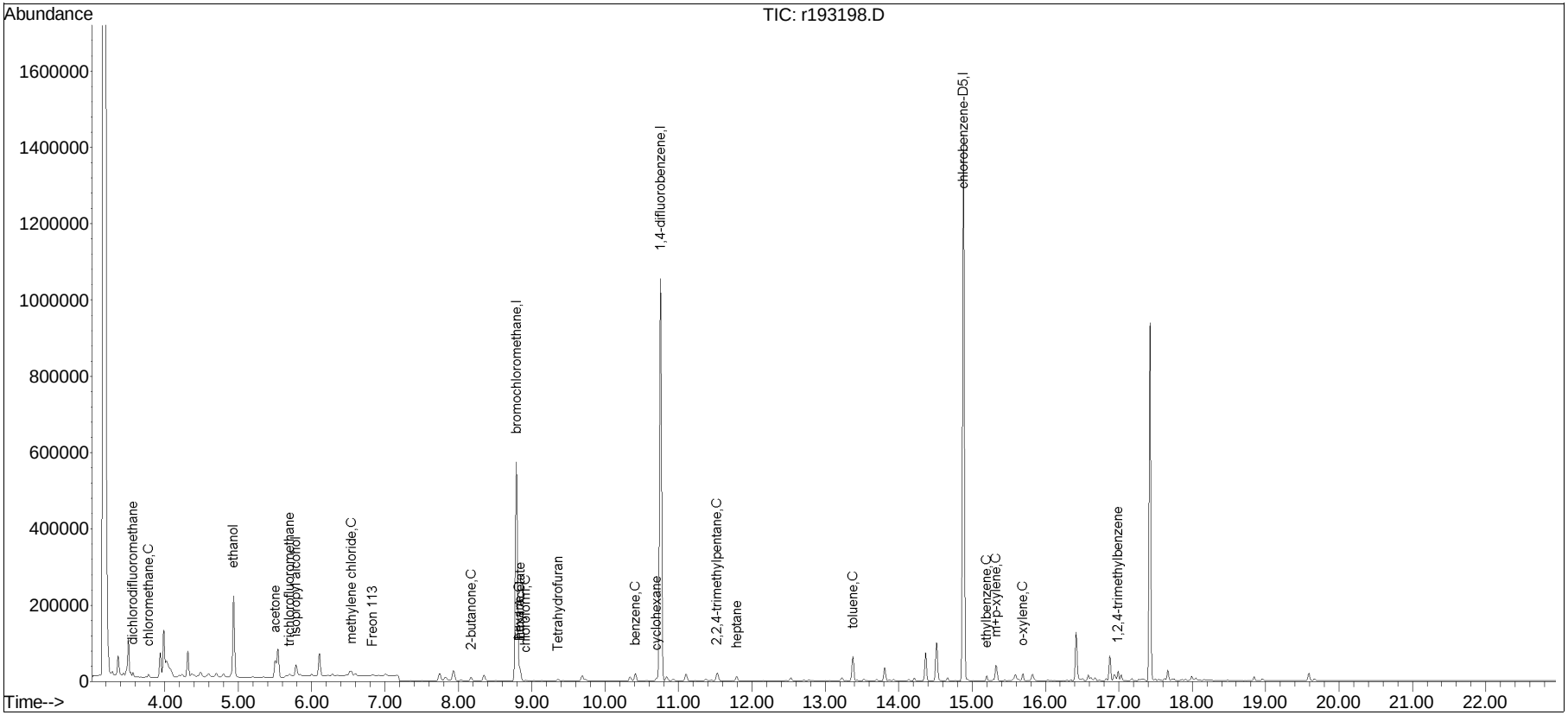
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) 1,4-dioxane	0.000		0	N.D.		
60) 2,2,4-trimethylpentane	11.527	57	22103	0.184	ppbV	95
62) heptane	11.793	43	6093	0.131	ppbV	97
63) cis-1,3-dichloropropene	0.000		0	N.D.		
64) 4-methyl-2-pentanone	0.000		0	N.D.	d	
65) trans-1,3-dichloropropene	0.000		0	N.D.		
66) 1,1,2-trichloroethane	0.000		0	N.D.		
68) toluene	13.375	91	46498	0.579	ppbV	99
72) 2-hexanone	0.000		0	N.D.	d	
74) dibromochloromethane	0.000		0	N.D.		
75) 1,2-dibromoethane	0.000		0	N.D.		
80) chlorobenzene	0.000		0	N.D.	d	
81) ethylbenzene	15.200	91	9858	0.102	ppbV	99
83) m+p-xylene	15.325	91	27002	0.355	ppbV	98
84) bromoform	0.000		0	N.D.		
85) styrene	15.608		0	N.D.		
86) 1,1,2,2-tetrachloroethane	0.000		0	N.D.	d	
87) o-xylene	15.692	91	10622	0.142	ppbV	96
96) 4-ethyl toluene	16.617		0	N.D.		
97) 1,3,5-trimethylbenzene	16.667		0	N.D.		
99) 1,2,4-trimethylbenzene	16.992	105	13625	0.145	ppbV #	60
101) Benzyl Chloride	0.000		0	N.D.	d	
102) 1,3-dichlorobenzene	0.000		0	N.D.	d	
103) 1,4-dichlorobenzene	17.183		0	N.D.		
107) 1,2-dichlorobenzene	0.000		0	N.D.		
115) 1,2,4-trichlorobenzene	18.842		0	N.D.		
119) hexachlorobutadiene	0.000		0	N.D.		

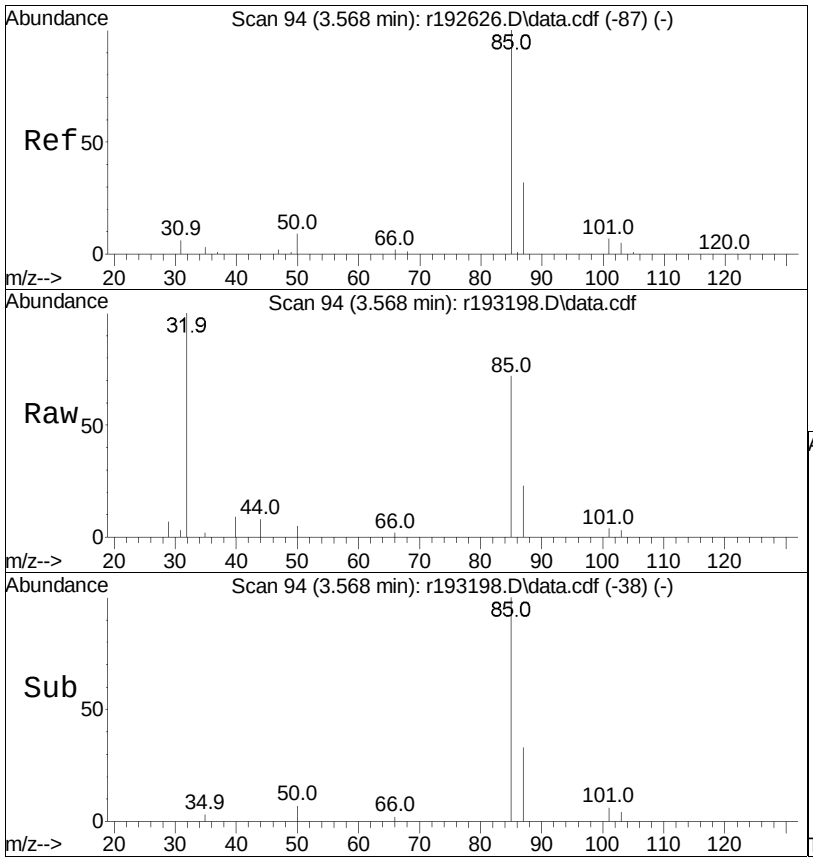
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : TO15-NY-7-SIM - .\Airlab19\2020\03\200320T\r193190.D

Data Path : O:\Forensics\Data\Airlab19\2020\03\200320T\
Data File : r193198.D
Acq On : 20 Mar 2020 7:17 PM
Operator : AIRLAB19:EW
Sample : WG1353556-5,3,250,250
Misc : WG1353556,ICAL16553
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 20:12:50 2020
Quant Method : O:\Forensics\Data\Airlab19\2020\03\200320T\TFS19_200224.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Tue Feb 25 10:21:40 2020
Response via : Initial Calibration

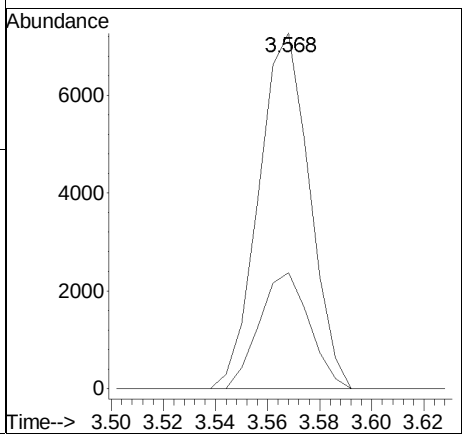


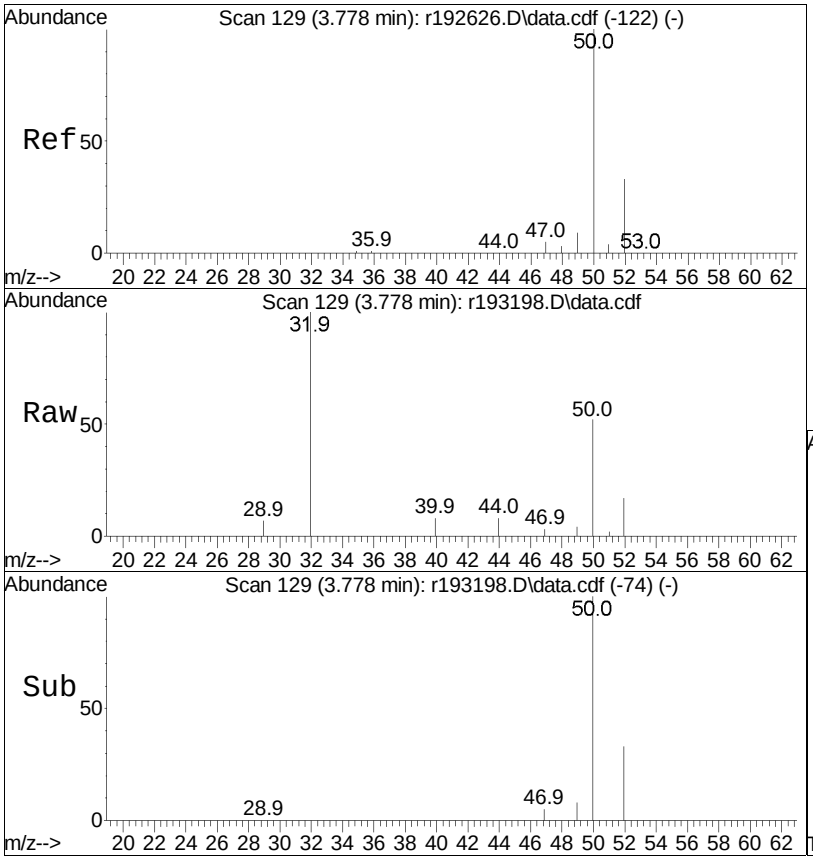


#5
dichlorodifluoromethane
Concen: 0.50 ppbV
RT: 3.568 min Scan# 94
Delta R.T. 0.006 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 85 Resp: 9846

Ion	Ratio	Lower	Upper
85	100		
87	32.6	25.9	38.9

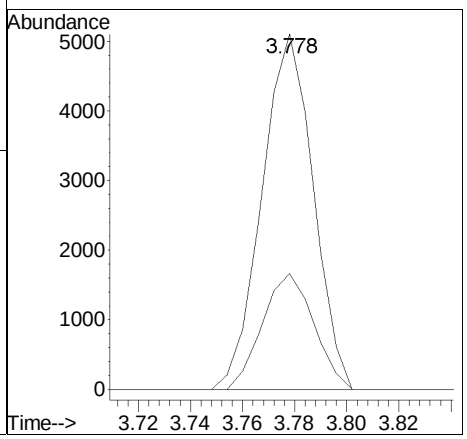


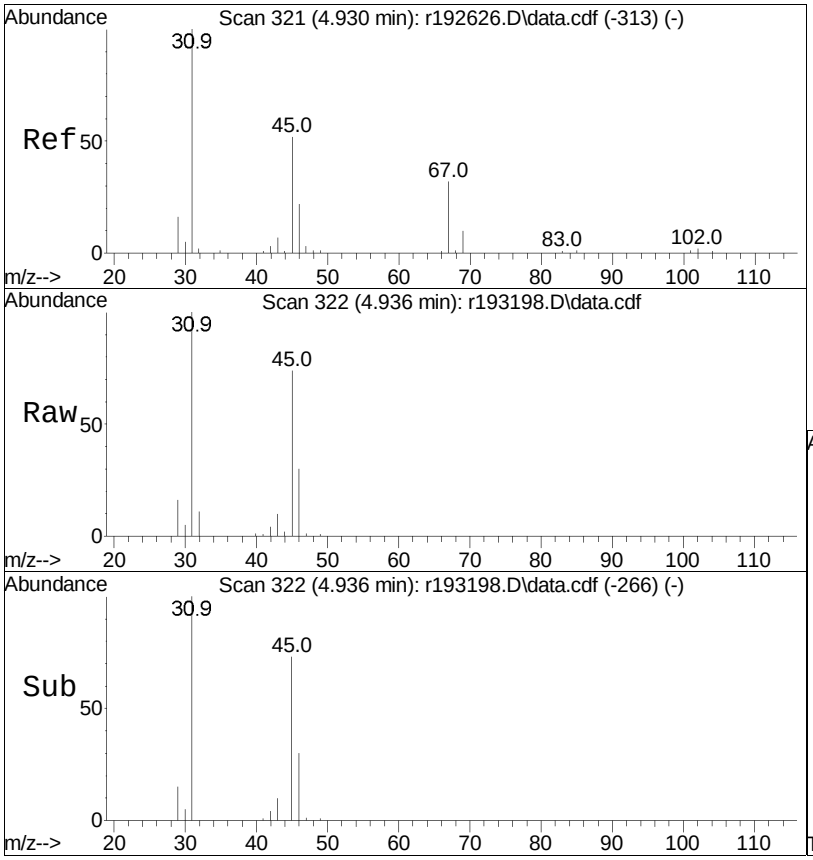


#6
chloromethane
Concen: 0.55 ppbV
RT: 3.778 min Scan# 129
Delta R.T. 0.000 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 50 Resp: 6975

Ion	Ratio	Lower	Upper
50	100		
52	32.6	26.3	39.5

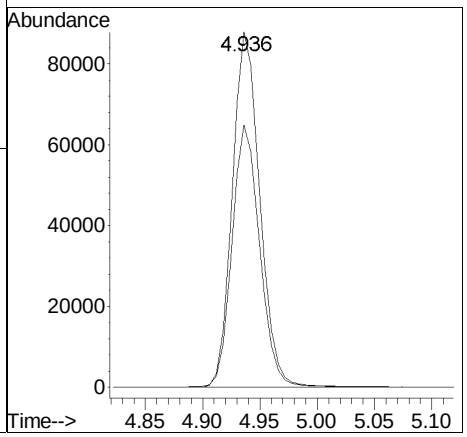


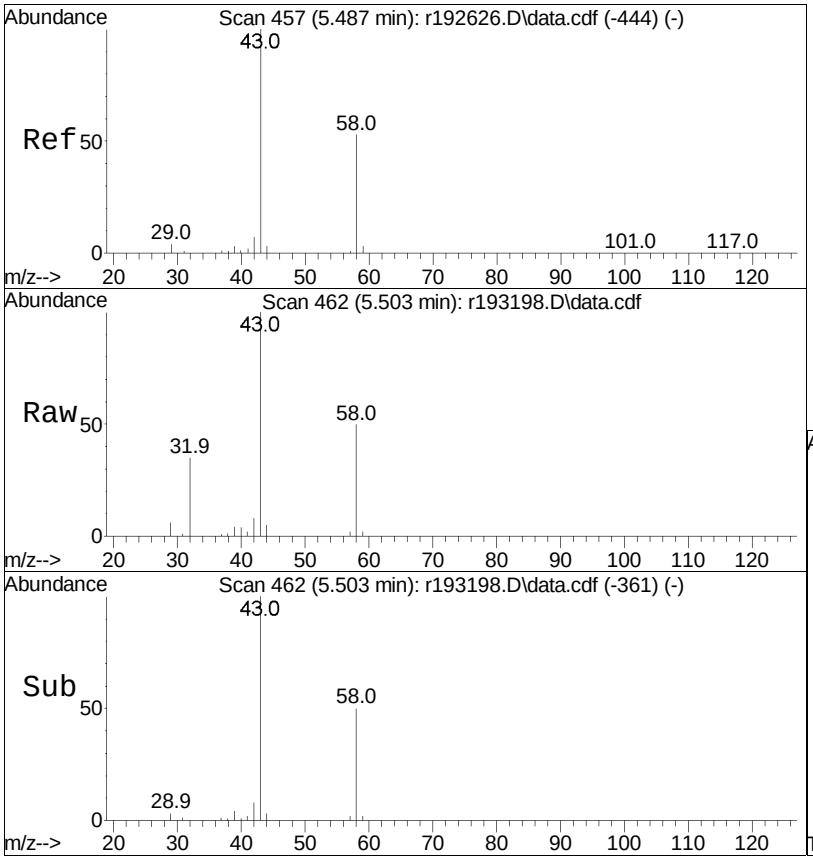


#15
ethanol
Concen: 14.34 ppbV
RT: 4.936 min Scan# 322
Delta R.T. 0.006 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 31 Resp: 146956

Ion	Ratio	Lower	Upper
31	100		
45	73.8	40.6	60.8#

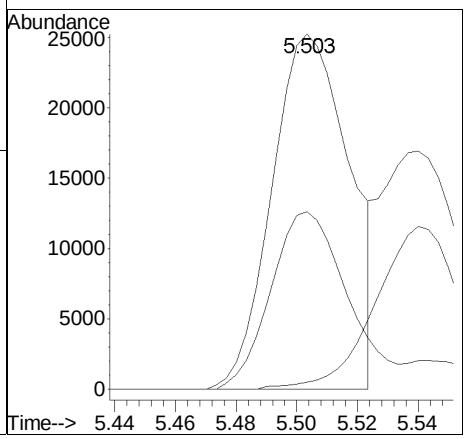


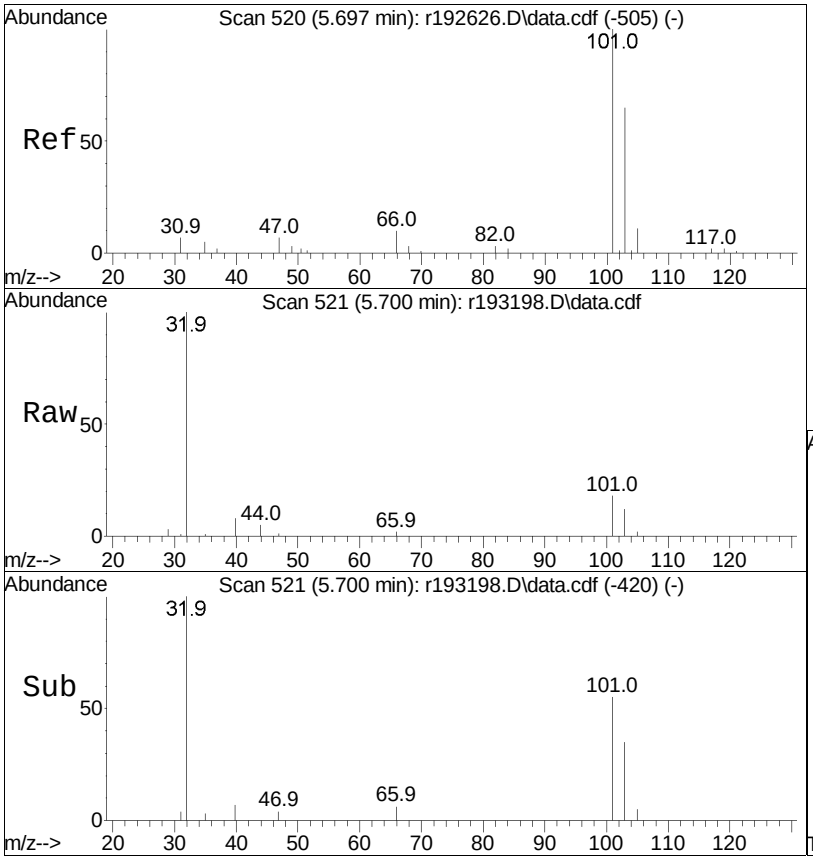


#19
acetone
Concen: 2.38 ppbV
RT: 5.503 min Scan# 462
Delta R.T. 0.007 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 43 Resp: 44811

Ion	Ratio	Lower	Upper
43	100		
58	50.0	42.0	63.0
57	2.0	1.4	2.0

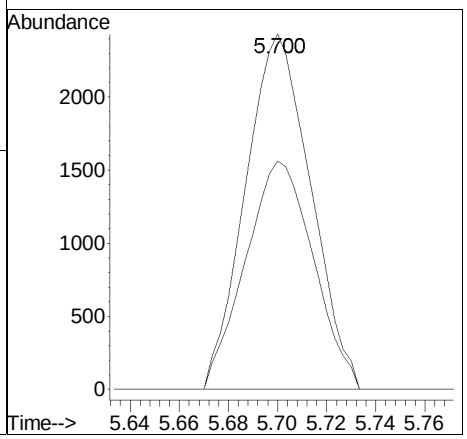


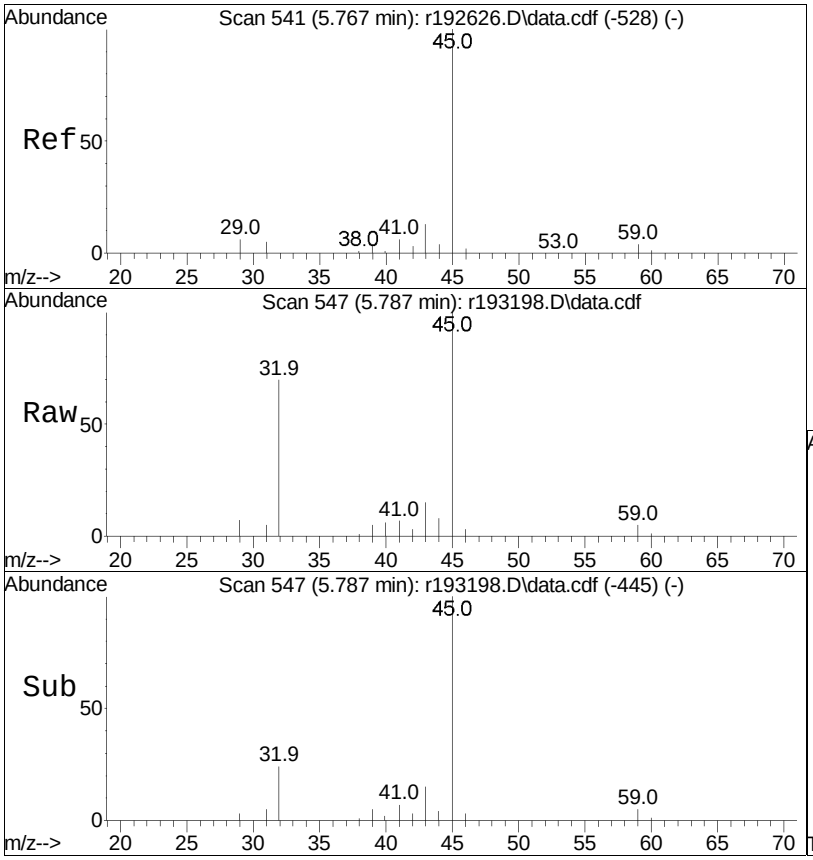


#21
trichlorofluoromethane
Concen: 0.22 ppbV
RT: 5.700 min Scan# 521
Delta R.T. 0.007 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion:101 Resp: 4487

Ion	Ratio	Lower	Upper
101	100		
103	64.3	51.4	77.2

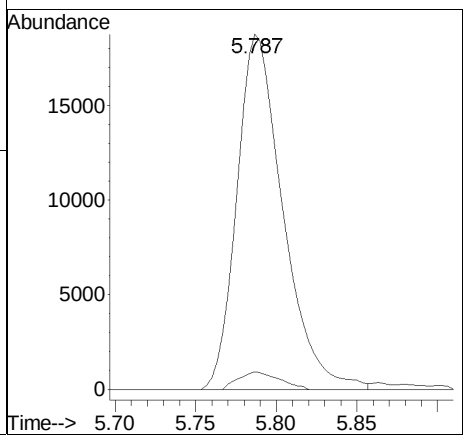


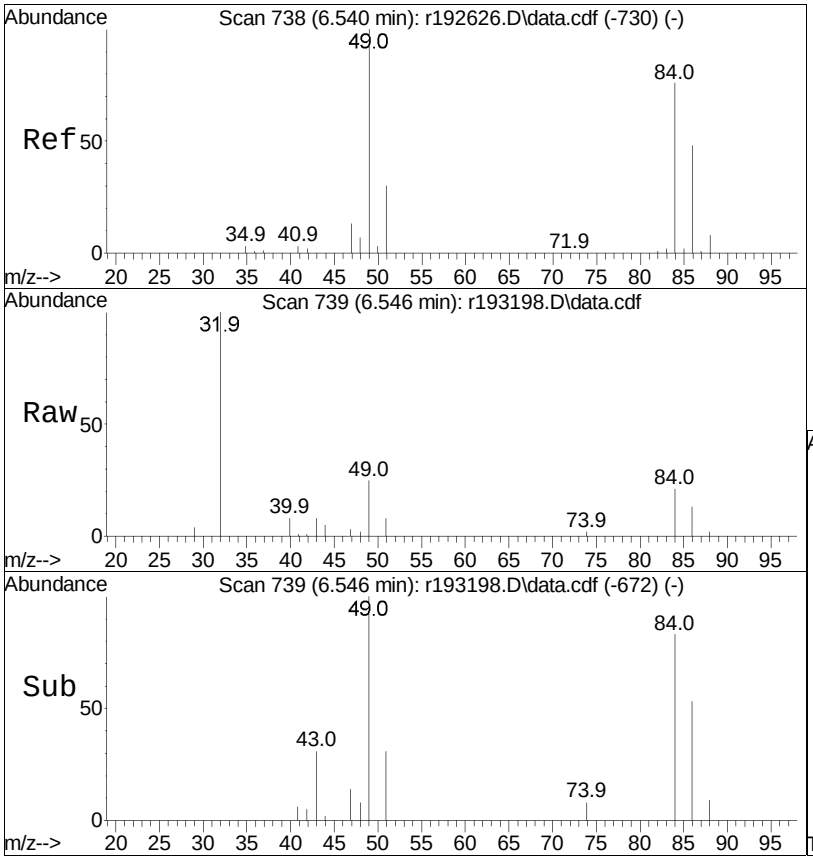


#22
isopropyl alcohol
Concen: 1.04 ppbV
RT: 5.787 min Scan# 547
Delta R.T. 0.010 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 45 Resp: 37325

Ion	Ratio	Lower	Upper
45	100		
59	5.0	3.7	5.5

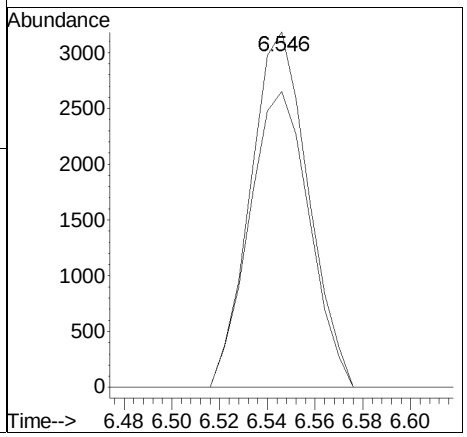


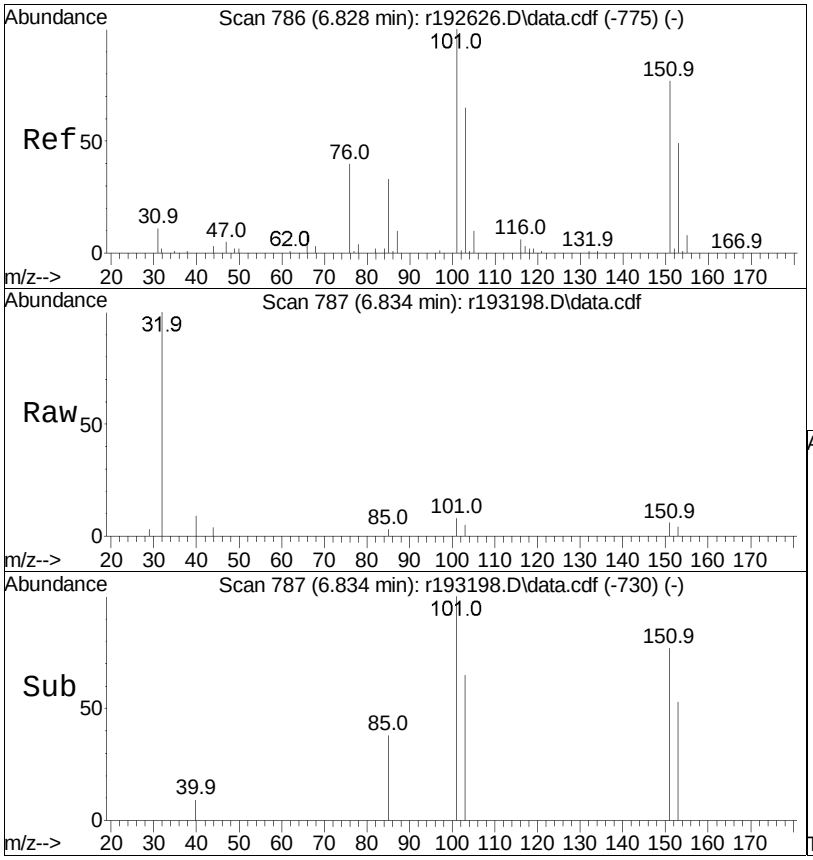


#28
methylene chloride
Concen: 0.23 ppbV
RT: 6.546 min Scan# 739
Delta R.T. 0.012 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 49 Resp: 5360

Ion	Ratio	Lower	Upper
49	100		
84	83.3	59.8	89.6

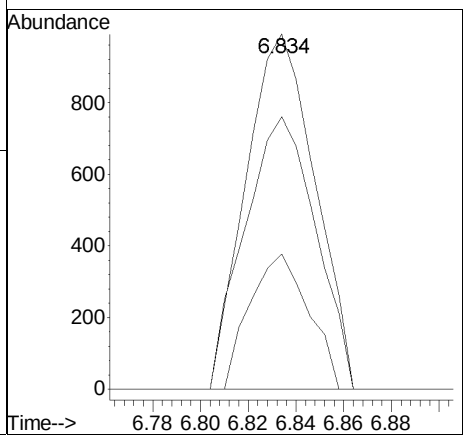


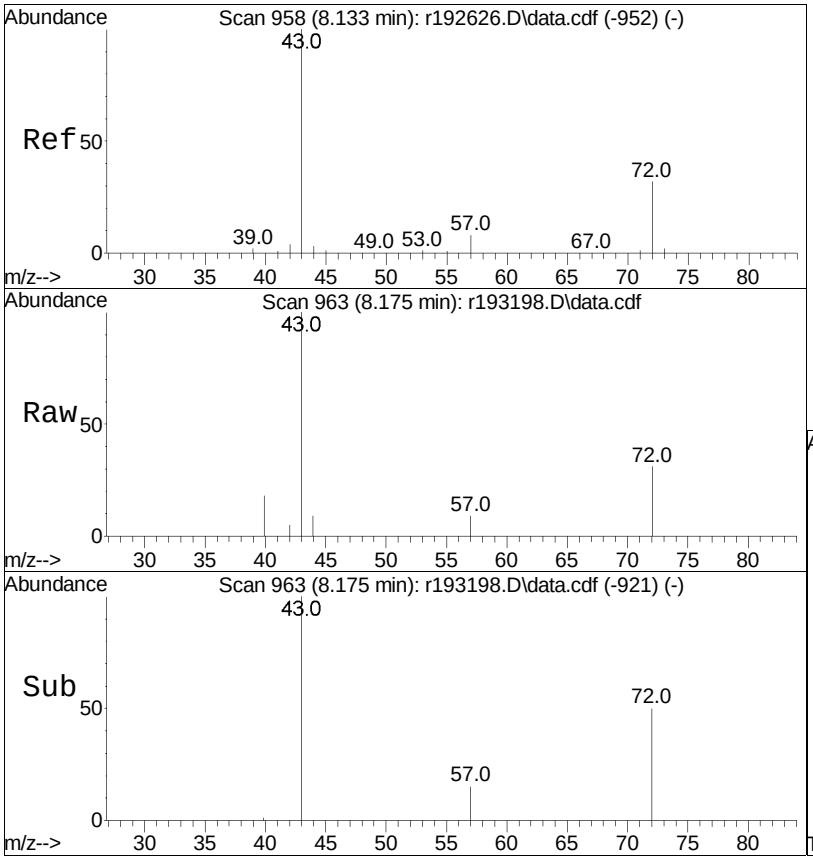


#31
Freon 113
Concen: 0.06 ppbV
RT: 6.834 min Scan# 787
Delta R.T. 0.012 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion:101 Resp: 1993

Ion	Ratio	Lower	Upper
101	100		
85	38.0	26.7	40.1
151	76.7	63.4	95.2

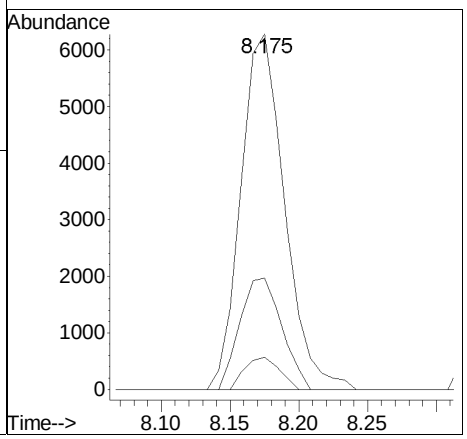


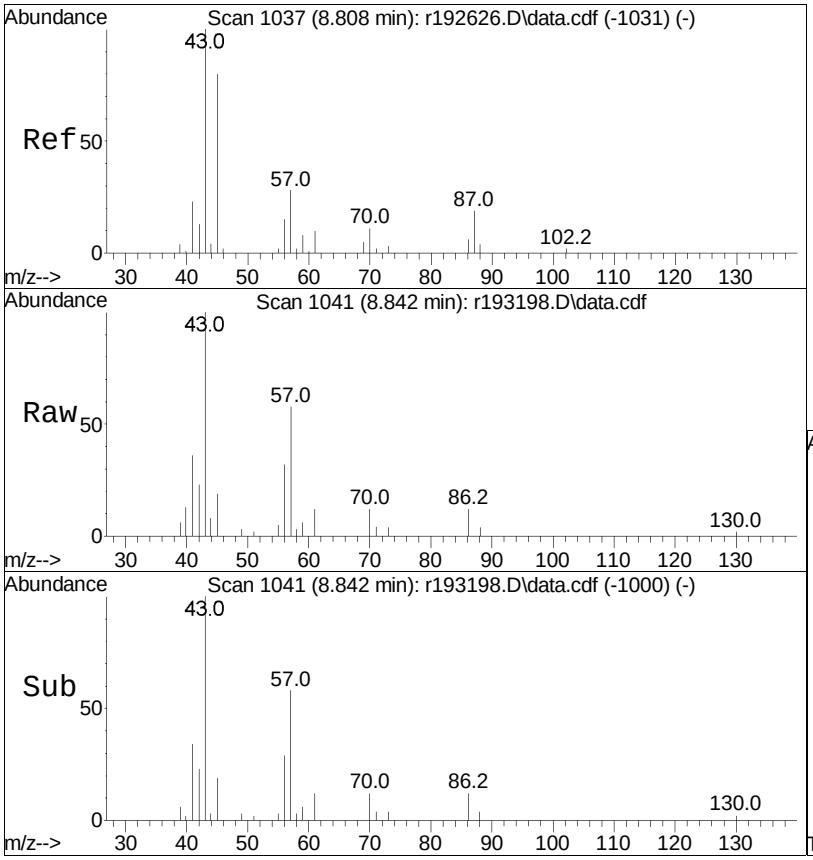


#36
2-butanone
Concen: 0.33 ppbV
RT: 8.175 min Scan# 963
Delta R.T. 0.017 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 43 Resp: 13906

Ion	Ratio	Lower	Upper
43	100		
72	31.3	27.7	41.5
57	9.1	6.3	9.5

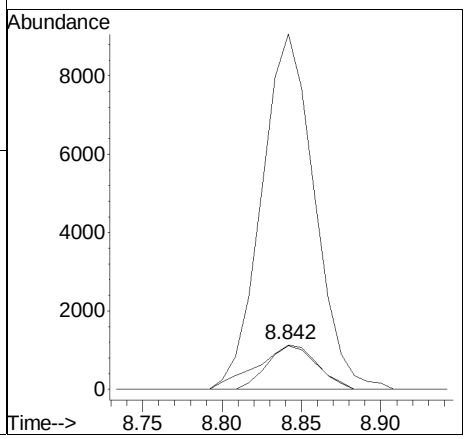


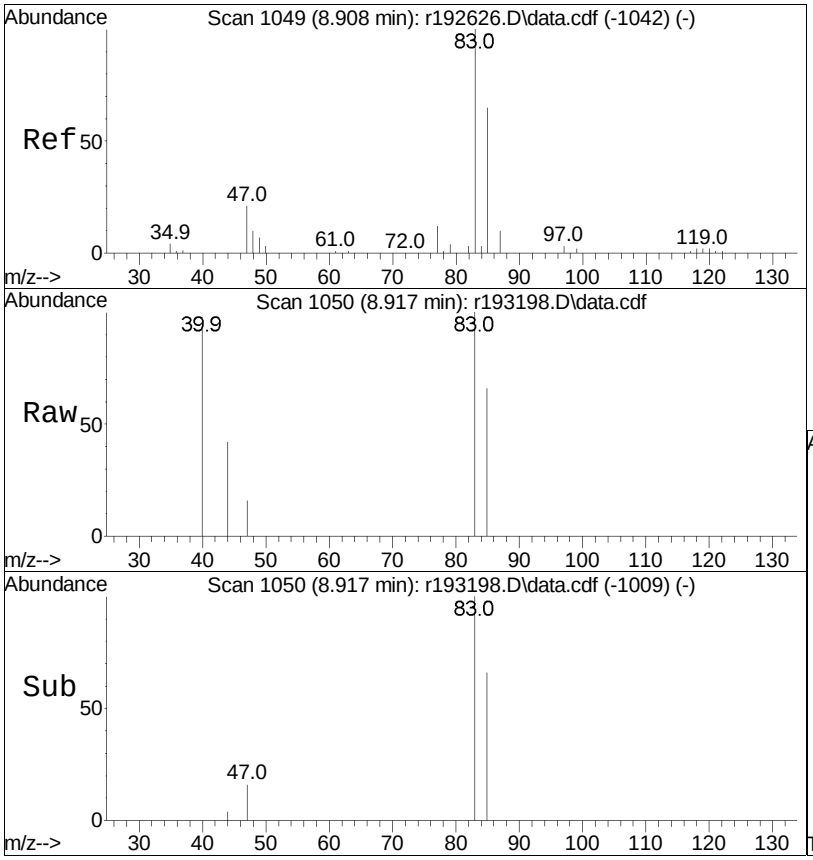


#38
Ethyl Acetate
Concen: 0.42 ppbV
RT: 8.842 min Scan# 1041
Delta R.T. 0.008 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 61 Resp: 2999

Ion	Ratio	Lower	Upper
61	100		
70	98.3	86.6	130.0
43	800.5	819.5	1229.3#

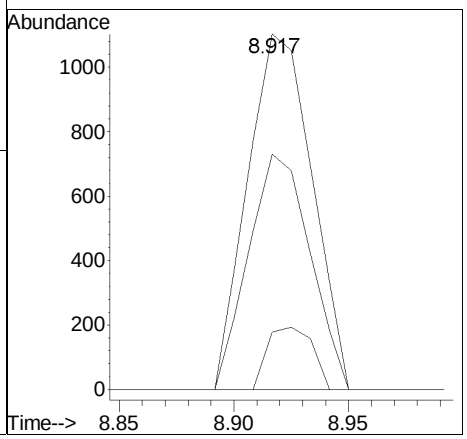


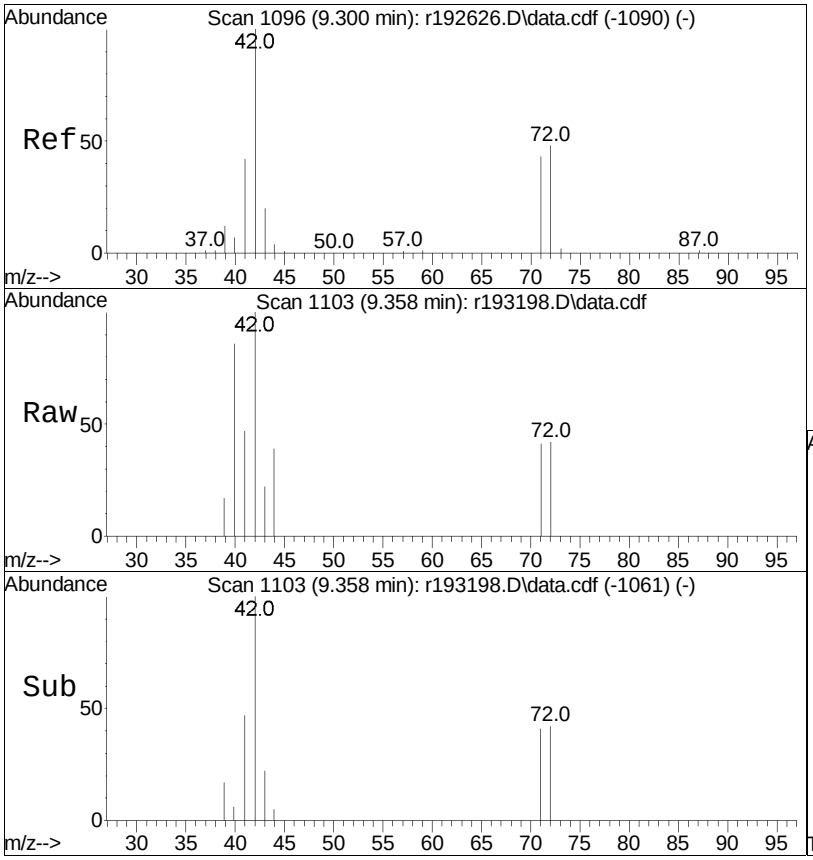


#39
chloroform
Concen: 0.07 ppbV
RT: 8.917 min Scan# 1050
Delta R.T. 0.008 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 83 Resp: 2161

Ion	Ratio	Lower	Upper
83	100		
85	66.2	50.1	75.1
47	16.1	17.6	26.4#

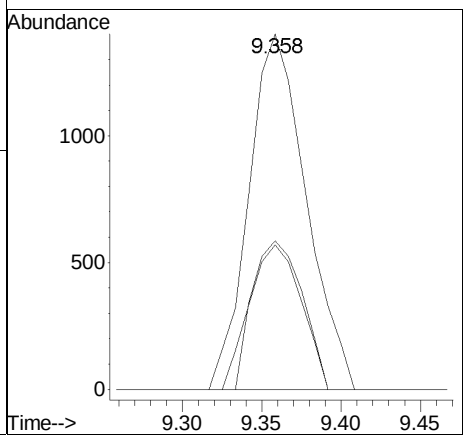


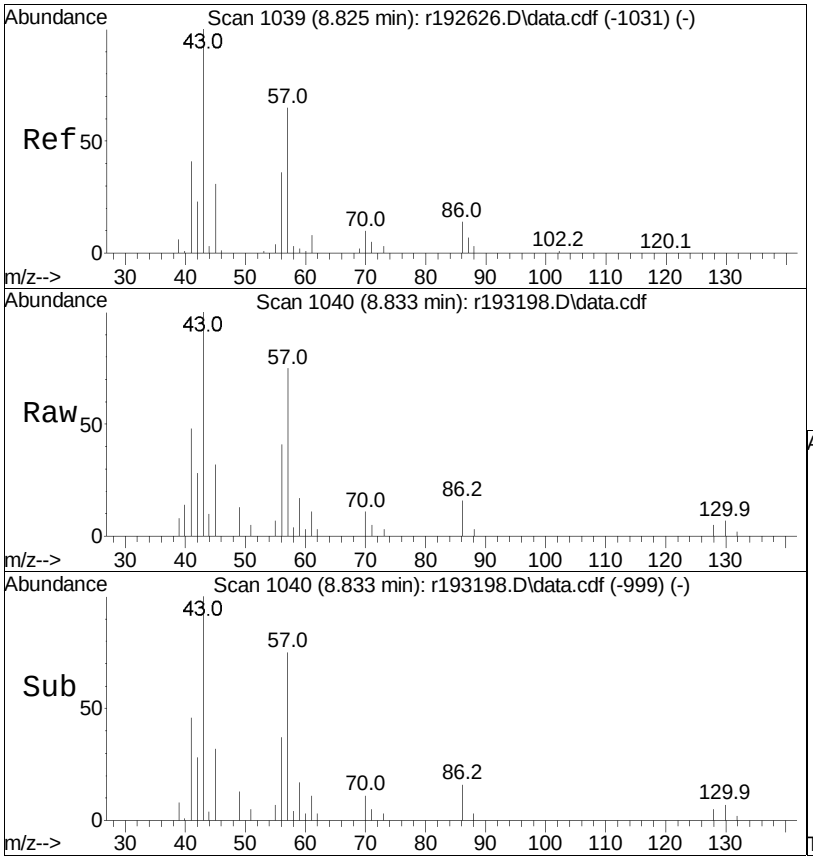


#40
Tetrahydrofuran
Concen: 0.12 ppbV
RT: 9.358 min Scan# 1103
Delta R.T. 0.017 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 42 Resp: 3518

Ion	Ratio	Lower	Upper
42	100		
71	40.7	32.5	48.7
72	41.8	33.7	50.5

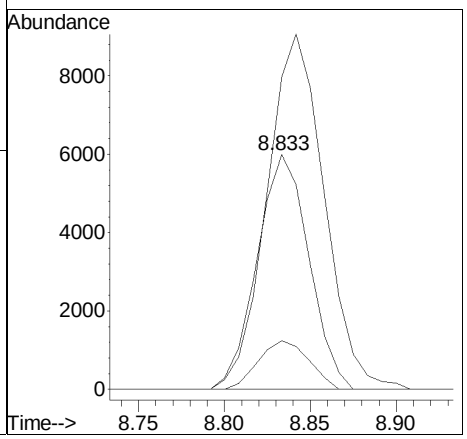


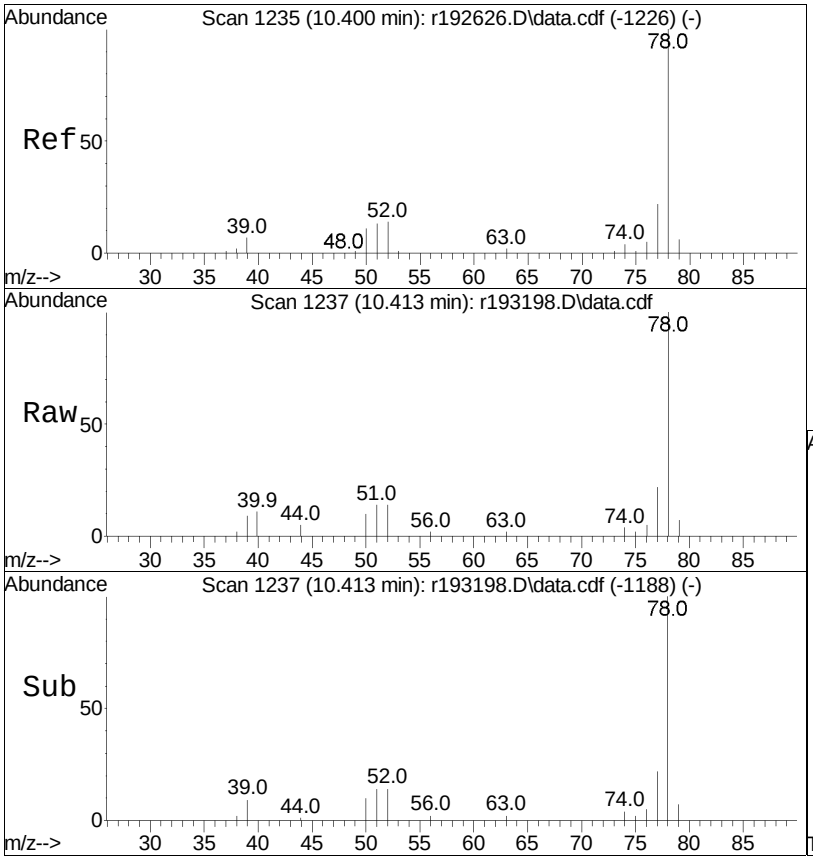


#44
hexane
Concen: 0.33 ppbV
RT: 8.833 min Scan# 1040
Delta R.T. 0.008 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 57 Resp: 12564

Ion	Ratio	Lower	Upper
57	100		
43	133.0	159.3	238.9#
86	20.8	15.7	23.5

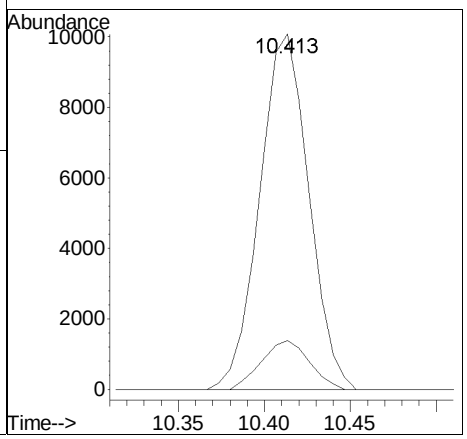


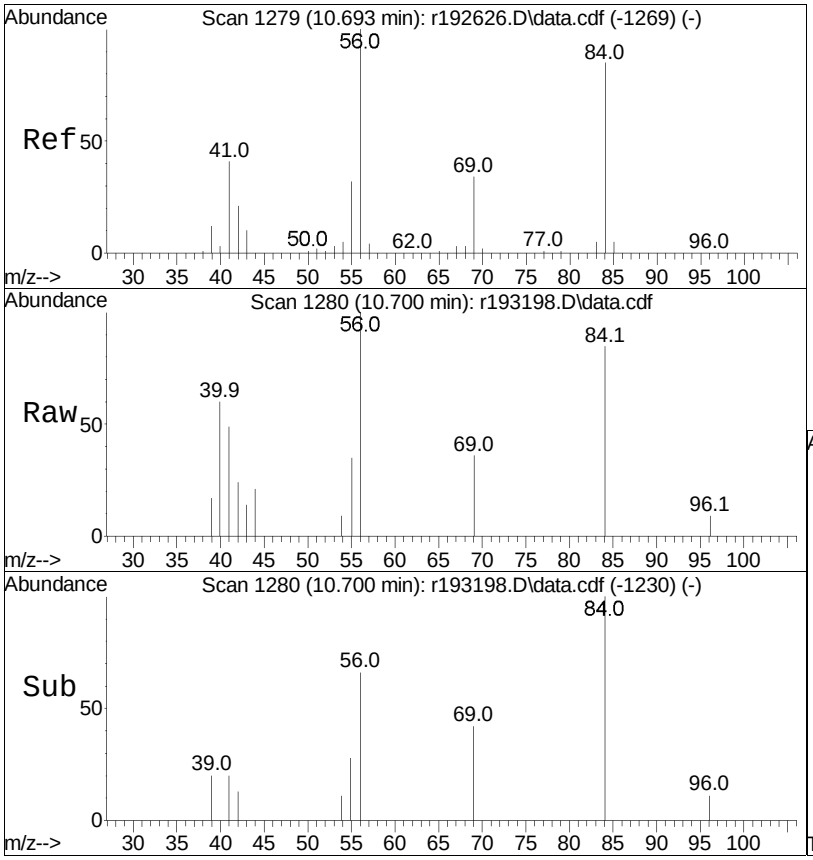


#50
benzene
Concen: 0.27 ppbV
RT: 10.413 min Scan# 1237
Delta R.T. 0.013 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 78 Resp: 20020

Ion	Ratio	Lower	Upper
78	100		
52	13.8	11.4	17.2

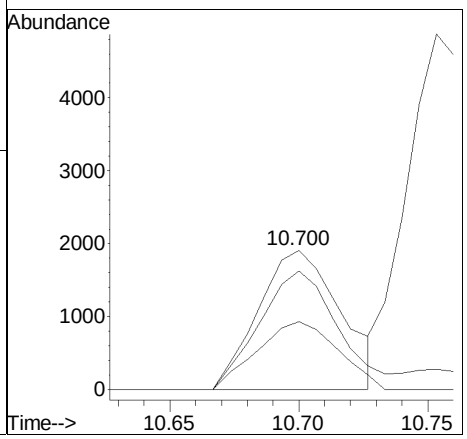


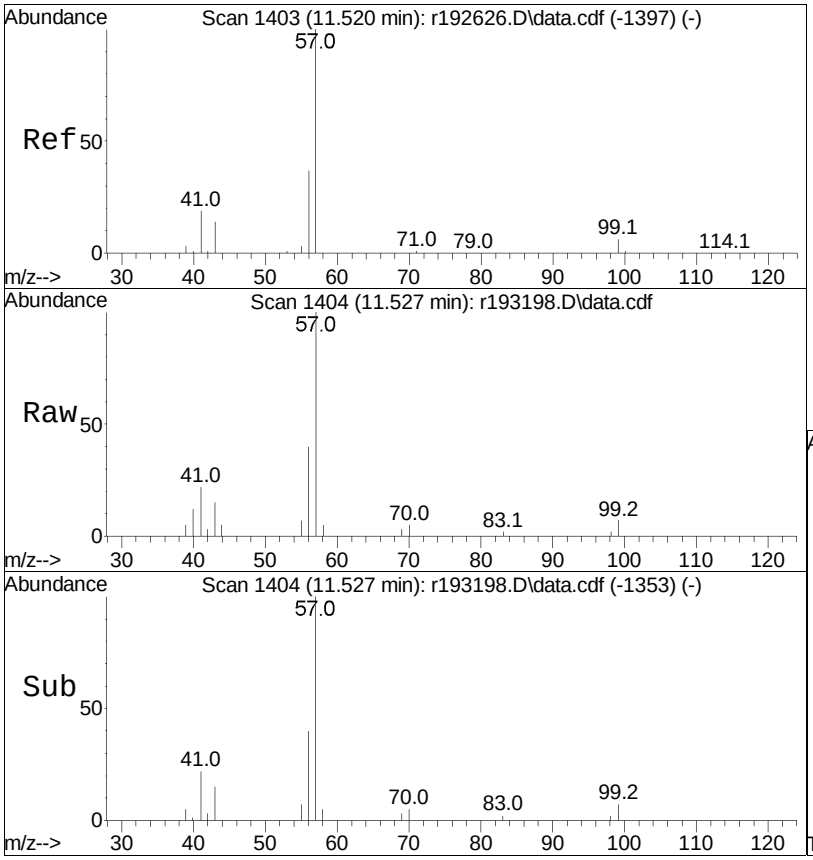


#53
cyclohexane
Concen: 0.10 ppbV
RT: 10.700 min Scan# 1280
Delta R.T. 0.007 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 56 Resp: 4222

Ion	Ratio	Lower	Upper
56	100		
84	85.3	69.8	104.6
41	48.8	32.1	48.1#

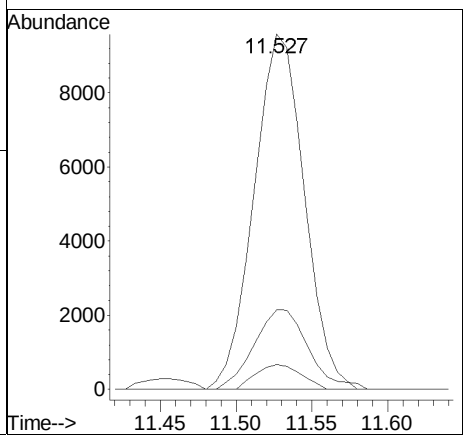


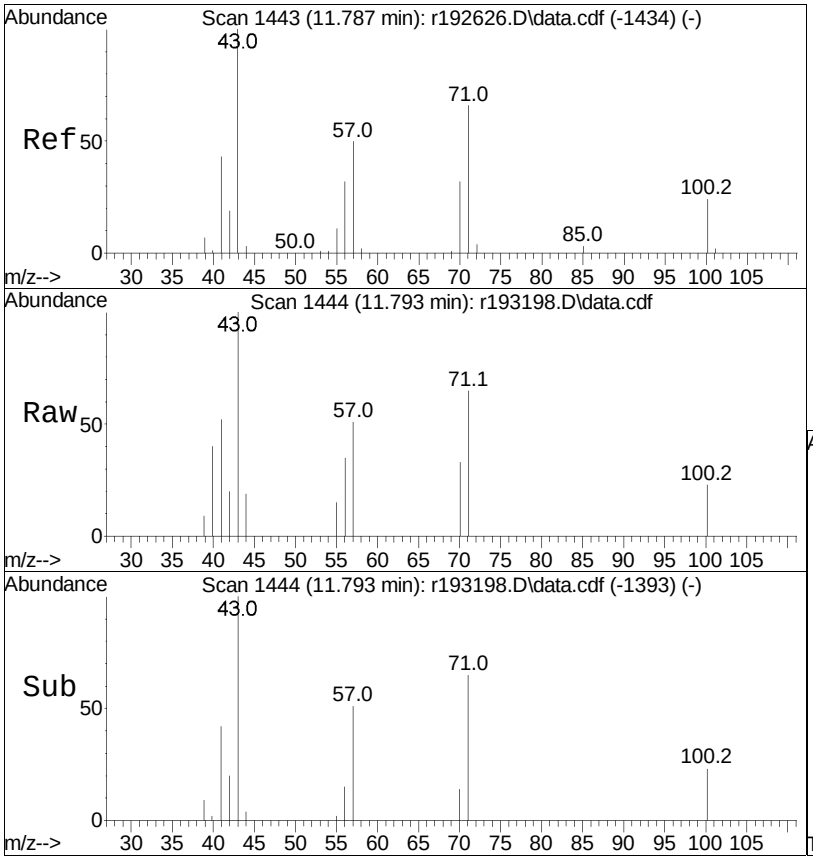


#60
2,2,4-trimethylpentane
Concen: 0.18 ppbV
RT: 11.527 min Scan# 1404
Delta R.T. 0.007 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 57 Resp: 22103

Ion	Ratio	Lower	Upper
57	100		
99	7.0	6.0	9.0
41	22.4	15.6	23.4

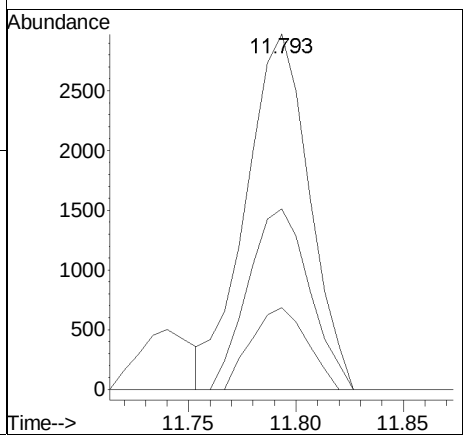


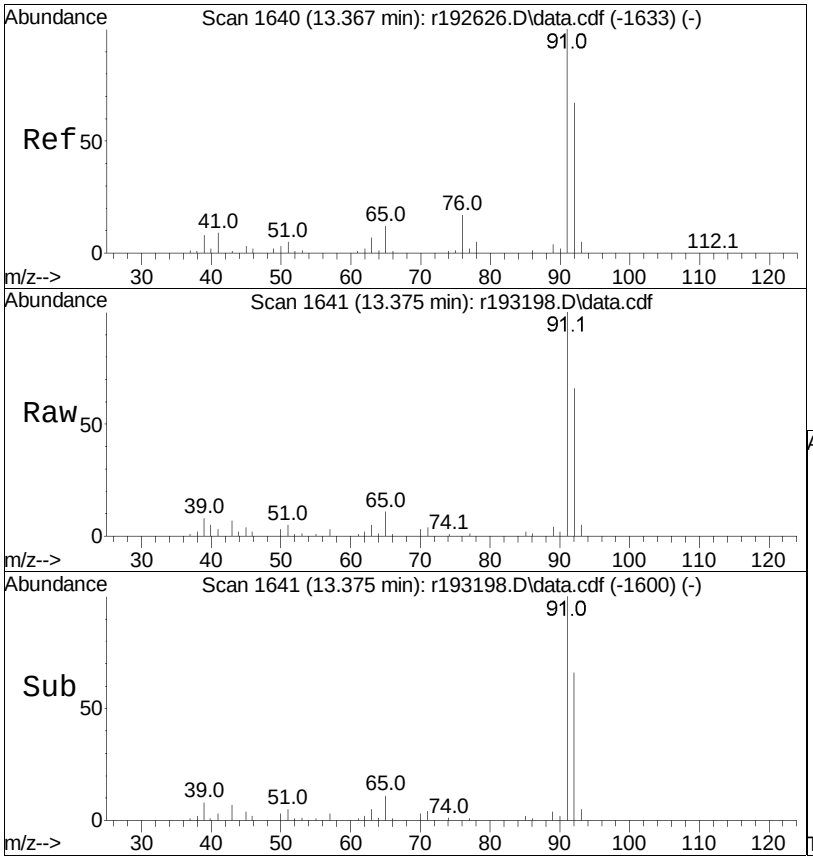


#62
heptane
Concen: 0.13 ppbV
RT: 11.793 min Scan# 1444
Delta R.T. 0.013 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 43 Resp: 6093

Ion	Ratio	Lower	Upper
43	100		
57	50.8	41.0	61.6
100	23.1	21.4	32.2

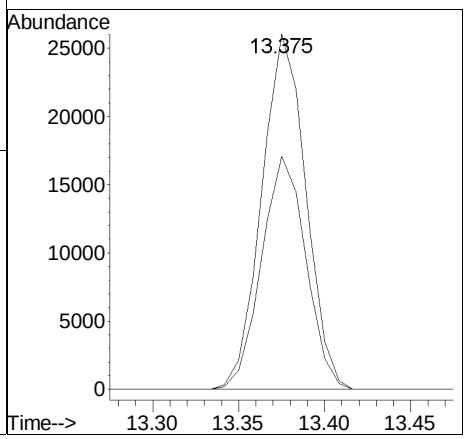


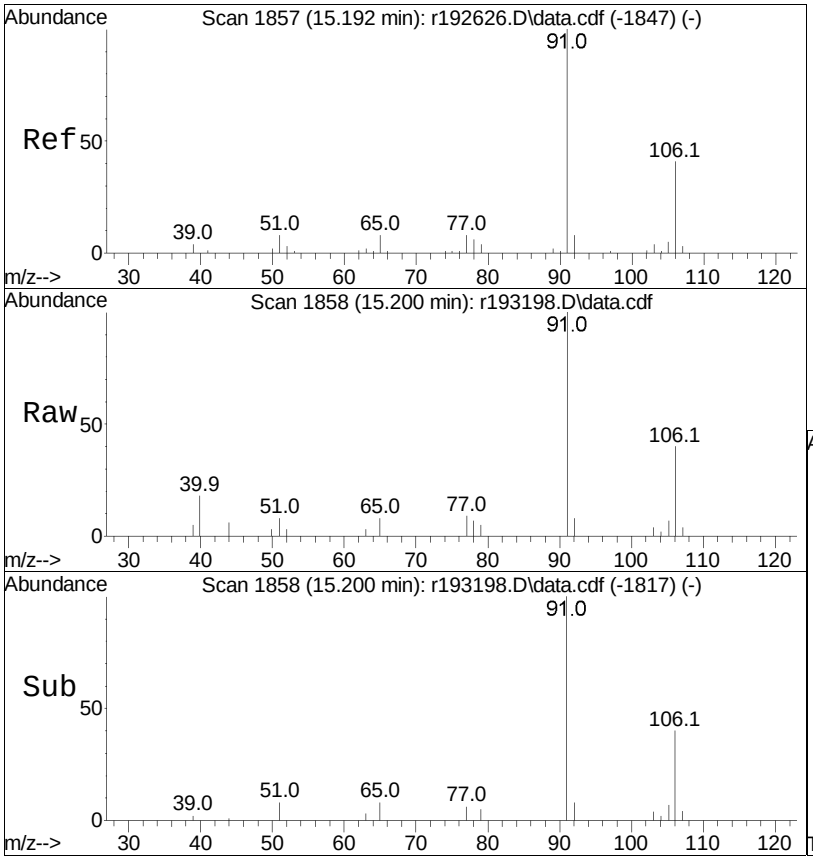


#68
toluene
Concen: 0.58 ppbV
RT: 13.375 min Scan# 1641
Delta R.T. 0.008 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 91 Resp: 46498

Ion	Ratio	Lower	Upper
91	100		
92	65.6	53.3	79.9

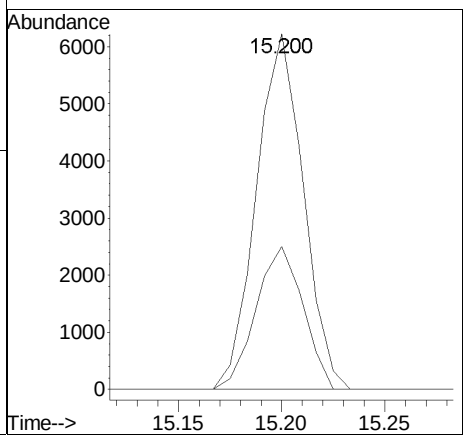


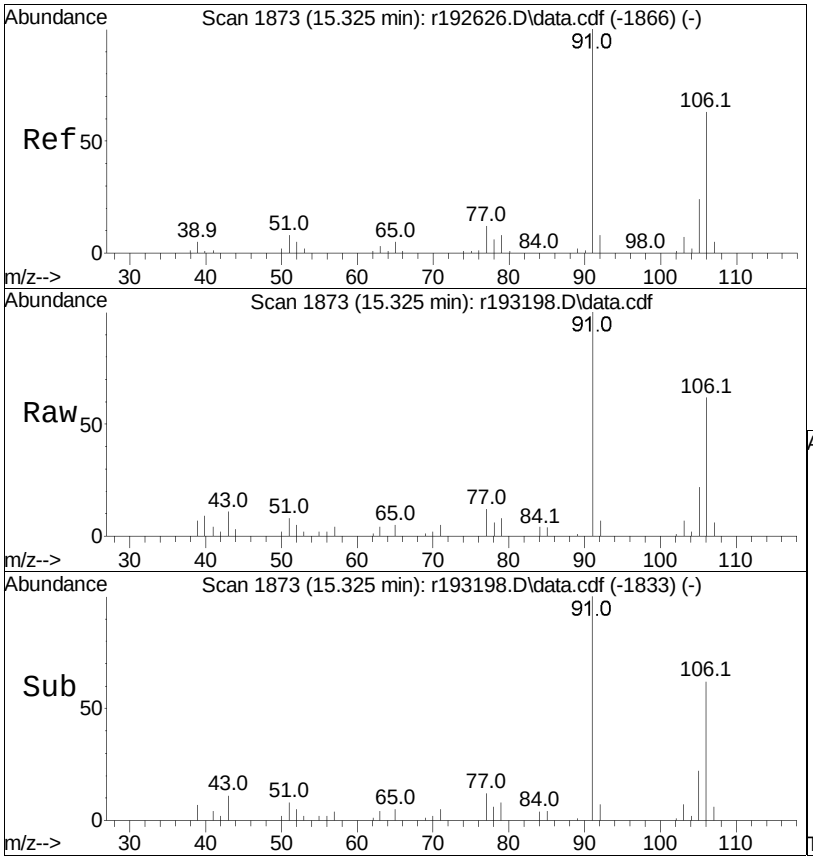


#81
ethylbenzene
Concen: 0.10 ppbV
RT: 15.200 min Scan# 1858
Delta R.T. 0.008 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 91 Resp: 9858

Ion	Ratio	Lower	Upper
91	100		
106	40.2	32.9	49.3

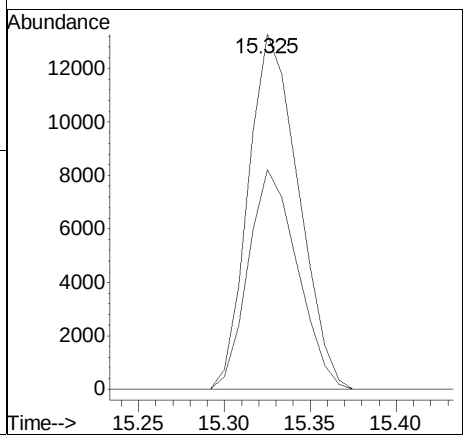


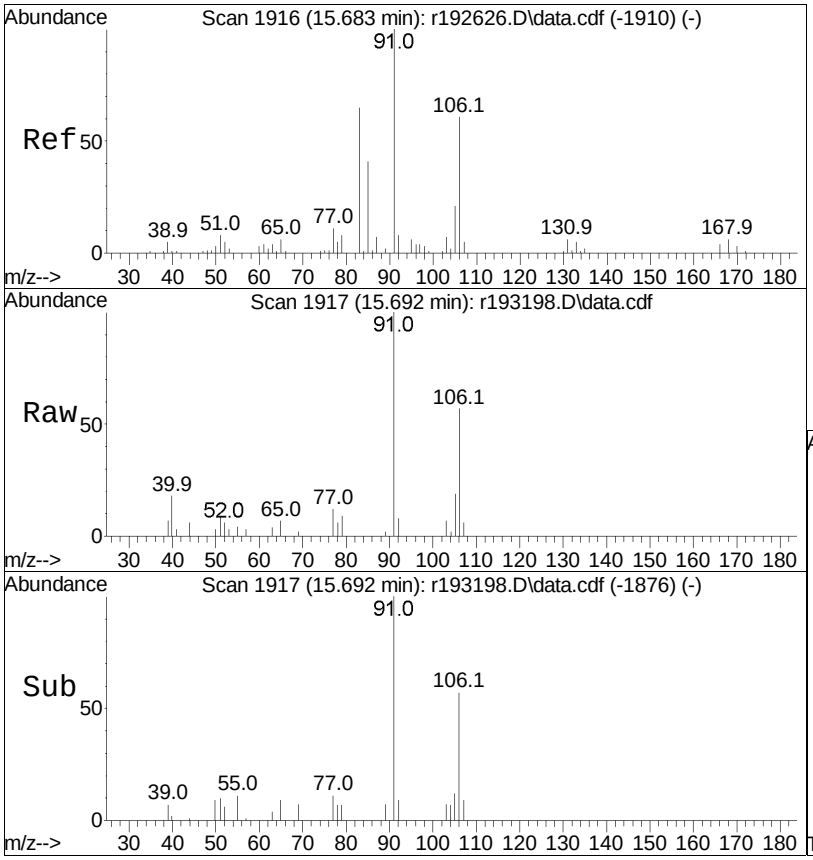


#83
m+p-xylene
Concen: 0.36 ppbV
RT: 15.325 min Scan# 1873
Delta R.T. 0.000 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 91 Resp: 27002

Ion	Ratio	Lower	Upper
91	100		
106	61.9	51.0	76.4

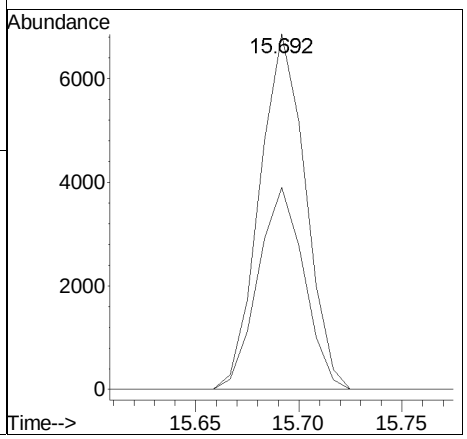


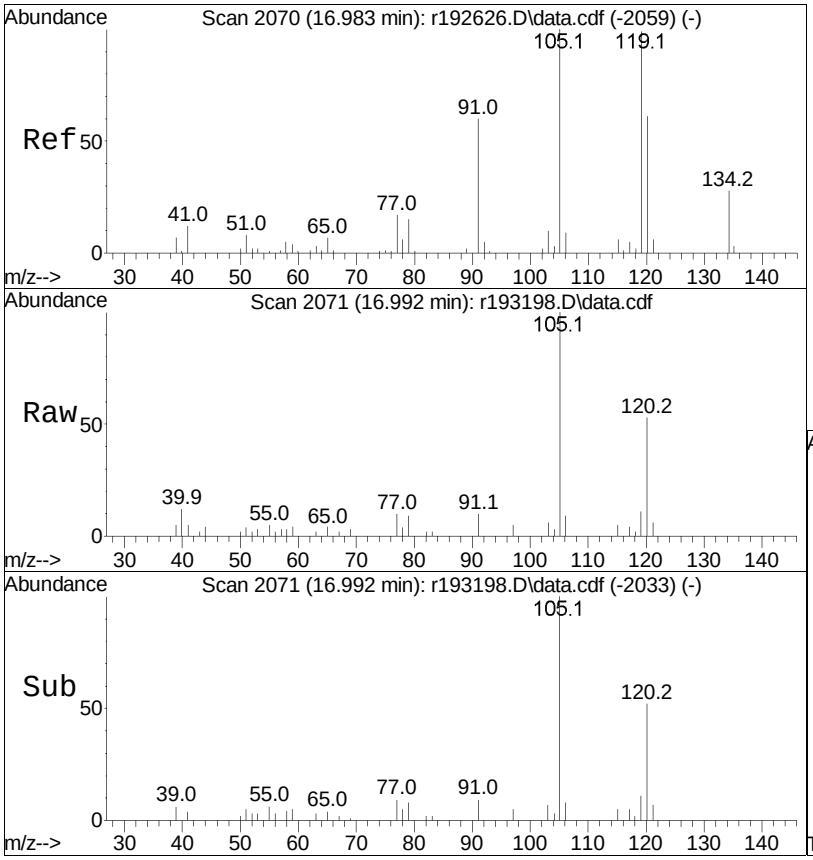


#87
o-xylene
Concen: 0.14 ppbV
RT: 15.692 min Scan# 1917
Delta R.T. 0.008 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion: 91 Resp: 10622

Ion	Ratio	Lower	Upper
91	100		
106	56.8	47.8	71.8

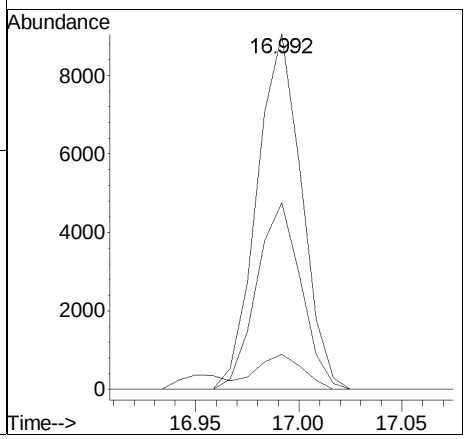




#99
1,2,4-trimethylbenzene
Concen: 0.15 ppbV
RT: 16.992 min Scan# 2071
Delta R.T. 0.000 min
Lab File: r193198.D
Acq: 20 Mar 2020 7:17 PM

Tgt Ion:105 Resp: 13625

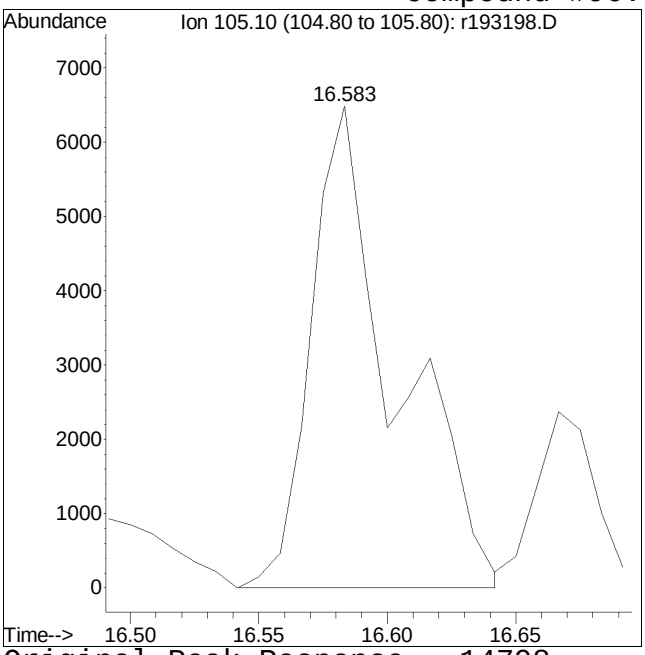
Ion	Ratio	Lower	Upper
105	100		
120	52.6	49.2	73.8
91	9.9	49.9	74.9#

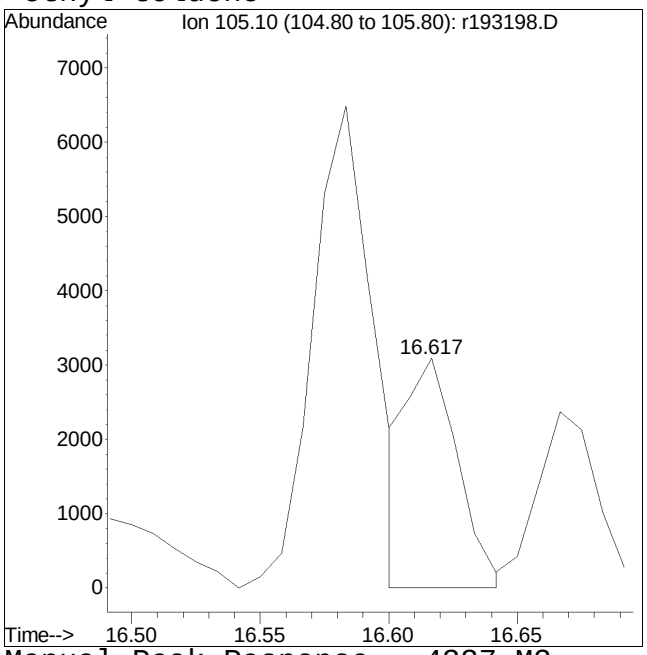


Manual Integration Report

Data Path : O:\Forensics\Data\Airlab19QMethod : TFS19_200224.M
Data File : r193198.D Operator : AIRLAB19:EW
Date Inj'd : 3/20/2020 0:7: 7 Instrument :
Sample : WG1353556-5,3,250,250 Quant Date : 3/21/2020 7:53 am

Compound #96: 4-ethyl toluene





Original Peak Response = 14798 Manual Peak Response = 4337 M3

M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Calculation of Volatile Organic Compounds in Air

The instrument will calculate the concentration (ppbv). If the sample is diluted (DF), the result is multiplied by the DF to generate the final result.

Result, ppbv = C_s x DF
Where:
C_s = Concentration of sample (ppbv)
DF = Dilution Factor

Calculation of Instrument Dilution Factor

For dilutions, smaller sample volumes (< 250mL) are analyzed. The smallest volume that can be analyzed with accuracy is 10 mL.

Samples that arrive at the laboratory with pressures below -15 inches Hg must be pressurized with zero air to greater than -15 inches Hg. This pressurization results in a dilution factor.

Calculation of Dilution Factor
$DF = V_{cf} / V_{ci}$
Where:
V_{ci} = volume of air in canister prior to pressurization, L
P =

Conversion of ppbv to ug/m^3
ug/m^3 = (ppbv) * MW / 24.47
Where:
24.47 = molar gas constant (g/g-mole)
MW = molecular weight of the compound of interest

Dilution Factor for Pressurization of Subatmospheric Samples: Three Steps

Step 1: Calculate the volume in the canister prior to pressurization (Assume a 2.7 liter canister is used).

Dilution Factor for Pressurization of Subatmospheric Samples: Three Steps

Step 1: Calculate the volume in the canister prior to pressurization (Assume a 2.7 liter canister is used).

$V_{ci} = 2.7 * Pl/14.696$

Step 2: Calculate the volume in the canister after pressurization.

$V_{cf} = 2.7 * PF/14.696$

Step 3: Calculate the dilution factor.

$DF = V_{cf} / V_{ci}$

Where:

V_{ci} = volume of air in canister prior to pressurization, L
PI = pressure reading of canister prior to pressurization (psia)
V_{cf} = volume of air in canister after pressurization, L
PF = pressure reading of canister after pressurization (psia)
DF = dilution factor
14.696 = atmospheric pressure (psia)

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Mar 27 2020, 03:50 pm

Work Group: WG1353541 for Department: 3 GC/MS

Created: 20-MAR-20 Due: Operator: EW

Sample	Client ID	C	Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L2011723-05	OA001	S	TO15-LL	AIR	DONE	U	0412	0323	S0	Can-2.7
L2011723-06	IA001	S	TO15-LL	AIR	DONE	U	0412	0323	S0	Can-2.7
L2011818-01	SVE-INF1	S	TO15-LL	SOIL_VAPOR	DONE	U	0415	0323	S0	Can-6
L2011818-02	SVE-INF2	S	TO15-LL	SOIL_VAPOR	DONE	U	0415	0323	S0	Can-6
L2011818-03	SVE-INF3	S	TO15-LL	SOIL_VAPOR	DONE	U	0415	0323	S0	Can-6
L2011818-04	GAC-INF	S	TO15-LL	SOIL_VAPOR	DONE	U	0415	0323	S0	Can-6
L2011818-05	GAC-EFF	S	TO15-LL	SOIL_VAPOR	DONE	U	0415	0323	S0	Can-6
L2011818-06	SSDS-INF	S	TO15-LL	SOIL_VAPOR	DONE	U	0415	0323	S0	Can-6
L2011818-07	DUP-3-16-20	S	TO15-LL	SOIL_VAPOR	DONE	U	0415	0323	S0	Can-6
L2012074-01	IA-8	S	TO15-LL	AIR	DONE	U	0416	0323	S0	Can-2.7
L2012074-02	IA-7	S	TO15-LL	AIR	DONE	U	0416	0323	S0	Can-2.7
L2012074-03	IA-10	S	TO15-LL	AIR	DONE	U	0416	0323	S0	Can-2.7
L2012074-04	IA-6	S	TO15-LL	AIR	DONE	U	0416	0323	S0	Can-2.7
L2012074-05	IA-9	S	TO15-LL	AIR	DONE	U	0416	0323	S0	Can-2.7
WG1353541-1	MS BFB Tune Standard	S	TO15-LL	AIR	DONE	U				
WG1353541-1	MS BFB Tune Standard	S	TO15-LL	SOIL_VAPOR	DONE	U				
WG1353541-2	Continuing Calibrati	S	TO15-LL	SOIL_VAPOR	DONE	U				
WG1353541-2	Continuing Calibrati	S	TO15-LL	AIR	DONE	U				
WG1353541-3	Laboratory Control S	S	TO15-LL	SOIL_VAPOR	DONE	U				
WG1353541-3	Laboratory Control S	S	TO15-LL	AIR	DONE	U				
WG1353541-4	Laboratory Method Bl	S	TO15-LL	AIR	DONE	U				
WG1353541-4	Laboratory Method Bl	S	TO15-LL	SOIL_VAPOR	DONE	U				
WG1353541-5	Duplicate Sample	S	TO15-LL	AIR	DONE	U				
WG1353541-5	Duplicate Sample	S	TO15-LL	SOIL_VAPOR	DONE	U				

Comments:

WG1353541-5 L2011723-06

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Mar 27 2020, 03:50 pm

Work Group: WG1353556 for Department: 3 GC/MS

Created: 20-MAR-20 Due: Operator: EW

Sample	Client ID	C	Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L2011420-01	25P-IAN-20200312	S	TO15-LL	AIR	DONE	U	0412	0320	S0	Can-6
L2011420-02	25P-IA-BASEMENT-20200312	S	TO15-LL	AIR	DONE	U	0412	0320	S0	Can-6
L2011420-03	25P-IAS-20200312	S	TO15-LL	AIR	DONE	U	0412	0320	S0	Can-6
L2011420-04	25P-IF-20200312	S	TO15-LL	AIR	DONE	U	0412	0320	S0	Can-6
L2011420-05	25P-2B-20200312	S	TO15-LL	AIR	DONE	U	0412	0320	S0	Can-6
L2011420-06	25P-1STHW-20200312	S	TO15-LL	AIR	DONE	U	0412	0320	S0	Can-6
L2011420-07	25P-3G-20200312	S	TO15-LL	AIR	DONE	U	0412	0320	S0	Can-6
L2011420-08	25P-4G-20200312	S	TO15-LL	AIR	DONE	U	0412	0320	S0	Can-6
L2011676-01	SS-1(031320)	S	TO15-LL	SOIL_VAPOR	DONE	U	0412	0320	S0	Can-2.7
L2011676-02	SS-2(031320)	S	TO15-LL	SOIL_VAPOR	DONE	U	0412	0320	S0	Can-2.7
L2011676-03	SS-3(031320)	S	TO15-LL	SOIL_VAPOR	DONE	U	0412	0320	S0	Can-2.7
L2011676-04	SS-4(031320)	S	TO15-LL	SOIL_VAPOR	DONE	U	0412	0320	S0	Can-2.7
L2011723-01	SS001	S	TO15-LL	SOIL_VAPOR	DONE	U	0412	0323	S0	Can-2.7
L2011723-02	SV001	S	TO15-LL	SOIL_VAPOR	DONE	U	0412	0323	S0	Can-2.7
L2011723-03	SV002	S	TO15-LL	SOIL_VAPOR	DONE	U	0412	0323	S0	Can-2.7
L2011723-04	SV003	S	TO15-LL	SOIL_VAPOR	DONE	U	0412	0323	S0	Can-2.7
WG1353556-1	MS BFB Tune Standard	S	TO15-LL	AIR	DONE	U				
WG1353556-1	MS BFB Tune Standard	S	TO15-LL	SOIL_VAPOR	DONE	U				
WG1353556-2	Continuing Calibrati	S	TO15-LL	SOIL_VAPOR	DONE	U				
WG1353556-2	Continuing Calibrati	S	TO15-LL	AIR	DONE	U				
WG1353556-3	Laboratory Control S	S	TO15-LL	SOIL_VAPOR	DONE	U				
WG1353556-3	Laboratory Control S	S	TO15-LL	AIR	DONE	U				
WG1353556-4	Laboratory Method Bl	S	TO15-LL	SOIL_VAPOR	DONE	U				
WG1353556-4	Laboratory Method Bl	S	TO15-LL	AIR	DONE	U				
WG1353556-5	Duplicate Sample	S	TO15-LL	AIR	DONE	U				
WG1353556-5	Duplicate Sample	S	TO15-LL	SOIL_VAPOR	DONE	U				

Comments:

WG1353556-5 L2011420-03

Alpha Analytical Air Lab
Instrument Run Log

Instrument ID: AIRLAB19

Internal Standard/Surrogate IDs: SS19-030 / SS19-022

Date: 02/24/2020

Internal Standard/Surrogate Volume: 100 ml

Analyst Initials: AR

Sequence File Name: 200224.S

SIM ICAL# Full Scan ICAL# APH ICAL#

AS Position #	Sample ID	Acquisition Method	Data File ID	Standard ID or Batch ID #, ICAL Ref #	Comment (s)	Product/ sublist	Leak Check Pass ? Y/ N
1	BA19022401	TO15_SFS.qgm	R192615.qgd	250 mL			NA
1	BA19022402	TO15_SFS.qgm	R192616.qgd	250 mL			NA
1	BA19022303	TO15_SFS.qgm	R192617.qgd	250 mL			NA
1	TA19022401	TO15_SFS.qgm	R192618.qgd	250 mL	TUNE		NA
5	ITO15-SIMSTD0.02	TO15_SFS.qgm	R192619.qgd	50 mL SS20-004D	SIM ONLY		NA
5	ITO15-SIMSTD0.05	TO15_SFS.qgm	R192620.qgd	125 mL SS20-004D	SIM ONLY		NA
5	ITO15-SIMSTD0.1	TO15_SFS.qgm	R192621.qgd	250 mL SS20-004D	SIM ONLY		NA
6	ITO15-SIMSTD0.2	TO15_SFS.qgm	R192622.qgd	50 mL SS20-004C			NA
6	ITO15-SIMSTD0.5	TO15_SFS.qgm	R192623.qgd	125 mL SS20-004C			NA
6	ITO15-SIMSTD1.0	TO15_SFS.qgm	R192624.qgd	250 mL SS20-004C			NA
7	ITO15-SIMSTD5.0	TO15_SFS.qgm	R192625.qgd	125 mL SS20-004B1			NA
7	ITO15-SIMSTD010	TO15_SFS.qgm	R192626.qgd	250 mL SS20-004B1			NA
8	ITO15-SIMSTD020	TO15_SFS.qgm	R192627.qgd	50 mL SS20-004A			NA
8	ITO15-SIMSTD050	TO15_SFS.qgm	R192628.qgd	125 mL SS20-004A			NA
8	ITO15-LLSTD100	TO15_SFS.qgm	R192629.qgd	250 mL SS20-004A	NOT USED FOR SIM		NA
1	BA19022401	TO15_SFS.qgm	R192630.qgd	250 mL			NA
1	BA19022402	TO15_SFS.qgm	R192631.qgd	250 mL			NA
2	CTO15-LLSTD010	TO15_SFS.qgm	R192632.qgd	250 mL SS20-006A	FULL SCAN ICV		NA
2	CTO15-SIMSTD5.0	TO15_SFS.qgm	R192633.qgd	125 mL SS20-006A	SIM ICV		NA

Alpha Analytical Air Lab
Instrument Run Log

Date(s) of Initial Calibration: Refer to Initial Calibration Summary Form 6

Date Acquired: see Instrument Performance Check Summary and/or quantitation report.

Sample ID information: L1301234-01,3,250,250 { Lab sample ID, dept #, actual volume analyzed (mL), nominal volume analyzed (mL) }

Dilution Factor: See Form 1 report, or divide nominal volume by actual volume analyzed

Alpha Analytical Air Lab
Instrument Run Log

Instrument ID: Airpiano3

Internal Standard/Surrogate IDs: SS20-009 / SS19-022

Date: 03/12/20

Internal Standard/Surrogate Volume: 100 ml

Analyst Initials: TS

Sequence File Name: 200312.S

SIM ICAL# Full Scan ICAL# APH ICAL#

AS Position #	Sample ID	Acquisition Method	Data File ID	Standard ID or Batch ID #, ICAL Ref #	Comment (s)	Product/ sublist	Leak Check Pass ? Y/ N
1	BA3031201	TO15_SFS.qgm	R38585.qgd	250 mL			NA
1	BA3031202	TO15_SFS.qgm	R38586.qgd	250 mL			NA
1	BA3031203	TO15_SFS.qgm	R38587.qgd	250 mL			NA
1	TA3031201	TO15_SFS.qgm	R38588.qgd	250 mL	TUNE		NA
5	ITO15-SIMSTD0.02	TO15_SFS.qgm	R38589.qgd	50 mL SS20-003D	SIM ONLY		NA
5	ITO15-SIMSTD0.05	TO15_SFS.qgm	R38590.qgd	125 mL SS20-003D	SIM ONLY		NA
5	ITO15-SIMSTD0.1	TO15_SFS.qgm	R38591.qgd	250 mL SS20-003D	SIM ONLY		NA
6	ITO15-SIMSTD0.2	TO15_SFS.qgm	R38592.qgd	50 mL SS20-003C			NA
6	ITO15-SIMSTD0.5	TO15_SFS.qgm	R38593.qgd	125 mL SS20-003C			NA
6	ITO15-SIMSTD1.0	TO15_SFS.qgm	R38594.qgd	250 mL SS20-003C			NA
7	ITO15-SIMSTD5.0	TO15_SFS.qgm	R38595.qgd	125 mL SS20-003B1			NA
7	ITO15-SIMSTD010	TO15_SFS.qgm	R38596.qgd	250 mL SS20-003B1			NA
8	ITO15-SIMSTD020	TO15_SFS.qgm	R38597.qgd	50 mL SS20-003A			NA
8	ITO15-SIMSTD050	TO15_SFS.qgm	R38598.qgd	125 mL SS20-003A			NA
8	ITO15-LLSTD100	TO15_SFS.qgm	R38599.qgd	250 mL SS20-003A	LL ONLY		NA
1	BA3031201	TO15_SFS.qgm	R38600.qgd	250 mL			NA
1	BA3031202	TO15_SFS.qgm	R38601.qgd	250 mL			NA
2	CTO15-LLSTD010	TO15_SFS.qgm	R38602.qgd	250 mL SS20-006B	LL ICV		NA
2	CTO15-SIMSTD5.0	TO15_SFS.qgm	R38603.qgd	125 mL SS20-006B	SIM ICV		NA

Alpha Analytical Air Lab
Instrument Run Log

Date(s) of Initial Calibration: Refer to Initial Calibration Summary Form 6

Date Acquired: see Instrument Performance Check Summary and/or quantitation report.

Sample ID information: L1301234-01,3,250,250 { Lab sample ID, dept #, actual volume analyzed (mL), nominal volume analyzed (mL) }

Dilution Factor: See Form 1 report, or divide nominal volume by actual volume analyzed

Alpha Analytical Air Lab
Instrument Run Log

Instrument ID: Airpiano3

Internal Standard/Surrogate IDs: SS20-009 / SS19-022

Date: 03/20/20

Internal Standard/Surrogate Volume: 100 ml

Analyst Initials: EW

Sequence File Name: 200320.S

SIM ICAL# 16593 Full Scan ICAL# 16594 APH ICAL#16592

AS Position #	Sample ID	Acquisition Method	Data File ID	Standard ID or Batch ID #, ICAL Ref #	Comment (s)	Product/ sublist	Leak Check Pass ? Y/N
1	TA3032001	TO15_SFS.qgm	R38753.qgd	250 mL	TUNE		NA
3	CTO15-LLSTD010	TO15_SFS.qgm	R38754.qgd	250 mL SS20-006B	LL LCS		NA
3	CTO15-SIMSTD5.0	TO15_SFS.qgm	R38755.qgd	125 mL SS20-006B	SIM LCS		NA
1	BA3032001	TO15_SFS.qgm	R38756.qgd	250 mL	BLANK FAILED		NA
1	BA3032002	TO15_SFS.qgm	R38757.qgd	250 mL	BLANK		NA
1	L2011723-05,3,250,250	TO15_SFS.qgm	R38758.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
2	L2011723-06,3,250,250	TO15_SFS.qgm	R38759.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
2	L2011723-06DUP,3,250,250	TO15_SFS.qgm	R38760.qgd	WG1353541,ICAL16594	LL / SIM DUP	NY / 7-SIM	Y
3	L2012074-01,3,250,250	TO15_SFS.qgm	R38761.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
4	L2012074-02,3,250,250	TO15_SFS.qgm	R38762.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
5	L2012074-03,3,250,250	TO15_SFS.qgm	R38763.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
6	L2012074-04,3,250,250	TO15_SFS.qgm	R38764.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
7	L2012074-05,3,250,250	TO15_SFS.qgm	R38765.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
8	L2011818-01,3,250,250	TO15_SFS.qgm	R38766.qgd	WG1353541,ICAL16594		NY	Y
9	L2011818-02,3,250,250	TO15_SFS.qgm	R38767.qgd	WG1353541,ICAL16594		NY	Y
10	L2011818-03,3,250,250	TO15_SFS.qgm	R38768.qgd	WG1353541,ICAL16594		NY	Y
11	L2011818-04,3,250,250	TO15_SFS.qgm	R38769.qgd	WG1353541,ICAL16594		NY	Y
12	L2011818-05,3,250,250	TO15_SFS.qgm	R38770.qgd	WG1353541,ICAL16594		NY	Y
13	L2011818-06,3,250,250	TO15_SFS.qgm	R38771.qgd	WG1353541,ICAL16594	IPA OVERCAL	NY	Y
14	L2011818-07D,3,215,250	TO15_SFS.qgm	R38772.qgd	WG1353541,ICAL16594		NY	Y
15	L2011546-02,3,250,250	TO15_SFS.qgm	R38773.qgd	WG1353539,ICAL16594		MCP	Y

Alpha Analytical Air Lab
Instrument Run Log

15	L2011546-02DUP,3,250,250	TO15_SFS.qgm	R38774.qgd	WG1353539,ICAL16594	MCP DUP	MCP	Y
13	L2011818-06D,3,75,250	TO15_SFS.qgm	R38775.qgd	WG1353541,ICAL16594	IPA ONLY	NY	Y

Date(s) of Initial Calibration: Refer to Initial Calibration Summary Form 6

Date Acquired: see Instrument Performance Check Summary and/or quantitation report.

Sample ID information: L1301234-01,3,250,250 { Lab sample ID, dept #, actual volume analyzed (mL), nominal volume

Dilution Factor: See Form 1 report, or divide nominal volume by actual volume analyzed

Alpha Analytical Air Lab
Instrument Run Log

Instrument ID: AIRLAB19

Internal Standard/Surrogate IDs: SS19-030 / SS19-022

Date: 03/20/2020

Internal Standard/Surrogate Volume: 100 ml

Analyst Initials: EW

Sequence File Name: 200320.S

SIM ICAL# 16555 Full Scan ICAL# 16553 APH ICAL# 16556

AS Position #	Sample ID	Acquisition Method	Data File ID	Standard ID or Batch ID #, ICAL Ref #	Comment (s)	Product/ sublist	Leak Check Pass ? Y/N
1	TA19032001	TO15_SFS.qgm	R193189.qgd	250 mL	TUNE		NA
2	CA19032001	TO15_SFS.qgm	R193190.qgd	250 mL SS20-004B2	LL CC		NA
3	CTO15-LLSTD010	TO15_SFS.qgm	R193191.qgd	250 mL SS20-006G	LL LCS		NA
3	CTO15-SIMSTD5.0	TO15_SFS.qgm	R193192.qgd	125 mL SS20-006G	SIM LCS		NA
1	BA19032001	TO15_SFS.qgm	R193193.qgd	250 mL	BLANK FAILED		NA
1	BA19032002	TO15_SFS.qgm	R193194.qgd	250 mL	BLANK		NA
1	L2011420-01,3,250,250	TO15_SFS.qgm	R193195.qgd	WG1353556,ICAL16553		NY / 7-SIM	Y
2	L2011420-02,3,250,250	TO15_SFS.qgm	R193196.qgd	WG1353556,ICAL16553		NY / 7-SIM	Y
3	L2011420-03,3,250,250	TO15_SFS.qgm	R193197.qgd	WG1353556,ICAL16553		NY / 7-SIM	Y
3	L2011420-03DUP,3,250,250	TO15_SFS.qgm	R193198.qgd	WG1353556,ICAL16553	LL / SIM DUP	NY / 7-SIM	Y
4	L2011420-04,3,250,250	TO15_SFS.qgm	R193199.qgd	WG1353556,ICAL16553		NY / 7-SIM	Y
5	L2011420-05,3,250,250	TO15_SFS.qgm	R193200.qgd	WG1353556,ICAL16553		NY / 7-SIM	Y
6	L2011420-06,3,250,250	TO15_SFS.qgm	R193201.qgd	WG1353556,ICAL16553		NY / 7-SIM	Y
7	L2011420-07,3,250,250	TO15_SFS.qgm	R193202.qgd	WG1353556,ICAL16553		NY / 7-SIM	Y
8	L2011420-08,3,250,250	TO15_SFS.qgm	R193203.qgd	WG1353556,ICAL16553		NY / 7-SIM	Y
9	L2011676-01D,3,80,250	TO15_SFS.qgm	R193204.qgd	WG1353556,ICAL16553		NY	Y
10	L2011676-02,3,250,250	TO15_SFS.qgm	R193205.qgd	WG1353556,ICAL16553		NY	Y
11	L2011676-03,3,250,250	TO15_SFS.qgm	R193206.qgd	WG1353556,ICAL16553		NY	Y
12	L2011676-04,3,250,250	TO15_SFS.qgm	R193207.qgd	WG1353556,ICAL16553		NY	Y
13	L2011723-01,3,250,250	TO15_SFS.qgm	R193208.qgd	WG1353556,ICAL16553		NY	Y
14	L2011723-02D,3,75,250	TO15_SFS.qgm	R193209.qgd	WG1353556,ICAL16553		NY	Y

Alpha Analytical Air Lab
Instrument Run Log

15	L2011723-03D,3,40,250	TO15_SFS.qgm	R193210.qgd	WG1353556,ICAL16553		NY	Y
16	L2011723-04D,3,100,250	TO15_SFS.qgm	R193211.qgd	WG1353556,ICAL16553		NY	Y

Date(s) of Initial Calibration: Refer to Initial Calibration Summary Form 6

Date Acquired: see Instrument Performance Check Summary and/or quantitation report.

Sample ID information: L1301234-01,3,250,250 { Lab sample ID, dept #, actual volume analyzed (mL), nominal volume analyzed (mL) }

Dilution Factor: See Form 1 report, or divide nominal volume by actual volume analyzed

GC/MS VOA
Air Analysis
Selective Ion Monitoring

Volatiles QC Summary

Lab Duplicate Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Client Sample ID	: IA001	**Matrix**	: AIR
Lab Sample ID	: L2011723-06	**Analysis Date**	: 03/20/20 18:16
Lab File ID	: R38759_EV2	**DUP File ID**	: r38760_Ev2
Dup Sample ID	: WG1353543-5	**DUP Analysis Date**	: 03/20/20 19:03

Parameter	Sample Concentration (ppbV)	Duplicate Concentration (ppbV)	RPD	RPD Limit
Vinyl chloride	ND	ND	NC	25
1,1-Dichloroethene	ND	ND	NC	25
cis-1,2-Dichloroethene	ND	ND	NC	25
1,1,1-Trichloroethane	ND	ND	NC	25
Carbon tetrachloride	0.061	0.054	12	25
Trichloroethene	ND	ND	NC	25
Tetrachloroethene	0.239	0.236	1	25

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: P. W. Grosser			**Lab Number**	: L2011723
Project Name	: MHD1801			**Project Number**	: MHD1801
Matrix	: AIR				
LCS Sample ID	: WG1353543-3	**Analysis Date** :	03/20/20 14:11	**File ID**	: r38755_Ev2
LCSD Sample ID	:	**Analysis Date** :		**File ID**	:

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	**True (ppbV)**	**Found (ppbV)**	**%R**	**True (ppbV)**	**Found (ppbV)**	**%R**	**RPD**	**Recovery Limits**	**RPD Limit**
Vinyl chloride	5	5.29	106				-	70-130	25
1,1-Dichloroethene	5	5.23	105				-	70-130	25
cis-1,2-Dichloroethene	5	5.31	106				-	70-130	25
1,1,1-Trichloroethane	5	5.11	102				-	70-130	25
Carbon tetrachloride	5	4.69	94				-	70-130	25
Trichloroethene	5	5.56	111				-	70-130	25
Tetrachloroethene	5	5.38	108				-	70-130	25

Method Blank Summary
Form 4
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab Sample ID	: WG1353543-4	**Lab File ID**	: r38757_Ev2
Instrument ID	: AIRPIANO3		
Matrix	: AIR	**Analysis Date**	: 03/20/20 16:20

Client Sample No.	Lab Sample ID	Analysis Date
WG1353543-3LCS	WG1353543-3	03/20/20 14:11
OA001	L2011723-05	03/20/20 17:35
IA001	L2011723-06	03/20/20 18:16
IA001DUP	WG1353543-5	03/20/20 19:03

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Instrument ID	: AIRPIANO3	**Analysis Date**	: 03/12/20 09:50
Tune Standard	: WG1350409-1	**Tune File ID**	: r38588_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	14.5
75	30.0 - 66.0% of mass 95	39.3
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.8 (1.1)1
174	50.0 - 120.0% of mass 95	75.2
175	4.0 - 9.0% of mass 174	5.6 (7.4)1
176	93.0 - 101% of mass 174	71.7 (95.4)1
177	5.0 - 9.0% of mass 176	4.9 (6.8)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
STD0.02	R1293581-1	R38589_EV2	03/12/20 10:28
STD0.05	R1293581-2	R38590_EV2	03/12/20 11:06
STD0.1	R1293581-3	R38591_EV2	03/12/20 11:47
STD0.2	R1293581-4	R38592_EV2	03/12/20 12:25
STD0.5	R1293581-5	R38593_EV2	03/12/20 13:03
STD1.0	R1293581-6	R38594_EV2	03/12/20 13:44
STD5.0	R1293581-7	R38595_EV2	03/12/20 14:23
STD010	R1293581-8	R38596_EV2	03/12/20 15:04
STD020	R1293581-9	R38597_EV2	03/12/20 15:41
STD050	R1293581-10	R38598_EV2	03/12/20 16:20
ICV Quant	R1293581-11	R38603_EV2	03/13/20 00:45

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Instrument ID	: AIRPIANO3	**Analysis Date**	: 03/20/20 12:51
Tune Standard	: WG1353543-1	**Tune File ID**	: r38753_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	13.2
75	30.0 - 66.0% of mass 95	36.4
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.6 (.9)1
174	50.0 - 120.0% of mass 95	71.1
175	4.0 - 9.0% of mass 174	5 (7.1)1
176	93.0 - 101% of mass 174	67.3 (94.6)1
177	5.0 - 9.0% of mass 176	4.5 (6.7)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
WG1353543-2CCAL	WG1353543-2	R38755_EV2	03/20/20 14:11
WG1353543-3LCS	WG1353543-3	R38755_EV2	03/20/20 14:11
WG1353543-4BLANK	WG1353543-4	R38757_EV2	03/20/20 16:20
OA001	L2011723-05	R38758_EV2	03/20/20 17:35
IA001	L2011723-06	R38759_EV2	03/20/20 18:16
WG1353543-5DUP	WG1353543-5	R38760_EV2	03/20/20 19:03

Internal Standard Area and RT Summary
Form 8a
Air Volatiles

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Instrument ID	: AIRPIANO3	**Analysis Date**	: 03/20/20 14:11
Sample No	: WG1353543-2	**Lab File ID**	: R38755_EV2

	Bromochloromethane		1,4-Difluorobenzene		Chlorobenzene-d5	
	Area	RT	Area	RT	Area	RT
WG1353543-2	225089	9.58	642201	11.84	90362	16.56
Upper Limit	315125	9.91	899081	12.17	126507	16.89
Lower Limit	135053	9.25	385321	11.51	54217	16.23
Sample ID						
WG1353543-3 LCS	225089	9.58	642201	11.84	90362	16.56
WG1353543-4 BLANK	211260	9.58	605199	11.85	75324	16.53
OA001	210440	9.58	596473	11.85	80231	16.57
IA001	217760	9.58	617296	11.85	83178	16.57
IA001 DUP	238534	9.58	652384	11.85	86728	16.57

Area Upper Limit = +40% of internal standard area
Area Lower Limit = - 40% of internal standard area

RT Upper Limit = +0.33 minutes of internal standard RT
RT Lower Limit = -0.33 minutes of internal standard RT

* Values outside of QC limits

Date Created: 11/22/19
Created By: Jason Hebert
File: PM7756-1
Page: 1

Volatile Organics in Air by TO-15 SIM (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
1,1,1-Trichloroethane	71-55-6	0.02	0.0083	ppbV	70-130	25		25	25			
1,1,1,2-Tetrachloroethane	630-20-6	0.02	0.0053	ppbV	70-130	25		25	25			
1,1,2,2-Tetrachloroethane	79-34-5	0.02	0.0056	ppbV	70-130	25		25	25			
1,1,2-Trichloroethane	79-00-5	0.02	0.0058	ppbV	70-130	25		25	25			
1,1-Dichloroethane	75-34-3	0.02	0.0073	ppbV	70-130	25		25	25			
1,1-Dichloroethene	75-35-4	0.02	0.0084	ppbV	70-130	25		25	25			
1,2,4-Trimethylbenzene	95-63-6	0.02	0.0043	ppbV	70-130	25		25	25			
1,2-Dibromoethane	106-93-4	0.02	0.008	ppbV	70-130	25		25	25			
1,2-Dichlorobenzene	95-50-1	0.02	0.016	ppbV	70-130	25		25	25			
1,2-Dichloroethane	107-06-2	0.02	0.0097	ppbV	70-130	25		25	25			
1,2-Dichloropropane	78-87-5	0.02	0.0054	ppbV	70-130	25		25	25			
1,3,5-Trimethylbenzene	108-67-8	0.02	0.0056	ppbV	70-130	25		25	25			
1,3-Butadiene	106-99-0	0.02	0.0097	ppbV	70-130	25		25	25			
1,3-Dichlorobenzene	541-73-1	0.02	0.011	ppbV	70-130	25		25	25			
1,4-Dichlorobenzene	106-46-7	0.02	0.012	ppbV	70-130	25		25	25			
1,4-Dioxane	123-91-1	0.1	0.032	ppbV	70-130	25		25	25			
2,2,4-Trimethylpentane	540-84-1	0.2	0.0063	ppbV	70-130	25		25	25			
2-Hexanone	591-78-6	0.2	0.015	ppbV	70-130	25		25	25			
3-Chloropropene	107-05-1	0.2	0.0067	ppbV	70-130	25		25	25			
4-Ethyltoluene	622-96-8	0.02	0.0042	ppbV	70-130	25		25	25			
Benzene	71-43-2	0.1	0.005	ppbV	70-130	25		25	25			
Benzyl chloride	100-44-7	0.2	0.0072	ppbV	70-130	25		25	25			
Bromodichloromethane	75-27-4	0.02	0.0067	ppbV	70-130	25		25	25			
Bromoform	75-25-2	0.02	0.0065	ppbV	70-130	25		25	25			
Bromomethane	74-83-9	0.02	0.0085	ppbV	70-130	25		25	25			
Carbon disulfide	75-15-0	0.2	0.043	ppbV	70-130	25		25	25			
Carbon tetrachloride	56-23-5	0.02	0.0105	ppbV	70-130	25		25	25			
Chlorobenzene	108-90-7	0.1	0.0064	ppbV	70-130	25		25	25			
Chloroethane	75-00-3	0.1	0.0135	ppbV	70-130	25		25	25			
Chloroform	67-66-3	0.02	0.0089	ppbV	70-130	25		25	25			
Chloromethane	74-87-3	0.2	0.024	ppbV	70-130	25		25	25			
cis-1,2-Dichloroethene	156-59-2	0.02	0.0096	ppbV	70-130	25		25	25			
trans-1,2-Dichloroethene	156-60-5	0.02	0.0076	ppbV	70-130	25		25	25			
1,2-Dichloroethene (total)	540-59-0	0.02	0.0076	ppbV				25	25			
cis-1,3-Dichloropropene	10061-01-5	0.02	0.007	ppbV	70-130	25		25	25			
1,3-Dichloropropene, Total	542-75-6	0.02	0.007	ppbV				25	25			
Cyclohexane	110-82-7	0.2	0.0064	ppbV	70-130	25		25	25			
Dibromochloromethane	124-48-1	0.02	0.0086	ppbV	70-130	25		25	25			
Dichlorodifluoromethane	75-71-8	0.2	0.018	ppbV	70-130	25		25	25			
Ethyl Alcohol	64-17-5	5	0.666	ppbV	40-160	25		25	25			
Ethyl Acetate	141-78-6	0.5	0.0307	ppbV	70-130	25		25	25			
Ethylbenzene	100-41-4	0.02	0.0049	ppbV	70-130	25		25	25			

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

Date Created: 11/22/19
Created By: Jason Hebert
File: PM7756-1
Page: 2

Volatile Organics in Air by TO-15 SIM (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	0.05	0.0088	ppbV	70-130	25		25	25			
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	0.05	0.0072	ppbV	70-130	25		25	25			
Methylene chloride	75-09-2	0.5	0.273	ppbV	70-130	25		25	25			
Methyl tert butyl ether	1634-04-4	0.2	0.0083	ppbV	70-130	25		25	25			
Naphthalene	91-20-3	0.05	0.035	ppbV	70-130	25		25	25			
p/m-Xylene	179601-23-1	0.04	0.019	ppbV	70-130	25		25	25			
o-Xylene	95-47-6	0.02	0.0067	ppbV	70-130	25		25	25			
Heptane	142-82-5	0.2	0.0041	ppbV	70-130	25		25	25			
n-Hexane	110-54-3	0.2	0.0048	ppbV	70-130	25		25	25			
Propylene	115-07-1	0.5	0.0465	ppbV	70-130	25		25	25			
Styrene	100-42-5	0.02	0.0049	ppbV	70-130	25		25	25			
Tetrachloroethene	127-18-4	0.02	0.0078	ppbV	70-130	25		25	25			
Tetrahydrofuran	109-99-9	0.5	0.0066	ppbV	70-130	25		25	25			
Toluene	108-88-3	0.05	0.014	ppbV	70-130	25		25	25			
trans-1,3-Dichloropropene	10061-02-6	0.02	0.007	ppbV	70-130	25		25	25			
Trichloroethene	79-01-6	0.02	0.0062	ppbV	70-130	25		25	25			
1,2,4-Trichlorobenzene	120-82-1	0.05	0.03	ppbV	70-130	25		25	25			
Trichlorofluoromethane	75-69-4	0.05	0.0095	ppbV	70-130	25		25	25			
Vinyl acetate	108-05-4	1	0.0111	ppbV	70-130	25		25	25			
Vinyl bromide	593-60-2	0.2	0.0099	ppbV	70-130	25		25	25			
Hexachlorobutadiene	87-68-3	0.05	0.017	ppbV	70-130	25		25	25			
iso-Propyl Alcohol	67-63-0	0.5	0.179	ppbV	40-160	25		25	25			
Vinyl chloride	75-01-4	0.02	0.0072	ppbV	70-130	25		25	25			
Acrylonitrile	107-13-1	0.5	0.0245	ppbV	70-130	25		25	25			
n-Butylbenzene	104-51-8	0.2	0.0048	ppbV	70-130	25		25	25			
sec-Butylbenzene	135-98-8	0.2	0.0032	ppbV	70-130	25		25	25			
Isopropylbenzene	98-82-8	0.2	0.0053	ppbV	70-130	25		25	25			
Xylene (Total)	1330-20-7	0.02	0.0067	ppbV				25	25			
p-Isopropyltoluene	99-87-6	0.2	0.0045	ppbV	70-130	25		25	25			
Acetone	67-64-1	1	0.299	ppbV	40-160	25		25	25			
2-Butanone	78-93-3	0.5	0.027	ppbV	70-130	25		25	25			
4-Methyl-2-pentanone	108-10-1	0.5	0.012	ppbV	70-130	25		25	25			
1,2,3-Trichlorobenzene	87-61-6	0.05	0.037	ppbV	70-130	25		25	25			
1,2-Dichloroethane-d4	*17060-07-0*									*70-130*		
Toluene-d8	*2037-26-5*									*70-130*		
Bromofluorobenzene	*460-00-4*									*70-130*		

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. ***(Soil/Solids only)***
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

Volatiles Sample Data

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: L2011723-05	**Date Collected**	: 03/13/20 16:29
Client ID	: OA001	**Date Received**	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	**Date Analyzed**	: 03/20/20 17:35
Sample Matrix	: AIR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15-SIM	**Analyst**	: EW
Lab File ID	: R38758_EV2	**Instrument ID**	: AIRPIANO3
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	U
56-23-5	Carbon tetrachloride	0.062	0.020	--	0.390	0.126	--	
79-01-6	Trichloroethene	ND	0.020	--	ND	0.107	--	U
127-18-4	Tetrachloroethene	0.041	0.020	--	0.278	0.136	--	

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: L2011723-06	**Date Collected**	: 03/13/20 16:30
Client ID	: IA001	**Date Received**	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	**Date Analyzed**	: 03/20/20 18:16
Sample Matrix	: AIR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15-SIM	**Analyst**	: EW
Lab File ID	: R38759_EV2	**Instrument ID**	: AIRPIANO3
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	U
56-23-5	Carbon tetrachloride	0.061	0.020	--	0.384	0.126	--	
79-01-6	Trichloroethene	ND	0.020	--	ND	0.107	--	U
127-18-4	Tetrachloroethene	0.239	0.020	--	1.62	0.136	--	

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: WG1353543-4	**Date Collected**	: NA
Client ID	: WG1353543-4BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 03/20/20 16:20
Sample Matrix	: AIR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15-SIM	**Analyst**	: EW
Lab File ID	: R38757_EV2	**Instrument ID**	: AIRPIANO3
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	U
56-23-5	Carbon tetrachloride	ND	0.020	--	ND	0.126	--	U
79-01-6	Trichloroethene	ND	0.020	--	ND	0.107	--	U
127-18-4	Tetrachloroethene	ND	0.020	--	ND	0.136	--	U

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: P. W. Grosser	**Lab Number**	: L2011723
Project Name	: MHD1801	**Project Number**	: MHD1801
Lab ID	: WG1353543-5	**Date Collected**	: 03/13/20 16:30
Client ID	: IA001DUP	**Date Received**	: 03/16/20
Sample Location	:	**Date Analyzed**	: 03/20/20 19:03
Sample Matrix	: AIR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15-SIM	**Analyst**	: EW
Lab File ID	: R38760_EV2	**Instrument ID**	: AIRPIANO3
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	U
56-23-5	Carbon tetrachloride	0.054	0.020	--	0.340	0.126	--	
79-01-6	Trichloroethene	ND	0.020	--	ND	0.107	--	U
127-18-4	Tetrachloroethene	0.236	0.020	--	1.60	0.136	--	

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38758_Ev2.D
Acq On : 20 Mar 2020 5:35 PM
Operator : AIRPIANO3:EW
Sample : L2011723-05,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 19:10:27 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D
Sub List : 7-NY-SIM - .

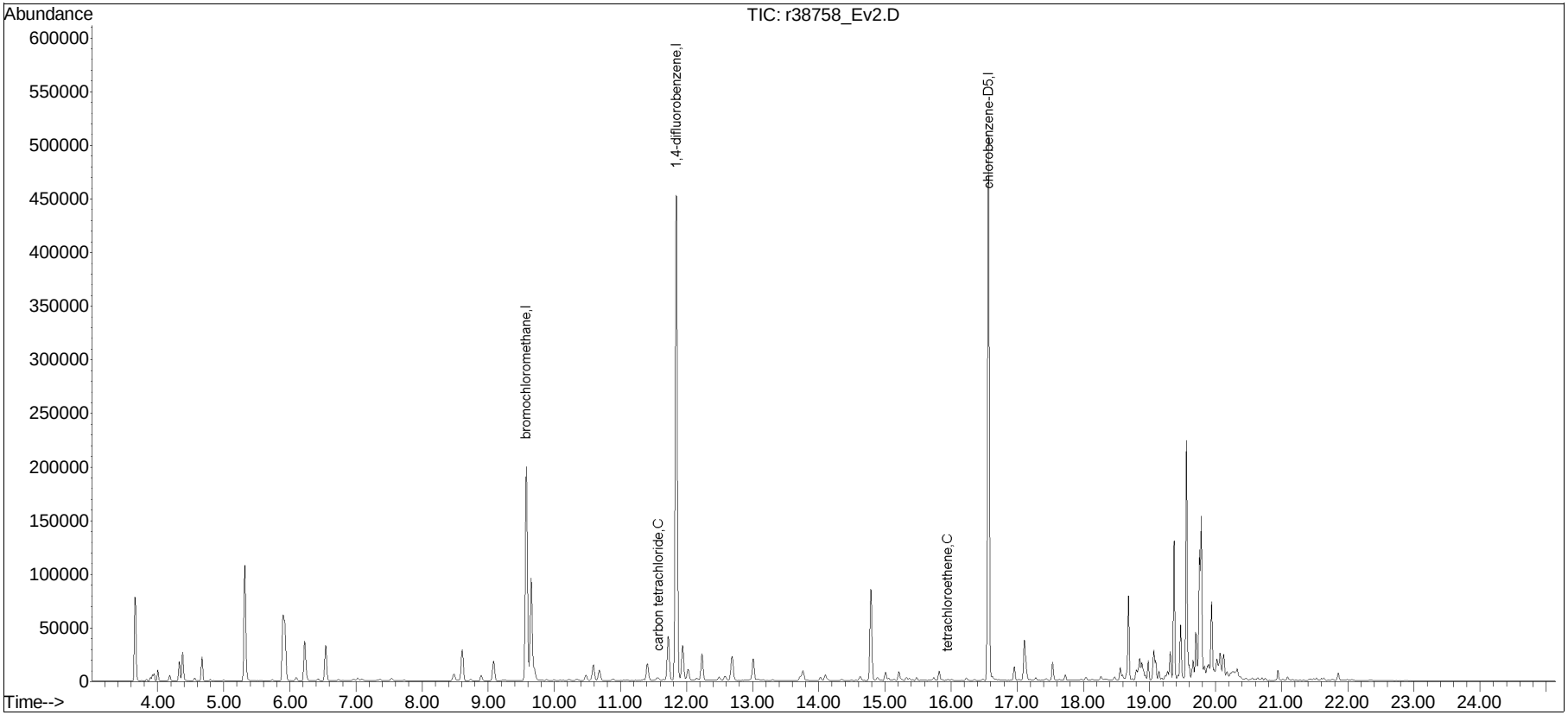
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.575	49	210440	10.000	ppbV	# 0.03
Standard Area = 225089			Recovery =		93.49%	
33) 1,4-difluorobenzene	11.847	114	596473	10.000	ppbV	0.04
Standard Area = 642201			Recovery =		92.88%	
51) chlorobenzene-D5	16.567	54	80231	10.000	ppbV	0.03
Standard Area = 90362			Recovery =		88.79%	
System Monitoring Compounds						
Target Compounds						Qvalue
6) vinyl chloride	0.000		0	N.D.		
17) 1,1-dichloroethene	0.000		0	N.D.	d	
28) cis-1,2-dichloroethene	0.000		0	N.D.		
36) 1,1,1-trichloroethane	10.867		0	N.D.		
38) carbon tetrachloride	11.580	117	1085	0.062	ppbV	98
44) trichloroethene	0.000		0	N.D.	d	
57) tetrachloroethene	15.950	166	749	0.041	ppbV #	87

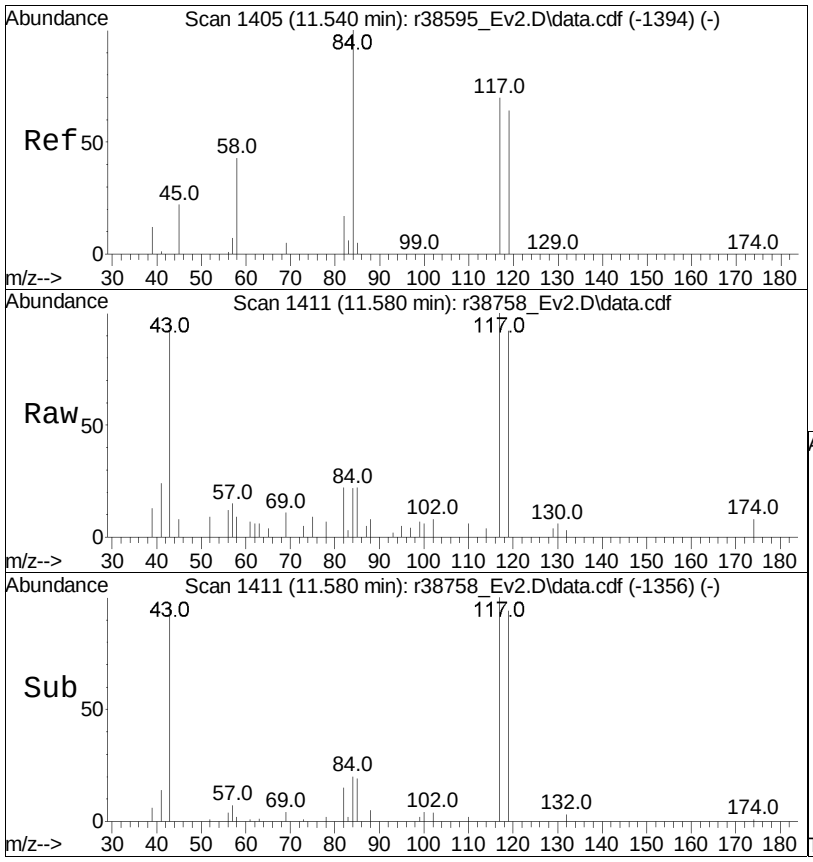
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 7-NY-SIM - .\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38758_Ev2.D
Acq On : 20 Mar 2020 5:35 PM
Operator : AIRPIANO3:EW
Sample : L2011723-05,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 19:10:27 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

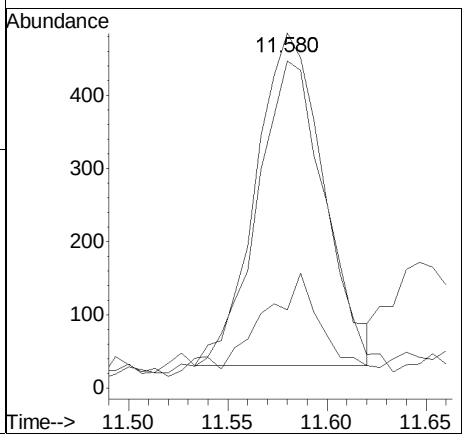


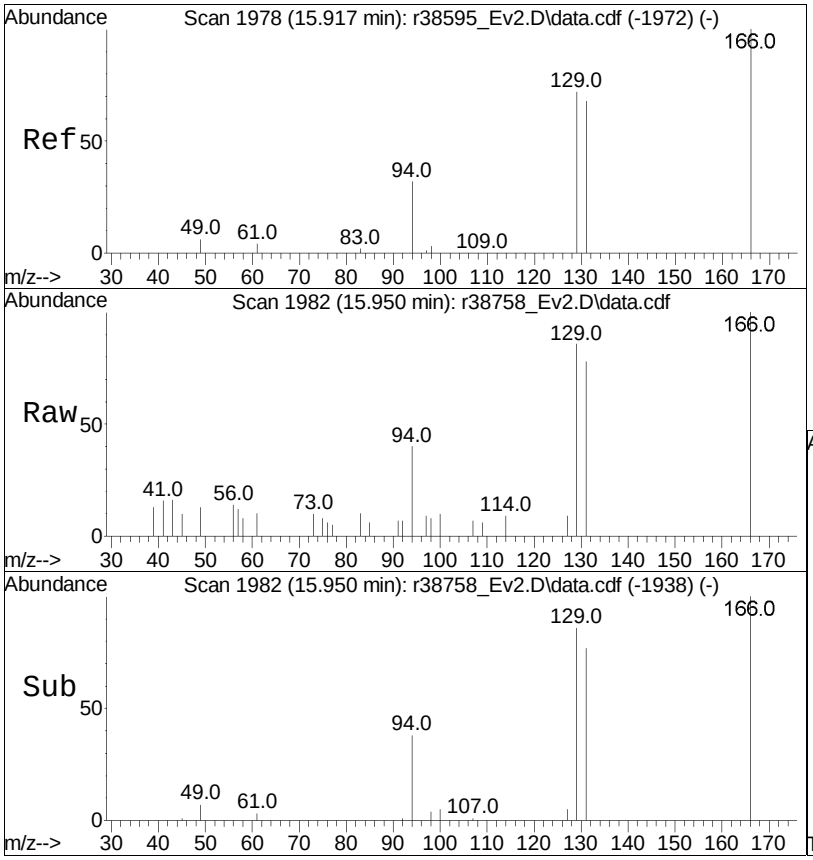


#38
carbon tetrachloride
Concen: 0.06 ppbV
RT: 11.580 min Scan# 1411
Delta R.T. 0.040 min
Lab File: r38758_Ev2.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion:117 Resp: 1085

Ion	Ratio	Lower	Upper
117	100		
119	92.2	73.0	109.4
82	22.1	19.1	28.7

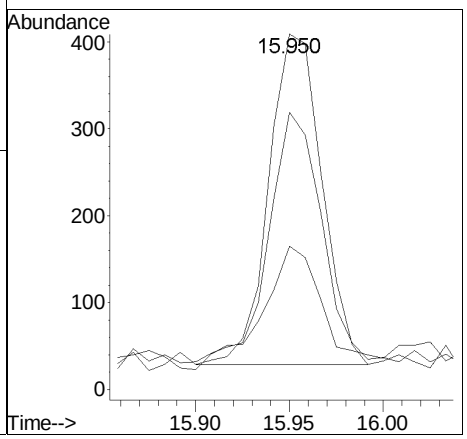




#57
tetrachloroethene
Concen: 0.04 ppbV
RT: 15.950 min Scan# 1982
Delta R.T. 0.033 min
Lab File: r38758_Ev2.D
Acq: 20 Mar 2020 5:35 PM

Tgt Ion:166 Resp: 749

Ion	Ratio	Lower	Upper
166	100		
131	78.0	54.6	82.0
94	40.3	25.7	38.5#



Manual Integration Report

Data Path	: O:\Forensics\Data\Airpiano	QMethod	: TSIM3_200312.M
Data File	: r38758_Ev2.D	Operator	: AIRPIANO3:EW
Date Inj'd	: 3/20/2020 0:5: 5	Instrument	:
Sample	: L2011723-05,3,250,250	Quant Date	: 3/21/2020 7:09 pm

There are no manual integrations or false positives in this file.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38759_Ev2.D
Acq On : 20 Mar 2020 6:16 PM
Operator : AIRPIANO3:EW
Sample : L2011723-06,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 19:10:46 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D
Sub List : 7-NY-SIM - .

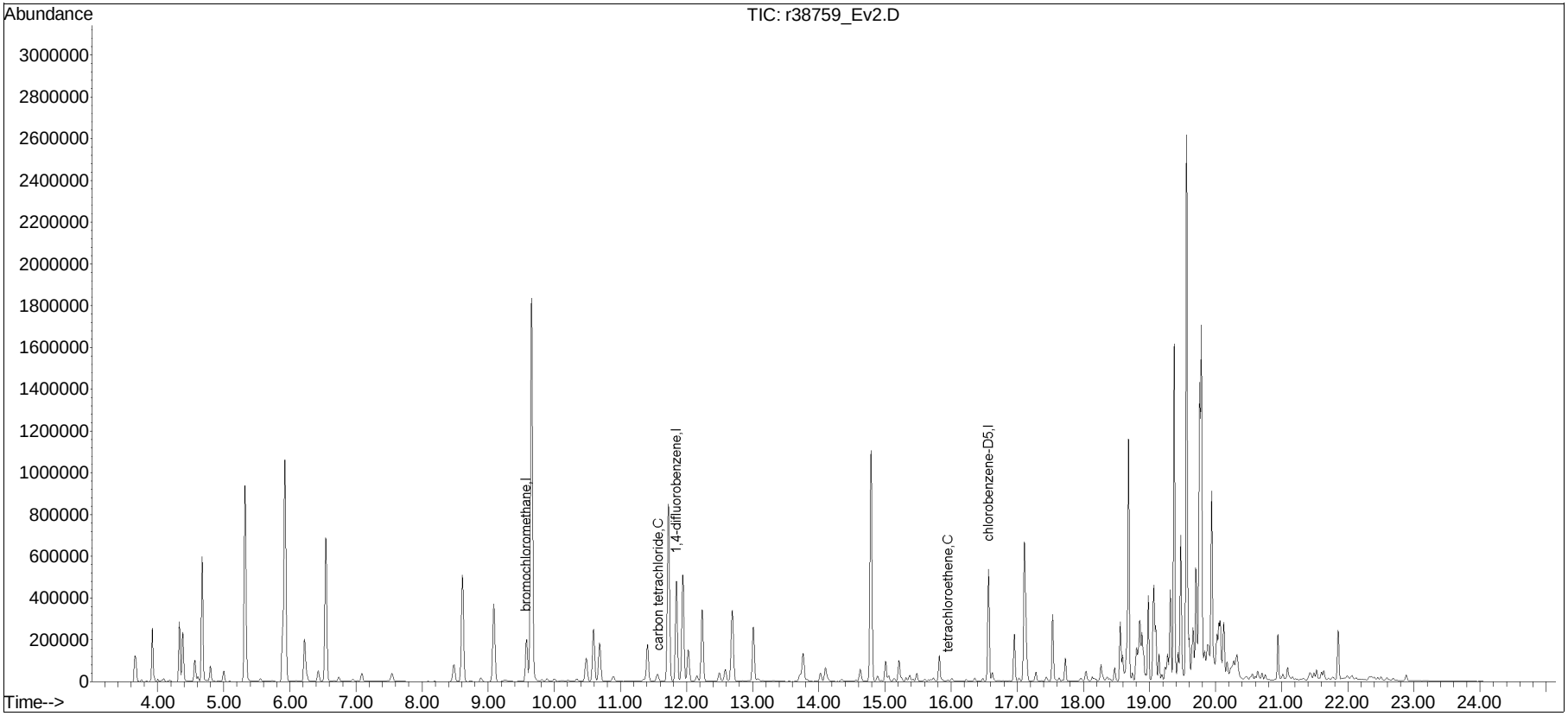
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.575	49	217760	10.000	ppbV	0.03
Standard Area = 225089			Recovery =		96.74%	
33) 1,4-difluorobenzene	11.847	114	617296	10.000	ppbV	0.04
Standard Area = 642201			Recovery =		96.12%	
51) chlorobenzene-D5	16.567	54	83178	10.000	ppbV	0.03
Standard Area = 90362			Recovery =		92.05%	
System Monitoring Compounds						
Target Compounds						Qvalue
6) vinyl chloride	0.000		0	N.D.		
17) 1,1-dichloroethene	0.000		0	N.D.	d	
28) cis-1,2-dichloroethene	0.000		0	N.D.		
36) 1,1,1-trichloroethane	0.000		0	N.D.		
38) carbon tetrachloride	11.580	117	1118	0.061	ppbV	96
44) trichloroethene	12.647		0	N.D.		
57) tetrachloroethene	15.958	166	4506	0.239	ppbV	98

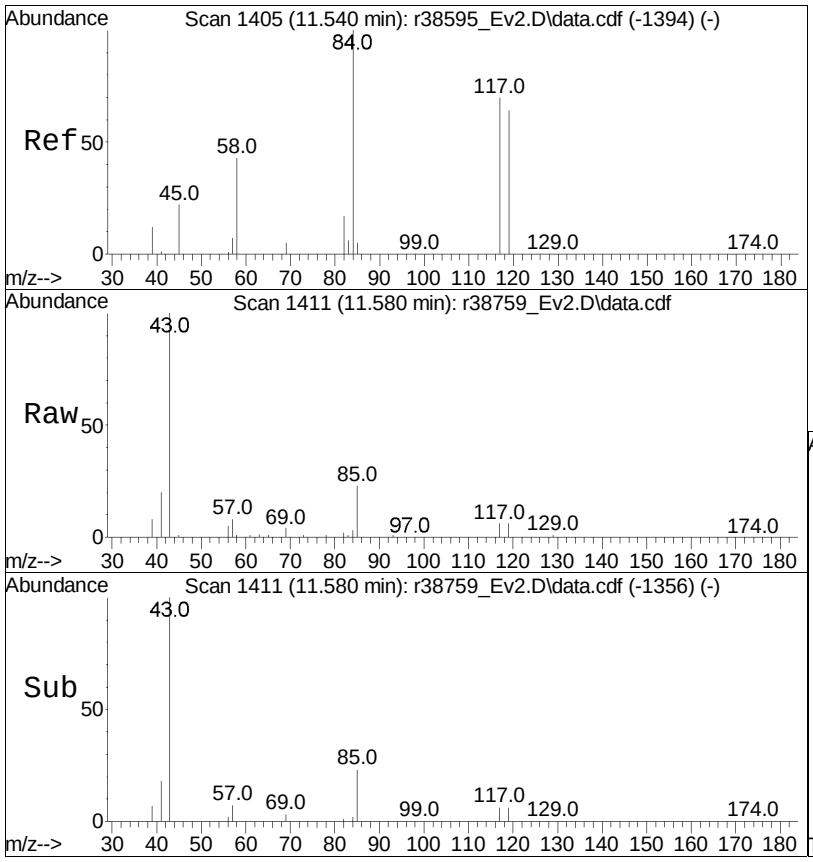
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 7-NY-SIM - .\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38759_Ev2.D
Acq On : 20 Mar 2020 6:16 PM
Operator : AIRPIANO3:EW
Sample : L2011723-06,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 19:10:46 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

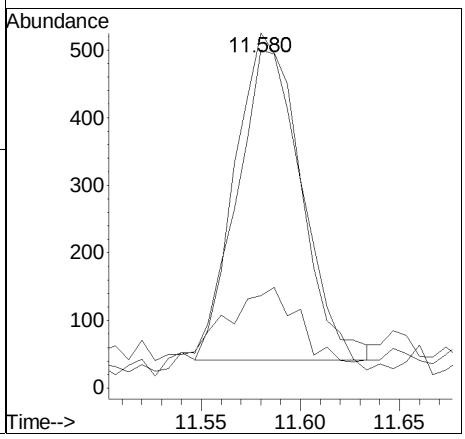


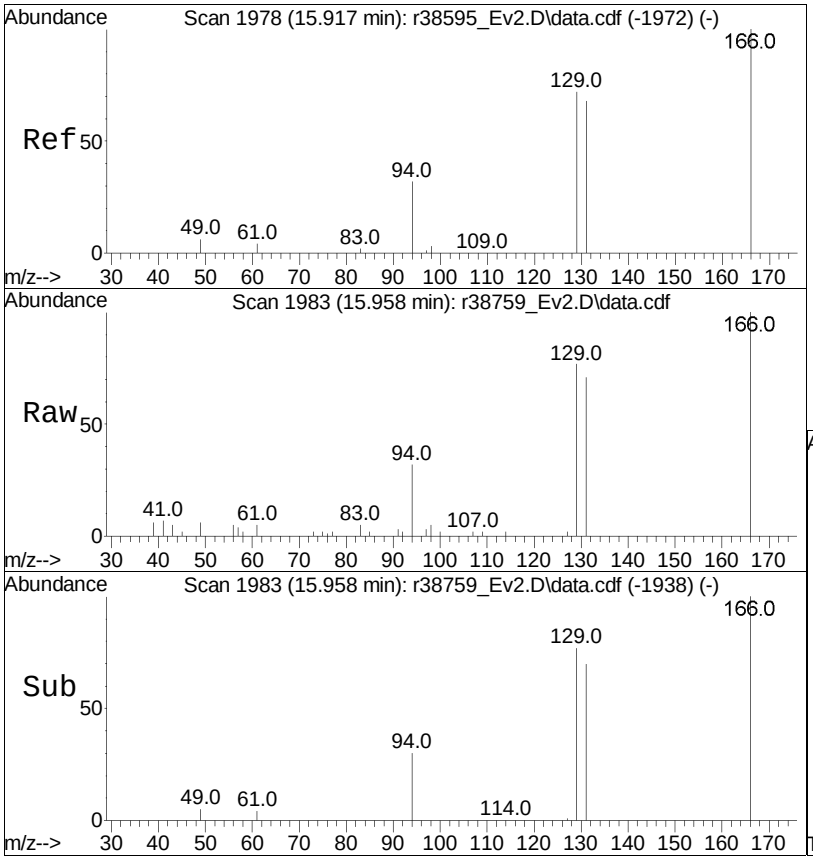


#38
carbon tetrachloride
Concen: 0.06 ppbV
RT: 11.580 min Scan# 1411
Delta R.T. 0.040 min
Lab File: r38759_Ev2.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion:117 Resp: 1118

Ion	Ratio	Lower	Upper
117	100		
119	95.2	73.0	109.4
82	26.1	19.1	28.7

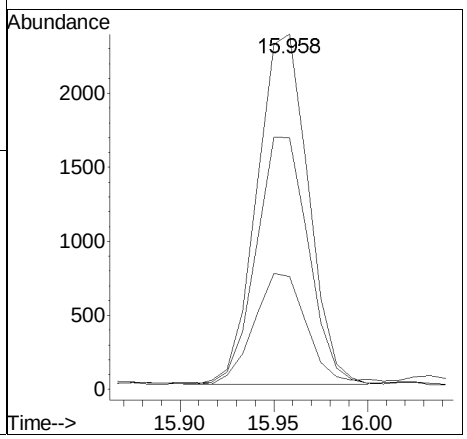




#57
tetrachloroethene
Concen: 0.24 ppbV
RT: 15.958 min Scan# 1983
Delta R.T. 0.042 min
Lab File: r38759_Ev2.D
Acq: 20 Mar 2020 6:16 PM

Tgt Ion:166 Resp: 4506

Ion	Ratio	Lower	Upper
166	100		
131	70.8	54.6	82.0
94	31.8	25.7	38.5



Manual Integration Report

Data Path	: O:\Forensics\Data\Airpiano	QMethod	: TSIM3_200312.M
Data File	: r38759_Ev2.D	Operator	: AIRPIANO3:EW
Date Inj'd	: 3/20/2020 0:6: 6	Instrument	:
Sample	: L2011723-06,3,250,250	Quant Date	: 3/21/2020 7:09 pm

There are no manual integrations or false positives in this file.

Volatiles Standards Data

Initial Calibration

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRPIANO3**	**Ical Ref**	**: ICAL16593**
Calibration dates	**: 03/12/20 10:28 03/12/20 16:20**		

Calibration Files
0.02=r38589_Ev2.D 0.05=r38590_Ev2.D 0.1 =r38591_Ev2.D 0.2 =r38592_Ev2.D 0.5 =r38593_Ev2.D
1.0 =r38594_Ev2.D 5.0 =r38595_Ev2.D 10.0=r38596_Ev2.D 20.0=r38597_Ev2.D 50.0=r38598_Ev2.D

		Compound	0.02	0.05	0.1	0.2	0.5	1.0	5.0	10.0	20.0	50.0	Avg	%RSD
1)	I	bromochloromethane	----------ISTD----------											
2)		propylene				0.507	0.519	0.520	0.469	0.444	0.440	0.395	0.4706	10.06
3)		dichlorodifluoromethane				1.113	1.096	1.085	0.970	0.930	0.911	0.693	0.9710	15.26
4)	C	chloromethane				0.484	0.477	0.474	0.425	0.410	0.413	0.347	0.4327	11.39
5)		Freon-114		1.402	1.383	1.393	1.369	1.354	1.209	1.151	1.114	0.836	1.2457	15.23
6)	C	vinyl chloride	0.679	0.561	0.556	0.559	0.544	0.541	0.487	0.477	0.491	0.435	0.5328	12.52
7)	C	1,3-butadiene	0.591	0.563	0.527	0.542	0.523	0.529	0.491	0.479	0.489	0.423	0.5155	9.18
8)	C	bromomethane	0.536	0.500	0.465	0.484	0.473	0.464	0.417	0.407	0.417	0.361	0.4524	11.41
9)	C	chloroethane	0.292	0.292	0.274	0.278	0.276	0.274	0.244	0.239	0.248	0.221	0.2639	9.14
10)		ethanol					0.523	0.467	0.409	0.398	0.445	0.283	0.4208	19.28
11)	C	vinyl bromide				0.566	0.542	0.545	0.498	0.486	0.563	0.394	0.5131	11.87
12)	C	acrolein		0.242	0.287	0.273	0.268	0.260	0.241	0.239	0.266	0.225	0.2555	7.82
13)		acetone				0.767	0.727	0.708	0.701	0.667	0.769	0.432	0.6815	17.04
14)		trichlorofluoromethane		0.845	0.835	0.823	0.834	0.817	0.740	0.715	0.906	0.543	0.7843	13.62
15)		isopropyl alcohol				1.018	0.922	0.886	0.885	0.849	1.018	0.628	0.8864	14.84
16)	C	acrylonitrile			0.443	0.458	0.468	0.472	0.443	0.437	0.497	0.406	0.4532	6.00
17)	C	1,1-dichloroethene	0.860	0.664	0.708	0.742	0.705	0.697	0.636	0.618	0.731	0.648	0.7010	9.88
18)		tertiary butyl alcohol				1.071	1.052	1.003	0.923	1.012	1.037	0.958	1.0080	5.20
19)	C	methylene chloride					0.640	0.641	0.600	0.656	0.678	0.616	0.6385	4.35
20)	C	3-chloropropene				0.908	0.871	0.873	0.809	0.803	0.814	0.735	0.8304	6.99
21)	C	carbon disulfide				2.051	2.022	2.005	1.869	1.847	1.858	1.632	1.8978	7.63
22)		Freon 113		1.131	1.109	1.141	1.104	1.098	1.002	0.983	0.993	0.862	1.0469	8.84
23)		trans-1,2-dichloroethene	0.930	0.857	0.823	0.889	0.865	0.853	0.795	0.784	0.790	0.708	0.8294	7.60
24)	C	1,1-dichloroethane	0.969	1.006	0.996	1.038	1.006	0.996	0.910	0.898	0.915	0.824	0.9558	6.95
25)	C	MTBE	1.806	1.770	1.692	1.806	1.764	1.760	1.653	1.632	1.621	1.404	1.6909	7.24
26)	C	vinyl acetate					1.451	1.435	1.379	1.375	1.392	1.243	1.3794	5.33
27)	C	2-butanone				1.404	1.358	1.349	1.257	1.242	1.243	1.107	1.2800	7.78
28)		cis-1,2-dichloroethene	0.892	0.773	0.723	0.761	0.745	0.731	0.677	0.668	0.687	0.615	0.7271	10.35
29)		Ethyl Acetate				0.213	0.222	0.219	0.201	0.206	0.206	0.194	0.2089	4.71
30)	C	chloroform	1.138	1.119	1.080	1.117	1.095	1.090	0.997	0.990	1.013	0.868	1.0506	7.93
31)		Tetrahydrofuran				0.817	0.817	0.822	0.772	0.768	0.776	0.705	0.7824	5.30
32)	C	1,2-dichloroethane	0.776	0.611	0.666	0.643	0.617	0.607	0.556	0.548	0.547	0.458	0.6030	14.10
33)	I	1,4-difluorobenzene	----------ISTD----------											
34)	C	hexane				0.388	0.383	0.378	0.356	0.346	0.353	0.314	0.3599	7.17
35)	s	1,2-dichloroethane-D4	0.168	0.170	0.170	0.174	0.172	0.172	0.172	0.168	0.159	0.145	0.1672	5.25
36)	C	1,1,1-trichloroethane	0.336	0.336	0.321	0.323	0.317	0.315	0.288	0.281	0.280	0.251	0.3048	9.30

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRPIANO3**	**Ical Ref**	**: ICAL16593**
Calibration dates	**: 03/12/20 10:28 03/12/20 16:20**		

Calibration Files

0.02=r38589_Ev2.D 0.05=r38590_Ev2.D 0.1 =r38591_Ev2.D 0.2 =r38592_Ev2.D 0.5 =r38593_Ev2.D

1.0 =r38594_Ev2.D 5.0 =r38595_Ev2.D 10.0=r38596_Ev2.D 20.0=r38597_Ev2.D 50.0=r38598_Ev2.D

		Compound	0.02	0.05	0.1	0.2	0.5	1.0	5.0	10.0	20.0	50.0	Avg	%RSD
37)	C	benzene		0.898	0.810	0.822	0.775	0.761	0.701	0.685	0.711	0.637	0.7554	10.70
38)	C	carbon tetrachloride	0.336	0.310	0.308	0.317	0.309	0.306	0.285	0.281	0.277	0.217	0.2946	11.08
39)		cyclohexane				0.420	0.413	0.403	0.386	0.376	0.390	0.361	0.3929	5.23
40)		Dibromomethane		0.275	0.239	0.221	0.207	0.203	0.189	0.184	0.181	0.156	0.2061	17.18
41)	C	1,2-dichloropropane	0.282	0.253	0.239	0.248	0.239	0.232	0.217	0.211	0.217	0.195	0.2332	10.65
42)		bromodichloromethane	0.475	0.429	0.407	0.419	0.417	0.413	0.393	0.388	0.390	0.339	0.4071	8.52
43)	C	1,4-dioxane			0.175	0.184	0.170	0.169	0.165	0.163	0.167	0.160	0.1692	4.41
44)	C	trichloroethene	0.286	0.305	0.291	0.309	0.301	0.290	0.276	0.271	0.276	0.249	0.2854	6.29
45)	C	2,2,4-trimethylpentane				1.265	1.244	1.237	1.165	1.109	1.133	1.006	1.1657	7.90
46)		heptane				0.498	0.495	0.493	0.468	0.454	0.456	0.393	0.4653	7.88
47)	C	cis-1,3-dichloropropene	0.321	0.321	0.322	0.341	0.340	0.340	0.324	0.324	0.330	0.287	0.3249	4.82
48)	C	4-methyl-2-pentanone					0.546	0.553	0.531	0.520	0.520	0.451	0.5200	7.02
49)		trans-1,3-dichloropropene	0.327	0.354	0.339	0.373	0.369	0.367	0.346	0.342	0.351	0.308	0.3477	5.77
50)	C	1,1,2-trichloroethane	0.328	0.261	0.246	0.263	0.256	0.258	0.238	0.234	0.239	0.213	0.2536	11.93
51)	I	chlorobenzene-D5	----------ISTD----------											
52)	C	toluene		6.305	5.753	5.960	5.858	5.747	5.131	5.121	5.306	4.758	5.5487	8.92
53)	s	toluene-D8	4.741	4.861	4.872	5.013	5.025	5.000	4.946	4.989	4.861	4.917	4.9225	1.83
54)		2-hexanone				3.219	3.340	3.469	3.299	3.254	3.133	2.342	3.1508	11.79
55)		dibromochloromethane	2.152	2.206	2.225	2.383	2.385	2.421	2.340	2.372	2.403	2.138	2.3025	4.78
56)	C	1,2-dibromoethane	3.112	2.666	2.563	2.786	2.766	2.766	2.504	2.542	2.655	2.362	2.6720	7.66
57)	C	tetrachloroethene	2.544	2.269	2.228	2.378	2.385	2.352	2.124	2.118	2.238	2.006	2.2644	6.96
58)		1,1,1,2-tetrachloroethane	1.866	1.889	1.774	1.892	1.894	1.888	1.748	1.742	1.754	1.505	1.7954	6.77
59)	C	chlorobenzene	4.410	4.376	4.383	4.621	4.623	4.619	4.175	4.227	4.545	3.987	4.3966	4.91
60)	C	ethylbenzene	7.352	6.512	6.398	6.855	6.848	6.844	6.217	6.192	6.411	5.618	6.5249	7.33
61)	C	m+p-xylene	6.443	5.621	5.360	5.729	5.741	5.743	5.178	5.165	5.274	4.430	5.4684	9.63
62)	C	bromoform	2.173	1.758	1.790	1.948	2.002	2.060	2.059	2.111	2.188	1.903	1.9992	7.45
63)	C	styrene	5.078	4.841	4.683	4.614	4.753	4.822	4.597	4.648	4.946	4.462	4.7443	3.84
64)	C	1,1,2,2-tetrachloroethane	3.811	3.509	3.523	3.931	3.960	3.985	3.593	3.635	3.823	3.105	3.6875	7.37
65)	C	o-xylene	6.107	5.597	5.360	5.765	5.791	5.786	5.207	5.167	5.188	4.198	5.4165	9.83
66)		1,2,3-Trichloropropane	3.149	2.861	2.911	3.141	3.194	3.174	3.012	3.037	3.052	2.700	3.0230	5.25
67)	s	bromofluorobenzene	3.019	3.012	2.995	3.106	3.143	3.146	3.239	3.414	3.074	3.309	3.1456	4.38
68)	C	isopropylbenzene				8.064	8.142	8.091	7.607	7.503	7.548	6.394	7.6214	7.97
69)		Bromobenzene				3.998	4.109	4.084	3.950	3.989	4.069	3.497	3.9566	5.32
70)		4-ethyl toluene	7.760	7.695	7.768	8.650	8.932	9.040	8.553	8.534	8.480	7.180	8.2592	7.44
71)		1,3,5-trimethylbenzene	7.469	6.387	6.632	7.287	7.468	7.413	6.899	6.844	6.978	5.731	6.9108	8.02
72)		tert-butylbenzene				6.911	7.084	7.067	6.712	6.737	6.519	4.919	6.5641	11.48

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: P. W. Grosser**	**Lab Number**	**: L2011723**
Project Name	**: MHD1801**	**Project Number**	**: MHD1801**
Instrument ID	**: AIRPIANO3**	**Ical Ref**	**: ICAL16593**
Calibration dates	**: 03/12/20 10:28 03/12/20 16:20**		

Calibration Files

0.02=r38589_Ev2.D 0.05=r38590_Ev2.D 0.1 =r38591_Ev2.D 0.2 =r38592_Ev2.D 0.5 =r38593_Ev2.D

1.0 =r38594_Ev2.D 5.0 =r38595_Ev2.D 10.0=r38596_Ev2.D 20.0=r38597_Ev2.D 50.0=r38598_Ev2.D

	Compound	0.02	0.05	0.1	0.2	0.5	1.0	5.0	10.0	20.0	50.0	Avg	%RSD
73)	1,2,4-trimethylbenzene	6.621	6.134	6.176	6.929	7.226	7.318	6.694	6.607	6.350	4.739	6.4792	11.27
74) C	Benzyl Chloride				3.336	3.915	4.320	4.698	5.039	5.019	4.248	4.3678	14.08
75)	1,3-dichlorobenzene	3.461	3.366	3.509	3.776	3.888	3.992	3.787	3.862	3.919	3.375	3.6936	6.50
76) C	1,4-dichlorobenzene	3.748	3.214	3.568	3.564	3.737	3.818	3.651	3.784	3.947	3.380	3.6411	5.99
77)	sec-butylbenzene				1.008	1.039	1.047	1.007	0.996	0.962	0.779	0.9769	9.40
78)	p-isopropyltoluene				7.942	8.207	8.333	8.211	8.220	7.737	5.822	7.7817	11.41
79)	1,2-dichlorobenzene	3.340	3.085	3.301	3.589	3.735	3.827	3.582	3.636	3.780	3.348	3.5223	6.89
80)	n-butylbenzene				6.248	6.722	6.990	6.927	6.973	6.596	5.552	6.5728	7.93
81) C	1,2,4-trichlorobenzene		1.534	1.536	1.454	1.736	2.137	2.292	2.536	2.367	2.442	2.0039	21.76
82)	naphthalene		7.760	6.706	5.403	5.752	6.434	7.583	8.217	6.921	6.809	6.8428	13.41
83)	1,2,3-trichlorobenzene		1.817	1.878	1.896	2.078	2.335	2.757	3.022	2.546	2.538	2.3186	18.48
84) C	hexachlorobutadiene		2.527	2.529	2.893	3.009	3.026	2.775	2.750	2.488	2.091	2.6763	11.19

Response Factor Report

Method Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Method File : TSIM3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 16:48:11 2020
Response Via : Initial Calibration

Calibration Files
0.02=r38589_Ev2.D 0.05=r38590_Ev2.D 0.1 =r38591_Ev2.D 0.2 =r38592_Ev2.D 0.5 =r38593_Ev2.D
1.0 =r38594_Ev2.D 5.0 =r38595_Ev2.D 10.0=r38596_Ev2.D 20.0=r38597_Ev2.D 50.0=r38598_Ev2.D

		Compound	0.02	0.05	0.1	0.2	0.5	1.0	5.0	10.0	20.0	50.0	Avg	%RSD
1)	I	bromochloromethane	ISTD											
2)		propylene				0.507	0.519	0.520	0.469	0.444	0.440	0.395	0.4706	10.06
3)		dichlorodifluorome...				1.113	1.096	1.085	0.970	0.930	0.911	0.693	0.9710	15.26
4)	C	chloromethane				0.484	0.477	0.474	0.425	0.410	0.413	0.347	0.4327	11.39
5)		Freon-114		1.402	1.383	1.393	1.369	1.354	1.209	1.151	1.114	0.836	1.2457	15.23
6)	C	vinyl chloride	0.679	0.561	0.556	0.559	0.544	0.541	0.487	0.477	0.491	0.435	0.5328	12.52
7)	C	1,3-butadiene	0.591	0.563	0.527	0.542	0.523	0.529	0.491	0.479	0.489	0.423	0.5155	9.18
8)	C	bromomethane	0.536	0.500	0.465	0.484	0.473	0.464	0.417	0.407	0.417	0.361	0.4524	11.41
9)	C	chloroethane	0.292	0.292	0.274	0.278	0.276	0.274	0.244	0.239	0.248	0.221	0.2639	9.14
10)		ethanol					0.523	0.467	0.409	0.398	0.445	0.283	0.4208	19.28
11)	C	vinyl bromide				0.566	0.542	0.545	0.498	0.486	0.563	0.394	0.5131	11.87
12)	C	acrolein		0.242	0.287	0.273	0.268	0.260	0.241	0.239	0.266	0.225	0.2555	7.82
13)		acetone				0.767	0.727	0.708	0.701	0.667	0.769	0.432	0.6815	17.04
14)		trichlorofluoromet...		0.845	0.835	0.823	0.834	0.817	0.740	0.715	0.906	0.543	0.7843	13.62
15)		isopropyl alcohol				1.018	0.922	0.886	0.885	0.849	1.018	0.628	0.8864	14.84
16)	C	acrylonitrile			0.443	0.458	0.468	0.472	0.443	0.437	0.497	0.406	0.4532	6.00
17)	C	1,1-dichloroethene	0.860	0.664	0.708	0.742	0.705	0.697	0.636	0.618	0.731	0.648	0.7010	9.88
18)		tertiary butyl alc...				1.071	1.052	1.003	0.923	1.012	1.037	0.958	1.0080	5.20
19)	C	methylene chloride					0.640	0.641	0.600	0.656	0.678	0.616	0.6385	4.35
20)	C	3-chloropropene				0.908	0.871	0.873	0.809	0.803	0.814	0.735	0.8304	6.99
21)	C	carbon disulfide				2.051	2.022	2.005	1.869	1.847	1.858	1.632	1.8978	7.63
22)		Freon 113		1.131	1.109	1.141	1.104	1.098	1.002	0.983	0.993	0.862	1.0469	8.84
23)		trans-1,2-dichloro...	0.930	0.857	0.823	0.889	0.865	0.853	0.795	0.784	0.790	0.708	0.8294	7.60
24)	C	1,1-dichloroethane	0.969	1.006	0.996	1.038	1.006	0.996	0.910	0.898	0.915	0.824	0.9558	6.95
25)	C	MTBE	1.806	1.770	1.692	1.806	1.764	1.760	1.653	1.632	1.621	1.404	1.6909	7.24
26)	C	vinyl acetate					1.451	1.435	1.379	1.375	1.392	1.243	1.3794	5.33
27)	C	2-butanone				1.404	1.358	1.349	1.257	1.242	1.243	1.107	1.2800	7.78
28)		cis-1,2-dichloroet...	0.892	0.773	0.723	0.761	0.745	0.731	0.677	0.668	0.687	0.615	0.7271	10.35
29)		Ethyl Acetate				0.213	0.222	0.219	0.201	0.206	0.206	0.194	0.2089	4.71
30)	C	chloroform	1.138	1.119	1.080	1.117	1.095	1.090	0.997	0.990	1.013	0.868	1.0506	7.93
31)		Tetrahydrofuran				0.817	0.817	0.822	0.772	0.768	0.776	0.705	0.7824	5.30

Response Factor Report

Method Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Method File : TSIM3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 16:48:11 2020
Response Via : Initial Calibration

Calibration Files
0.02=r38589_Ev2.D 0.05=r38590_Ev2.D 0.1 =r38591_Ev2.D 0.2 =r38592_Ev2.D 0.5 =r38593_Ev2.D
1.0 =r38594_Ev2.D 5.0 =r38595_Ev2.D 10.0=r38596_Ev2.D 20.0=r38597_Ev2.D 50.0=r38598_Ev2.D

		Compound	0.02	0.05	0.1	0.2	0.5	1.0	5.0	10.0	20.0	50.0	Avg	%RSD
32)	C	1,2-dichloroethane	0.776	0.611	0.666	0.643	0.617	0.607	0.556	0.548	0.547	0.458	0.6030	14.10
33)	I	1,4-difluorobenzene	ISTD											
34)	C	hexane				0.388	0.383	0.378	0.356	0.346	0.353	0.314	0.3599	7.17
35)	s	1,2-dichloroethane-D4	0.168	0.170	0.170	0.174	0.172	0.172	0.172	0.168	0.159	0.145	0.1672	5.25
36)	C	1,1,1-trichloroethane	0.336	0.336	0.321	0.323	0.317	0.315	0.288	0.281	0.280	0.251	0.3048	9.30
37)	C	benzene		0.898	0.810	0.822	0.775	0.761	0.701	0.685	0.711	0.637	0.7554	10.70
38)	C	carbon tetrachloride	0.336	0.310	0.308	0.317	0.309	0.306	0.285	0.281	0.277	0.217	0.2946	11.08
39)		cyclohexane				0.420	0.413	0.403	0.386	0.376	0.390	0.361	0.3929	5.23
40)		Dibromomethane		0.275	0.239	0.221	0.207	0.203	0.189	0.184	0.181	0.156	0.2061	17.18
41)	C	1,2-dichloropropane	0.282	0.253	0.239	0.248	0.239	0.232	0.217	0.211	0.217	0.195	0.2332	10.65
42)		bromodichloromethane	0.475	0.429	0.407	0.419	0.417	0.413	0.393	0.388	0.390	0.339	0.4071	8.52
43)	C	1,4-dioxane			0.175	0.184	0.170	0.169	0.165	0.163	0.167	0.160	0.1692	4.41
44)	C	trichloroethene	0.286	0.305	0.291	0.309	0.301	0.290	0.276	0.271	0.276	0.249	0.2854	6.29
45)	C	2,2,4-trimethylpen...				1.265	1.244	1.237	1.165	1.109	1.133	1.006	1.1657	7.90
46)		heptane				0.498	0.495	0.493	0.468	0.454	0.456	0.393	0.4653	7.88
47)	C	cis-1,3-dichloropr...	0.321	0.321	0.322	0.341	0.340	0.340	0.324	0.324	0.330	0.287	0.3249	4.82
48)	C	4-methyl-2-pentanone					0.546	0.553	0.531	0.520	0.520	0.451	0.5200	7.02
49)		trans-1,3-dichloro...	0.327	0.354	0.339	0.373	0.369	0.367	0.346	0.342	0.351	0.308	0.3477	5.77
50)	C	1,1,2-trichloroethane	0.328	0.261	0.246	0.263	0.256	0.258	0.238	0.234	0.239	0.213	0.2536	11.93
51)	I	chlorobenzene-D5	ISTD											
52)	C	toluene		6.305	5.753	5.960	5.858	5.747	5.131	5.121	5.306	4.758	5.5487	8.92
53)	s	toluene-D8	4.741	4.861	4.872	5.013	5.025	5.000	4.946	4.989	4.861	4.917	4.9225	1.83
54)		2-hexanone				3.219	3.340	3.469	3.299	3.254	3.133	2.342	3.1508	11.79
55)		dibromochloromethane	2.152	2.206	2.225	2.383	2.385	2.421	2.340	2.372	2.403	2.138	2.3025	4.78
56)	C	1,2-dibromoethane	3.112	2.666	2.563	2.786	2.766	2.766	2.504	2.542	2.655	2.362	2.6720	7.66
57)	C	tetrachloroethene	2.544	2.269	2.228	2.378	2.385	2.352	2.124	2.118	2.238	2.006	2.2644	6.96
58)		1,1,1,2-tetrachlor...	1.866	1.889	1.774	1.892	1.894	1.888	1.748	1.742	1.754	1.505	1.7954	6.77
59)	C	chlorobenzene	4.410	4.376	4.383	4.621	4.623	4.619	4.175	4.227	4.545	3.987	4.3966	4.91
60)	C	ethylbenzene	7.352	6.512	6.398	6.855	6.848	6.844	6.217	6.192	6.411	5.618	6.5249	7.33
61)	C	m+p-xylene	6.443	5.621	5.360	5.729	5.741	5.743	5.178	5.165	5.274	4.430	5.4684	9.63

Response Factor Report

Method Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Method File : TSIM3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 16:48:11 2020
Response Via : Initial Calibration

Calibration Files
0.02=r38589_Ev2.D 0.05=r38590_Ev2.D 0.1 =r38591_Ev2.D 0.2 =r38592_Ev2.D 0.5 =r38593_Ev2.D
1.0 =r38594_Ev2.D 5.0 =r38595_Ev2.D 10.0=r38596_Ev2.D 20.0=r38597_Ev2.D 50.0=r38598_Ev2.D

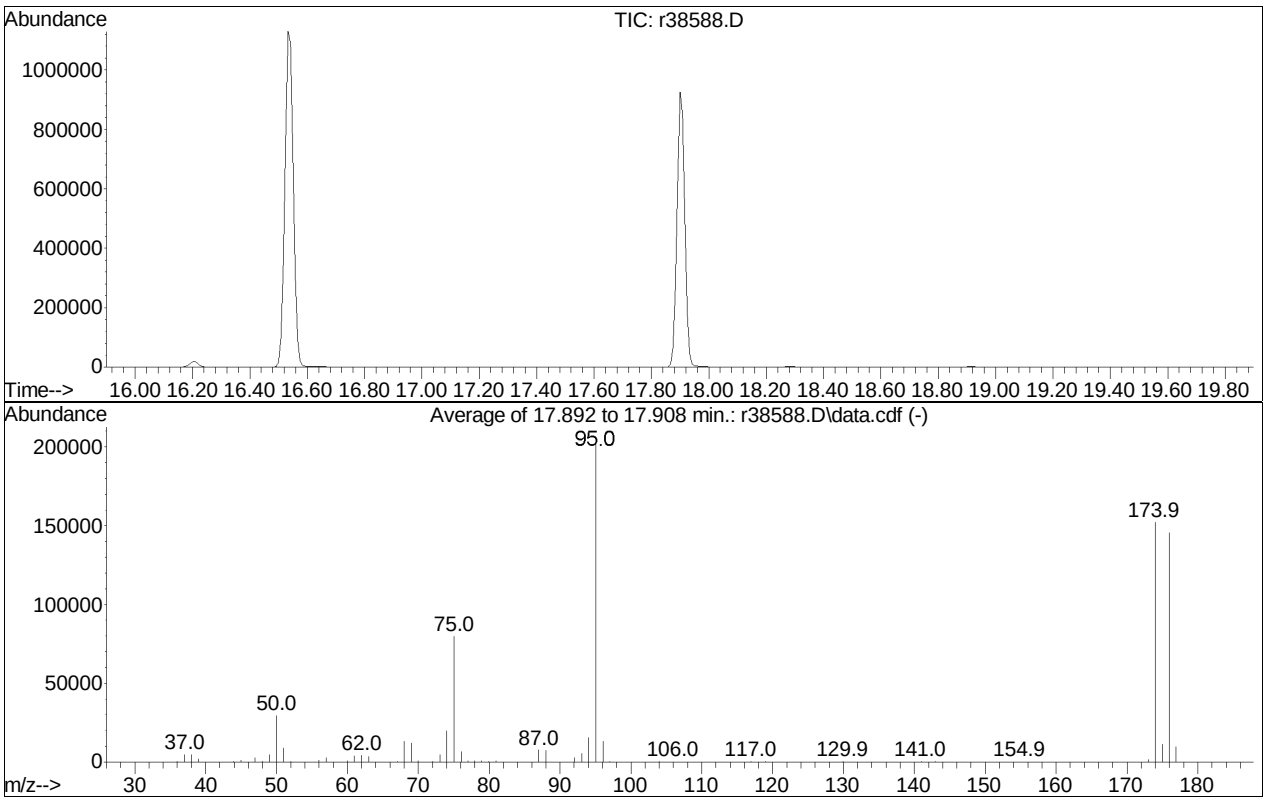
		Compound	0.02	0.05	0.1	0.2	0.5	1.0	5.0	10.0	20.0	50.0	Avg	%RSD
62)	C	bromoform	2.173	1.758	1.790	1.948	2.002	2.060	2.059	2.111	2.188	1.903	1.9992	7.45
63)	C	styrene	5.078	4.841	4.683	4.614	4.753	4.822	4.597	4.648	4.946	4.462	4.7443	3.84
64)	C	1,1,2,2-tetrachlor...	3.811	3.509	3.523	3.931	3.960	3.985	3.593	3.635	3.823	3.105	3.6875	7.37
65)	C	o-xylene	6.107	5.597	5.360	5.765	5.791	5.786	5.207	5.167	5.188	4.198	5.4165	9.83
66)		1,2,3-Trichloropro...	3.149	2.861	2.911	3.141	3.194	3.174	3.012	3.037	3.052	2.700	3.0230	5.25
67)	s	bromofluorobenzene	3.019	3.012	2.995	3.106	3.143	3.146	3.239	3.414	3.074	3.309	3.1456	4.38
68)	C	isopropylbenzene				8.064	8.142	8.091	7.607	7.503	7.548	6.394	7.6214	7.97
69)		Bromobenzene				3.998	4.109	4.084	3.950	3.989	4.069	3.497	3.9566	5.32
70)		4-ethyl toluene	7.760	7.695	7.768	8.650	8.932	9.040	8.553	8.534	8.480	7.180	8.2592	7.44
71)		1,3,5-trimethylben...	7.469	6.387	6.632	7.287	7.468	7.413	6.899	6.844	6.978	5.731	6.9108	8.02
72)		tert-butylbenzene				6.911	7.084	7.067	6.712	6.737	6.519	4.919	6.5641	11.48
73)		1,2,4-trimethylben...	6.621	6.134	6.176	6.929	7.226	7.318	6.694	6.607	6.350	4.739	6.4792	11.27
74)	C	Benzyl Chloride				3.336	3.915	4.320	4.698	5.039	5.019	4.248	4.3678	14.08
75)		1,3-dichlorobenzene	3.461	3.366	3.509	3.776	3.888	3.992	3.787	3.862	3.919	3.375	3.6936	6.50
76)	C	1,4-dichlorobenzene	3.748	3.214	3.568	3.564	3.737	3.818	3.651	3.784	3.947	3.380	3.6411	5.99
77)		sec-butylbenzene				1.008	1.039	1.047	1.007	0.996	0.962	0.779	0.9769	9.40
78)		p-isopropyltoluene				7.942	8.207	8.333	8.211	8.220	7.737	5.822	7.7817	11.41
79)		1,2-dichlorobenzene	3.340	3.085	3.301	3.589	3.735	3.827	3.582	3.636	3.780	3.348	3.5223	6.89
80)		n-butylbenzene				6.248	6.722	6.990	6.927	6.973	6.596	5.552	6.5728	7.93
81)	C	1,2,4-trichloroben...		1.534	1.536	1.454	1.736	2.137	2.292	2.536	2.367	2.442	2.0039	21.76
82)		naphthalene		7.760	6.706	5.403	5.752	6.434	7.583	8.217	6.921	6.809	6.8428	13.41
83)		1,2,3-trichloroben...		1.817	1.878	1.896	2.078	2.335	2.757	3.022	2.546	2.538	2.3186	18.48
84)	C	hexachlorobutadiene		2.527	2.529	2.893	3.009	3.026	2.775	2.750	2.488	2.091	2.6763	11.19

(#) = Out of Range

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38588.D
Acq On : 12 Mar 2020 9:50 AM
Operator : AIRPIANO3:RY
Sample : WG1350409-1,3,250,250
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Integration File: rteint.p

Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 16:48:11 2020



Spectrum Information: Average of 17.892 to 17.908 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.5	29472	PASS
75	95	30	66	39.3	79731	PASS
95	95	100	100	100.0	202734	PASS
96	95	5	9	6.6	13477	PASS
173	174	0.00	2	1.1	1647	PASS
174	95	50	120	75.2	152363	PASS
175	174	4	9	7.4	11319	PASS
176	174	93	101	95.4	145430	PASS
177	176	5	9	6.8	9839	PASS

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38589_Ev2.D
Acq On : 12 Mar 2020 10:28 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.02
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:32:39 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.53	49	220953	10.000	ppbV	0.00
Standard Area = 228204			Recovery =		96.82%	
33) 1,4-difluorobenzene	11.80	114	640498	10.000	ppbV	0.00
Standard Area = 659248			Recovery =		97.16%	
51) chlorobenzene-D5	16.53	54	94324	10.000	ppbV	0.00
Standard Area = 98040			Recovery =		96.21%	
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.43	65	107832	9.777	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =		97.77%	
53) toluene-D8	14.64	98	447216	9.586	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =		95.86%	
67) bromofluorobenzene	17.90	95	284732	9.320	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =		93.20%	
Target Compounds						Qvalue
2) propylene	3.89	41	296	0.029	ppbV	98
3) dichlorodifluoromethane	3.98	85	541	0.025	ppbV	94
4) chloromethane	4.16	50	279	0.030	ppbV #	87
5) Freon-114	4.28	85	667	0.025	ppbV	95
6) vinyl chloride	4.41	62	300	0.028	ppbV #	84
7) 1,3-butadiene	4.58	54	261	0.024	ppbV	94
8) bromomethane	4.89	94	237	0.026	ppbV	93
9) chloroethane	5.11	64	129	0.024	ppbV #	68
10) ethanol	5.30	31	6140	0.679	ppbV	98
11) vinyl bromide	5.55	106	175	0.016	ppbV	98
12) acrolein	5.70	56	172M4	0.032	ppbV	
13) acetone	5.88	43	3248	0.210	ppbV #	96
14) trichlorofluoromethane	6.06	101	319	0.020	ppbV	88
15) isopropyl alcohol	6.21	45	2323	0.119	ppbV #	92
16) acrylonitrile	6.44	53	252M4	0.026	ppbV	
17) 1,1-dichloroethene	6.82	61	380	0.027	ppbV #	90
18) tertiary butyl alcohol	6.95	59	667	0.033	ppbV #	92
19) methylene chloride	6.99	49	409	0.031	ppbV	93
20) 3-chloropropene	7.13	41	371	0.021	ppbV #	89
21) carbon disulfide	7.28	76	918	0.022	ppbV #	1
22) Freon 113	7.33	101	584	0.026	ppbV	95
23) trans-1,2-dichloroethene	8.12	61	411	0.023	ppbV	92

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38589_Ev2.D
Acq On : 12 Mar 2020 10:28 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.02
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:32:39 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24) 1,1-dichloroethane	8.35	63	428	0.021	ppbV	#	83
25) MTBE	8.47	73	798	0.022	ppbV	#	68
26) vinyl acetate	8.58	43	750	0.025	ppbV	#	78
27) 2-butanone	8.88	43	730	0.026	ppbV	#	86
28) cis-1,2-dichloroethene	9.35	61	394	0.026	ppbV		95
29) Ethyl Acetate	9.68	61	123	0.028	ppbV	#	9
30) chloroform	9.70	83	503	0.023	ppbV	#	89
31) Tetrahydrofuran	10.19	42	443	0.026	ppbV	#	81
32) 1,2-dichloroethane	10.55	62	343	0.028	ppbV	#	75
34) hexane	9.61	57	556	0.024	ppbV	#	65
36) 1,1,1-trichloroethane	10.84	97	431	0.023	ppbV	#	76
37) benzene	11.36	78	1504	0.034	ppbV		95
38) carbon tetrachloride	11.54	117	430	0.024	ppbV	#	74
39) cyclohexane	11.68	56	564	0.023	ppbV		89
40) Dibromomethane	12.29	93	528	0.044	ppbV	#	96
41) 1,2-dichloropropane	12.33	63	361	0.026	ppbV	#	83
42) bromodichloromethane	12.55	83	608	0.024	ppbV	#	90
43) 1,4-dioxane	12.64	88	348M3	0.033	ppbV		
44) trichloroethene	12.61	130	367	0.021	ppbV		94
45) 2,2,4-trimethylpentane	12.65	57	1755	0.024	ppbV	#	90
46) heptane	12.97	43	768	0.026	ppbV	#	92
47) cis-1,3-dichloropropene	14.24	75	411	0.020	ppbV	#	80
48) 4-methyl-2-pentanone	13.68	43	687	0.020	ppbV		91
49) trans-1,3-dichloropropene	13.62	75	419	0.019	ppbV	#	77
50) 1,1,2-trichloroethane	14.43	97	420	0.028	ppbV	#	80
52) toluene	14.75	91	1491	0.031	ppbV		95
54) 2-hexanone	15.07	43	536	0.017	ppbV	#	88
55) dibromochloromethane	15.20	129	406	0.018	ppbV	#	92
56) 1,2-dibromoethane	15.45	107	587	0.025	ppbV		94
57) tetrachloroethene	15.92	166	480	0.024	ppbV	#	89
58) 1,1,1,2-tetrachloroethane	16.56	131	352	0.021	ppbV		93
59) chlorobenzene	16.57	112	832	0.021	ppbV		95
60) ethylbenzene	16.93	91	1387	0.024	ppbV		95
61) m+p-xylene	17.08	91	2431	0.050	ppbV		98
62) bromoform	17.16	173	410	0.021	ppbV		94
63) styrene	17.41	104	958	0.022	ppbV		94
64) 1,1,2,2-tetrachloroethane	17.51	83	719	0.021	ppbV		100
65) o-xylene	17.50	91	1152	0.023	ppbV		100
66) 1,2,3-Trichloropropane	17.62	75	594	0.021	ppbV	#	91

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38589_Ev2.D
Acq On : 12 Mar 2020 10:28 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.02
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:32:39 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) isopropylbenzene	18.01	105	1543	0.022	ppbV	99
69) Bromobenzene	18.08	77	718	0.019	ppbV	90
70) 4-ethyl toluene	18.57	105	1464	0.018	ppbV #	94
71) 1,3,5-trimethylbenzene	18.63	105	1409	0.022	ppbV #	98
72) tert-butylbenzene	18.95	119	1175	0.019	ppbV	96
73) 1,2,4-trimethylbenzene	18.95	105	1249	0.020	ppbV	95
74) Benzyl Chloride	19.07	91	585M3	0.013	ppbV	
75) 1,3-dichlorobenzene	19.08	146	653	0.018	ppbV #	91
76) 1,4-dichlorobenzene	19.13	146	707M3	0.021	ppbV	
77) sec-butylbenzene	19.17	105	1654	0.017	ppbV	92
78) p-isopropyltoluene	19.29	119	1524	0.020	ppbV	96
79) 1,2-dichlorobenzene	19.41	146	630	0.019	ppbV #	86
80) n-butylbenzene	19.63	91	980	0.015	ppbV	95
81) 1,2,4-trichlorobenzene	20.88	180	311	0.014	ppbV	92
82) naphthalene	20.99	128	2682	0.037	ppbV #	93
83) 1,2,3-trichlorobenzene	21.24	180	464	0.018	ppbV #	88
84) hexachlorobutadiene	21.31	225	487	0.019	ppbV #	90

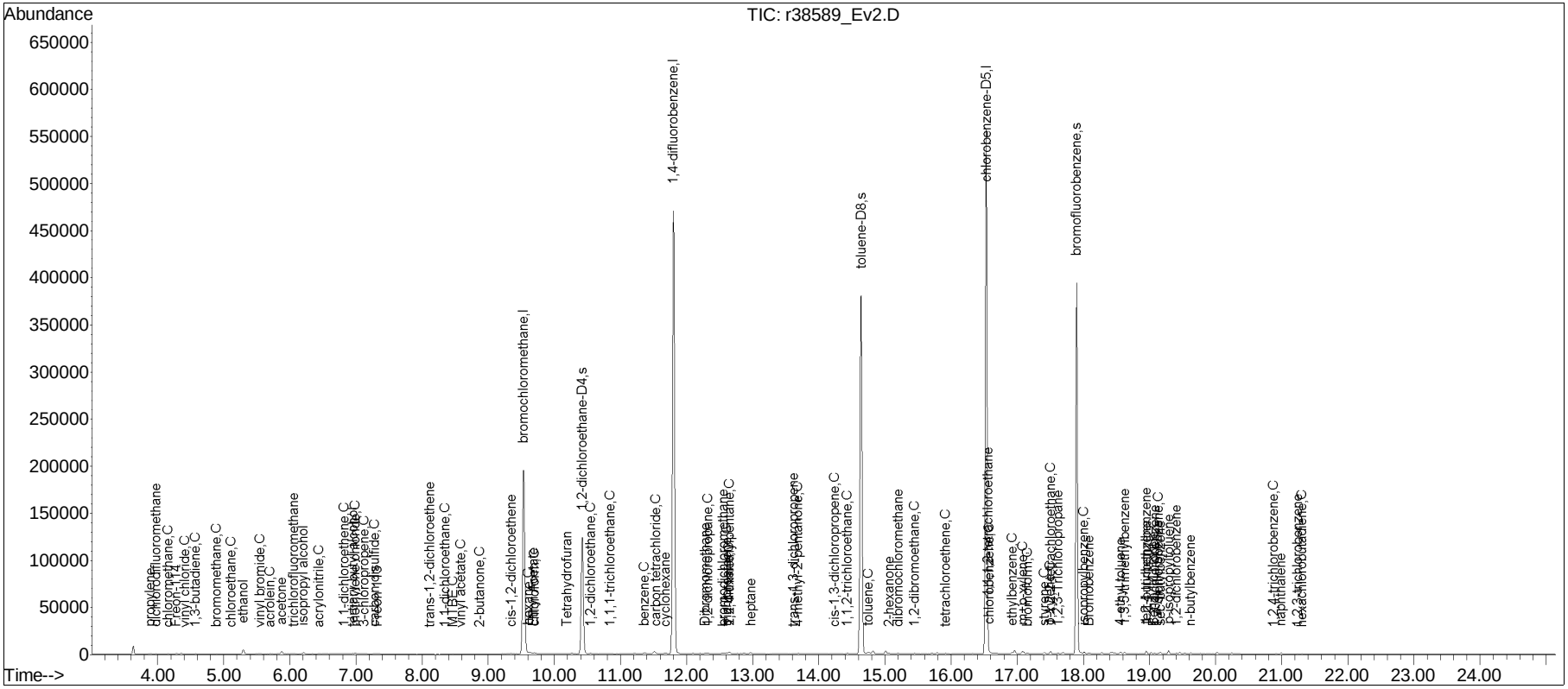
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38589_Ev2.D
Acq On : 12 Mar 2020 10:28 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.02
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:32:39 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D

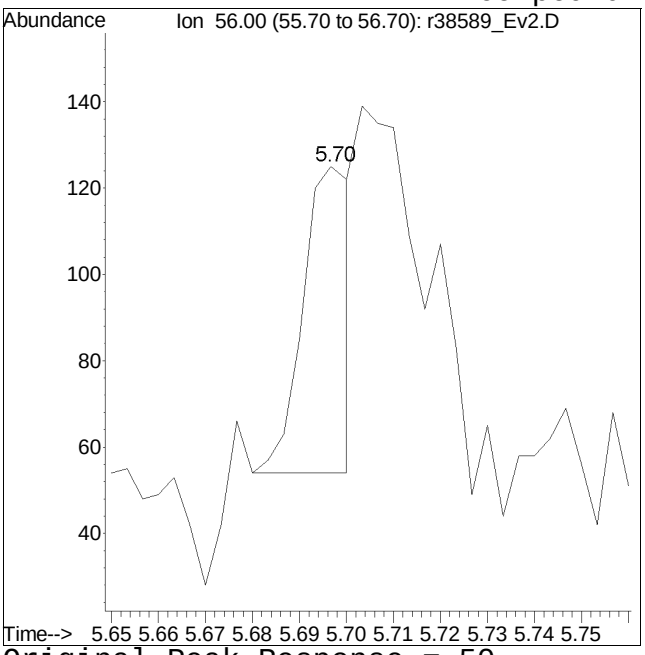


Manual Integration/Negative Proof Report

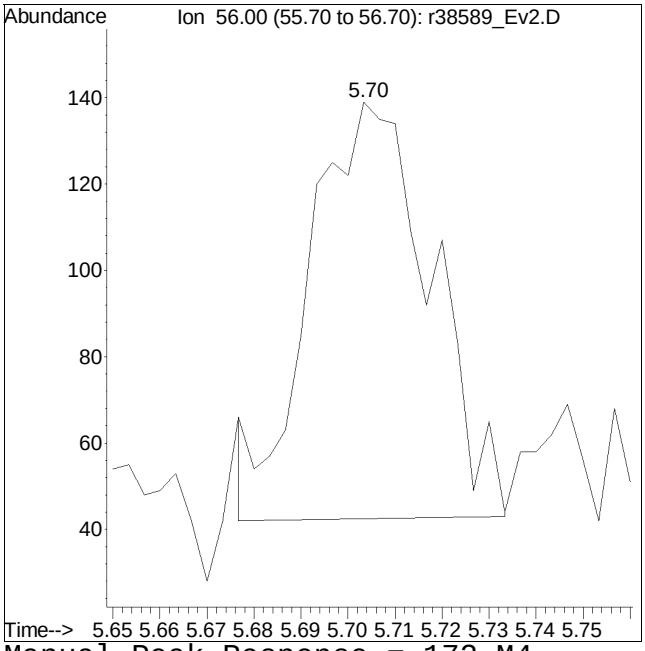
Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38589_Ev2.D
Date Inj'd : 3/12/2020 0:0: 8
Sample : ITO15-SIMSTD0.02

Method : TSIM3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:27 pm

Compound #12: acrolein



Original Peak Response = 50



Manual Peak Response = 172 M4

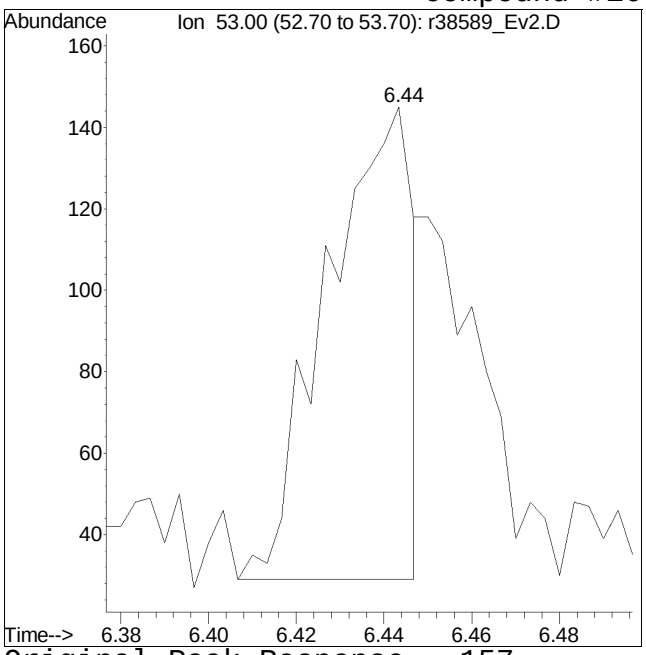
M4 = Poor automated baseline construction.

Manual Integration/Negative Proof Report

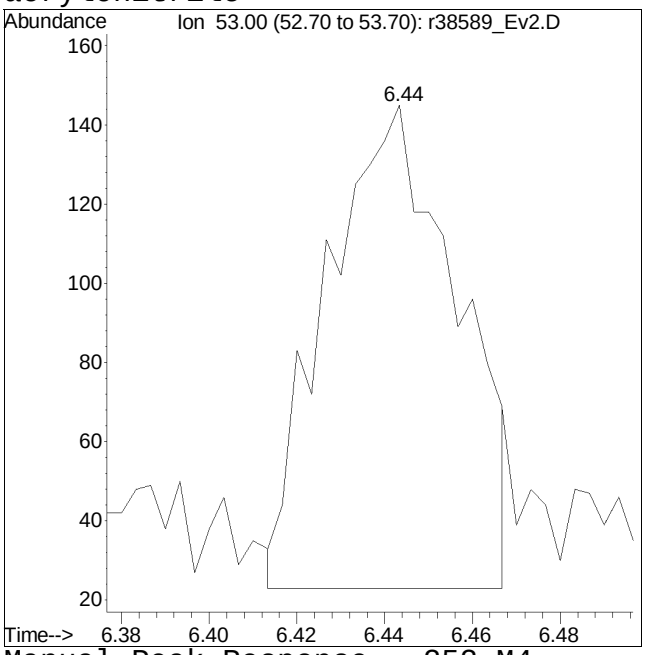
Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38589_Ev2.D
Date Inj'd : 3/12/2020 0:0: 8
Sample : ITO15-SIMSTD0.02

Method : TSIM3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:27 pm

Compound #16: acrylonitrile



Original Peak Response = 157



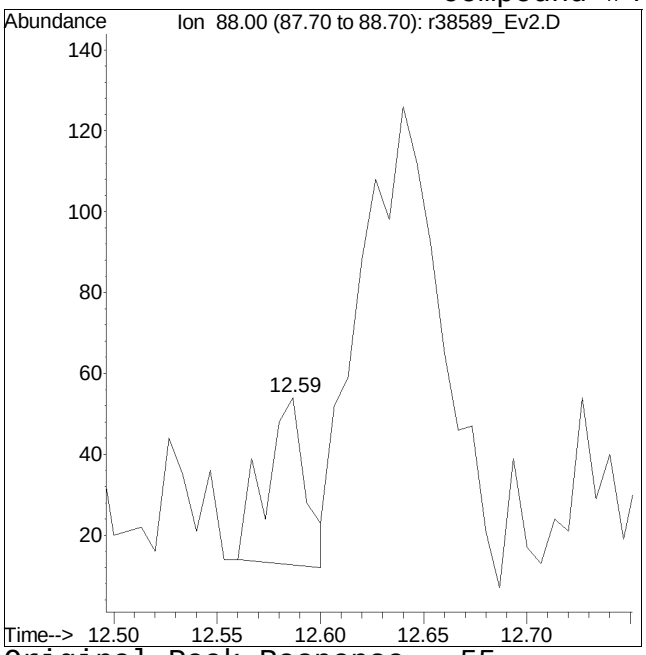
Manual Peak Response = 252 M4

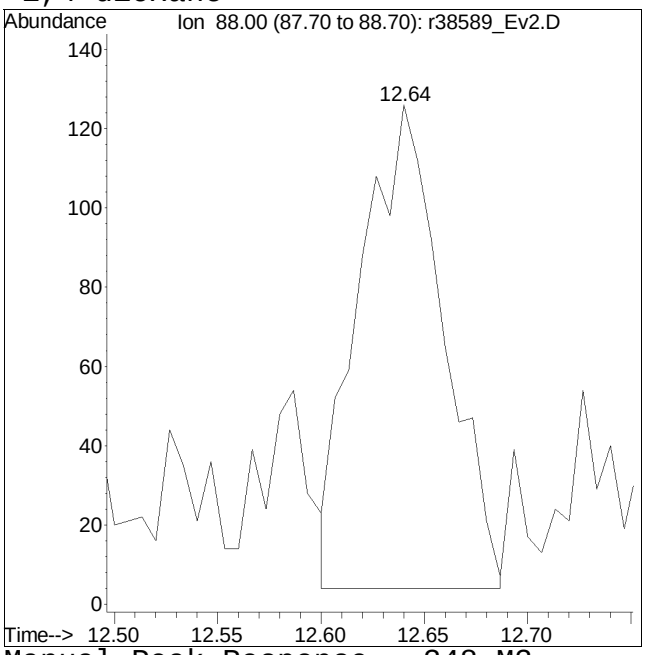
M4 = Poor automated baseline construction.

Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38589_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:0: 8 Instrument :
Sample : ITO15-SIMSTD0.02 Quant Date : 3/12/2020 4:27 pm

Compound #43: 1,4-dioxane





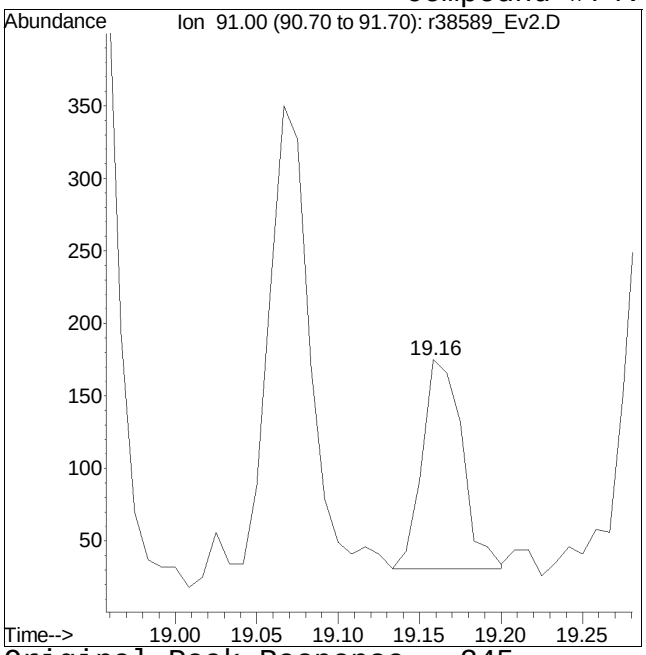
Original Peak Response = 55 Manual Peak Response = 348 M3

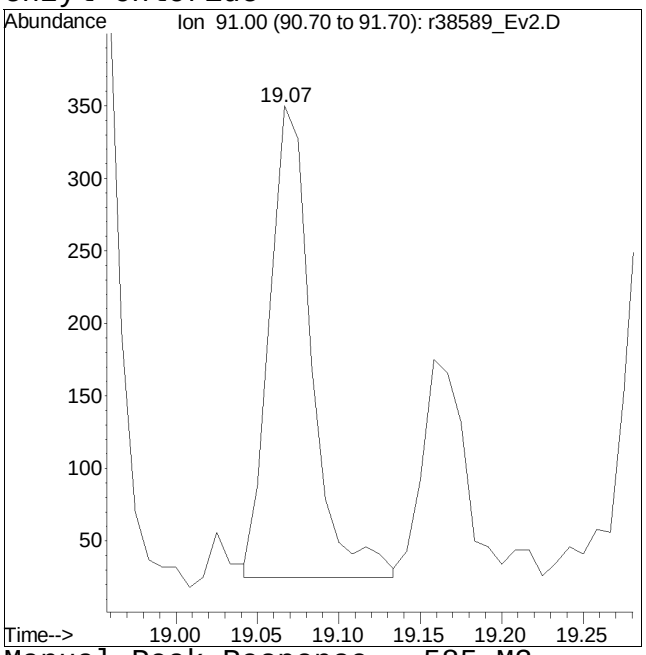
M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38589_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:0: 8 Instrument :
Sample : ITO15-SIMSTD0.02 Quant Date : 3/12/2020 4:27 pm

Compound #74: Benzyl Chloride





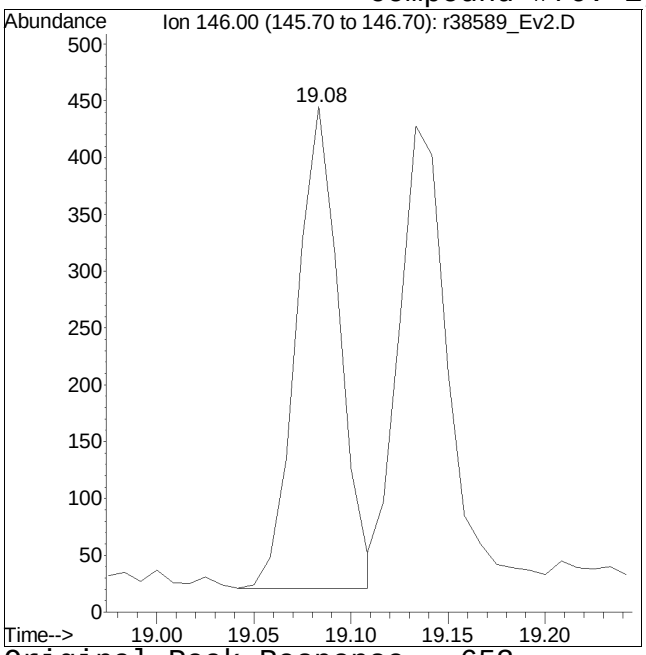
Original Peak Response = 245 Manual Peak Response = 585 M3

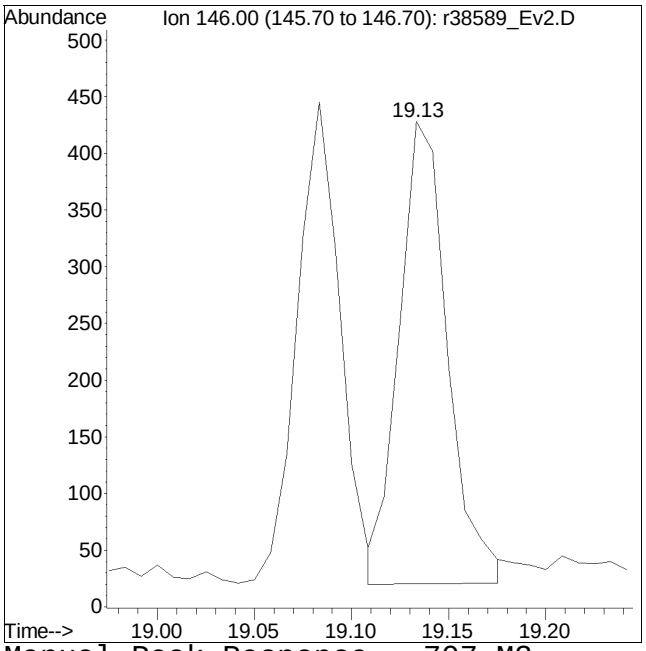
M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38589_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:0: 8 Instrument :
Sample : ITO15-SIMSTD0.02 Quant Date : 3/12/2020 4:27 pm

Compound #76: 1,4-dichlorobenzene





Original Peak Response = 653 Manual Peak Response = 707 M3

M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38590_Ev2.D
Acq On : 12 Mar 2020 11:06 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.05
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:34:43 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.53	49	221079	10.000	ppbV	0.00
Standard Area = 228204			Recovery =		96.88%	
33) 1,4-difluorobenzene	11.80	114	643361	10.000	ppbV	0.00
Standard Area = 659248			Recovery =		97.59%	
51) chlorobenzene-D5	16.53	54	94659	10.000	ppbV	0.00
Standard Area = 98040			Recovery =		96.55%	
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.42	65	109626	9.895	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =		98.95%	
53) toluene-D8	14.64	98	460092	9.827	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =		98.27%	
67) bromofluorobenzene	17.90	95	285090	9.298	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =		92.98%	
Target Compounds						Qvalue
2) propylene	3.89	41	620M4	0.060	ppbV	
3) dichlorodifluoromethane	3.98	85	1234	0.058	ppbV	98
4) chloromethane	4.16	50	591	0.063	ppbV	92
5) Freon-114	4.28	85	1550	0.058	ppbV	97
6) vinyl chloride	4.41	62	620	0.058	ppbV	95
7) 1,3-butadiene	4.58	54	622	0.057	ppbV	91
8) bromomethane	4.89	94	553	0.060	ppbV	98
9) chloroethane	5.11	64	323	0.060	ppbV	96
10) ethanol	5.29	31	7146	0.789	ppbV	99
11) vinyl bromide	5.54	106	585	0.053	ppbV	98
12) acrolein	5.70	56	267	0.050	ppbV #	76
13) acetone	5.87	43	5682	0.367	ppbV #	98
14) trichlorofluoromethane	6.06	101	934	0.057	ppbV	99
15) isopropyl alcohol	6.20	45	3842	0.196	ppbV	97
16) acrylonitrile	6.43	53	487	0.050	ppbV	98
17) 1,1-dichloroethene	6.82	61	734	0.052	ppbV	96
18) tertiary butyl alcohol	6.94	59	1408	0.069	ppbV	96
19) methylene chloride	6.99	49	972	0.073	ppbV	97
20) 3-chloropropene	7.13	41	945	0.053	ppbV	95
21) carbon disulfide	7.28	76	2188	0.053	ppbV #	17
22) Freon 113	7.32	101	1250	0.056	ppbV	96
23) trans-1,2-dichloroethene	8.12	61	947	0.054	ppbV	93

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38590_Ev2.D
Acq On : 12 Mar 2020 11:06 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.05
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:34:43 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24) 1,1-dichloroethane	8.35	63	1112	0.055	ppbV		92
25) MTBE	8.46	73	1956	0.054	ppbV	#	89
26) vinyl acetate	8.57	43	1636	0.054	ppbV		96
27) 2-butanone	8.87	43	1580	0.057	ppbV	#	97
28) cis-1,2-dichloroethene	9.34	61	855	0.057	ppbV		95
29) Ethyl Acetate	9.68	61	295	0.066	ppbV	#	55
30) chloroform	9.70	83	1237	0.056	ppbV	#	93
31) Tetrahydrofuran	10.18	42	890	0.052	ppbV		97
32) 1,2-dichloroethane	10.55	62	675	0.055	ppbV	#	90
34) hexane	9.61	57	1253	0.055	ppbV	#	67
36) 1,1,1-trichloroethane	10.83	97	1081	0.058	ppbV		96
37) benzene	11.36	78	2890	0.064	ppbV		97
38) carbon tetrachloride	11.54	117	997	0.054	ppbV		98
39) cyclohexane	11.69	56	1346	0.054	ppbV		98
40) Dibromomethane	12.29	93	885	0.073	ppbV	#	97
41) 1,2-dichloropropane	12.32	63	814	0.058	ppbV		93
42) bromodichloromethane	12.55	83	1381	0.055	ppbV	#	90
43) 1,4-dioxane	12.63	88	667	0.063	ppbV		89
44) trichloroethene	12.59	130	981M4	0.055	ppbV		
45) 2,2,4-trimethylpentane	12.65	57	3898	0.052	ppbV		98
46) heptane	12.97	43	1596	0.053	ppbV		95
47) cis-1,3-dichloropropene	14.23	75	1033	0.050	ppbV		94
48) 4-methyl-2-pentanone	13.68	43	1714	0.050	ppbV		97
49) trans-1,3-dichloropropene	13.62	75	1140	0.051	ppbV		95
50) 1,1,2-trichloroethane	14.43	97	840	0.055	ppbV		95
52) toluene	14.75	91	2984	0.061	ppbV		97
54) 2-hexanone	15.07	43	1297	0.042	ppbV		96
55) dibromochloromethane	15.20	129	1044	0.047	ppbV		97
56) 1,2-dibromoethane	15.45	107	1262	0.053	ppbV		99
57) tetrachloroethene	15.92	166	1074M4	0.053	ppbV		
58) 1,1,1,2-tetrachloroethane	16.56	131	894	0.054	ppbV		95
59) chlorobenzene	16.57	112	2071	0.052	ppbV		99
60) ethylbenzene	16.93	91	3082	0.052	ppbV		100
61) m+p-xylene	17.08	91	5321	0.109	ppbV		100
62) bromoform	17.16	173	832	0.043	ppbV		98
63) styrene	17.41	104	2291	0.053	ppbV		97
64) 1,1,2,2-tetrachloroethane	17.51	83	1661	0.049	ppbV		98
65) o-xylene	17.50	91	2649	0.054	ppbV		100
66) 1,2,3-Trichloropropane	17.62	75	1354	0.047	ppbV	#	89

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38590_Ev2.D
Acq On : 12 Mar 2020 11:06 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.05
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:34:43 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) isopropylbenzene	18.02	105	3486	0.048	ppbV	99
69) Bromobenzene	18.09	77	1836	0.049	ppbV	97
70) 4-ethyl toluene	18.57	105	3642	0.045	ppbV	99
71) 1,3,5-trimethylbenzene	18.63	105	3023	0.046	ppbV	98
72) tert-butylbenzene	18.96	119	2826	0.044	ppbV	94
73) 1,2,4-trimethylbenzene	18.96	105	2903	0.046	ppbV	96
74) Benzyl Chloride	19.07	91	1387	0.031	ppbV	93
75) 1,3-dichlorobenzene	19.08	146	1593M4	0.044	ppbV	
76) 1,4-dichlorobenzene	19.14	146	1521	0.044	ppbV	95
77) sec-butylbenzene	19.17	105	4067	0.043	ppbV	100
78) p-isopropyltoluene	19.29	119	3266	0.042	ppbV	97
79) 1,2-dichlorobenzene	19.41	146	1460	0.043	ppbV	96
80) n-butylbenzene	19.63	91	2503	0.038	ppbV	98
81) 1,2,4-trichlorobenzene	20.88	180	726	0.033	ppbV #	91
82) naphthalene	20.99	128	3673	0.051	ppbV	97
83) 1,2,3-trichlorobenzene	21.24	180	860	0.033	ppbV	93
84) hexachlorobutadiene	21.31	225	1196	0.046	ppbV	97

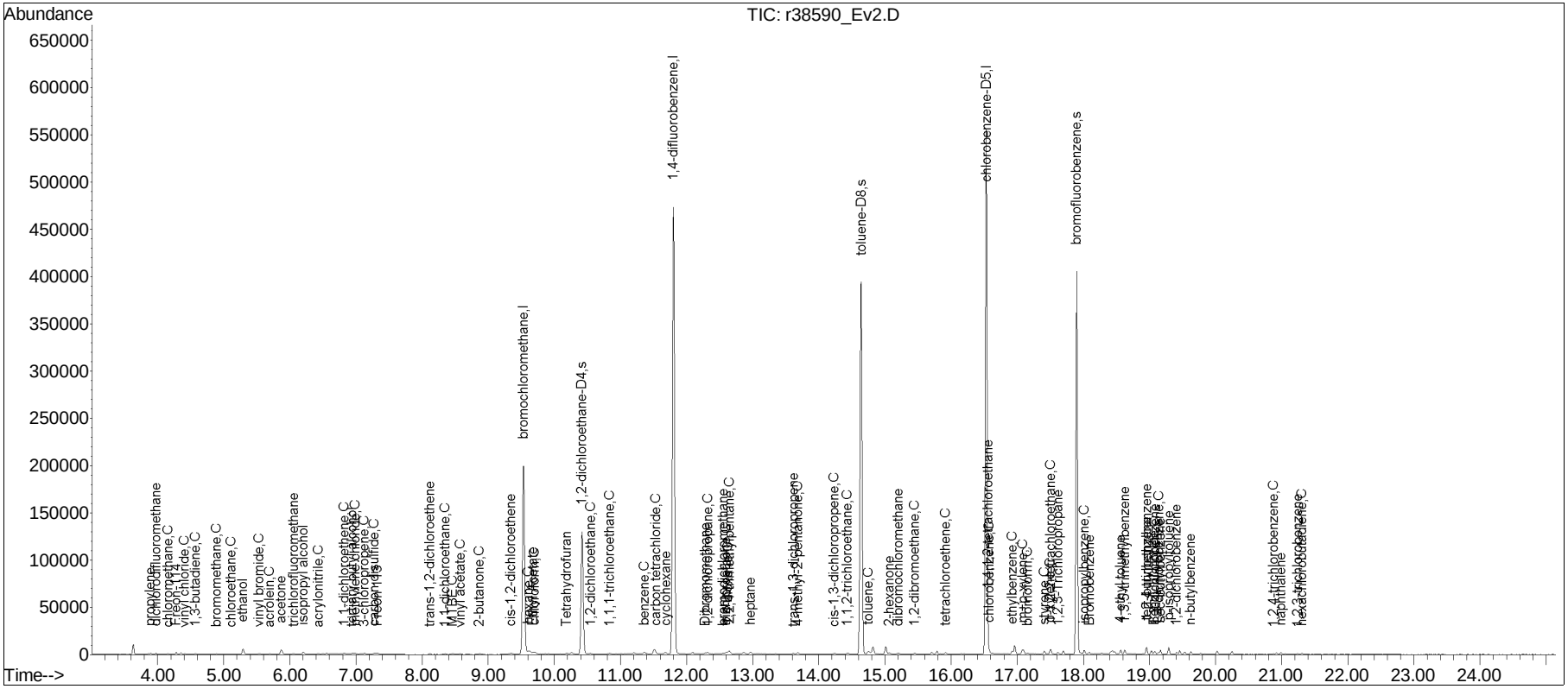
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38590_Ev2.D
Acq On : 12 Mar 2020 11:06 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.05
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:34:43 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

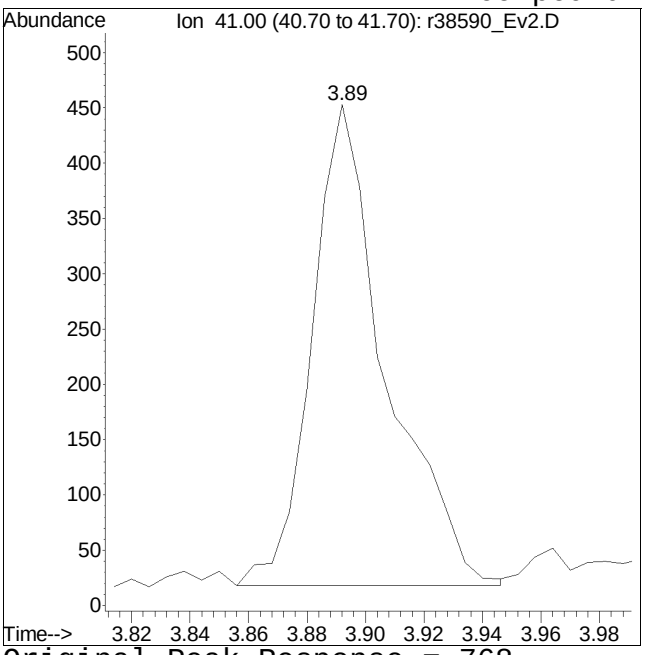
Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D

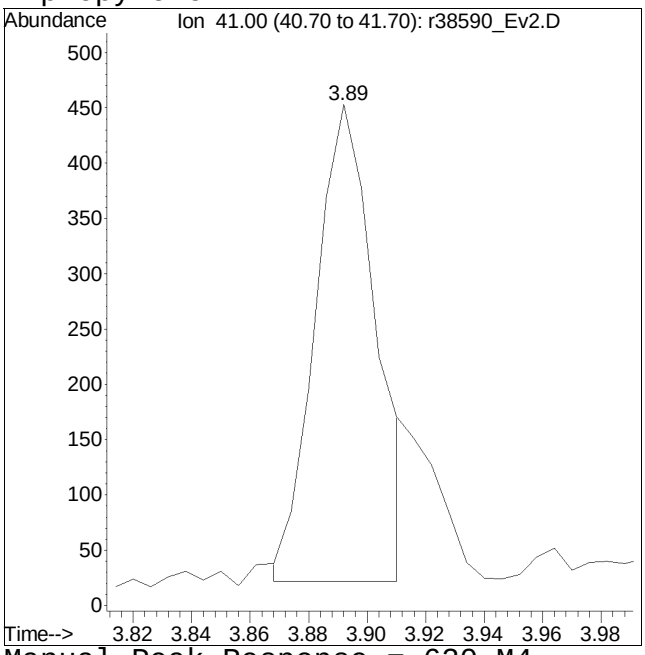


Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38590_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:1: 6 Instrument :
Sample : ITO15-SIMSTD0.05 Quant Date : 3/12/2020 4:27 pm

Compound #2: propylene





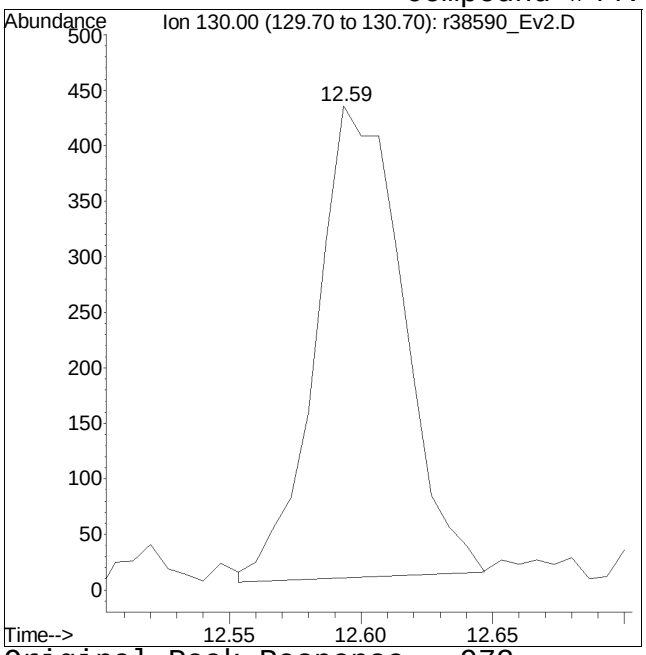
Original Peak Response = 768 Manual Peak Response = 620 M4
M4 = Poor automated baseline construction.

Manual Integration/Negative Proof Report

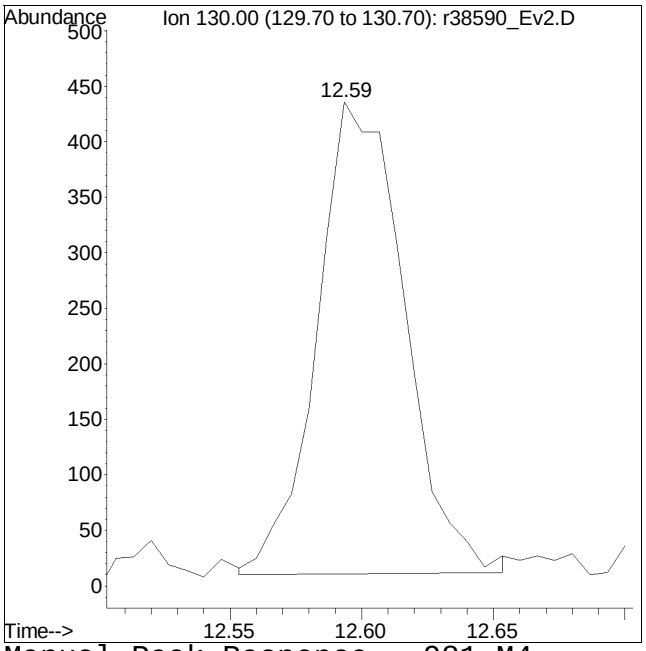
Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38590_Ev2.D
Date Inj'd : 3/12/2020 0:1: 6
Sample : ITO15-SIMSTD0.05

Method : TSIM3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:27 pm

Compound #44: trichloroethene



Original Peak Response = 972



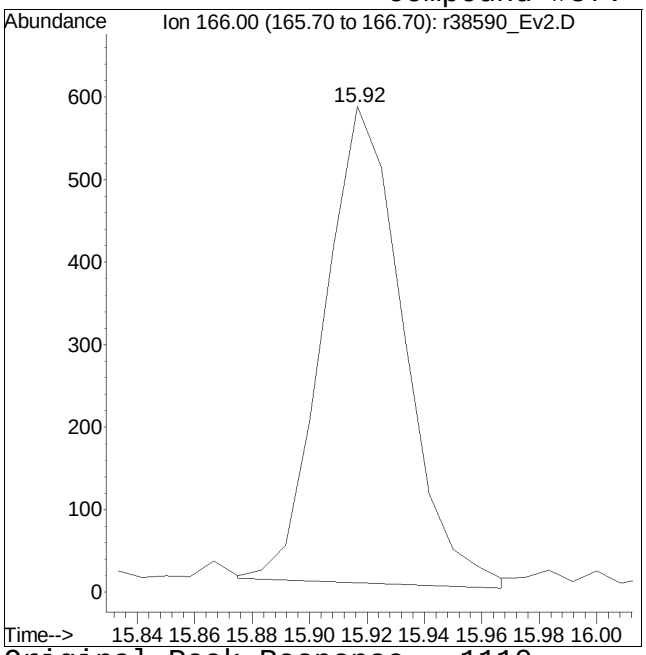
Manual Peak Response = 981 M4

M4 = Poor automated baseline construction.

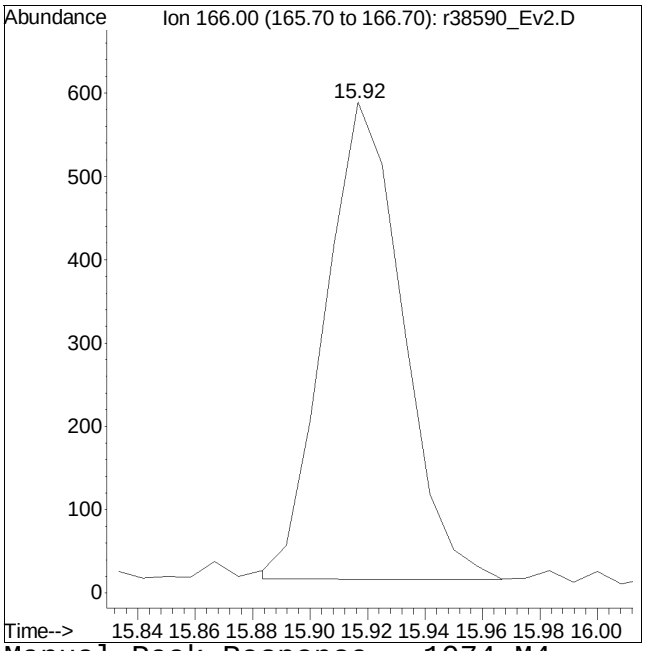
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38590_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:1: 6 Instrument :
Sample : ITO15-SIMSTD0.05 Quant Date : 3/12/2020 4:27 pm

Compound #57: tetrachloroethene



Original Peak Response = 1110



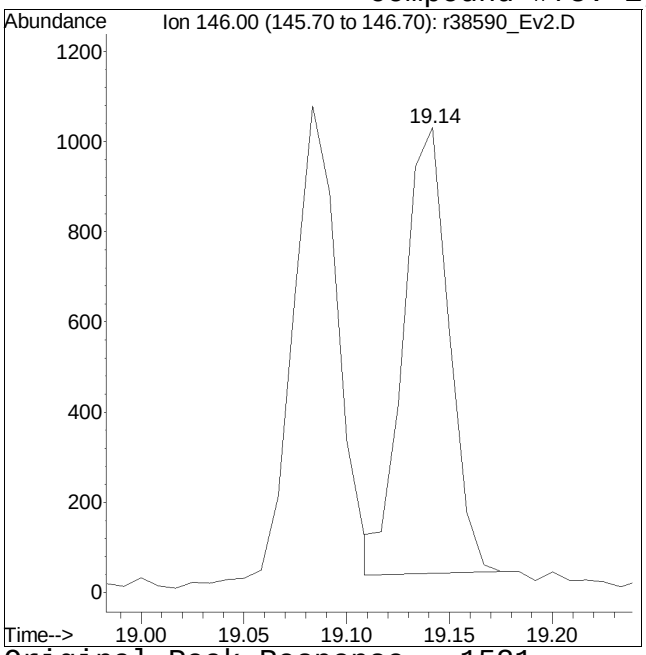
Manual Peak Response = 1074 M4

M4 = Poor automated baseline construction.

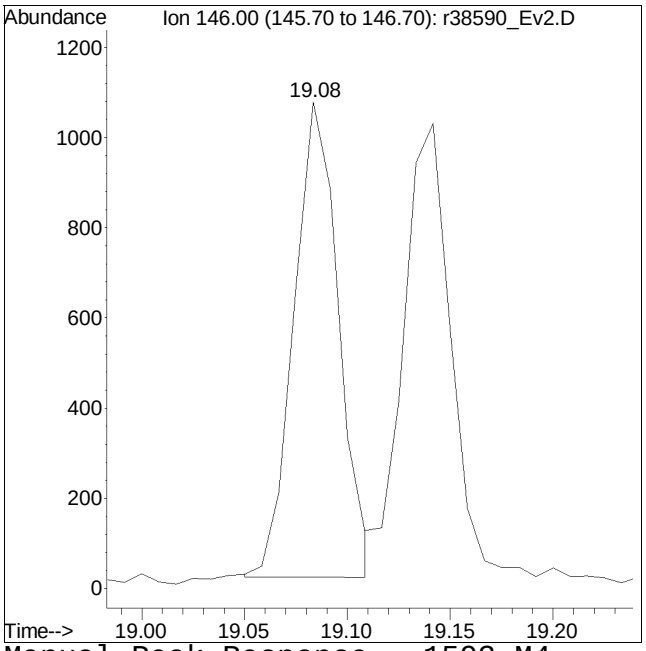
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38590_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:1: 6 Instrument :
Sample : ITO15-SIMSTD0.05 Quant Date : 3/12/2020 4:27 pm

Compound #75: 1,3-dichlorobenzene



Original Peak Response = 1521



Manual Peak Response = 1593 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38591_Ev2.D
Acq On : 12 Mar 2020 11:47 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.1
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:35:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.53	49	222774	10.000	ppbV	0.00
Standard Area = 228204			Recovery =	97.62%		
33) 1,4-difluorobenzene	11.80	114	644735	10.000	ppbV	0.00
Standard Area = 659248			Recovery =	97.80%		
51) chlorobenzene-D5	16.53	54	94868	10.000	ppbV	0.00
Standard Area = 98040			Recovery =	96.76%		
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.43	65	109787	9.889	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =	98.89%		
53) toluene-D8	14.64	98	462181	9.849	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =	98.49%		
67) bromofluorobenzene	17.90	95	284121	9.246	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =	92.46%		
Target Compounds						Qvalue
2) propylene	3.89	41	1144M4	0.110	ppbV	
3) dichlorodifluoromethane	3.98	85	2447	0.113	ppbV	99
4) chloromethane	4.16	50	1188	0.126	ppbV	96
5) Freon-114	4.28	85	3081	0.114	ppbV	100
6) vinyl chloride	4.41	62	1238	0.114	ppbV	96
7) 1,3-butadiene	4.58	54	1173	0.107	ppbV	94
8) bromomethane	4.89	94	1036	0.112	ppbV	97
9) chloroethane	5.11	64	610	0.112	ppbV	96
10) ethanol	5.30	31	9555	1.048	ppbV	100
11) vinyl bromide	5.54	106	1149	0.104	ppbV	100
12) acrolein	5.70	56	639	0.119	ppbV #	88
13) acetone	5.87	43	9429	0.604	ppbV #	99
14) trichlorofluoromethane	6.06	101	1860	0.113	ppbV	93
15) isopropyl alcohol	6.20	45	6158	0.312	ppbV #	95
16) acrylonitrile	6.44	53	986	0.100	ppbV	98
17) 1,1-dichloroethene	6.82	61	1578	0.111	ppbV	98
18) tertiary butyl alcohol	6.94	59	2542	0.124	ppbV	98
19) methylene chloride	6.99	49	1537	0.115	ppbV	93
20) 3-chloropropene	7.13	41	1896	0.105	ppbV	96
21) carbon disulfide	7.28	76	4241	0.102	ppbV #	56
22) Freon 113	7.33	101	2470	0.111	ppbV	97
23) trans-1,2-dichloroethene	8.12	61	1834	0.104	ppbV	98

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38591_Ev2.D
Acq On : 12 Mar 2020 11:47 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.1
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:35:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24) 1,1-dichloroethane	8.35	63	2218	0.109	ppbV		96
25) MTBE	8.46	73	3770	0.102	ppbV	#	90
26) vinyl acetate	8.57	43	3231	0.105	ppbV		97
27) 2-butanone	8.87	43	3014	0.108	ppbV	#	98
28) cis-1,2-dichloroethene	9.34	61	1611	0.107	ppbV		99
29) Ethyl Acetate	9.67	61	485	0.108	ppbV		84
30) chloroform	9.70	83	2406	0.108	ppbV		96
31) Tetrahydrofuran	10.18	42	1833	0.107	ppbV		97
32) 1,2-dichloroethane	10.55	62	1483	0.120	ppbV		95
34) hexane	9.61	57	2453	0.107	ppbV	#	72
36) 1,1,1-trichloroethane	10.84	97	2070	0.112	ppbV		98
37) benzene	11.37	78	5220	0.116	ppbV		100
38) carbon tetrachloride	11.54	117	1988	0.108	ppbV		98
39) cyclohexane	11.68	56	2491	0.100	ppbV		97
40) Dibromomethane	12.29	93	1542	0.126	ppbV	#	89
41) 1,2-dichloropropane	12.32	63	1539	0.110	ppbV		96
42) bromodichloromethane	12.55	83	2627	0.104	ppbV	#	99
43) 1,4-dioxane	12.62	88	1130	0.106	ppbV		88
44) trichloroethene	12.60	130	1876	0.105	ppbV		96
45) 2,2,4-trimethylpentane	12.65	57	7652	0.102	ppbV		98
46) heptane	12.97	43	3036	0.101	ppbV		96
47) cis-1,3-dichloropropene	14.23	75	2073	0.099	ppbV		96
48) 4-methyl-2-pentanone	13.68	43	3279	0.096	ppbV		98
49) trans-1,3-dichloropropene	13.62	75	2188	0.098	ppbV		99
50) 1,1,2-trichloroethane	14.43	97	1588	0.104	ppbV		97
52) toluene	14.75	91	5458	0.112	ppbV		100
54) 2-hexanone	15.06	43	2801	0.089	ppbV		96
55) dibromochloromethane	15.20	129	2111	0.095	ppbV		98
56) 1,2-dibromoethane	15.45	107	2431	0.102	ppbV		98
57) tetrachloroethene	15.92	166	2114	0.105	ppbV		99
58) 1,1,1,2-tetrachloroethane	16.56	131	1683	0.101	ppbV		98
59) chlorobenzene	16.57	112	4158	0.105	ppbV		99
60) ethylbenzene	16.93	91	6070	0.103	ppbV		99
61) m+p-xylene	17.08	91	10169	0.207	ppbV		99
62) bromoform	17.16	173	1698	0.087	ppbV		99
63) styrene	17.41	104	4443	0.102	ppbV		99
64) 1,1,2,2-tetrachloroethane	17.51	83	3342	0.098	ppbV		98
65) o-xylene	17.50	91	5085	0.103	ppbV		99
66) 1,2,3-Trichloropropane	17.62	75	2762	0.097	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38591_Ev2.D
Acq On : 12 Mar 2020 11:47 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.1
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:35:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) isopropylbenzene	18.02	105	6988	0.097	ppbV	97
69) Bromobenzene	18.09	77	3619	0.097	ppbV	100
70) 4-ethyl toluene	18.57	105	7369	0.091	ppbV	98
71) 1,3,5-trimethylbenzene	18.63	105	6292	0.096	ppbV	98
72) tert-butylbenzene	18.95	119	5769	0.091	ppbV	98
73) 1,2,4-trimethylbenzene	18.96	105	5859	0.092	ppbV	95
74) Benzyl Chloride	19.07	91	2961	0.066	ppbV	98
75) 1,3-dichlorobenzene	19.08	146	3329	0.093	ppbV	95
76) 1,4-dichlorobenzene	19.14	146	3385	0.098	ppbV	94
77) sec-butylbenzene	19.17	105	8392	0.088	ppbV	100
78) p-isopropyltoluene	19.29	119	6539	0.084	ppbV	96
79) 1,2-dichlorobenzene	19.41	146	3132	0.092	ppbV	97
80) n-butylbenzene	19.63	91	5087	0.077	ppbV	98
81) 1,2,4-trichlorobenzene	20.88	180	1457	0.067	ppbV	95
82) naphthalene	20.99	128	6362	0.088	ppbV	100
83) 1,2,3-trichlorobenzene	21.24	180	1782	0.068	ppbV	97
84) hexachlorobutadiene	21.31	225	2399	0.091	ppbV	98

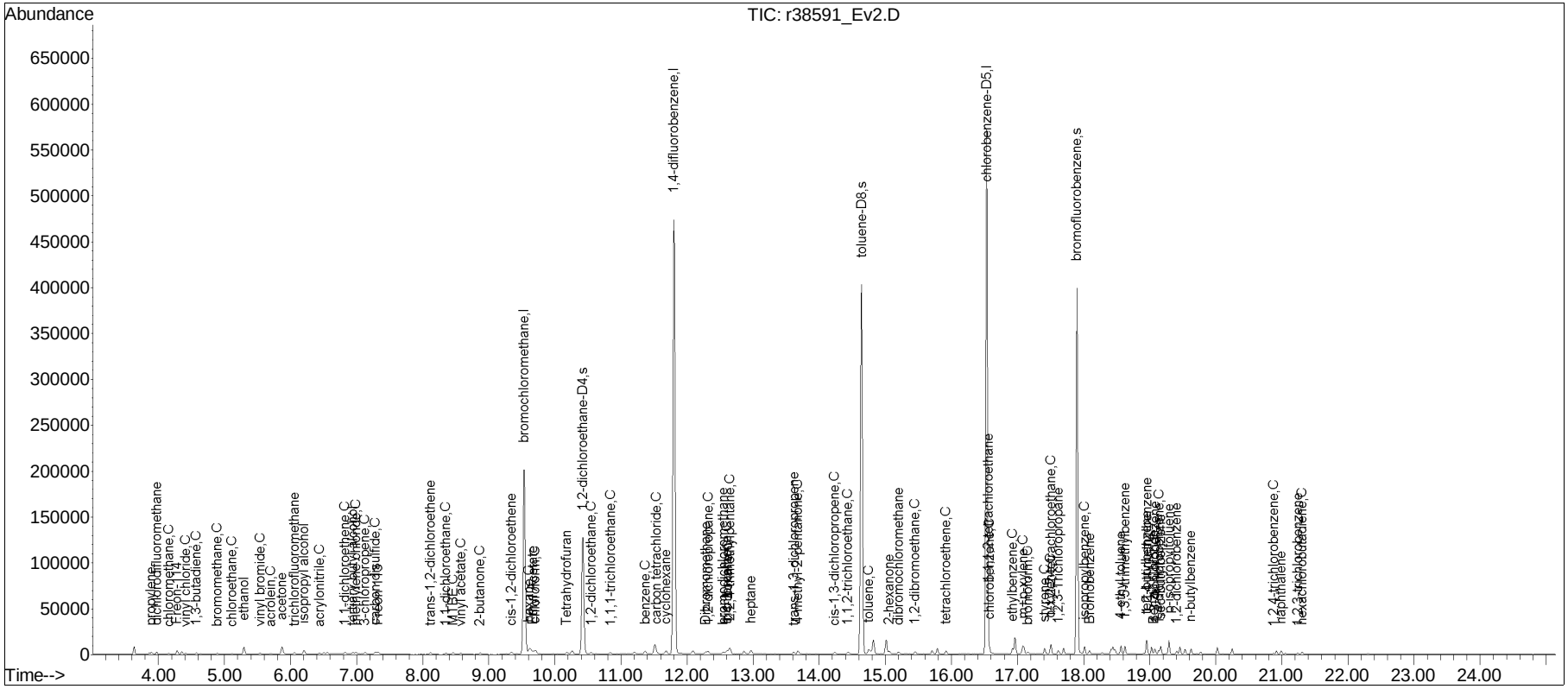
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38591_Ev2.D
Acq On : 12 Mar 2020 11:47 AM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.1
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:35:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

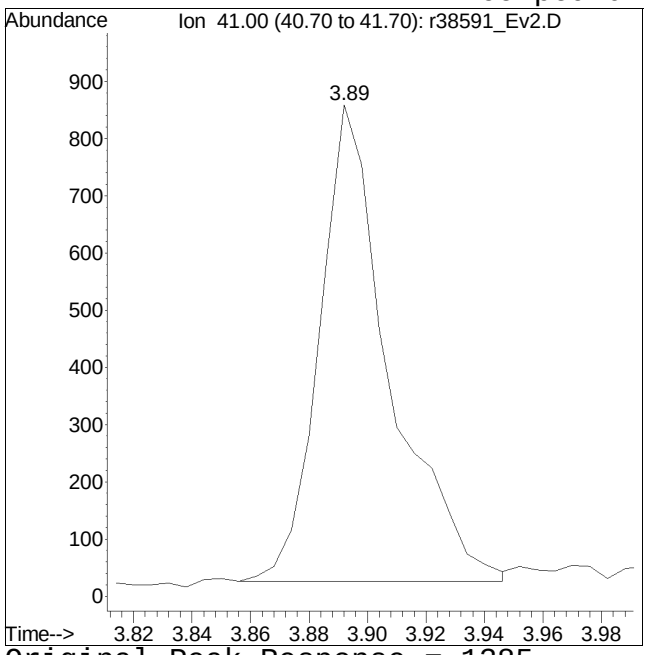
Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D



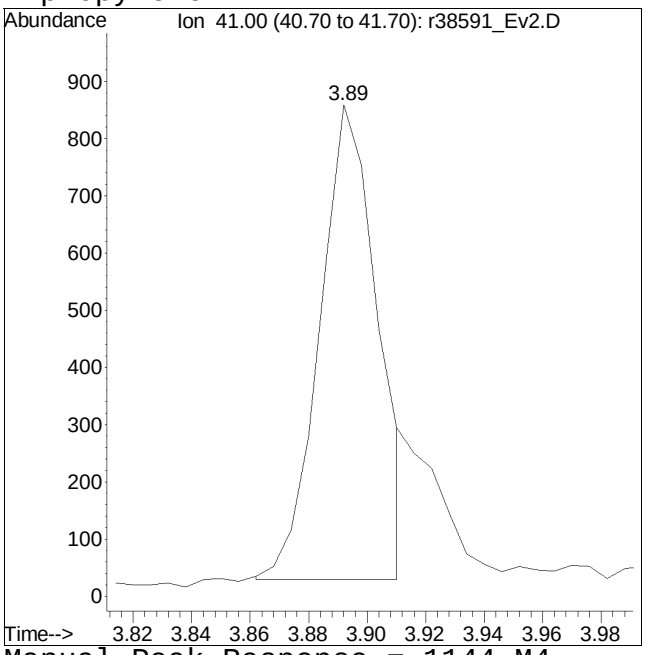
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38591_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:1: 7 Instrument :
Sample : ITO15-SIMSTD0.1 Quant Date : 3/12/2020 4:28 pm

Compound #2: propylene



Original Peak Response = 1385



Manual Peak Response = 1144 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38592_Ev2.D
Acq On : 12 Mar 2020 12:25 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:37:05 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.53	49	221092	10.000	ppbV	0.00
Standard Area = 228204			Recovery = 96.88%			
33) 1,4-difluorobenzene	11.80	114	640756	10.000	ppbV	0.00
Standard Area = 659248			Recovery = 97.19%			
51) chlorobenzene-D5	16.52	54	93877	10.000	ppbV	0.00
Standard Area = 98040			Recovery = 95.75%			
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.42	65	111360	10.093	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.93%			
53) toluene-D8	14.64	98	470589	10.135	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.35%			
67) bromofluorobenzene	17.90	95	291607	9.590	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 95.90%			
Target Compounds						Qvalue
2) propylene	3.89	41	2241M4	0.216	ppbV	
3) dichlorodifluoromethane	3.98	85	4923	0.230	ppbV	100
4) chloromethane	4.15	50	2141	0.228	ppbV	99
5) Freon-114	4.28	85	6160	0.230	ppbV	99
6) vinyl chloride	4.41	62	2472	0.230	ppbV	100
7) 1,3-butadiene	4.58	54	2395	0.221	ppbV	99
8) bromomethane	4.89	94	2138	0.232	ppbV	99
9) chloroethane	5.11	64	1231	0.228	ppbV	99
10) ethanol	5.29	31	14725	1.627	ppbV	99
11) vinyl bromide	5.54	106	2501	0.227	ppbV	99
12) acrolein	5.70	56	1206	0.227	ppbV	95
13) acetone	5.87	43	16964	1.094	ppbV #	99
14) trichlorofluoromethane	6.05	101	3641	0.222	ppbV	99
15) isopropyl alcohol	6.20	45	11251	0.575	ppbV	97
16) acrylonitrile	6.44	53	2026	0.207	ppbV	99
17) 1,1-dichloroethene	6.82	61	3282	0.233	ppbV	100
18) tertiary butyl alcohol	6.94	59	4735	0.232	ppbV #	90
19) methylene chloride	6.99	49	3006	0.227	ppbV	97
20) 3-chloropropene	7.13	41	4015	0.225	ppbV	100
21) carbon disulfide	7.28	76	9068	0.219	ppbV #	80
22) Freon 113	7.32	101	5044	0.228	ppbV	99
23) trans-1,2-dichloroethene	8.12	61	3930	0.224	ppbV	97

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38592_Ev2.D
Acq On : 12 Mar 2020 12:25 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:37:05 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24) 1,1-dichloroethane	8.35	63	4591	0.228	ppbV		98
25) MTBE	8.45	73	7987	0.219	ppbV		94
26) vinyl acetate	8.57	43	6520	0.214	ppbV		99
27) 2-butanone	8.86	43	6210	0.224	ppbV		99
28) cis-1,2-dichloroethene	9.34	61	3366	0.225	ppbV		96
29) Ethyl Acetate	9.67	61	942	0.212	ppbV		83
30) chloroform	9.70	83	4937	0.224	ppbV		98
31) Tetrahydrofuran	10.18	42	3611	0.212	ppbV		94
32) 1,2-dichloroethane	10.55	62	2845	0.231	ppbV		97
34) hexane	9.61	57	4973	0.218	ppbV	#	79
36) 1,1,1-trichloroethane	10.83	97	4144	0.225	ppbV		93
37) benzene	11.37	78	10532	0.235	ppbV		100
38) carbon tetrachloride	11.54	117	4061	0.222	ppbV		97
39) cyclohexane	11.68	56	5382	0.217	ppbV		98
40) Dibromomethane	12.29	93	2834	0.234	ppbV	#	99
41) 1,2-dichloropropane	12.32	63	3176	0.229	ppbV		98
42) bromodichloromethane	12.55	83	5370	0.213	ppbV		99
43) 1,4-dioxane	12.61	88	2354	0.222	ppbV		93
44) trichloroethene	12.60	130	3954	0.224	ppbV		95
45) 2,2,4-trimethylpentane	12.65	57	16210	0.217	ppbV		98
46) heptane	12.97	43	6377	0.213	ppbV		98
47) cis-1,3-dichloropropene	14.24	75	4365	0.211	ppbV		99
48) 4-methyl-2-pentanone	13.68	43	7035	0.207	ppbV		99
49) trans-1,3-dichloropropene	13.62	75	4786	0.216	ppbV		100
50) 1,1,2-trichloroethane	14.43	97	3364	0.221	ppbV		98
52) toluene	14.75	91	11191	0.232	ppbV		100
54) 2-hexanone	15.05	43	6043	0.195	ppbV	#	92
55) dibromochloromethane	15.20	129	4474	0.204	ppbV		99
56) 1,2-dibromoethane	15.45	107	5230	0.222	ppbV		99
57) tetrachloroethene	15.92	166	4465	0.224	ppbV		99
58) 1,1,1,2-tetrachloroethane	16.56	131	3553	0.217	ppbV		98
59) chlorobenzene	16.57	112	8676	0.221	ppbV		99
60) ethylbenzene	16.93	91	12871	0.221	ppbV		100
61) m+p-xylene	17.08	91	21511	0.443	ppbV		98
62) bromoform	17.16	173	3658	0.189	ppbV		100
63) styrene	17.41	104	8663	0.201	ppbV		99
64) 1,1,2,2-tetrachloroethane	17.50	83	7380	0.219	ppbV		99
65) o-xylene	17.50	91	10824	0.221	ppbV		98
66) 1,2,3-Trichloropropane	17.62	75	5897	0.209	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38592_Ev2.D
Acq On : 12 Mar 2020 12:25 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:37:05 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) isopropylbenzene	18.01	105	15141	0.212	ppbV	97
69) Bromobenzene	18.08	77	7507	0.202	ppbV	99
70) 4-ethyl toluene	18.57	105	16241	0.202	ppbV	99
71) 1,3,5-trimethylbenzene	18.63	105	13681	0.211	ppbV	99
72) tert-butylbenzene	18.95	119	12976	0.206	ppbV	100
73) 1,2,4-trimethylbenzene	18.96	105	13009	0.207	ppbV	94
74) Benzyl Chloride	19.07	91	6263	0.142	ppbV	97
75) 1,3-dichlorobenzene	19.08	146	7090	0.199	ppbV	98
76) 1,4-dichlorobenzene	19.13	146	6691	0.195	ppbV	98
77) sec-butylbenzene	19.17	105	18930	0.200	ppbV	100
78) p-isopropyltoluene	19.29	119	14912	0.193	ppbV	98
79) 1,2-dichlorobenzene	19.41	146	6739	0.200	ppbV	98
80) n-butylbenzene	19.63	91	11731	0.180	ppbV	98
81) 1,2,4-trichlorobenzene	20.88	180	2730	0.127	ppbV	95
82) naphthalene	20.99	128	10144	0.142	ppbV	99
83) 1,2,3-trichlorobenzene	21.24	180	3559	0.138	ppbV	98
84) hexachlorobutadiene	21.31	225	5432	0.209	ppbV	98

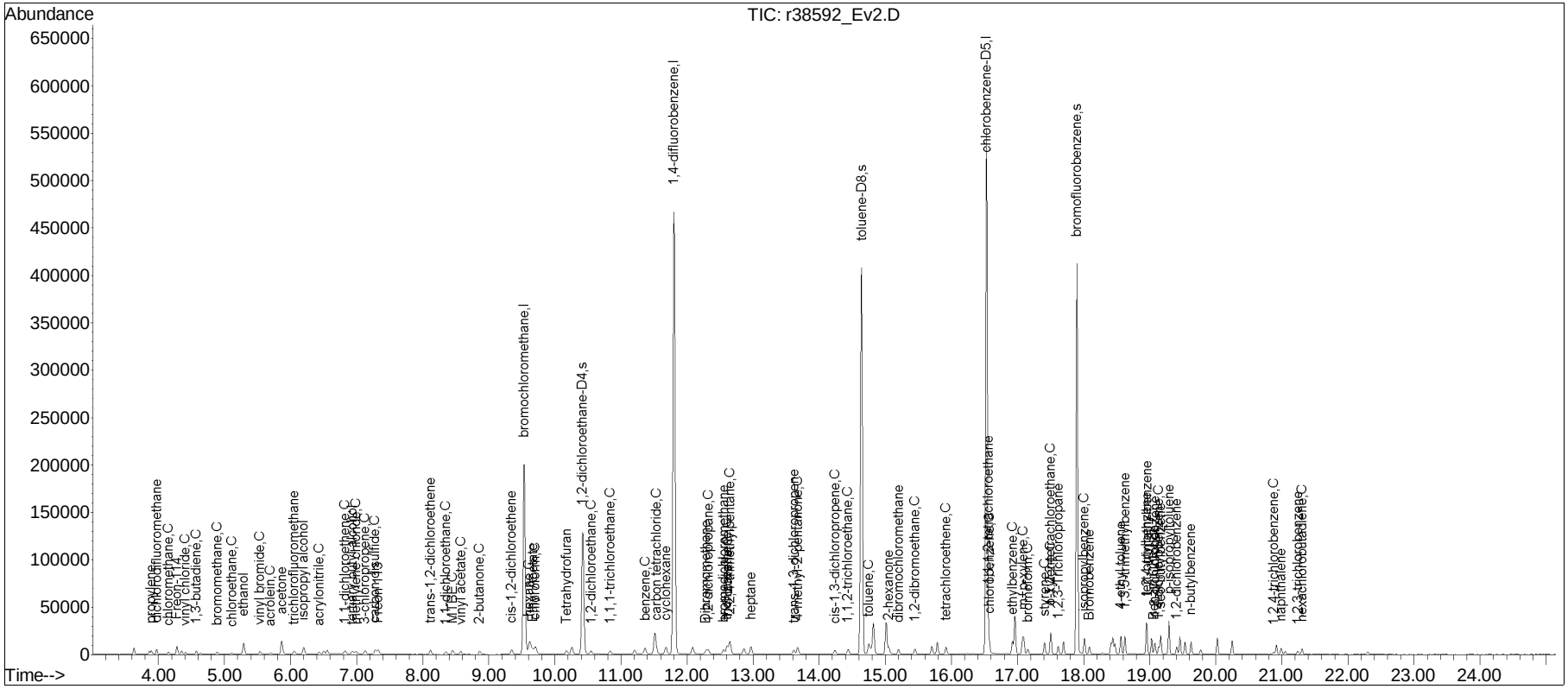
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38592_Ev2.D
Acq On : 12 Mar 2020 12:25 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.2
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:37:05 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

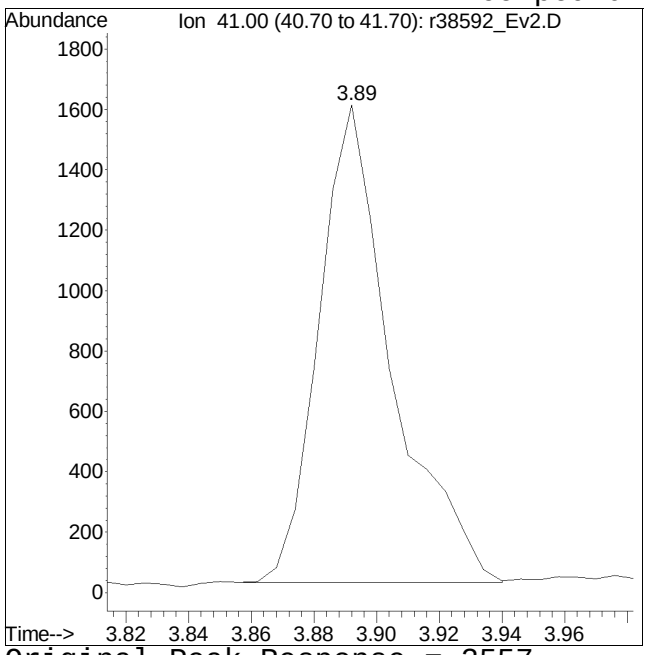
Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D



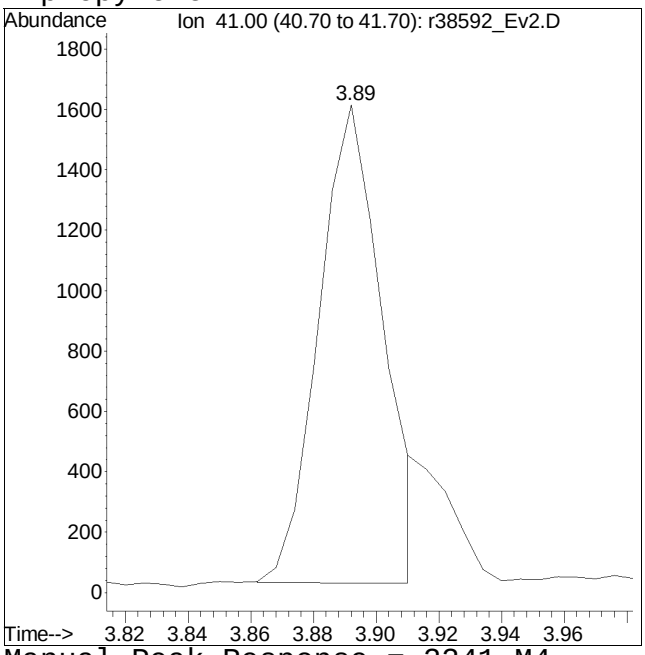
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38592_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:2: 5 Instrument :
Sample : ITO15-SIMSTD0.2 Quant Date : 3/12/2020 4:28 pm

Compound #2: propylene



Original Peak Response = 2557



Manual Peak Response = 2241 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38593_Ev2.D
Acq On : 12 Mar 2020 1:03 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:38:54 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.53	49	222336	10.000	ppbV	0.00
Standard Area = 228204			Recovery = 97.43%			
33) 1,4-difluorobenzene	11.81	114	645804	10.000	ppbV	0.00
Standard Area = 659248			Recovery = 97.96%			
51) chlorobenzene-D5	16.53	54	93675	10.000	ppbV	0.00
Standard Area = 98040			Recovery = 95.55%			
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.43	65	111359	10.014	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.14%			
53) toluene-D8	14.64	98	470745	10.160	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.60%			
67) bromofluorobenzene	17.90	95	294407	9.703	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 97.03%			
Target Compounds						Qvalue
2) propylene	3.89	41	5774M4	0.554	ppbV	
3) dichlorodifluoromethane	3.98	85	12183	0.565	ppbV	100
4) chloromethane	4.16	50	5299	0.561	ppbV	98
5) Freon-114	4.28	85	15218	0.566	ppbV	99
6) vinyl chloride	4.41	62	6042	0.558	ppbV	98
7) 1,3-butadiene	4.58	54	5813	0.533	ppbV	96
8) bromomethane	4.89	94	5261	0.567	ppbV	98
9) chloroethane	5.11	64	3071	0.566	ppbV	97
10) ethanol	5.29	31	29067	3.193	ppbV	100
11) vinyl bromide	5.54	106	6026	0.545	ppbV	99
12) acrolein	5.70	56	2984	0.558	ppbV	98
13) acetone	5.86	43	40421	2.593	ppbV	99
14) trichlorofluoromethane	6.06	101	9275	0.564	ppbV	99
15) isopropyl alcohol	6.20	45	25618	1.302	ppbV	100
16) acrylonitrile	6.43	53	5205	0.528	ppbV	99
17) 1,1-dichloroethene	6.83	61	7842	0.555	ppbV	99
18) tertiary butyl alcohol	6.93	59	11697	0.570	ppbV	99
19) methylene chloride	6.99	49	7116	0.533	ppbV	100
20) 3-chloropropene	7.13	41	9687	0.539	ppbV	99
21) carbon disulfide	7.28	76	22474	0.541	ppbV #	93
22) Freon 113	7.33	101	12274	0.551	ppbV	100
23) trans-1,2-dichloroethene	8.12	61	9616	0.544	ppbV	100

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38593_Ev2.D
Acq On : 12 Mar 2020 1:03 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:38:54 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24)	1,1-dichloroethane	8.35	63	11188	0.553	ppbV		98
25)	MTBE	8.45	73	19615	0.534	ppbV		98
26)	vinyl acetate	8.57	43	16135	0.526	ppbV		100
27)	2-butanone	8.85	43	15093	0.540	ppbV		97
28)	cis-1,2-dichloroethene	9.35	61	8278	0.550	ppbV		99
29)	Ethyl Acetate	9.66	61	2472	0.553	ppbV		91
30)	chloroform	9.70	83	12178	0.549	ppbV		98
31)	Tetrahydrofuran	10.17	42	9082	0.529	ppbV		96
32)	1,2-dichloroethane	10.55	62	6864	0.555	ppbV		98
34)	hexane	9.61	57	12369	0.538	ppbV		83
36)	1,1,1-trichloroethane	10.84	97	10234	0.551	ppbV		99
37)	benzene	11.37	78	25009	0.553	ppbV		99
38)	carbon tetrachloride	11.54	117	9973	0.541	ppbV		99
39)	cyclohexane	11.68	56	13322	0.534	ppbV		99
40)	Dibromomethane	12.29	93	6674	0.546	ppbV	#	99
41)	1,2-dichloropropane	12.32	63	7725	0.552	ppbV		99
42)	bromodichloromethane	12.55	83	13464	0.530	ppbV		98
43)	1,4-dioxane	12.61	88	5505	0.516	ppbV		97
44)	trichloroethene	12.61	130	9715	0.545	ppbV		98
45)	2,2,4-trimethylpentane	12.65	57	40184	0.534	ppbV		98
46)	heptane	12.97	43	15970	0.528	ppbV		99
47)	cis-1,3-dichloropropene	14.24	75	10973	0.525	ppbV		99
48)	4-methyl-2-pentanone	13.67	43	17621	0.513	ppbV		99
49)	trans-1,3-dichloropropene	13.62	75	11910	0.534	ppbV		99
50)	1,1,2-trichloroethane	14.44	97	8264	0.538	ppbV		98
52)	toluene	14.75	91	27436	0.571	ppbV		100
54)	2-hexanone	15.05	43	15643	0.506	ppbV		94
55)	dibromochloromethane	15.20	129	11171	0.510	ppbV		98
56)	1,2-dibromoethane	15.45	107	12955	0.552	ppbV		100
57)	tetrachloroethene	15.92	166	11170	0.561	ppbV		100
58)	1,1,1,2-tetrachloroethane	16.56	131	8873	0.542	ppbV		99
59)	chlorobenzene	16.57	112	21652	0.554	ppbV		99
60)	ethylbenzene	16.93	91	32075	0.551	ppbV		99
61)	m+p-xylene	17.08	91	53780	1.109	ppbV		98
62)	bromoform	17.16	173	9378	0.486	ppbV		99
63)	styrene	17.41	104	22261	0.517	ppbV		99
64)	1,1,2,2-tetrachloroethane	17.51	83	18546	0.551	ppbV		99
65)	o-xylene	17.50	91	27123	0.556	ppbV		96
66)	1,2,3-Trichloropropane	17.62	75	14961	0.530	ppbV		100

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38593_Ev2.D
Acq On : 12 Mar 2020 1:03 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:38:54 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) isopropylbenzene	18.02	105	38134	0.535	ppbV	99
69) Bromobenzene	18.09	77	19244	0.520	ppbV	99
70) 4-ethyl toluene	18.57	105	41835	0.522	ppbV	98
71) 1,3,5-trimethylbenzene	18.63	105	34976	0.541	ppbV	98
72) tert-butylbenzene	18.95	119	33180	0.528	ppbV	99
73) 1,2,4-trimethylbenzene	18.95	105	33843	0.540	ppbV	97
74) Benzyl Chloride	19.07	91	18338	0.417	ppbV	99
75) 1,3-dichlorobenzene	19.08	146	18211	0.513	ppbV	99
76) 1,4-dichlorobenzene	19.13	146	17501	0.512	ppbV	99
77) sec-butylbenzene	19.17	105	48686	0.516	ppbV	100
78) p-isopropyltoluene	19.29	119	38438	0.500	ppbV	97
79) 1,2-dichlorobenzene	19.41	146	17496	0.521	ppbV	99
80) n-butylbenzene	19.63	91	31485	0.485	ppbV	100
81) 1,2,4-trichlorobenzene	20.88	180	8133	0.379	ppbV	98
82) naphthalene	20.99	128	26939	0.379	ppbV	99
83) 1,2,3-trichlorobenzene	21.24	180	9735	0.377	ppbV	98
84) hexachlorobutadiene	21.31	225	14093	0.542	ppbV	98

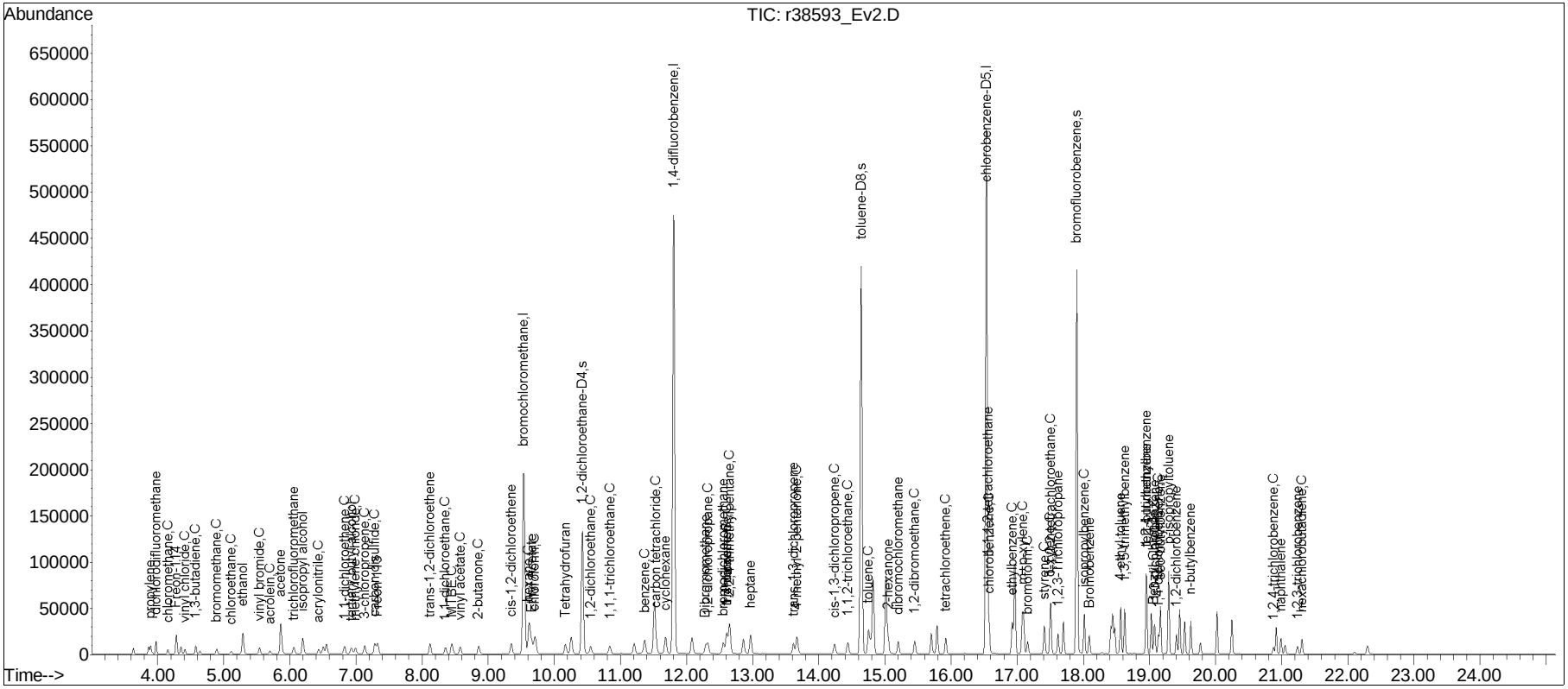
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38593_Ev2.D
Acq On : 12 Mar 2020 1:03 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD0.5
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:38:54 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

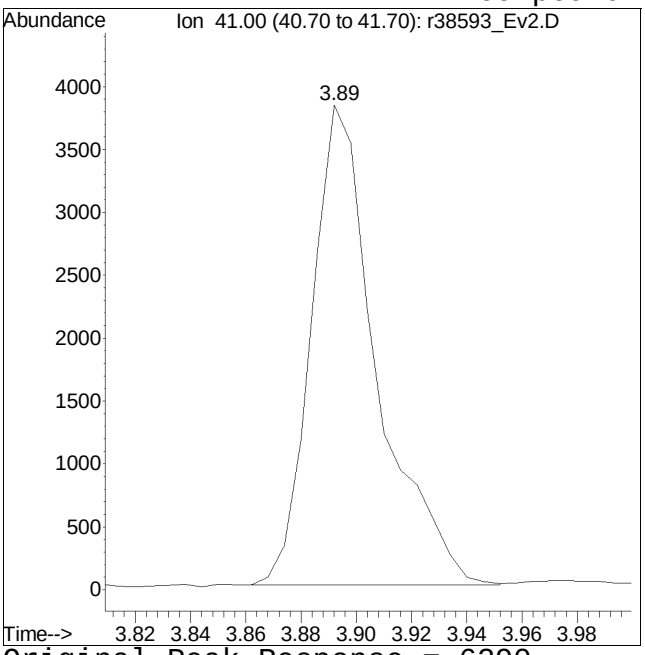
Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D



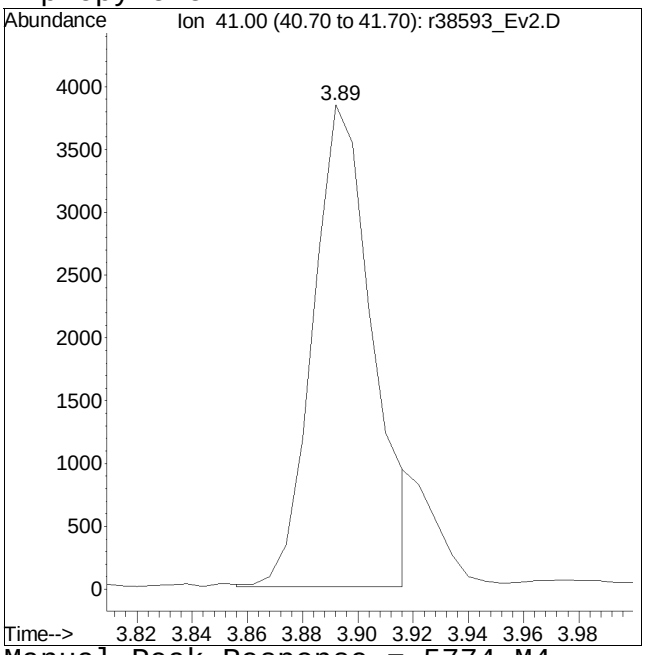
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38593_Ev2.D
Date Inj'd : 3/12/2020 0:1: 3
Sample : ITO15-SIMSTD0.5
Method : TSIM3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:28 pm

Compound #2: propylene



Original Peak Response = 6290



Manual Peak Response = 5774 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38594_Ev2.D
Acq On : 12 Mar 2020 1:44 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:40:28 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.53	49	223760	10.000	ppbV	0.00
Standard Area = 228204			Recovery = 98.05%			
33) 1,4-difluorobenzene	11.81	114	647135	10.000	ppbV	0.00
Standard Area = 659248			Recovery = 98.16%			
51) chlorobenzene-D5	16.53	54	93972	10.000	ppbV	0.00
Standard Area = 98040			Recovery = 95.85%			
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.43	65	111208	9.980	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.80%			
53) toluene-D8	14.64	98	469864	10.109	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.09%			
67) bromofluorobenzene	17.90	95	295653	9.713	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 97.13%			
Target Compounds						Qvalue
2) propylene	3.89	41	11632M4	1.109	ppbV	
3) dichlorodifluoromethane	3.98	85	24277	1.119	ppbV	100
4) chloromethane	4.16	50	10602	1.116	ppbV	99
5) Freon-114	4.28	85	30304	1.120	ppbV	99
6) vinyl chloride	4.41	62	12100	1.110	ppbV	100
7) 1,3-butadiene	4.58	54	11845	1.079	ppbV	99
8) bromomethane	4.89	94	10377	1.112	ppbV	100
9) chloroethane	5.11	64	6122	1.120	ppbV	98
10) ethanol	5.28	31	52257	5.704	ppbV	99
11) vinyl bromide	5.54	106	12184	1.094	ppbV	98
12) acrolein	5.70	56	5808	1.079	ppbV	99
13) acetone	5.86	43	79182	5.047	ppbV	100
14) trichlorofluoromethane	6.06	101	18283	1.104	ppbV	100
15) isopropyl alcohol	6.19	45	49548	2.502	ppbV	100
16) acrylonitrile	6.43	53	10571	1.066	ppbV	98
17) 1,1-dichloroethene	6.82	61	15600	1.097	ppbV	99
18) tertiary butyl alcohol	6.92	59	22447	1.086	ppbV	99
19) methylene chloride	6.99	49	14341	1.068	ppbV	99
20) 3-chloropropene	7.13	41	19540	1.080	ppbV	99
21) carbon disulfide	7.28	76	44870	1.073	ppbV	97
22) Freon 113	7.33	101	24561	1.096	ppbV	100
23) trans-1,2-dichloroethene	8.12	61	19081	1.073	ppbV	97

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38594_Ev2.D
Acq On : 12 Mar 2020 1:44 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:40:28 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24) 1,1-dichloroethane	8.35	63	22285	1.095	ppbV		100
25) MTBE	8.44	73	39388	1.065	ppbV		97
26) vinyl acetate	8.57	43	32118	1.041	ppbV		100
27) 2-butanone	8.85	43	30196	1.074	ppbV		100
28) cis-1,2-dichloroethene	9.35	61	16361	1.081	ppbV		98
29) Ethyl Acetate	9.66	61	4898	1.088	ppbV		87
30) chloroform	9.70	83	24381	1.092	ppbV		99
31) Tetrahydrofuran	10.16	42	18400	1.065	ppbV		97
32) 1,2-dichloroethane	10.55	62	13584	1.091	ppbV		99
34) hexane	9.61	57	24486	1.062	ppbV		91
36) 1,1,1-trichloroethane	10.84	97	20360	1.093	ppbV		100
37) benzene	11.37	78	49241	1.086	ppbV		99
38) carbon tetrachloride	11.54	117	19795	1.072	ppbV		99
39) cyclohexane	11.68	56	26083	1.044	ppbV		99
40) Dibromomethane	12.29	93	13131	1.072	ppbV	#	98
41) 1,2-dichloropropane	12.32	63	15002	1.070	ppbV		99
42) bromodichloromethane	12.55	83	26747	1.051	ppbV		100
43) 1,4-dioxane	12.61	88	10946	1.023	ppbV		97
44) trichloroethene	12.60	130	18763	1.051	ppbV		98
45) 2,2,4-trimethylpentane	12.65	57	80062	1.062	ppbV		99
46) heptane	12.97	43	31914	1.053	ppbV		100
47) cis-1,3-dichloropropene	14.23	75	22028	1.052	ppbV		97
48) 4-methyl-2-pentanone	13.66	43	35760	1.040	ppbV		100
49) trans-1,3-dichloropropene	13.62	75	23760	1.062	ppbV		100
50) 1,1,2-trichloroethane	14.44	97	16719	1.086	ppbV		99
52) toluene	14.75	91	54007	1.120	ppbV		100
54) 2-hexanone	15.04	43	32597	1.051	ppbV		93
55) dibromochloromethane	15.20	129	22755	1.035	ppbV		99
56) 1,2-dibromoethane	15.45	107	25992	1.105	ppbV		99
57) tetrachloroethene	15.92	166	22106	1.108	ppbV		99
58) 1,1,1,2-tetrachloroethane	16.56	131	17746	1.080	ppbV		99
59) chlorobenzene	16.57	112	43405	1.106	ppbV		100
60) ethylbenzene	16.93	91	64318	1.101	ppbV		99
61) m+p-xylene	17.09	91	107927	2.218	ppbV		98
62) bromoform	17.16	173	19354	1.000	ppbV		100
63) styrene	17.41	104	45309	1.049	ppbV		99
64) 1,1,2,2-tetrachloroethane	17.51	83	37448	1.109	ppbV		99
65) o-xylene	17.51	91	54368	1.111	ppbV		98
66) 1,2,3-Trichloropropane	17.62	75	29827	1.054	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38594_Ev2.D
Acq On : 12 Mar 2020 1:44 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:40:28 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) isopropylbenzene	18.02	105	76030	1.064	ppbV	99
69) Bromobenzene	18.09	77	38377	1.034	ppbV	100
70) 4-ethyl toluene	18.57	105	84953	1.057	ppbV	98
71) 1,3,5-trimethylbenzene	18.63	105	69665	1.075	ppbV	98
72) tert-butylbenzene	18.96	119	66412	1.053	ppbV	97
73) 1,2,4-trimethylbenzene	18.96	105	68765	1.093	ppbV	95
74) Benzyl Chloride	19.07	91	40600	0.920	ppbV	98
75) 1,3-dichlorobenzene	19.08	146	37509	1.054	ppbV	98
76) 1,4-dichlorobenzene	19.14	146	35881	1.046	ppbV	92
77) sec-butylbenzene	19.17	105	98421	1.040	ppbV	99
78) p-isopropyltoluene	19.29	119	78303	1.015	ppbV	98
79) 1,2-dichlorobenzene	19.41	146	35960	1.068	ppbV	98
80) n-butylbenzene	19.63	91	65688	1.009	ppbV	98
81) 1,2,4-trichlorobenzene	20.88	180	20086	0.933	ppbV	99
82) naphthalene	20.99	128	60461	0.848	ppbV	99
83) 1,2,3-trichlorobenzene	21.24	180	21942	0.847	ppbV	97
84) hexachlorobutadiene	21.31	225	28437	1.090	ppbV	99

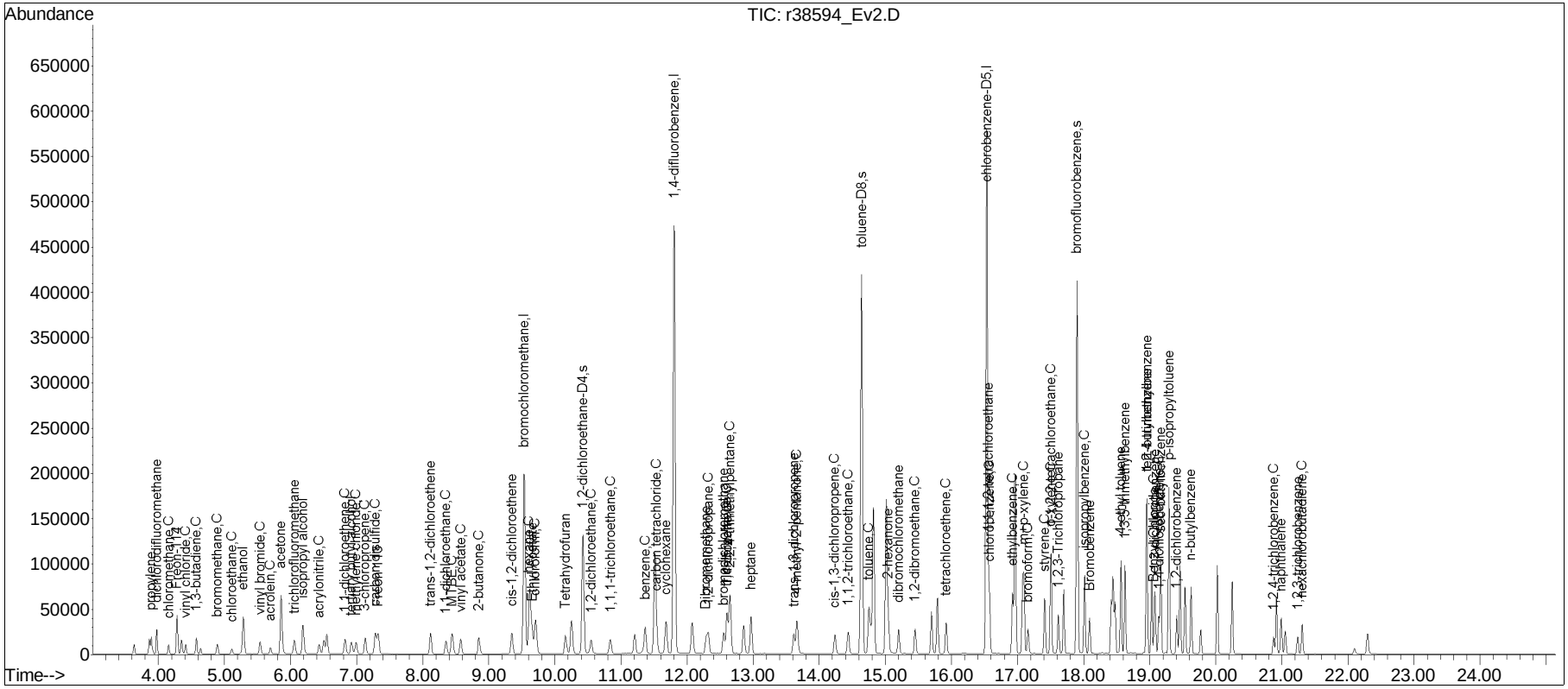
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38594_Ev2.D
Acq On : 12 Mar 2020 1:44 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD1.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:40:28 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

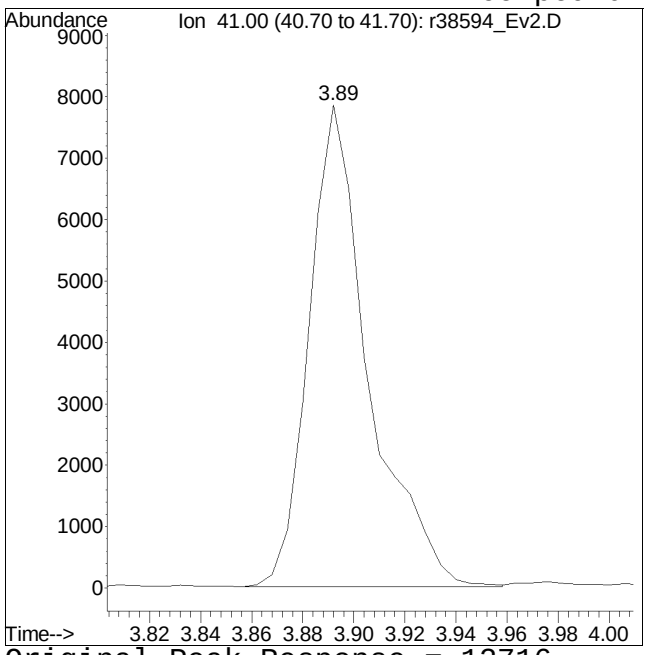
Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D

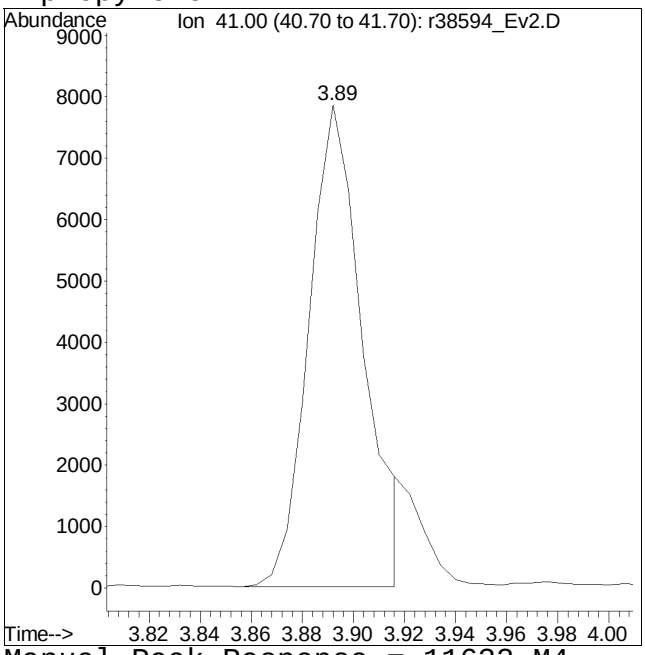


Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38594_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:1: 4 Instrument :
Sample : ITO15-SIMSTD1.0 Quant Date : 3/12/2020 4:28 pm

Compound #2: propylene





Original Peak Response = 12716 Manual Peak Response = 11632 M4
M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38595_Ev2.D
Acq On : 12 Mar 2020 2:23 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:26:27 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Fri Feb 14 15:18:57 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.54	49	228204	10.000	ppbV	-0.03
Standard Area = 228204			Recovery = 100.00%			
33) 1,4-difluorobenzene	11.81	114	659248	10.000	ppbV	-0.04
Standard Area = 659248			Recovery = 100.00%			
51) chlorobenzene-D5	16.53	54	98040	10.000	ppbV	-0.03
Standard Area = 98040			Recovery = 100.00%			
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.43	65	113521	9.815	ppbV	-0.04
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.15%			
53) toluene-D8	14.64	98	484933	10.447	ppbV	-0.03
Spiked Amount 10.000	Range 70 - 130		Recovery = 104.47%			
67) bromofluorobenzene	17.90	95	317559	11.127	ppbV	-0.03
Spiked Amount 10.000	Range 70 - 130		Recovery = 111.27%			
Target Compounds						Qvalue
2) propylene	3.89	41	53501M4	5.291	ppbV	
3) dichlorodifluoromethane	3.98	85	110627	4.414	ppbV	100
4) chloromethane	4.16	50	48451	4.219	ppbV	99
5) Freon-114	4.28	85	137985	4.194	ppbV	98
6) vinyl chloride	4.41	62	55584	4.090	ppbV	98
7) 1,3-butadiene	4.58	54	55983	4.301	ppbV	96
8) bromomethane	4.89	94	47587	4.035	ppbV	99
9) chloroethane	5.11	64	27866	3.883	ppbV	96
10) ethanol	5.28	31	233594	20.806	ppbV	90
11) vinyl bromide	5.54	106	56774	4.935	ppbV	99
12) acrolein	5.69	56	27446	4.181	ppbV	96
13) acetone	5.85	43	399998	22.779	ppbV	97
14) trichlorofluoromethane	6.06	101	84453	4.122	ppbV	98
15) isopropyl alcohol	6.18	45	252412	11.372	ppbV	99
16) acrylonitrile	6.43	53	50589	4.399	ppbV	99
17) 1,1-dichloroethene	6.83	61	72540	3.963	ppbV	96
18) tertiary butyl alcohol	6.91	59	105362	4.011	ppbV	98
19) methylene chloride	7.00	49	68457	4.605	ppbV	95
20) 3-chloropropene	7.13	41	92255	5.300	ppbV	98
21) carbon disulfide	7.28	76	213237	4.901	ppbV	100
22) Freon 113	7.33	101	114276	5.076	ppbV	97
23) trans-1,2-dichloroethene	8.12	61	90704	5.305	ppbV	98

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38595_Ev2.D
Acq On : 12 Mar 2020 2:23 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:26:27 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Fri Feb 14 15:18:57 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24) 1,1-dichloroethane	8.35	63	103826	5.042	ppbV		99
25) MTBE	8.44	73	188611	5.074	ppbV		98
26) vinyl acetate	8.57	43	157393	5.068	ppbV		96
27) 2-butanone	8.84	43	143386	4.891	ppbV		96
28) cis-1,2-dichloroethene	9.35	61	77213	5.161	ppbV		99
29) Ethyl Acetate	9.65	61	22961	5.209	ppbV		86
30) chloroform	9.71	83	113800	4.759	ppbV		97
31) Tetrahydrofuran	10.14	42	88111	4.967	ppbV		100
32) 1,2-dichloroethane	10.55	62	63478	4.813	ppbV		99
34) hexane	9.61	57	117410	4.901	ppbV		83
36) 1,1,1-trichloroethane	10.84	97	94871	4.786	ppbV		98
37) benzene	11.37	78	230976	4.449	ppbV		98
38) carbon tetrachloride	11.54	117	94060	4.870	ppbV		99
39) cyclohexane	11.68	56	127302	4.984	ppbV		94
40) Dibromomethane	12.29	93	62392	4.594	ppbV	#	96
41) 1,2-dichloropropane	12.32	63	71391	4.744	ppbV		97
42) bromodichloromethane	12.55	83	129613	4.733	ppbV		99
43) 1,4-dioxane	12.59	88	54495	4.948	ppbV		96
44) trichloroethene	12.61	130	90945	4.899	ppbV		100
45) 2,2,4-trimethylpentane	12.65	57	383967	5.048	ppbV		96
46) heptane	12.97	43	154368	4.737	ppbV		94
47) cis-1,3-dichloropropene	14.24	75	106654	4.827	ppbV		98
48) 4-methyl-2-pentanone	13.65	43	175175	4.754	ppbV		95
49) trans-1,3-dichloropropene	13.62	75	113914	4.762	ppbV		99
50) 1,1,2-trichloroethane	14.44	97	78404	4.898	ppbV		93
52) toluene	14.75	91	251536	4.775	ppbV		99
54) 2-hexanone	15.03	43	161727	4.640	ppbV		94
55) dibromochloromethane	15.20	129	114704	5.289	ppbV		99
56) 1,2-dibromoethane	15.45	107	122752	4.868	ppbV		99
57) tetrachloroethene	15.92	166	104101	5.006	ppbV		99
58) 1,1,1,2-tetrachloroethane	16.56	131	85688	5.132	ppbV		99
59) chlorobenzene	16.57	112	204665	5.061	ppbV		99
60) ethylbenzene	16.93	91	304769	5.186	ppbV		96
61) m+p-xylene	17.08	91	507675	10.237	ppbV		98
62) bromoform	17.16	173	100941	5.430	ppbV		99
63) styrene	17.41	104	225330	5.689	ppbV		98
64) 1,1,2,2-tetrachloroethane	17.50	83	176133	4.964	ppbV		100
65) o-xylene	17.50	91	255230	5.182	ppbV		99
66) 1,2,3-Trichloropropane	17.62	75	147626	5.078	ppbV		96

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38595_Ev2.D
Acq On : 12 Mar 2020 2:23 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:26:27 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Fri Feb 14 15:18:57 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) isopropylbenzene	18.02	105	372895	5.762	ppbV	99
69) Bromobenzene	18.08	77	193647	5.248	ppbV	98
70) 4-ethyl toluene	18.57	105	419251	6.038	ppbV	99
71) 1,3,5-trimethylbenzene	18.63	105	338175	5.825	ppbV	98
72) tert-butylbenzene	18.95	119	329006	5.611	ppbV	99
73) 1,2,4-trimethylbenzene	18.95	105	328145	6.084	ppbV	94
74) Benzyl Chloride	19.07	91	230274	5.909	ppbV	96
75) 1,3-dichlorobenzene	19.08	146	185632	5.781	ppbV	97
76) 1,4-dichlorobenzene	19.13	146	178993	5.774	ppbV	96
77) sec-butylbenzene	19.17	105	493680	5.974	ppbV	100
78) p-isopropyltoluene	19.29	119	402517	5.743	ppbV	99
79) 1,2-dichlorobenzene	19.41	146	175598	5.863	ppbV	96
80) n-butylbenzene	19.63	91	339581	5.662	ppbV	97
81) 1,2,4-trichlorobenzene	20.88	180	112341	6.224	ppbV	99
82) naphthalene	20.98	128	371725	6.117	ppbV	100
83) 1,2,3-trichlorobenzene	21.23	180	135153	6.204	ppbV	96
84) hexachlorobutadiene	21.31	225	136030	5.433	ppbV	96

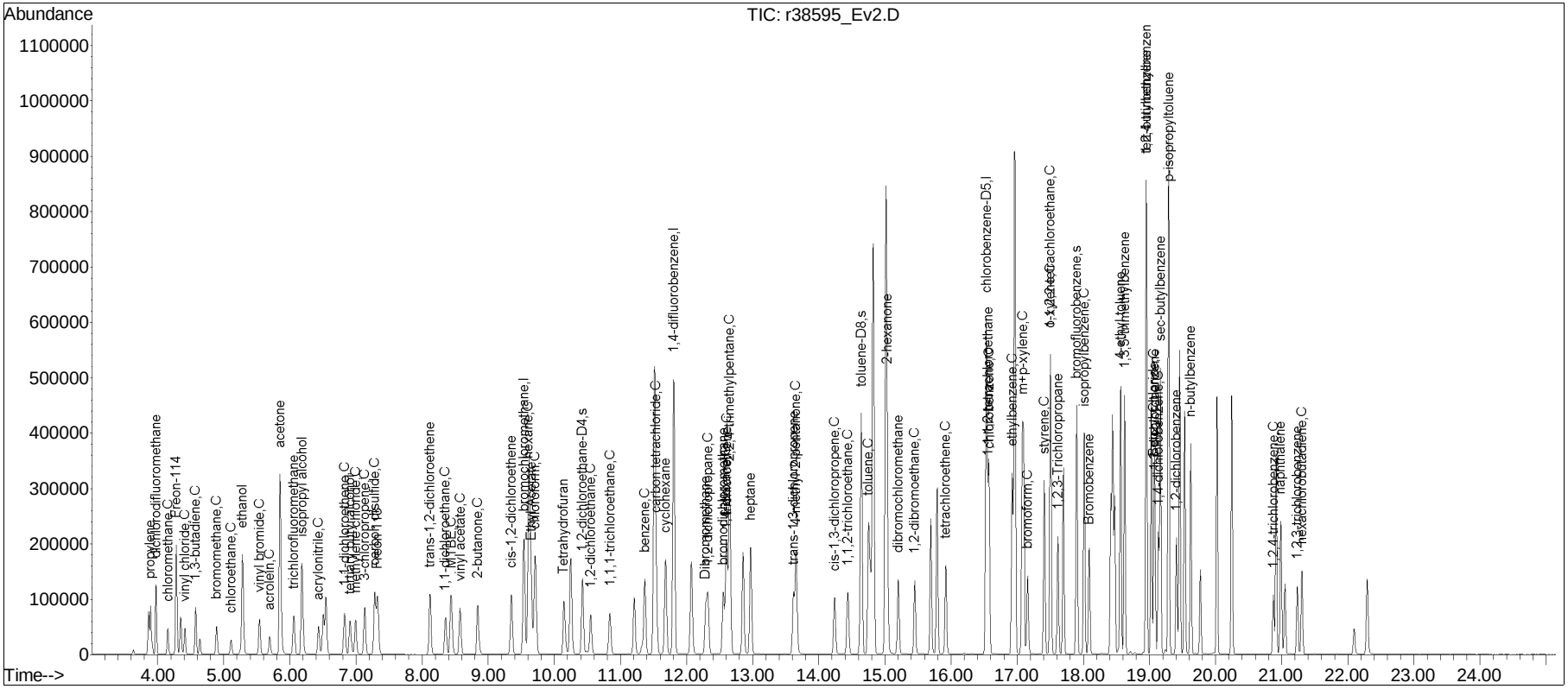
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38595_Ev2.D
Acq On : 12 Mar 2020 2:23 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:26:27 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Fri Feb 14 15:18:57 2020
Response via : Initial Calibration

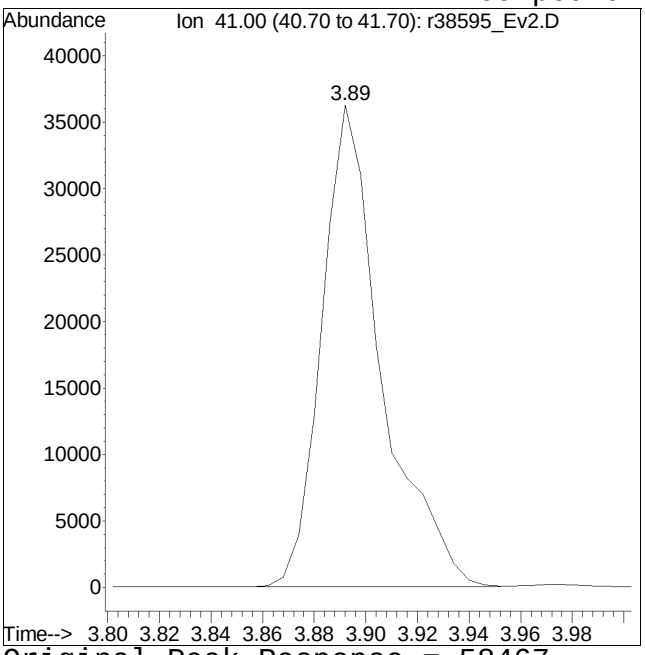
Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D

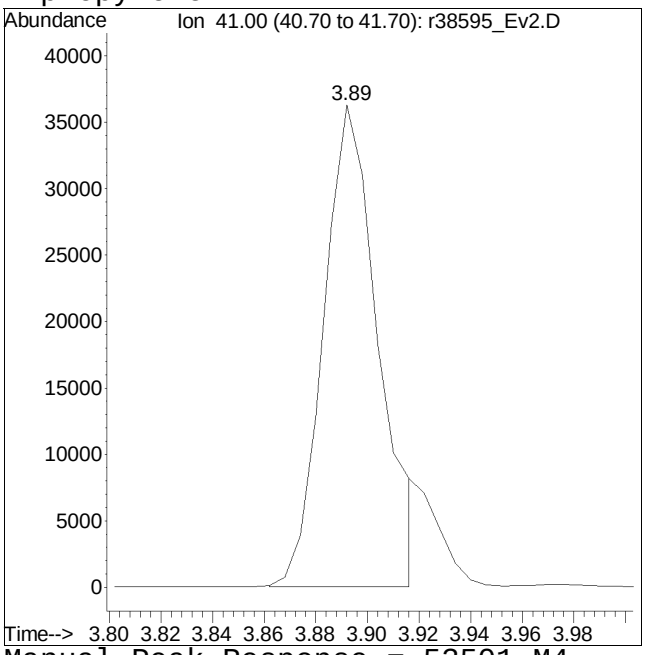


Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38595_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:2: 3 Instrument :
Sample : ITO15-SIMSTD5.0 Quant Date : 3/12/2020 4:26 pm

Compound #2: propylene





Original Peak Response = 58467 Manual Peak Response = 53501 M4
M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38596_Ev2.D
Acq On : 12 Mar 2020 3:04 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD010
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:42:23 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.54	49	235905	10.000	ppbV	0.00
Standard Area = 228204			Recovery = 103.37%			
33) 1,4-difluorobenzene	11.81	114	688971	10.000	ppbV	0.00
Standard Area = 659248			Recovery = 104.51%			
51) chlorobenzene-D5	16.53	54	100980	10.000	ppbV	0.00
Standard Area = 98040			Recovery = 103.00%			
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.43	65	115889	9.768	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 97.68%			
53) toluene-D8	14.64	98	503813	10.087	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.87%			
67) bromofluorobenzene	17.90	95	344719	10.539	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 105.39%			
Target Compounds						Qvalue
2) propylene	3.90	41	104724M4	9.468	ppbV	
3) dichlorodifluoromethane	3.98	85	219346	9.590	ppbV	99
4) chloromethane	4.16	50	96747	9.658	ppbV	100
5) Freon-114	4.28	85	271489	9.516	ppbV	99
6) vinyl chloride	4.41	62	112430	9.783	ppbV	99
7) 1,3-butadiene	4.58	54	113004	9.763	ppbV	98
8) bromomethane	4.89	94	95947	9.752	ppbV	98
9) chloroethane	5.12	64	56306	9.773	ppbV	98
10) ethanol	5.29	31	468944	48.550	ppbV	99
11) vinyl bromide	5.54	106	114633	9.766	ppbV	100
12) acrolein	5.70	56	56374	9.935	ppbV	99
13) acetone	5.85	43	786245	47.536	ppbV	98
14) trichlorofluoromethane	6.06	101	168588	9.655	ppbV	99
15) isopropyl alcohol	6.19	45	500832	23.993	ppbV	100
16) acrylonitrile	6.44	53	103159	9.863	ppbV	100
17) 1,1-dichloroethene	6.83	61	145886	9.727	ppbV	99
18) tertiary butyl alcohol	6.91	59	238758	10.960	ppbV #	94
19) methylene chloride	7.00	49	154834	10.940	ppbV	95
20) 3-chloropropene	7.13	41	189500	9.935	ppbV	99
21) carbon disulfide	7.28	76	435769	9.884	ppbV	100
22) Freon 113	7.33	101	231987	9.819	ppbV	100
23) trans-1,2-dichloroethene	8.13	61	185017	9.866	ppbV	94

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38596_Ev2.D
Acq On : 12 Mar 2020 3:04 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD010
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:42:23 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24) 1,1-dichloroethane	8.36	63	211785	9.866	ppbV		99
25) MTBE	8.43	73	385107	9.876	ppbV		98
26) vinyl acetate	8.57	43	324337	9.967	ppbV		100
27) 2-butanone	8.83	43	292925	9.881	ppbV		97
28) cis-1,2-dichloroethene	9.35	61	157575	9.871	ppbV		98
29) Ethyl Acetate	9.65	61	48676	10.254	ppbV		98
30) chloroform	9.71	83	233429	9.921	ppbV		99
31) Tetrahydrofuran	10.14	42	181102	9.941	ppbV		98
32) 1,2-dichloroethane	10.55	62	129294	9.852	ppbV		99
34) hexane	9.62	57	238133	9.704	ppbV		87
36) 1,1,1-trichloroethane	10.84	97	193739	9.770	ppbV		99
37) benzene	11.37	78	472180	9.780	ppbV		100
38) carbon tetrachloride	11.55	117	193442	9.839	ppbV		99
39) cyclohexane	11.68	56	259395	9.749	ppbV		99
40) Dibromomethane	12.29	93	126740	9.719	ppbV	#	99
41) 1,2-dichloropropane	12.32	63	145500	9.751	ppbV		99
42) bromodichloromethane	12.56	83	267378	9.869	ppbV		98
43) 1,4-dioxane	12.59	88	112079	9.840	ppbV		100
44) trichloroethene	12.61	130	186412	9.806	ppbV		99
45) 2,2,4-trimethylpentane	12.65	57	764287	9.523	ppbV		100
46) heptane	12.97	43	312867	9.697	ppbV		98
47) cis-1,3-dichloropropene	14.24	75	222944	10.001	ppbV		99
48) 4-methyl-2-pentanone	13.65	43	358448	9.790	ppbV		99
49) trans-1,3-dichloropropene	13.62	75	235616	9.896	ppbV		100
50) 1,1,2-trichloroethane	14.44	97	161139	9.833	ppbV		100
52) toluene	14.75	91	517094	9.979	ppbV		100
54) 2-hexanone	15.03	43	328570	9.862	ppbV		98
55) dibromochloromethane	15.20	129	239495	10.136	ppbV		100
56) 1,2-dibromoethane	15.45	107	256662	10.150	ppbV		99
57) tetrachloroethene	15.93	166	213897	9.974	ppbV		98
58) 1,1,1,2-tetrachloroethane	16.56	131	175943	9.968	ppbV		100
59) chlorobenzene	16.57	112	426884	10.125	ppbV		100
60) ethylbenzene	16.93	91	625265	9.959	ppbV		100
61) m+p-xylene	17.09	91	1043096	19.948	ppbV		99
62) bromoform	17.16	173	213174	10.252	ppbV		99
63) styrene	17.41	104	469368	10.112	ppbV		99
64) 1,1,2,2-tetrachloroethane	17.50	83	367051	10.116	ppbV		100
65) o-xylene	17.51	91	521746	9.924	ppbV		96
66) 1,2,3-Trichloropropane	17.62	75	306646	10.084	ppbV		99

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38596_Ev2.D
Acq On : 12 Mar 2020 3:04 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD010
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:42:23 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) isopropylbenzene	18.02	105	757649	9.863	ppbV	98
69) Bromobenzene	18.09	77	402821	10.098	ppbV	100
70) 4-ethyl toluene	18.57	105	861782	9.978	ppbV	99
71) 1,3,5-trimethylbenzene	18.63	105	691080	9.920	ppbV	98
72) tert-butylbenzene	18.95	119	680282	10.037	ppbV	99
73) 1,2,4-trimethylbenzene	18.96	105	667129	9.869	ppbV	90
74) Benzyl Chloride	19.07	91	508868	10.727	ppbV	99
75) 1,3-dichlorobenzene	19.08	146	390028	10.200	ppbV	99
76) 1,4-dichlorobenzene	19.13	146	382121	10.363	ppbV	99
77) sec-butylbenzene	19.17	105	1005860	9.891	ppbV	99
78) p-isopropyltoluene	19.29	119	830046	10.011	ppbV	100
79) 1,2-dichlorobenzene	19.41	146	367113	10.149	ppbV	99
80) n-butylbenzene	19.63	91	704184	10.067	ppbV	99
81) 1,2,4-trichlorobenzene	20.88	180	256061	11.065	ppbV	99
82) naphthalene	20.99	128	829709	10.835	ppbV	98
83) 1,2,3-trichlorobenzene	21.23	180	305188	10.962	ppbV	98
84) hexachlorobutadiene	21.31	225	277658	9.909	ppbV	99

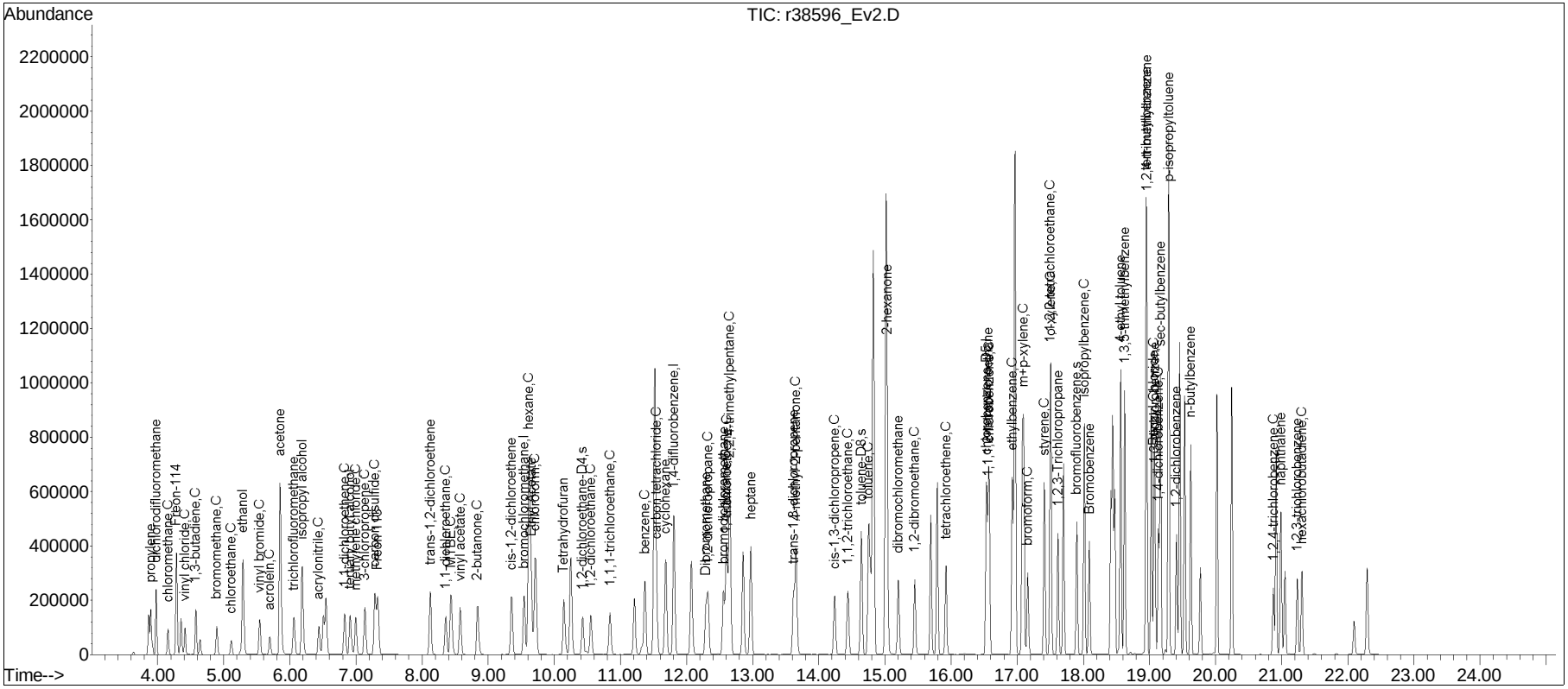
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38596_Ev2.D
Acq On : 12 Mar 2020 3:04 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD010
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:42:23 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

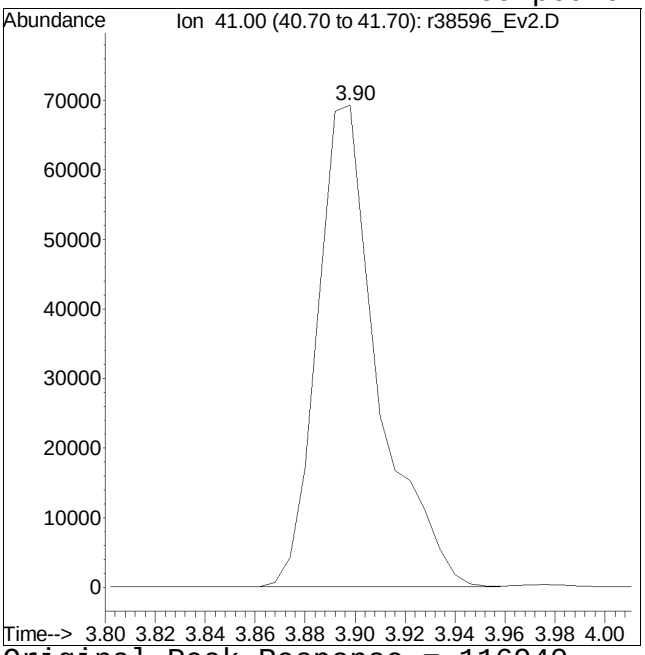
Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D

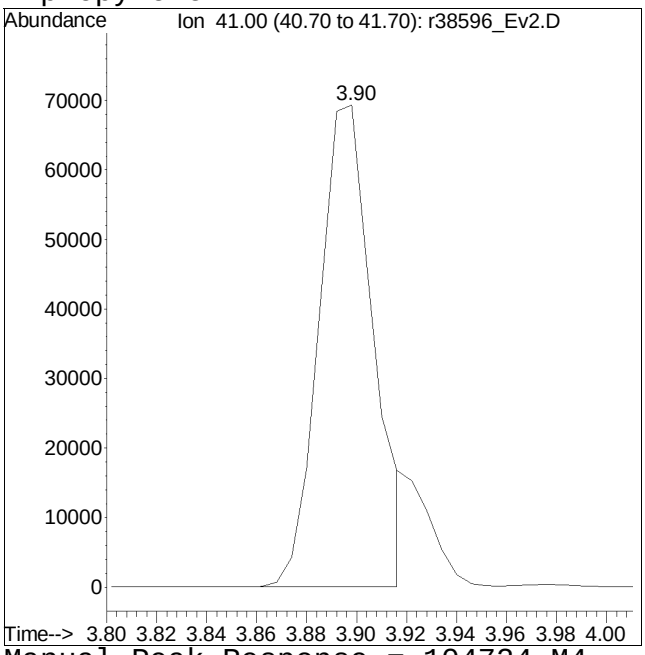


Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3Q
Data File : r38596_Ev2.D
Date Inj'd : 3/12/2020 0:3: 4
Sample : ITO15-SIMSTD010
Method : TSIM3_200312.M
Operator : AIRPIANO3:RY
Instrument :
Quant Date : 3/12/2020 4:28 pm

Compound #2: propylene





Original Peak Response = 116940 Manual Peak Response = 104724 M4
M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38597_Ev2.D
Acq On : 12 Mar 2020 3:41 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD020
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:44:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.54	49	246704	10.000	ppbV	0.00
Standard Area = 228204			Recovery = 108.11%			
33) 1,4-difluorobenzene	11.81	114	721734	10.000	ppbV	0.00
Standard Area = 659248			Recovery = 109.48%			
51) chlorobenzene-D5	16.53	54	103484	10.000	ppbV	0.00
Standard Area = 98040			Recovery = 105.55%			
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.43	65	115087	9.260	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 92.60%			
53) toluene-D8	14.64	98	503079	9.828	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.28%			
67) bromofluorobenzene	17.90	95	318110	9.490	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 94.90%			
Target Compounds						Qvalue
2) propylene	3.89	41	216963M4	18.756	ppbV	
3) dichlorodifluoromethane	3.98	85	449454	18.791	ppbV	99
4) chloromethane	4.15	50	203565	19.432	ppbV	99
5) Freon-114	4.28	85	549846	18.430	ppbV	96
6) vinyl chloride	4.41	62	242106	20.145	ppbV	99
7) 1,3-butadiene	4.58	54	241130	19.921	ppbV	96
8) bromomethane	4.89	94	205927	20.014	ppbV	99
9) chloroethane	5.11	64	122477	20.328	ppbV	98
10) ethanol	5.29	31	1097895	108.689	ppbV	97
11) vinyl bromide	5.54	106	277552	22.611	ppbV	97
12) acrolein	5.69	56	131028	22.080	ppbV #	94
13) acetone	5.84	43	1897263	109.687	ppbV	93
14) trichlorofluoromethane	6.06	101	447033	24.482	ppbV	99
15) isopropyl alcohol	6.18	45	1255311	57.504	ppbV	98
16) acrylonitrile	6.43	53	245194	22.417	ppbV	95
17) 1,1-dichloroethene	6.83	61	360502	22.985	ppbV	98
18) tertiary butyl alcohol	6.89	59	511510	22.454	ppbV #	93
19) methylene chloride	7.00	49	334373	22.591	ppbV	97
20) 3-chloropropene	7.13	41	401426	20.125	ppbV	99
21) carbon disulfide	7.28	76	916982	19.889	ppbV	99
22) Freon 113	7.33	101	490045	19.833	ppbV	99
23) trans-1,2-dichloroethene	8.12	61	389696	19.871	ppbV	100

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38597_Ev2.D
Acq On : 12 Mar 2020 3:41 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD020
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:44:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24) 1,1-dichloroethane	8.36	63	451572	20.116	ppbV		99
25) MTBE	8.43	73	799751	19.611	ppbV		98
26) vinyl acetate	8.57	43	686815	20.182	ppbV		100
27) 2-butanone	8.82	43	613199	19.779	ppbV		99
28) cis-1,2-dichloroethene	9.35	61	338896	20.300	ppbV		99
29) Ethyl Acetate	9.64	61	101729	20.491	ppbV		95
30) chloroform	9.71	83	499582	20.304	ppbV		99
31) Tetrahydrofuran	10.13	42	382843	20.096	ppbV		96
32) 1,2-dichloroethane	10.55	62	269952	19.669	ppbV		98
34) hexane	9.62	57	510000	19.838	ppbV	#	79
36) 1,1,1-trichloroethane	10.84	97	403711	19.435	ppbV		99
37) benzene	11.37	78	1025695	20.281	ppbV		99
38) carbon tetrachloride	11.55	117	400212	19.432	ppbV		99
39) cyclohexane	11.69	56	563268	20.208	ppbV		97
40) Dibromomethane	12.29	93	261334	19.130	ppbV	#	97
41) 1,2-dichloropropane	12.32	63	313483	20.055	ppbV		99
42) bromodichloromethane	12.55	83	563398	19.852	ppbV		99
43) 1,4-dioxane	12.59	88	240507	20.156	ppbV		99
44) trichloroethene	12.61	130	398534	20.014	ppbV		99
45) 2,2,4-trimethylpentane	12.65	57	1635346	19.452	ppbV		99
46) heptane	12.97	43	657671	19.458	ppbV		95
47) cis-1,3-dichloropropene	14.23	75	477040	20.428	ppbV		99
48) 4-methyl-2-pentanone	13.65	43	750051	19.555	ppbV		95
49) trans-1,3-dichloropropene	13.62	75	506110	20.291	ppbV		99
50) 1,1,2-trichloroethane	14.44	97	344538	20.070	ppbV		98
52) toluene	14.75	91	1098080	20.679	ppbV		100
54) 2-hexanone	15.03	43	648427	18.992	ppbV		95
55) dibromochloromethane	15.20	129	497362	20.540	ppbV		98
56) 1,2-dibromoethane	15.45	107	549442	21.203	ppbV		100
57) tetrachloroethene	15.93	166	463280	21.081	ppbV		96
58) 1,1,1,2-tetrachloroethane	16.56	131	362977	20.066	ppbV		99
59) chlorobenzene	16.57	112	940620	21.771	ppbV		98
60) ethylbenzene	16.93	91	1326925	20.624	ppbV		97
61) m+p-xylene	17.09	91	2183262	40.743	ppbV		96
62) bromoform	17.16	173	452748	21.247	ppbV		99
63) styrene	17.41	104	1023569	21.518	ppbV		99
64) 1,1,2,2-tetrachloroethane	17.50	83	791244	21.280	ppbV		99
65) o-xylene	17.51	91	1073776	19.929	ppbV		92
66) 1,2,3-Trichloropropane	17.62	75	631656	20.268	ppbV		98

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38597_Ev2.D
Acq On : 12 Mar 2020 3:41 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD020
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:44:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) isopropylbenzene	18.02	105	1562275	19.846	ppbV	95
69) Bromobenzene	18.09	77	842063	20.598	ppbV	98
70) 4-ethyl toluene	18.57	105	1755086	19.830	ppbV	95
71) 1,3,5-trimethylbenzene	18.63	105	1444302	20.231	ppbV	93
72) tert-butylbenzene	18.96	119	1349200	19.426	ppbV	99
73) 1,2,4-trimethylbenzene	18.96	105	1314264	18.972	ppbV	86
74) Benzyl Chloride	19.07	91	1038715	21.367	ppbV	96
75) 1,3-dichlorobenzene	19.08	146	811137	20.699	ppbV	96
76) 1,4-dichlorobenzene	19.13	146	816915	21.619	ppbV	97
77) sec-butylbenzene	19.17	105	1990310	19.097	ppbV	98
78) p-isopropyltoluene	19.29	119	1601301	18.845	ppbV	99
79) 1,2-dichlorobenzene	19.41	146	782372	21.105	ppbV	97
80) n-butylbenzene	19.63	91	1365197	19.044	ppbV	99
81) 1,2,4-trichlorobenzene	20.88	180	489973	20.660	ppbV	97
82) naphthalene	20.99	128	1432486	18.254	ppbV	97
83) 1,2,3-trichlorobenzene	21.23	180	526898	18.467	ppbV	96
84) hexachlorobutadiene	21.31	225	514846	17.928	ppbV	97

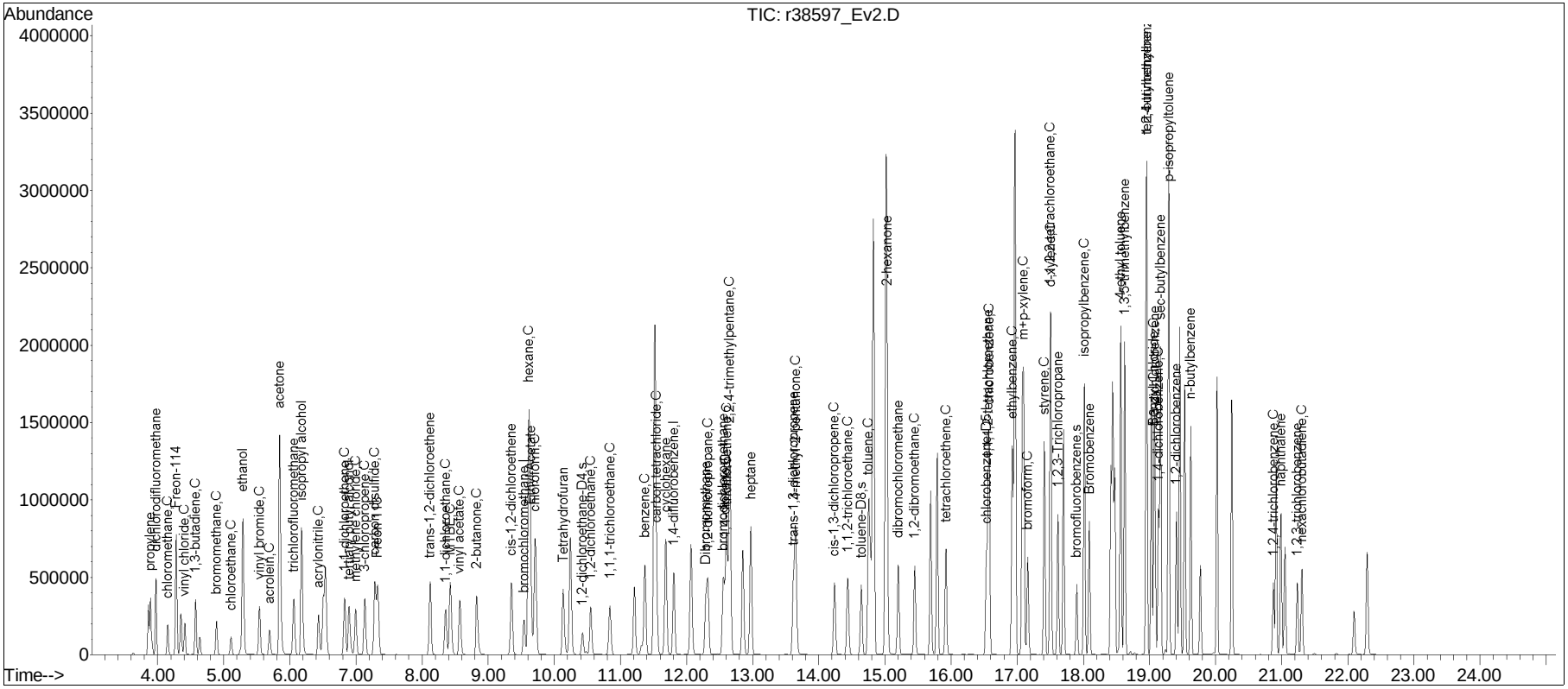
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38597_Ev2.D
Acq On : 12 Mar 2020 3:41 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD020
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:44:37 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:27:33 2020
Response via : Initial Calibration

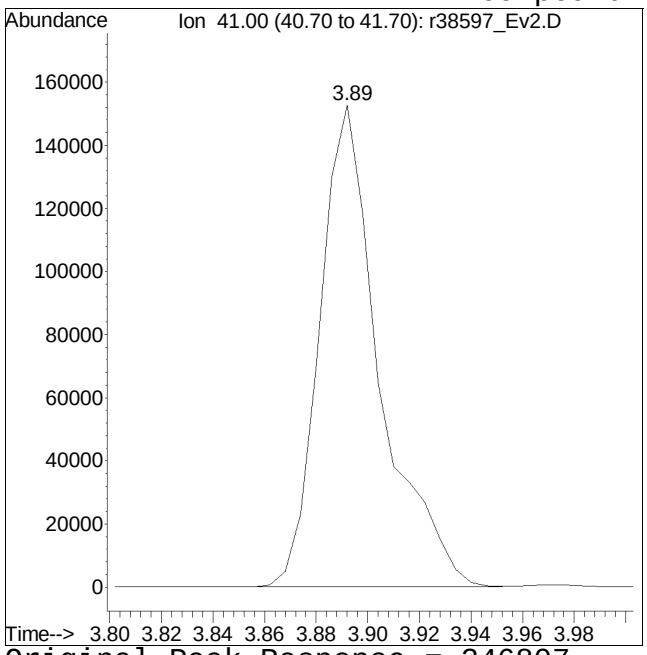
Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D



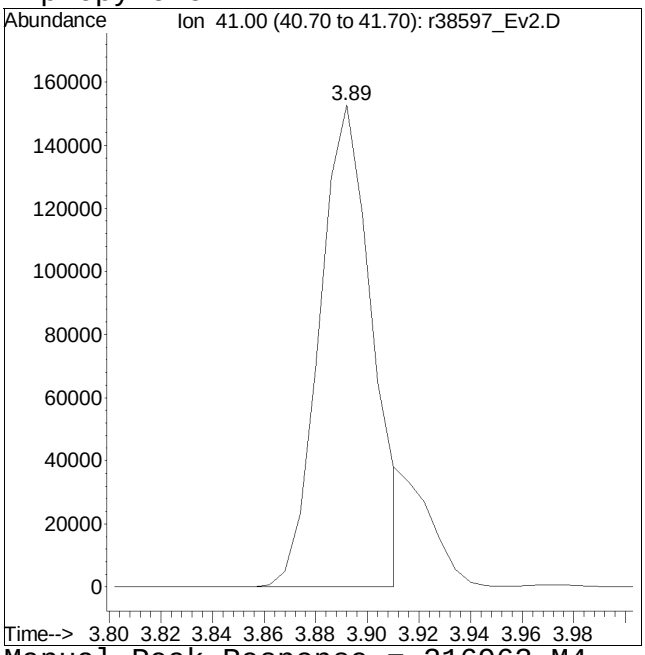
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38597_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:3: 1 Instrument :
Sample : ITO15-SIMSTD020 Quant Date : 3/12/2020 4:29 pm

Compound #2: propylene



Original Peak Response = 246807



Manual Peak Response = 216963 M4

M4 = Poor automated baseline construction.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38598_Ev2.D
Acq On : 12 Mar 2020 4:20 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD050
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:47:49 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:45:29 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.54	49	255770	10.000	ppbV	0.00
Standard Area = 228204			Recovery = 112.08%			
33) 1,4-difluorobenzene	11.81	114	749542	10.000	ppbV	0.00
Standard Area = 659248			Recovery = 113.70%			
51) chlorobenzene-D5	16.53	54	105079	10.000	ppbV	0.00
Standard Area = 98040			Recovery = 107.18%			
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.43	65	108644	8.543	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 85.43%			
53) toluene-D8	14.64	98	516638	9.987	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.87%			
67) bromofluorobenzene	17.90	95	347673	10.579	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 105.79%			
Target Compounds						Qvalue
2) propylene	3.89	41	505517M4	40.912	ppbV	
3) dichlorodifluoromethane	3.98	85	885663	34.035	ppbV	99
4) chloromethane	4.16	50	443879	38.825	ppbV	97
5) Freon-114	4.28	85	1068621	32.213	ppbV	91
6) vinyl chloride	4.41	62	556445	40.015	ppbV	99
7) 1,3-butadiene	4.58	54	540784	40.212	ppbV	96
8) bromomethane	4.89	94	461504	39.006	ppbV	98
9) chloroethane	5.12	64	282883	41.178	ppbV	93
10) ethanol	5.30	31	1807135	157.566	ppbV	99
11) vinyl bromide	5.54	106	503448	36.928	ppbV	98
12) acrolein	5.69	56	287635	43.375	ppbV	97
13) acetone	5.85	43	2759399	149.186	ppbV #	84
14) trichlorofluoromethane	6.06	101	694126	33.322	ppbV	100
15) isopropyl alcohol	6.19	45	2008048	84.464	ppbV	98
16) acrylonitrile	6.44	53	519757	44.190	ppbV	97
17) 1,1-dichloroethene	6.83	61	828787	45.841	ppbV	99
18) tertiary butyl alcohol	6.91	59	1224661	47.109	ppbV	96
19) methylene chloride	7.00	49	787704	47.896	ppbV	99
20) 3-chloropropene	7.13	41	939556	43.404	ppbV	97
21) carbon disulfide	7.28	76	2087384	42.024	ppbV	98
22) Freon 113	7.33	101	1102711	40.292	ppbV	97
23) trans-1,2-dichloroethene	8.13	61	905392	41.999	ppbV	93

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38598_Ev2.D
Acq On : 12 Mar 2020 4:20 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD050
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:47:49 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:45:29 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24) 1,1-dichloroethane	8.36	63	1053759	42.456	ppbV		100
25) MTBE	8.43	73	1795417	40.746	ppbV		95
26) vinyl acetate	8.57	43	1590127	44.199	ppbV		95
27) 2-butanone	8.83	43	1416093	42.303	ppbV		98
28) cis-1,2-dichloroethene	9.35	61	786066	41.552	ppbV		99
29) Ethyl Acetate	9.65	61	248596	45.990	ppbV		73
30) chloroform	9.71	83	1110027	40.525	ppbV		99
31) Tetrahydrofuran	10.13	42	901647	44.326	ppbV		97
32) 1,2-dichloroethane	10.55	62	586268	37.024	ppbV		95
34) hexane	9.62	57	1178457	42.789	ppbV		98
36) 1,1,1-trichloroethane	10.84	97	939792	40.342	ppbV	#	97
37) benzene	11.37	78	2385430	41.318	ppbV		99
38) carbon tetrachloride	11.55	117	812118	35.733	ppbV		98
39) cyclohexane	11.69	56	1354739	45.403	ppbV		94
40) Dibromomethane	12.29	93	583469	36.647	ppbV	#	93
41) 1,2-dichloropropane	12.33	63	729155	40.962	ppbV		97
42) bromodichloromethane	12.55	83	1269550	40.843	ppbV		99
43) 1,4-dioxane	12.59	88	601180	47.053	ppbV		97
44) trichloroethene	12.61	130	934900	43.104	ppbV		95
45) 2,2,4-trimethylpentane	12.65	57	3770336	42.190	ppbV		97
46) heptane	12.97	43	1474685	41.226	ppbV		92
47) cis-1,3-dichloropropene	14.24	75	1076197	43.627	ppbV		98
48) 4-methyl-2-pentanone	13.65	43	1688946	42.203	ppbV		92
49) trans-1,3-dichloropropene	13.62	75	1155540	43.790	ppbV		97
50) 1,1,2-trichloroethane	14.44	97	798761	41.296	ppbV		93
52) toluene	14.76	91	2499706	42.122	ppbV		99
54) 2-hexanone	15.03	43	1230734	35.649	ppbV	#	87
55) dibromochloromethane	15.21	129	1123105	46.054	ppbV		98
56) 1,2-dibromoethane	15.45	107	1240862	43.631	ppbV		100
57) tetrachloroethene	15.93	166	1054030	43.744	ppbV	#	94
58) 1,1,1,2-tetrachloroethane	16.56	131	790971	41.188	ppbV		97
59) chlorobenzene	16.57	112	2094649	44.875	ppbV		95
60) ethylbenzene	16.93	91	2951613	42.395	ppbV		95
61) m+p-xylene	17.09	91	4655228	79.341	ppbV		95
62) bromoform	17.16	173	999735	47.337	ppbV		98
63) styrene	17.41	104	2344403	46.718	ppbV		97
64) 1,1,2,2-tetrachloroethane	17.50	83	1631342	41.375	ppbV		99
65) o-xylene	17.51	91	2205760	37.810	ppbV		89
66) 1,2,3-Trichloropropane	17.62	75	1418399	44.128	ppbV		96

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38598_Ev2.D
Acq On : 12 Mar 2020 4:20 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD050
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:47:49 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:45:29 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) isopropylbenzene	18.02	105	3359591M3	40.854	ppbV	
69) Bromobenzene	18.09	77	1837525	43.358	ppbV	92
70) 4-ethyl toluene	18.57	105	3772270	42.844	ppbV	91
71) 1,3,5-trimethylbenzene	18.63	105	3011283	40.696	ppbV	88
72) tert-butylbenzene	18.96	119	2584189	35.963	ppbV	92
73) 1,2,4-trimethylbenzene	18.96	105	2489876	35.512	ppbV	86
74) Benzyl Chloride	19.07	91	2231707	48.403	ppbV	92
75) 1,3-dichlorobenzene	19.08	146	1773393	45.259	ppbV	94
76) 1,4-dichlorobenzene	19.14	146	1775868	46.049	ppbV #	90
77) sec-butylbenzene	19.17	105	4091429	38.552	ppbV	94
78) p-isopropyltoluene	19.29	119	3059021	35.904	ppbV	92
79) 1,2-dichlorobenzene	19.41	146	1759210	47.271	ppbV	95
80) n-butylbenzene	19.63	91	2916924	41.168	ppbV	96
81) 1,2,4-trichlorobenzene	20.88	180	1283098	62.649	ppbV	94
82) naphthalene	20.99	128	3577367	49.722	ppbV	96
83) 1,2,3-trichlorobenzene	21.24	180	1333359	55.382	ppbV #	90
84) hexachlorobutadiene	21.31	225	1098403	38.018	ppbV	96

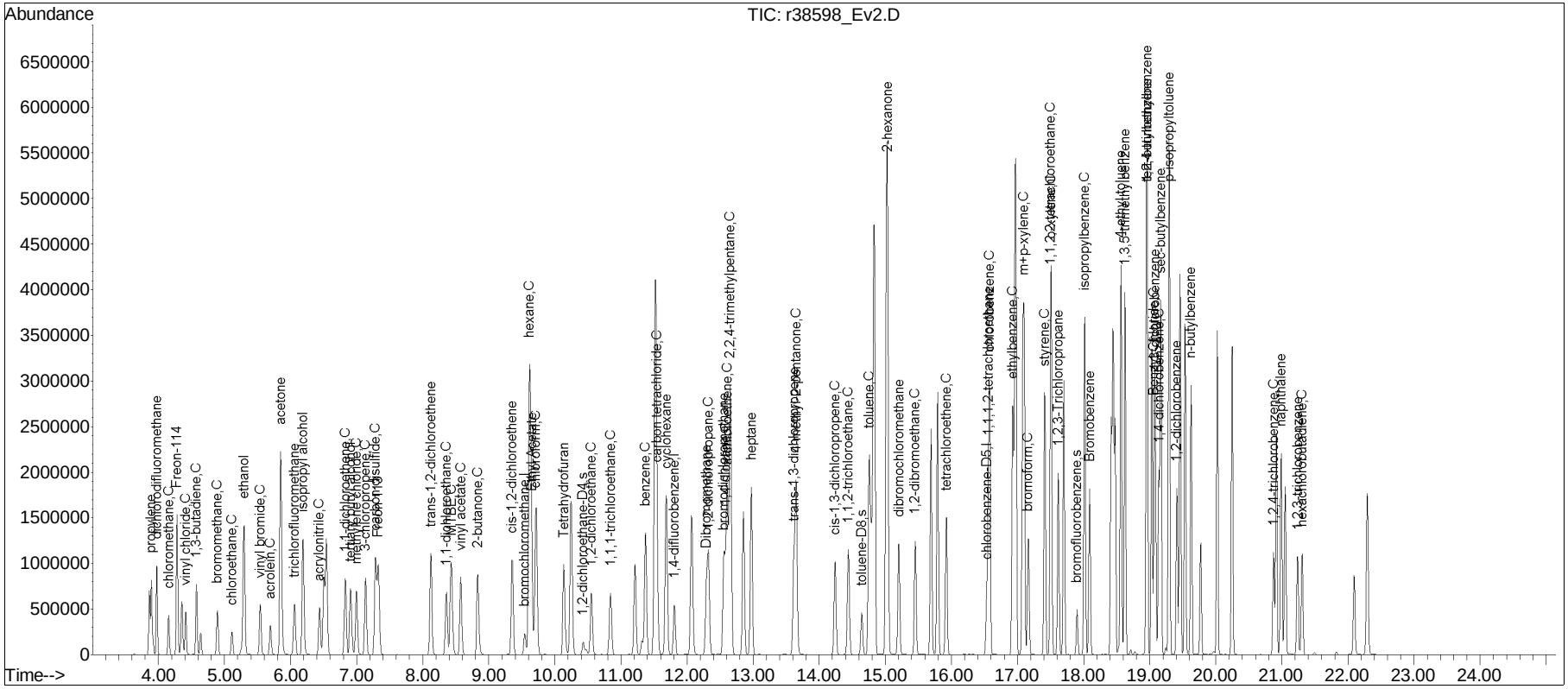
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38598_Ev2.D
Acq On : 12 Mar 2020 4:20 PM
Operator : AIRPIANO3:RY
Sample : ITO15-SIMSTD050
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 12 16:47:49 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:45:29 2020
Response via : Initial Calibration

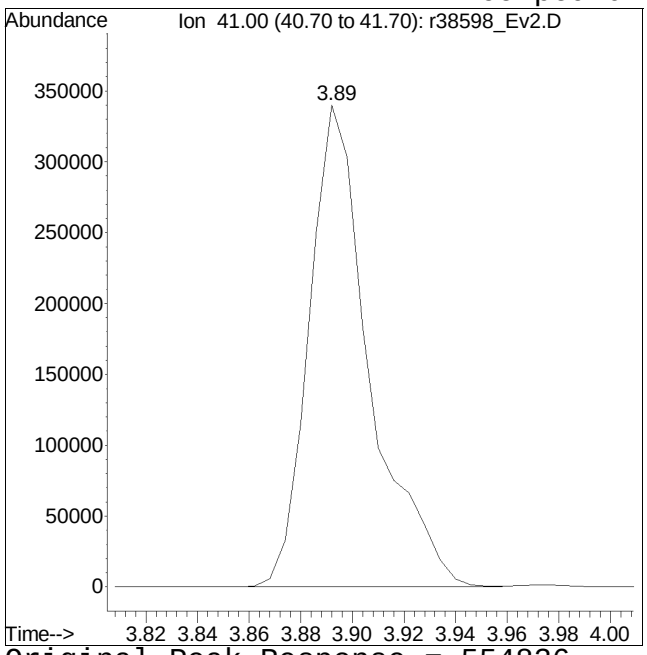
Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D



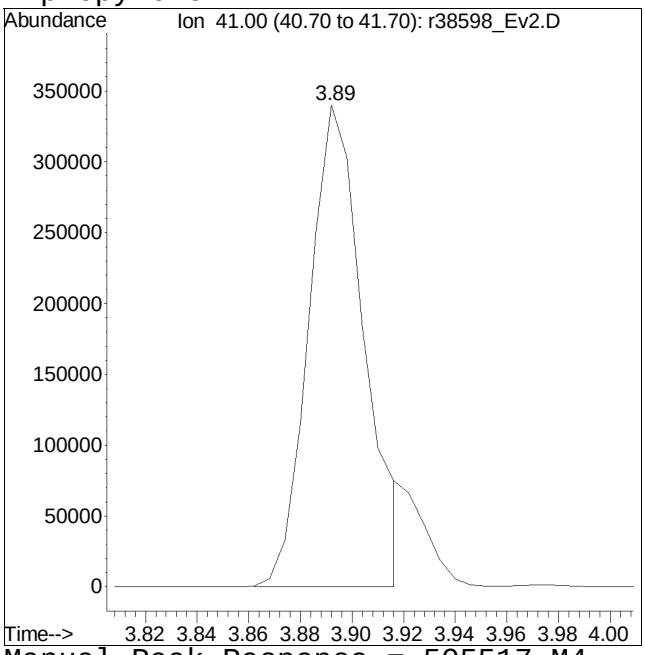
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38598_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:4: 0 Instrument :
Sample : ITO15-SIMSTD050 Quant Date : 3/12/2020 4:46 pm

Compound #2: propylene



Original Peak Response = 554836



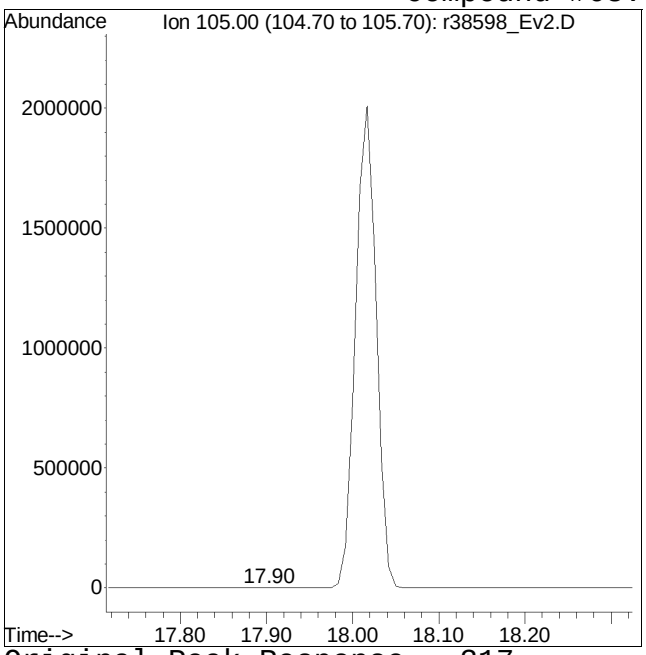
Manual Peak Response = 505517 M4

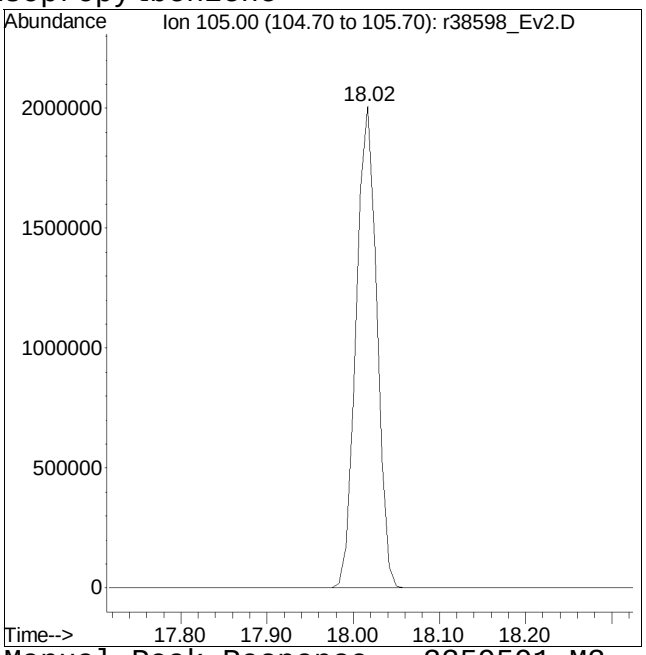
M4 = Poor automated baseline construction.

Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38598_Ev2.D Operator : AIRPIANO3:RY
Date Inj'd : 3/12/2020 0:4: 0 Instrument :
Sample : ITO15-SIMSTD050 Quant Date : 3/12/2020 4:46 pm

Compound #68: isopropylbenzene





Original Peak Response = 317 Manual Peak Response = 3359591 M3
M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38603_Ev2.D
Acq On : 13 Mar 2020 12:45 AM
Operator : AIRPIANO3:AR
Sample : CTO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:55:58 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	bromochloromethane	1.000	1.000	0.0	99	0.00
2		propylene	0.471	0.481	-2.1	102	0.00
3		dichlorodifluoromethane	0.971	0.808	16.8	83	0.00
4	C	chloromethane	0.433	0.385	11.1	90	0.00
5		Freon-114	1.246	1.095	12.1	90	0.00
6	C	vinyl chloride	0.533	0.499	6.4	102	0.00
7	C	1,3-butadiene	0.515	0.492	4.5	99	0.00
8	C	bromomethane	0.452	0.413	8.6	98	0.00
9	C	chloroethane	0.264	0.251	4.9	102	0.00
10		ethanol	0.421	0.356	15.4	86	0.00
11	C	vinyl bromide	0.513	0.419	18.3	84	0.00
12	C	acrolein	0.255	0.219	14.1	90	0.00
13		acetone	0.682	0.483	29.2	68	0.00
14		trichlorofluoromethane	0.784	0.570	27.3	76	0.00
15		isopropyl alcohol	0.886	0.690	22.1	77	0.00
16	C	acrylonitrile	0.453	0.406	10.4	91	0.00
17	C	1,1-dichloroethene	0.701	0.618	11.8	96	0.00
18		tertiary butyl alcohol	1.008	0.855	15.2	92	0.00
19	C	methylene chloride	0.638	0.500	21.6	83	0.00
20	C	3-chloropropene	0.830	0.835	-0.6	102	0.00
21	C	carbon disulfide	1.898	1.704	10.2	90	0.00
22		Freon 113	1.047	0.976	6.8	97	0.00
23		trans-1,2-dichloroethene	0.829	0.786	5.2	98	0.00
24	C	1,1-dichloroethane	0.956	0.928	2.9	101	0.00
25	C	MTBE	1.691	1.494	11.6	90	0.00
26	C	vinyl acetate	1.379	1.301	5.7	93	0.00
27	C	2-butanone	1.280	1.196	6.6	94	0.00
28		cis-1,2-dichloroethene	0.727	0.724	0.4	106	0.00
29		Ethyl Acetate	0.209	0.224	-7.2	110	0.00
30	C	chloroform	1.051	1.026	2.4	102	0.00
31		Tetrahydrofuran	0.782	0.750	4.1	96	0.00
32	C	1,2-dichloroethane	0.603	0.479	20.6	85	0.00
33	I	1,4-difluorobenzene	1.000	1.000	0.0	108	0.00
34	C	hexane	0.360	0.367	-1.9	111	0.00
35	s	1,2-dichloroethane-D4	0.167	0.125	25.1	78	0.00
36	C	1,1,1-trichloroethane	0.305	0.236	22.6	88	0.00
37	C	benzene	0.755	0.672	11.0	103	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38603_Ev2.D
Acq On : 13 Mar 2020 12:45 AM
Operator : AIRPIANO3:AR
Sample : CTO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:55:58 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
38	C	carbon tetrachloride	0.295	0.246	16.6	93	0.00
39		cyclohexane	0.393	0.401	-2.0	112	0.00
40		Dibromomethane	0.206	0.160	22.3	91	0.00
41	C	1,2-dichloropropane	0.233	0.213	8.6	106	0.00
42		bromodichloromethane	0.407	0.360	11.5	99	0.00
43	C	1,4-dioxane	0.169	0.177	-4.7	115	0.00
44	C	trichloroethene	0.285	0.273	4.2	107	0.00
45	C	2,2,4-trimethylpentane	1.166	1.205	-3.3	111	0.00
46		heptane	0.465	0.412	11.4	95	0.00
47	C	cis-1,3-dichloropropene	0.325	0.260	20.0	87	0.00
48	C	4-methyl-2-pentanone	0.520	0.472	9.2	96	0.00
49		trans-1,3-dichloropropene	0.348	0.332	4.6	104	0.00
50	C	1,1,2-trichloroethane	0.254	0.229	9.8	104	0.00
51	I	chlorobenzene-D5	1.000	1.000	0.0	98	0.00
52	C	toluene	5.549	5.576	-0.5	107	0.00
53	s	toluene-D8	4.923	4.713	4.3	94	0.00
54		2-hexanone	3.151	3.169	-0.6	94	0.00
55		dibromochloromethane	2.302	2.434	-5.7	102	0.00
56	C	1,2-dibromoethane	2.672	2.637	1.3	103	0.00
57	C	tetrachloroethene	2.264	2.353	-3.9	109	0.00
58		1,1,1,2-tetrachloroethane	1.795	1.635	8.9	92	0.00
59	C	chlorobenzene	4.397	4.907	-11.6	115	0.00
60	C	ethylbenzene	6.525	6.797	-4.2	107	0.00
61	C	m+p-xylene	5.468	5.547	-1.4	105	0.00
62	C	bromoform	1.999	2.221	-11.1	106	0.00
63	C	styrene	4.744	5.036	-6.2	108	0.00
64	C	1,1,2,2-tetrachloroethane	3.687	4.369	-18.5	119	0.00
65	C	o-xylene	5.416	5.635	-4.0	106	0.00
66		1,2,3-Trichloropropane	3.023	2.785	7.9	91	0.00
67	s	bromofluorobenzene	3.146	3.051	3.0	93	0.00
68	C	isopropylbenzene	7.621	7.563	0.8	98	0.00
69		Bromobenzene	3.957	3.786	4.3	94	0.00
70		4-ethyl toluene	8.259	8.778	-6.3	101	0.00
71		1,3,5-trimethylbenzene	6.911	7.396	-7.0	105	0.00
72		tert-butylbenzene	6.564	6.911	-5.3	101	0.02
73		1,2,4-trimethylbenzene	6.479	7.410	-14.4	109	0.03
74	C	Benzyl Chloride	4.368	4.970	-13.8	104	0.02

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38603_Ev2.D
Acq On : 13 Mar 2020 12:45 AM
Operator : AIRPIANO3:AR
Sample : CTO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:55:58 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
75	1,3-dichlorobenzene	3.694	4.185	-13.3	109	0.03
76 C	1,4-dichlorobenzene	3.641	4.057	-11.4	109	0.03
77	sec-butylbenzene	9.769	9.676	1.0	94	0.02
78	p-isopropyltoluene	7.782	7.738	0.6	93	0.03
79	1,2-dichlorobenzene	3.522	4.026	-14.3	110	0.04
80	n-butylbenzene	6.573	6.836	-4.0	97	0.05
81 C	1,2,4-trichlorobenzene	2.004	3.073	-53.3#	132	0.05
82	naphthalene	6.843	7.666	-12.0	99	0.06
83	1,2,3-trichlorobenzene	2.319	2.850	-22.9	102	0.06
84 C	hexachlorobutadiene	2.676	3.404	-27.2	121	0.05

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 1

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38603_Ev2.D
Acq On : 13 Mar 2020 12:45 AM
Operator : AIRPIANO3:AR
Sample : CTO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:55:58 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.542	49	226183	10.000	ppbV	0.00
Standard Area = 228204			Recovery = 99.11%			
33) 1,4-difluorobenzene	11.807	114	710328	10.000	ppbV	0.00
Standard Area = 659248			Recovery = 107.75%			
51) chlorobenzene-D5	16.533	54	96331	10.000	ppbV	0.00
Standard Area = 98040			Recovery = 98.26%			
System Monitoring Compounds						
35) 1,2-dichloroethane-D4	10.425	65	89067	7.500	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 75.00%			
53) toluene-D8	14.642	98	453969	9.574	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 95.74%			
67) bromofluorobenzene	17.900	95	293866	9.698	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 96.98%			
Target Compounds						Qvalue
2) propylene	3.898	41	54443M4	5.115	ppbV	
3) dichlorodifluoromethane	3.976	85	91407	4.162	ppbV	99
4) chloromethane	4.156	50	43541	4.449	ppbV	98
5) Freon-114	4.282	85	123783	4.393	ppbV	97
6) vinyl chloride	4.414	62	56457	4.685	ppbV	99
7) 1,3-butadiene	4.582	54	55638	4.772	ppbV	92
8) bromomethane	4.894	94	46760	4.570	ppbV	97
9) chloroethane	5.116	64	28389	4.757	ppbV	91
10) ethanol	5.284	31	201108	21.131	ppbV	95
11) vinyl bromide	5.543	106	47434	4.087	ppbV	99
12) acrolein	5.697	56	24791	4.291	ppbV	95
13) acetone	5.850	43	272875	17.703	ppbV #	83
14) trichlorofluoromethane	6.060	101	64497	3.636	ppbV	99
15) isopropyl alcohol	6.183	45	195002	9.726	ppbV #	97
16) acrylonitrile	6.433	53	45870	4.475	ppbV	96
17) 1,1-dichloroethene	6.828	61	69880	4.407	ppbV	98
18) tertiary butyl alcohol	6.912	59	96645	4.239	ppbV	95
19) methylene chloride	6.996	49	56587	3.918	ppbV	92
20) 3-chloropropene	7.134	41	94429	5.028	ppbV	96
21) carbon disulfide	7.284	76	192720	4.490	ppbV	96
22) Freon 113	7.326	101	110341	4.660	ppbV	98
23) trans-1,2-dichloroethene	8.117	61	88877	4.738	ppbV	98

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38603_Ev2.D
Acq On : 13 Mar 2020 12:45 AM
Operator : AIRPIANO3:AR
Sample : CTO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:55:58 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
24) 1,1-dichloroethane	8.350	63	104927	4.854	ppbV		98
25) MTBE	8.442	73	168903	4.416	ppbV	#	93
26) vinyl acetate	8.575	43	147076	4.714	ppbV	#	93
27) 2-butanone	8.842	43	135292	4.673	ppbV		99
28) cis-1,2-dichloroethene	9.350	61	81824	4.975	ppbV		98
29) Ethyl Acetate	9.650	61	25324	5.359	ppbV		72
30) chloroform	9.708	83	116067	4.884	ppbV		97
31) Tetrahydrofuran	10.142	42	84862	4.795	ppbV		98
32) 1,2-dichloroethane	10.550	62	54167	3.971	ppbV		94
34) hexane	9.608	57	130255	5.096	ppbV		82
36) 1,1,1-trichloroethane	10.842	97	83700	3.866	ppbV	#	95
37) benzene	11.367	78	238839	4.451	ppbV		98
38) carbon tetrachloride	11.540	117	87427	4.178	ppbV	#	98
39) cyclohexane	11.680	56	142254	5.098	ppbV		95
40) Dibromomethane	12.287	93	56726	3.875	ppbV	#	96
41) 1,2-dichloropropane	12.320	63	75735	4.572	ppbV		95
42) bromodichloromethane	12.553	83	127773	4.418	ppbV		97
43) 1,4-dioxane	12.593	88	62743	5.220	ppbV		98
44) trichloroethene	12.607	130	97045	4.787	ppbV		95
45) 2,2,4-trimethylpentane	12.653	57	427876	5.168	ppbV		93
46) heptane	12.967	43	146170	4.423	ppbV		91
47) cis-1,3-dichloropropene	14.233	75	92378	4.003	ppbV		99
48) 4-methyl-2-pentanone	13.658	43	167552	4.536	ppbV	#	89
49) trans-1,3-dichloropropene	13.617	75	118020	4.779	ppbV		97
50) 1,1,2-trichloroethane	14.442	97	81161	4.506	ppbV		92
52) toluene	14.750	91	268549	5.024	ppbV		100
54) 2-hexanone	15.033	43	152655	5.029	ppbV	#	92
55) dibromochloromethane	15.200	129	117218	5.285	ppbV		98
56) 1,2-dibromoethane	15.450	107	127035	4.935	ppbV		98
57) tetrachloroethene	15.917	166	113336	5.196	ppbV		93
58) 1,1,1,2-tetrachloroethane	16.558	131	78743	4.553	ppbV		98
59) chlorobenzene	16.575	112	236344	5.580	ppbV		96
60) ethylbenzene	16.925	91	327397	5.209	ppbV		100
61) m+p-xylene	17.092	91	534396	10.145	ppbV		98
62) bromoform	17.158	173	106991	5.556	ppbV		99
63) styrene	17.408	104	242553	5.307	ppbV		98
64) 1,1,2,2-tetrachloroethane	17.500	83	210439	5.924	ppbV		99
65) o-xylene	17.508	91	271414	5.202	ppbV		95
66) 1,2,3-Trichloropropane	17.617	75	134118	4.606	ppbV		97

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38603_Ev2.D
Acq On : 13 Mar 2020 12:45 AM
Operator : AIRPIANO3:AR
Sample : CTO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 13 04:55:58 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\r38595_Ev2.D
Sub List : Default - All compounds listed

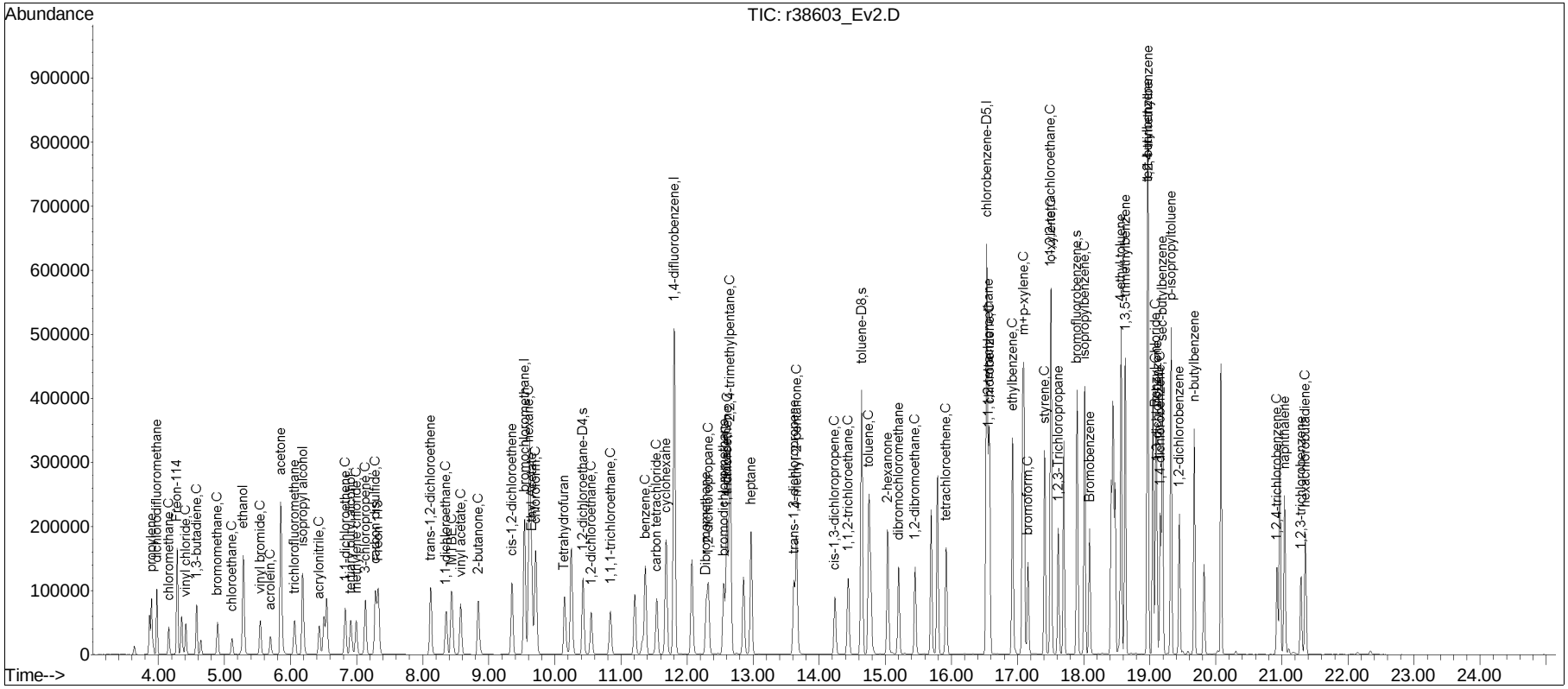
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) isopropylbenzene	18.017	105	364274	4.962	ppbV		95
69) Bromobenzene	18.092	77	182354	4.784	ppbV		95
70) 4-ethyl toluene	18.567	105	422803	5.314	ppbV		97
71) 1,3,5-trimethylbenzene	18.633	105	356217	5.351	ppbV		91
72) tert-butylbenzene	18.967	119	332849	5.264	ppbV		94
73) 1,2,4-trimethylbenzene	18.975	105	356919	5.718	ppbV	#	84
74) Benzyl Chloride	19.092	91	239385	5.689	ppbV		96
75) 1,3-dichlorobenzene	19.108	146	201583	5.666	ppbV		97
76) 1,4-dichlorobenzene	19.158	146	195425M3	5.572	ppbV		
77) sec-butylbenzene	19.192	105	466031	4.952	ppbV		97
78) p-isopropyltoluene	19.325	119	372727M3	4.972	ppbV		
79) 1,2-dichlorobenzene	19.450	146	193923	5.715	ppbV		98
80) n-butylbenzene	19.675	91	329248	5.200	ppbV		98
81) 1,2,4-trichlorobenzene	20.925	180	148018	7.668	ppbV		98
82) naphthalene	21.042	128	369222	5.601	ppbV		97
83) 1,2,3-trichlorobenzene	21.292	180	137269	6.146	ppbV		95
84) hexachlorobutadiene	21.358	225	163935	6.359	ppbV		98

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

Sub List : Default - All compounds listed20\03\200312SIM_I\r38595_Ev2.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\
Data File : r38603_Ev2.D
Acq On : 13 Mar 2020 12:45 AM
Operator : AIRPIANO3:AR
Sample : CTO15-SIMSTD5.0
Misc : WG1350409
ALS Vial : 0 Sample Multiplier: 1

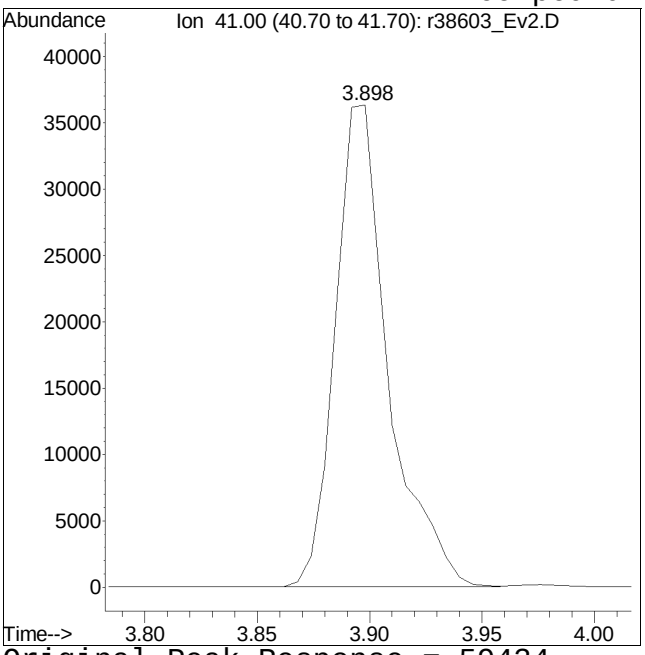
Quant Time: Mar 13 04:55:58 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200312SIM_I\TSIM3_200312
... .M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

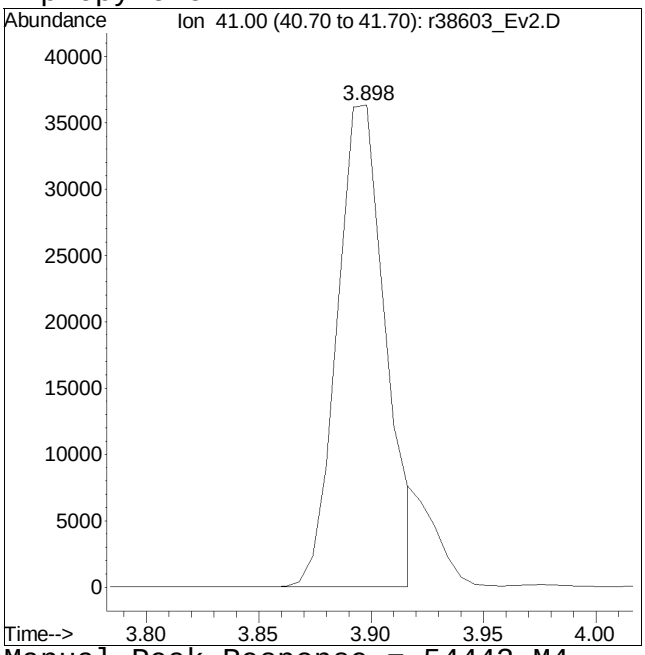


Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38603_Ev2.D Operator : AIRPIANO3:AR
Date Inj'd : 3/13/2020 0:2: 5 Instrument :
Sample : CTO15-SIMSTD5.0 Quant Date : 3/13/2020 4:43 am

Compound #2: propylene



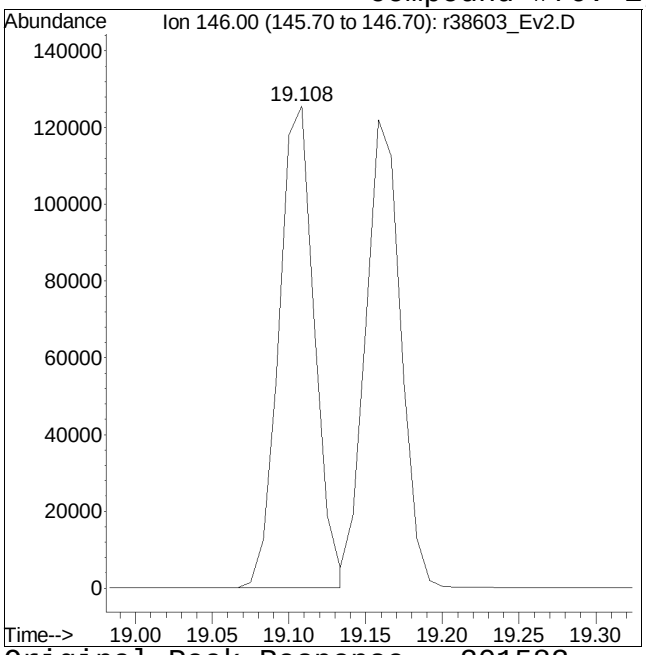


Original Peak Response = 59434 Manual Peak Response = 54443 M4
M4 = Poor automated baseline construction.

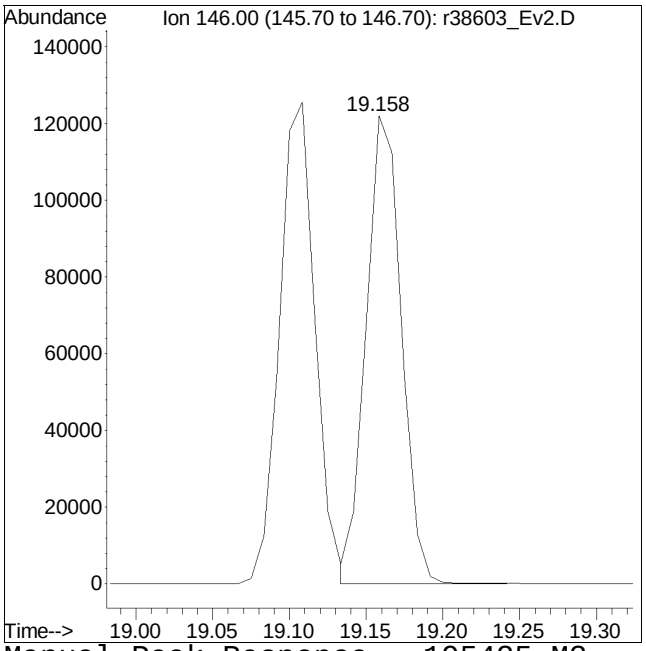
Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38603_Ev2.D Operator : AIRPIANO3:AR
Date Inj'd : 3/13/2020 0:2: 5 Instrument :
Sample : CTO15-SIMSTD5.0 Quant Date : 3/13/2020 4:43 am

Compound #76: 1,4-dichlorobenzene



Original Peak Response = 201583



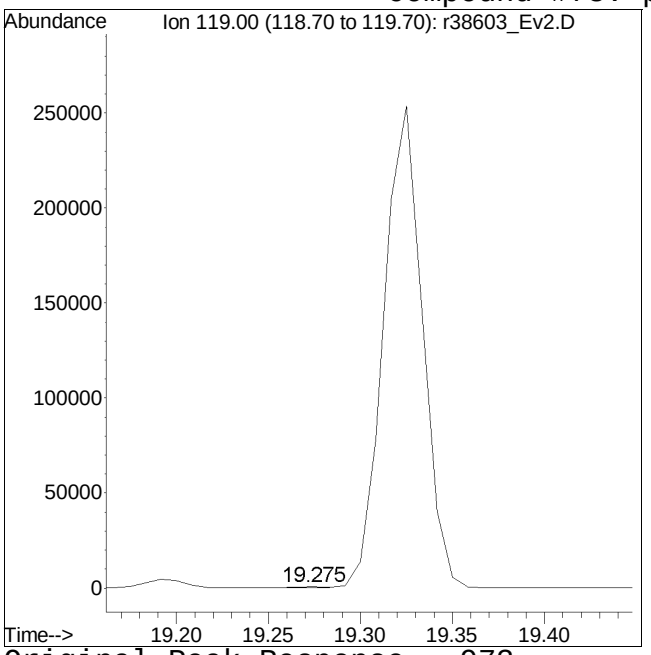
Manual Peak Response = 195425 M3

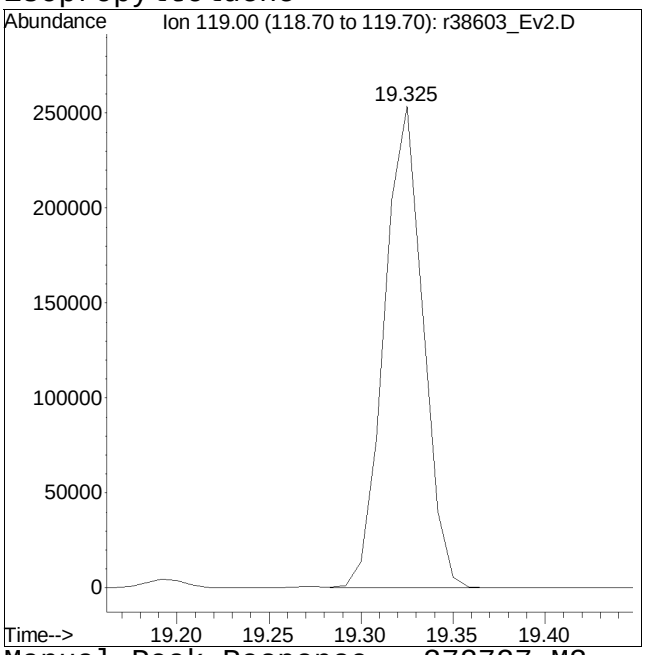
M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Manual Integration/Negative Proof Report

Data Path : O:\Forensics\Data\Airpiano3QMethod : TSIM3_200312.M
Data File : r38603_Ev2.D Operator : AIRPIANO3:AR
Date Inj'd : 3/13/2020 0:2: 5 Instrument :
Sample : CTO15-SIMSTD5.0 Quant Date : 3/13/2020 4:43 am

Compound #78: p-isopropyltoluene





Original Peak Response = 973 Manual Peak Response = 372727 M3

M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Continuing Calibration

Calibration Verification Summary
Form 7
Air Volatiles

Client	: P. W. Grosser		**Lab Number**	: L2011723	
Project Name	: MHD1801		**Project Number**	: MHD1801	
Instrument ID	: AIRPIANO3		**Calibration Date**	: 03/20/20 14:11	
Lab File ID	: R38755_EV2		**Init. Calib. Date(s)**	: 03/12/20	03/12/20
Sample No	: WG1353543-2		**Init. Calib. Times**	: 10:28	16:20
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
bromochloromethane	1	1	-	0	30	99	.03
propylene	0.471	0.565	-	-20	30	119	.02
dichlorodifluoromethane	0.971	0.985	-	-1.4	30	100	.02
chloromethane	0.433	0.5	-	-15.5	30	116	.02
Freon-114	1.246	1.347	-	-8.1	30	110	.02
vinyl chloride	0.533	0.564	-	-5.8	30	114	.02
1,3-butadiene	0.515	0.522	-	-1.4	30	105	.03
bromomethane	0.452	0.512	-	-13.3	30	121	.03
chloroethane	0.264	0.303	-	-14.8	30	122	.03
ethanol	0.421	0.41	-	2.6	30	99	.03
vinyl bromide	0.513	0.603	-	-17.5	30	120	.03
acrolein	0.255	0.225	-	11.8	30	92	.03
acetone	0.682	0.79	-	-15.8	30	111	.03
trichlorofluoromethane	0.784	0.929	-	-18.5	30	124	.03
isopropyl alcohol	0.886	1.093	-	-23.4	30	122	.03
acrylonitrile	0.453	0.447	-	1.3	30	99	.03
1,1-dichloroethene	0.701	0.734	-	-4.7	30	114	.03
tertiary butyl alcohol	1.008	0.945	-	6.3	30	101	.03
methylene chloride	0.638	0.696	-	-9.1	30	114	.03
3-chloropropene	0.83	1.024	-	-23.4	30	125	.03
carbon disulfide	1.898	1.741	-	8.3	30	92	.04
Freon 113	1.047	1.08	-	-3.2	30	106	.03
trans-1,2-dichloroethene	0.829	0.845	-	-1.9	30	105	.03
1,1-dichloroethane	0.956	1.065	-	-11.4	30	115	.04
MTBE	1.691	1.678	-	0.8	30	100	.03
vinyl acetate	1.379	1.584	-	-14.9	30	113	.03
2-butanone	1.28	1.462	-	-14.2	30	115	.03
cis-1,2-dichloroethene	0.727	0.772	-	-6.2	30	112	.03
Ethyl Acetate	0.209	0.241	-	-15.3	30	118	.03
chloroform	1.051	0.998	-	5	30	99	.03
Tetrahydrofuran	0.782	0.886	-	-13.3	30	113	.04
1,2-dichloroethane	0.603	0.598	-	0.8	30	106	.03
1,4-difluorobenzene	1	1	-	0	30	97	.03
hexane	0.36	0.364	-	-1.1	30	100	.04
1,1,1-trichloroethane	0.305	0.311	-	-2	30	105	.03
benzene	0.755	0.674	-	10.7	30	94	.04
carbon tetrachloride	0.295	0.276	-	6.4	30	94	.04
cyclohexane	0.393	0.378	-	3.8	30	95	.04
Dibromomethane	0.206	0.188	-	8.7	30	97	.04
1,2-dichloropropane	0.233	0.257	-	-10.3	30	116	.04
bromodichloromethane	0.407	0.372	-	8.6	30	92	.03
1,4-dioxane	0.169	0.179	-	-5.9	30	105	.04
trichloroethene	0.285	0.317	-	-11.2	30	112	.03

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Air Volatiles

Client	: P. W. Grosser		**Lab Number**	: L2011723	
Project Name	: MHD1801		**Project Number**	: MHD1801	
Instrument ID	: AIRPIANO3		**Calibration Date**	: 03/20/20 14:11	
Lab File ID	: R38755_EV2		**Init. Calib. Date(s)**	: 03/12/20	03/12/20
Sample No	: WG1353543-2		**Init. Calib. Times**	: 10:28	16:20
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
2,2,4-trimethylpentane	1.166	1.184	-	-1.5	30	99	.03
heptane	0.465	0.54	-	-16.1	30	112	.04
cis-1,3-dichloropropene	0.325	0.293	-	9.8	30	88	.03
4-methyl-2-pentanone	0.52	0.629	-	-21	30	115	.04
trans-1,3-dichloropropene	0.348	0.366	-	-5.2	30	103	.03
1,1,2-trichloroethane	0.254	0.267	-	-5.1	30	109	.03
chlorobenzene-D5	1	1	-	0	30	92	.02
toluene	5.549	6.047	-	-9	30	109	.03
2-hexanone	3.151	3.9	-	-23.8	30	109	.03
dibromochloromethane	2.302	2.814	-	-22.2	30	111	.03
1,2-dibromoethane	2.672	2.65	-	0.8	30	98	.03
tetrachloroethene	2.264	2.436	-	-7.6	30	106	.03
1,1,1,2-tetrachloroethane	1.795	1.881	-	-4.8	30	99	.03
chlorobenzene	4.397	4.541	-	-3.3	30	100	.03
ethylbenzene	6.525	7.218	-	-10.6	30	107	.02
m+p-xylene	5.468	6.022	-	-10.1	30	107	.03
bromoform	1.999	2.249	-	-12.5	30	101	.02
styrene	4.744	4.852	-	-2.3	30	97	.03
1,1,2,2-tetrachloroethane	3.687	4.148	-	-12.5	30	106	.03
o-xylene	5.416	6.171	-	-13.9	30	109	.03
1,2,3-Trichloropropane	3.023	2.824	-	6.6	30	86	.02
isopropylbenzene	7.621	7.346	-	3.6	30	89	.03
Bromobenzene	3.957	3.613	-	8.7	30	84	.03
4-ethyl toluene	8.259	8.605	-	-4.2	30	93	.02
1,3,5-trimethylbenzene	6.911	7.442	-	-7.7	30	99	.02
tert-butylbenzene	6.564	6.792	-	-3.5	30	93	.04
1,2,4-trimethylbenzene	6.479	7.228	-	-11.6	30	100	.04
Benzyl Chloride	4.368	4.689	-	-7.3	30	92	.05
1,3-dichlorobenzene	3.694	3.963	-	-7.3	30	96	.04
1,4-dichlorobenzene	3.641	3.707	-	-1.8	30	94	.05
sec-butylbenzene	9.769	9.185	-	6	30	84	.05
p-isopropyltoluene	7.782	7.467	-	4	30	84	.06
1,2-dichlorobenzene	3.522	3.781	-	-7.4	30	97	.07
n-butylbenzene	6.573	7.026	-	-6.9	30	93	.07
1,2,4-trichlorobenzene	2.004	2.44	-	-21.8	30	98	.07
naphthalene	6.843	7.119	-	-4	30	87	.08
1,2,3-trichlorobenzene	2.319	2.489	-	-7.3	30	83	.08
hexachlorobutadiene	2.676	3.69	-	-37.9*	30	123	.07

* Value outside of QC limits.

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-2,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	bromochloromethane	1.000	1.000	0.0	99	0.03
2		propylene	0.471	0.565	-20.0	119	0.02
3		dichlorodifluoromethane	0.971	0.985	-1.4	100	0.02
4	C	chloromethane	0.433	0.500	-15.5	116	0.02
5		Freon-114	1.246	1.347	-8.1	110	0.02
6	C	vinyl chloride	0.533	0.564	-5.8	114	0.02
7	C	1,3-butadiene	0.515	0.522	-1.4	105	0.03
8	C	bromomethane	0.452	0.512	-13.3	121	0.03
9	C	chloroethane	0.264	0.303	-14.8	122	0.03
10		ethanol	0.421	0.410	2.6	99	0.03
11	C	vinyl bromide	0.513	0.603	-17.5	120	0.03
12	C	acrolein	0.255	0.225	11.8	92	0.03
13		acetone	0.682	0.790	-15.8	111	0.03
14		trichlorofluoromethane	0.784	0.929	-18.5	124	0.03
15		isopropyl alcohol	0.886	1.093	-23.4	122	0.03
16	C	acrylonitrile	0.453	0.447	1.3	99	0.03
17	C	1,1-dichloroethene	0.701	0.734	-4.7	114	0.03
18		tertiary butyl alcohol	1.008	0.945	6.3	101	0.03
19	C	methylene chloride	0.638	0.696	-9.1	114	0.03
20	C	3-chloropropene	0.830	1.024	-23.4	125	0.03
21	C	carbon disulfide	1.898	1.741	8.3	92	0.04
22		Freon 113	1.047	1.080	-3.2	106	0.03
23		trans-1,2-dichloroethene	0.829	0.845	-1.9	105	0.03
24	C	1,1-dichloroethane	0.956	1.065	-11.4	115	0.04
25	C	MTBE	1.691	1.678	0.8	100	0.03
26	C	vinyl acetate	1.379	1.584	-14.9	113	0.03
27	C	2-butanone	1.280	1.462	-14.2	115	0.03
28		cis-1,2-dichloroethene	0.727	0.772	-6.2	112	0.03
29		Ethyl Acetate	0.209	0.241	-15.3	118	0.03
30	C	chloroform	1.051	0.998	5.0	99	0.03
31		Tetrahydrofuran	0.782	0.886	-13.3	113	0.04
32	C	1,2-dichloroethane	0.603	0.598	0.8	106	0.03
33	I	1,4-difluorobenzene	1.000	1.000	0.0	97	0.03
34	C	hexane	0.360	0.364	-1.1	100	0.04
36	C	1,1,1-trichloroethane	0.305	0.311	-2.0	105	0.03
37	C	benzene	0.755	0.674	10.7	94	0.04
38	C	carbon tetrachloride	0.295	0.276	6.4	94	0.04
39		cyclohexane	0.393	0.378	3.8	95	0.04

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-2,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40		Dibromomethane	0.206	0.188	8.7	97	0.04
41	C	1,2-dichloropropane	0.233	0.257	-10.3	116	0.04
42		bromodichloromethane	0.407	0.372	8.6	92	0.03
43	C	1,4-dioxane	0.169	0.179	-5.9	105	0.04
44	C	trichloroethene	0.285	0.317	-11.2	112	0.03
45	C	2,2,4-trimethylpentane	1.166	1.184	-1.5	99	0.03
46		heptane	0.465	0.540	-16.1	112	0.04
47	C	cis-1,3-dichloropropene	0.325	0.293	9.8	88	0.03
48	C	4-methyl-2-pentanone	0.520	0.629	-21.0	115	0.04
49		trans-1,3-dichloropropene	0.348	0.366	-5.2	103	0.03
50	C	1,1,2-trichloroethane	0.254	0.267	-5.1	109	0.03
51	I	chlorobenzene-D5	1.000	1.000	0.0	92	0.02
52	C	toluene	5.549	6.047	-9.0	109	0.03
54		2-hexanone	3.151	3.900	-23.8	109	0.03
55		dibromochloromethane	2.302	2.814	-22.2	111	0.03
56	C	1,2-dibromoethane	2.672	2.650	0.8	98	0.03
57	C	tetrachloroethene	2.264	2.436	-7.6	106	0.03
58		1,1,1,2-tetrachloroethane	1.795	1.881	-4.8	99	0.03
59	C	chlorobenzene	4.397	4.541	-3.3	100	0.03
60	C	ethylbenzene	6.525	7.218	-10.6	107	0.02
61	C	m+p-xylene	5.468	6.022	-10.1	107	0.03
62	C	bromoform	1.999	2.249	-12.5	101	0.02
63	C	styrene	4.744	4.852	-2.3	97	0.03
64	C	1,1,2,2-tetrachloroethane	3.687	4.148	-12.5	106	0.03
65	C	o-xylene	5.416	6.171	-13.9	109	0.03
66		1,2,3-Trichloropropane	3.023	2.824	6.6	86	0.02
68	C	isopropylbenzene	7.621	7.346	3.6	89	0.03
69		Bromobenzene	3.957	3.613	8.7	84	0.03
70		4-ethyl toluene	8.259	8.605	-4.2	93	0.02
71		1,3,5-trimethylbenzene	6.911	7.442	-7.7	99	0.02
72		tert-butylbenzene	6.564	6.792	-3.5	93	0.04
73		1,2,4-trimethylbenzene	6.479	7.228	-11.6	100	0.04
74	C	Benzyl Chloride	4.368	4.689	-7.3	92	0.05
75		1,3-dichlorobenzene	3.694	3.963	-7.3	96	0.04
76	C	1,4-dichlorobenzene	3.641	3.707	-1.8	94	0.05
77		sec-butylbenzene	9.769	9.185	6.0	84	0.05
78		p-isopropyltoluene	7.782	7.467	4.0	84	0.06
79		1,2-dichlorobenzene	3.522	3.781	-7.4	97	0.07

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-2,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
80	n-butylbenzene	6.573	7.026	-6.9	93	0.07
81 C	1,2,4-trichlorobenzene	2.004	2.440	-21.8	98	0.07
82	naphthalene	6.843	7.119	-4.0	87	0.08
83	1,2,3-trichlorobenzene	2.319	2.489	-7.3	83	0.08
84 C	hexachlorobutadiene	2.676	3.690	-37.9#	123	0.07

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 1

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-2,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.575	49	225089	10.000	ppbV	0.03
Standard Area = 225089			Recovery = 100.00%			
33) 1,4-difluorobenzene	11.840	114	642201	10.000	ppbV	0.03
Standard Area = 642201			Recovery = 100.00%			
51) chlorobenzene-D5	16.558	54	90362	10.000	ppbV	0.02
Standard Area = 90362			Recovery = 100.00%			
System Monitoring Compounds						
Target Compounds						Qvalue
2) propylene	3.916	41	63642M3	6.009	ppbV	
3) dichlorodifluoromethane	4.000	85	110906	5.074	ppbV	100
4) chloromethane	4.180	50	56254	5.775	ppbV	97
5) Freon-114	4.306	85	151546	5.405	ppbV	96
6) vinyl chloride	4.438	62	63452	5.291	ppbV	97
7) 1,3-butadiene	4.606	54	58756	5.064	ppbV	89
8) bromomethane	4.924	94	57609	5.657	ppbV	97
9) chloroethane	5.140	64	34089	5.740	ppbV	99
10) ethanol	5.314	31	230943	24.383	ppbV #	80
11) vinyl bromide	5.570	106	67920	5.881	ppbV	96
12) acrolein	5.723	56	25321	4.404	ppbV	98
13) acetone	5.880	43	444584	28.982	ppbV #	86
14) trichlorofluoromethane	6.090	101	104542	5.922	ppbV	99
15) isopropyl alcohol	6.213	45	307571	15.415	ppbV #	97
16) acrylonitrile	6.463	53	50299	4.931	ppbV	99
17) 1,1-dichloroethene	6.858	61	82575	5.233	ppbV	92
18) tertiary butyl alcohol	6.942	59	106381	4.689	ppbV #	91
19) methylene chloride	7.026	49	78289	5.447	ppbV	95
20) 3-chloropropene	7.164	41	115197	6.163	ppbV	93
21) carbon disulfide	7.320	76	195931	4.587	ppbV	97
22) Freon 113	7.356	101	121565	5.159	ppbV	97
23) trans-1,2-dichloroethene	8.150	61	95125	5.096	ppbV	96
24) 1,1-dichloroethane	8.392	63	119835	5.570	ppbV	99
25) MTBE	8.475	73	188897	4.963	ppbV	98
26) vinyl acetate	8.608	43	178232	5.740	ppbV	97
27) 2-butanone	8.875	43	164588	5.713	ppbV	95
28) cis-1,2-dichloroethene	9.383	61	86846	5.306	ppbV	95
29) Ethyl Acetate	9.683	61	27170	5.778	ppbV	96
30) chloroform	9.742	83	112286	4.748	ppbV	98

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-2,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D
Sub List : Default-LCS-AP2 - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
31) Tetrahydrofuran	10.183	42	99666	5.659	ppbV		97
32) 1,2-dichloroethane	10.583	62	67285	4.957	ppbV		96
34) hexane	9.650	57	116903	5.058	ppbV	#	75
36) 1,1,1-trichloroethane	10.875	97	99987	5.108	ppbV		98
37) benzene	11.407	78	216404	4.461	ppbV		99
38) carbon tetrachloride	11.580	117	88773	4.693	ppbV		96
39) cyclohexane	11.720	56	121299	4.808	ppbV		94
40) Dibromomethane	12.327	93	60448	4.567	ppbV	#	99
41) 1,2-dichloropropane	12.360	63	82656	5.519	ppbV		98
42) bromodichloromethane	12.587	83	119289	4.563	ppbV		97
43) 1,4-dioxane	12.633	88	57429	5.285	ppbV		99
44) trichloroethene	12.640	130	101823	5.556	ppbV		97
45) 2,2,4-trimethylpentane	12.687	57	380326	5.081	ppbV		95
46) heptane	13.007	43	173322	5.801	ppbV		95
47) cis-1,3-dichloropropene	14.275	75	94097	4.510	ppbV		94
48) 4-methyl-2-pentanone	13.692	43	202120	6.052	ppbV		96
49) trans-1,3-dichloropropene	13.650	75	117462	5.261	ppbV		95
50) 1,1,2-trichloroethane	14.475	97	85676	5.261	ppbV		95
52) toluene	14.783	91	273195	5.449	ppbV		99
54) 2-hexanone	15.067	43	176211M3	6.189	ppbV		
55) dibromochloromethane	15.233	129	127132	6.110	ppbV		99
56) 1,2-dibromoethane	15.483	107	119726	4.959	ppbV		99
57) tetrachloroethene	15.950	166	110055	5.379	ppbV		96
58) 1,1,1,2-tetrachloroethane	16.592	131	84972	5.238	ppbV		98
59) chlorobenzene	16.600	112	205179	5.165	ppbV		99
60) ethylbenzene	16.950	91	326127	5.531	ppbV		93
61) m+p-xylene	17.117	91	544182	11.013	ppbV		92
62) bromoform	17.183	173	101633	5.626	ppbV		99
63) styrene	17.442	104	219225	5.114	ppbV		97
64) 1,1,2,2-tetrachloroethane	17.533	83	187395	5.624	ppbV		96
65) o-xylene	17.533	91	278826	5.697	ppbV		96
66) 1,2,3-Trichloropropane	17.642	75	127598	4.671	ppbV		98
68) isopropylbenzene	18.042	105	331890	4.819	ppbV		94
69) Bromobenzene	18.117	77	163260	4.566	ppbV		95
70) 4-ethyl toluene	18.592	105	388797	5.210	ppbV		97
71) 1,3,5-trimethylbenzene	18.650	105	336219	5.384	ppbV		96
72) tert-butylbenzene	18.992	119	306891	5.174	ppbV		99
73) 1,2,4-trimethylbenzene	18.992	105	326577	5.578	ppbV		95
74) Benzyl Chloride	19.117	91	211852	5.368	ppbV		95
75) 1,3-dichlorobenzene	19.125	146	179072	5.365	ppbV		93

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-2,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D
Sub List : Default-LCS-AP2 - All compounds listed

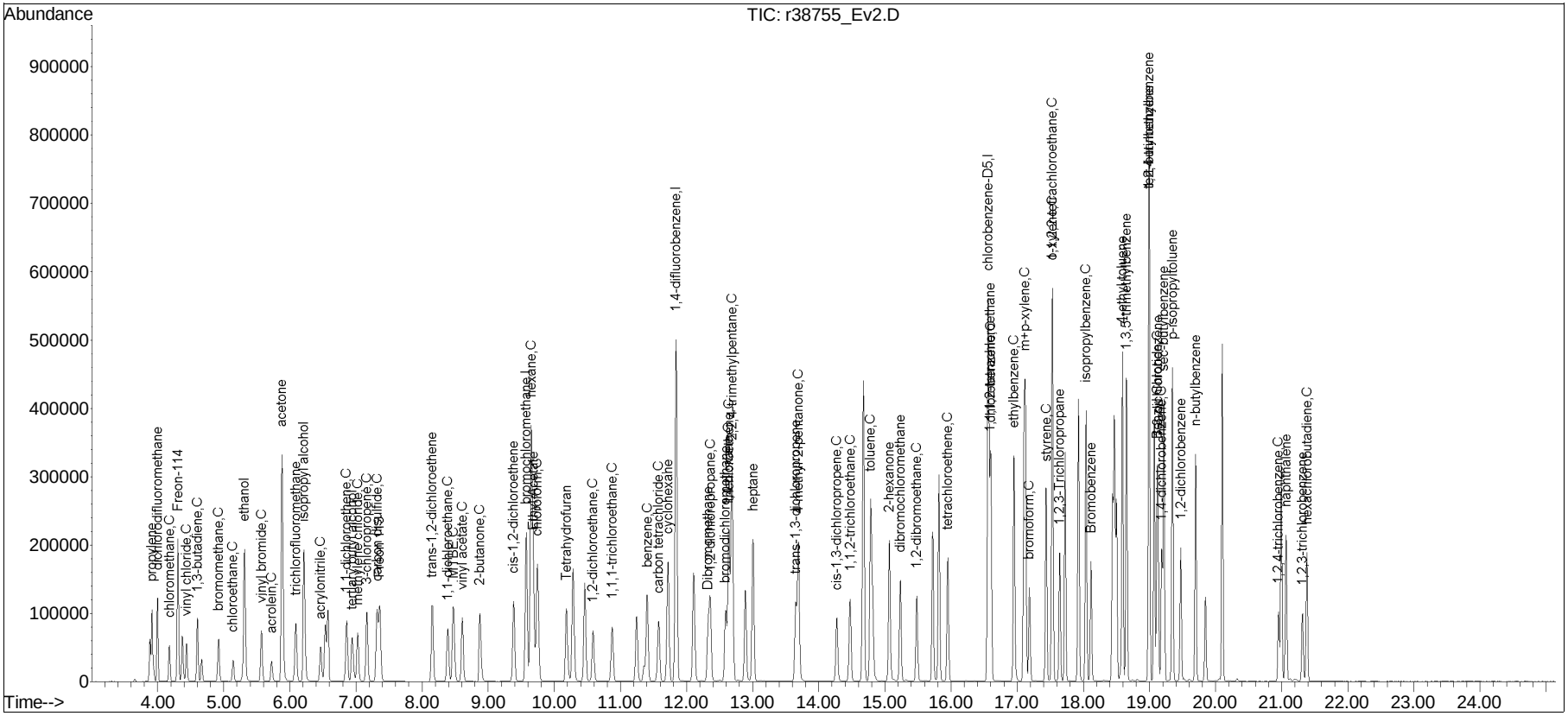
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
76) 1,4-dichlorobenzene	19.183	146	167502M3	5.091	ppbV	
77) sec-butylbenzene	19.217	105	414986	4.701	ppbV	98
78) p-isopropyltoluene	19.350	119	337362	4.798	ppbV	96
79) 1,2-dichlorobenzene	19.475	146	170811	5.367	ppbV	99
80) n-butylbenzene	19.700	91	317462	5.345	ppbV	99
81) 1,2,4-trichlorobenzene	20.950	180	110259M4	6.089	ppbV	
82) naphthalene	21.067	128	321628	5.202	ppbV	98
83) 1,2,3-trichlorobenzene	21.317	180	112457	5.368	ppbV	94
84) hexachlorobutadiene	21.383	225	166698M4	6.893	ppbV	

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

Sub List : Default-LCS-AP2 - All compounds listed0320SIM\r38755_Ev2.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-2,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

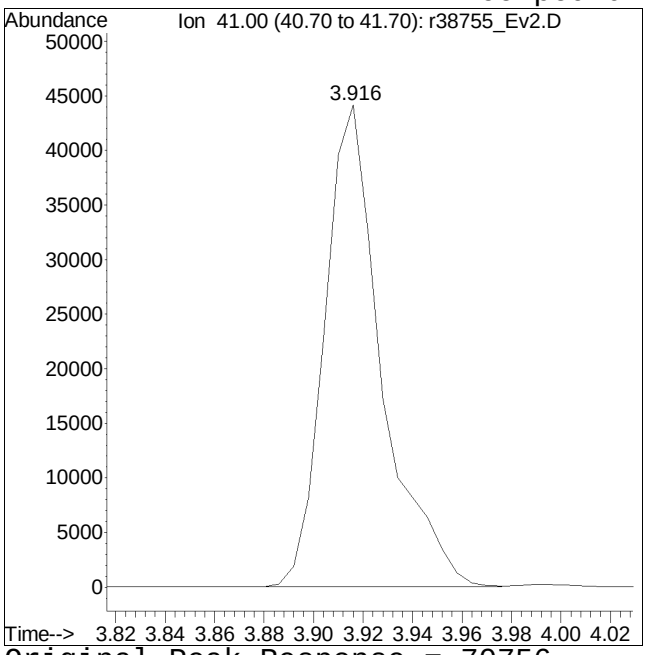
Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

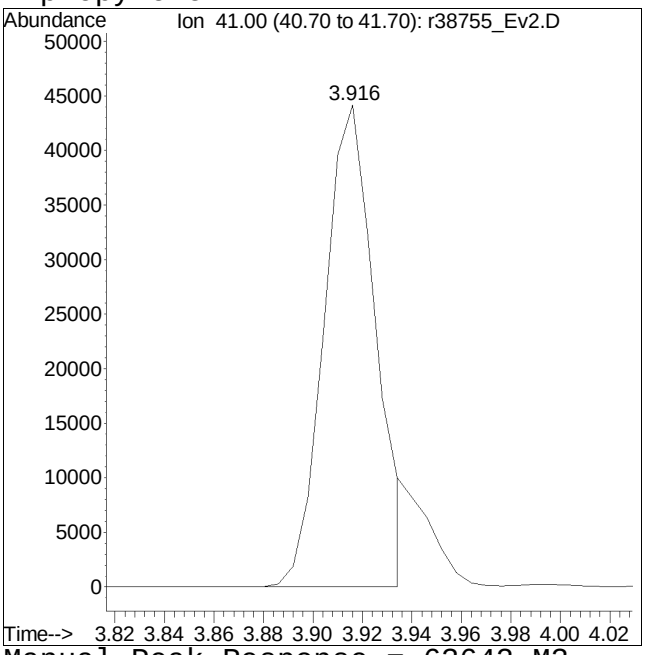


Manual Integration Report

Data Path : O:\Forensics\Data\AirpianoQMethod : TSIM3_200312.M
Data File : r38755_Ev2.D Operator : AIRPIANO3:EW
Date Inj'd : 3/20/2020 0:2: 1 Instrument :
Sample : WG1353543-2,3,250,250 Quant Date : 3/20/2020 2:44 pm

Compound #2: propylene





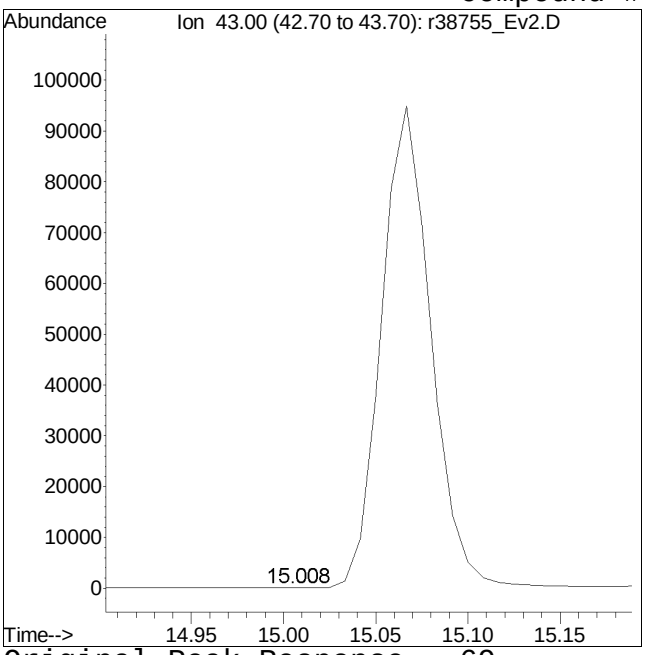
Original Peak Response = 70756 Manual Peak Response = 63642 M3
M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

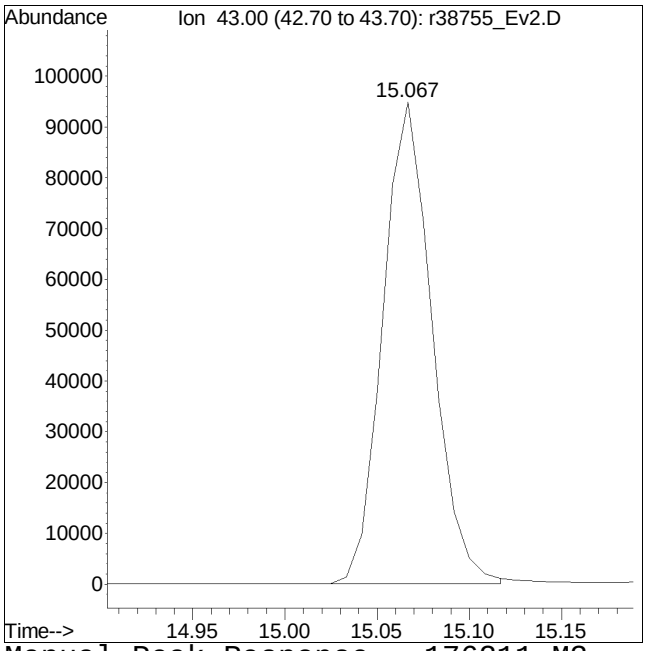
Manual Integration Report

Data Path : O:\Forensics\Data\AirpianoQ
Data File : r38755_Ev2.D
Date Inj'd : 3/20/2020 0:2: 1
Sample : WG1353543-2,3,250,250

Method : TSIM3_200312.M
Operator : AIRPIANO3:EW
Instrument :
Quant Date : 3/20/2020 2:44 pm

Compound #54: 2-hexanone





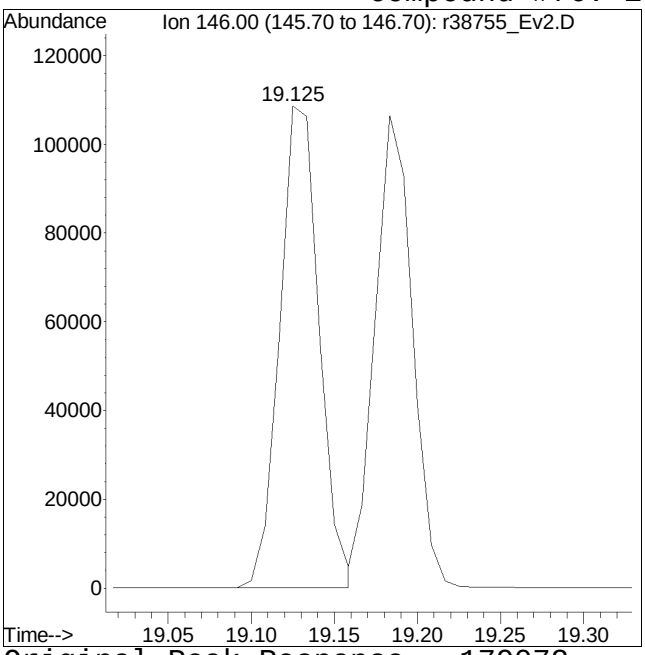
Original Peak Response = 69 Manual Peak Response = 176211 M3

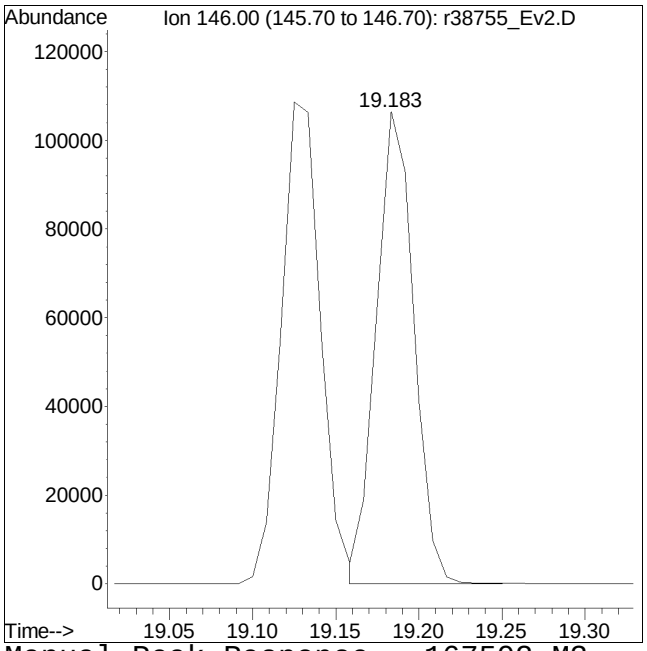
M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

Manual Integration Report

Data Path : O:\Forensics\Data\AirpianoQMethod : TSIM3_200312.M
Data File : r38755_Ev2.D Operator : AIRPIANO3:EW
Date Inj'd : 3/20/2020 0:2: 1 Instrument :
Sample : WG1353543-2,3,250,250 Quant Date : 3/20/2020 2:44 pm

Compound #76: 1,4-dichlorobenzene



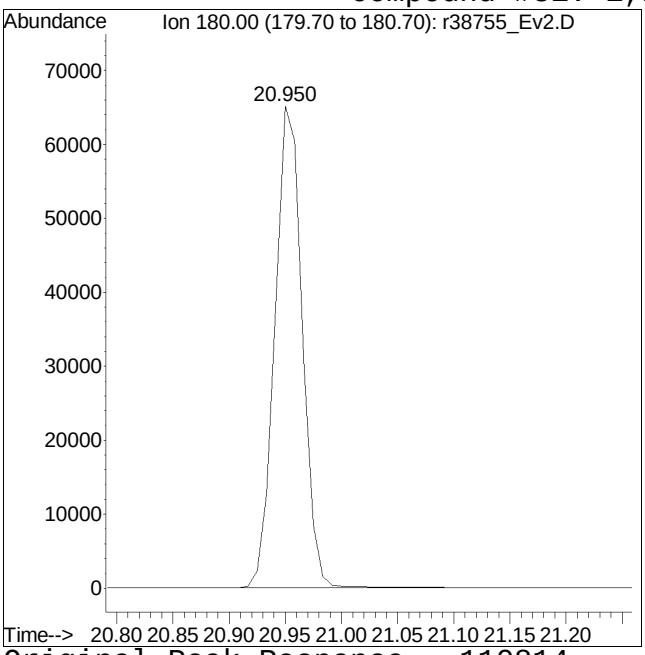


Original Peak Response = 179072 Manual Peak Response = 167502 M3
M3 = Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

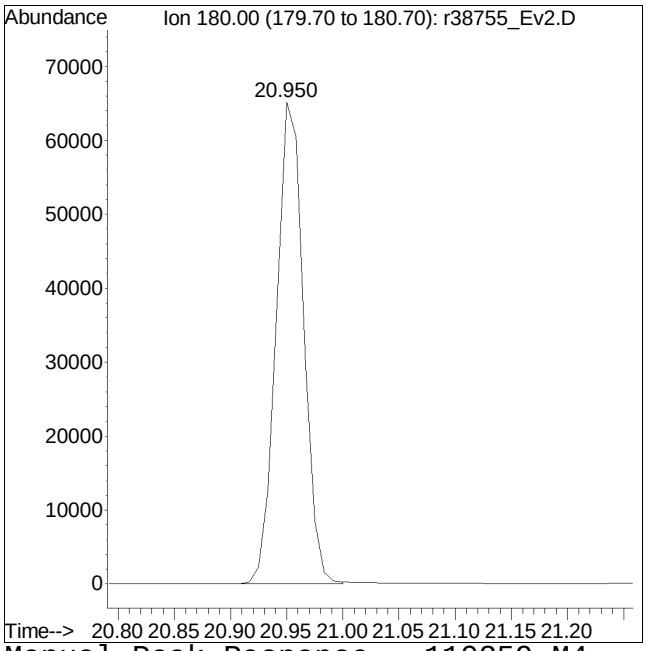
Manual Integration Report

Data Path : O:\Forensics\Data\AirpianoQMethod : TSIM3_200312.M
Data File : r38755_Ev2.D Operator : AIRPIANO3:EW
Date Inj'd : 3/20/2020 0:2: 1 Instrument :
Sample : WG1353543-2,3,250,250 Quant Date : 3/20/2020 2:44 pm

Compound #81: 1,2,4-trichlorobenzene



Original Peak Response = 110814



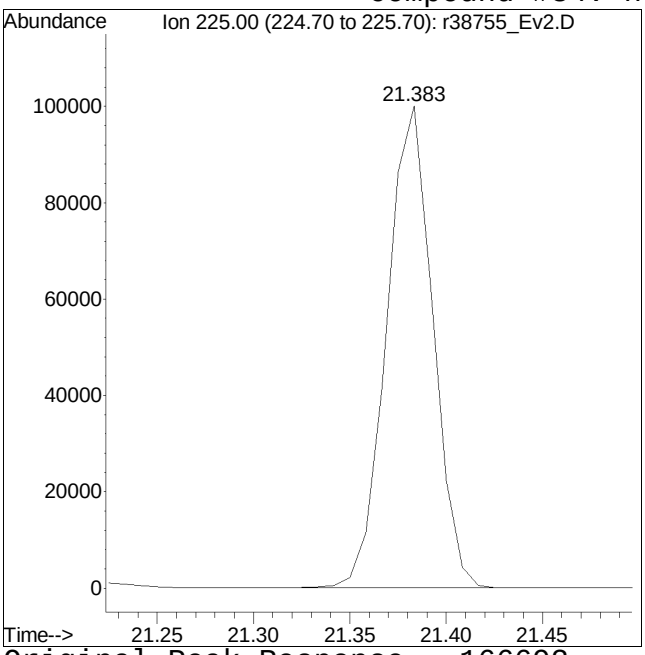
Manual Peak Response = 110259 M4

M4 = Poor automated baseline construction.

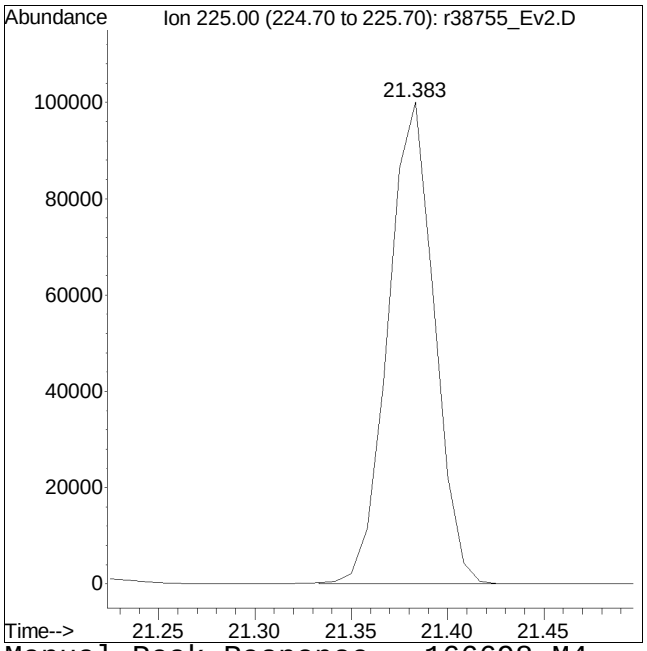
Manual Integration Report

Data Path : O:\Forensics\Data\AirpianoQMethod : TSIM3_200312.M
Data File : r38755_Ev2.D Operator : AIRPIANO3:EW
Date Inj'd : 3/20/2020 0:2: 1 Instrument :
Sample : WG1353543-2,3,250,250 Quant Date : 3/20/2020 2:44 pm

Compound #84: hexachlorobutadiene



Original Peak Response = 166692



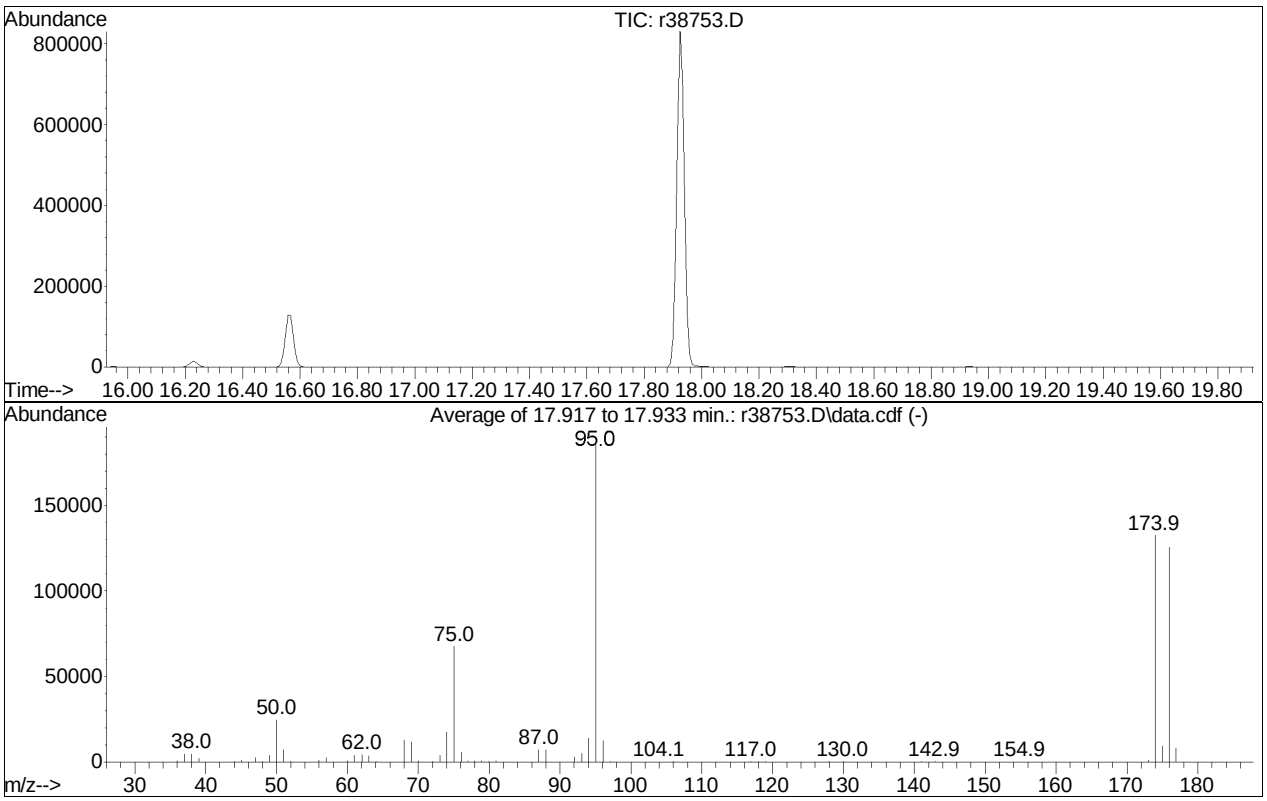
Manual Peak Response = 166698 M4

M4 = Poor automated baseline construction.

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38753.D
Acq On : 20 Mar 2020 12:51 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-1,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Integration File: rteint.p

Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Thu Mar 12 16:48:11 2020



AutoFind: Scans 2216, 2217, 2218; Background Corrected with Scan 2210

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.2	24646	PASS
75	95	30	66	36.4	67891	PASS
95	95	100	100	100.0	186762	PASS
96	95	5	9	6.8	12641	PASS
173	174	0.00	2	0.9	1150	PASS
174	95	50	120	71.1	132732	PASS
175	174	4	9	7.1	9417	PASS
176	174	93	101	94.6	125608	PASS
177	176	5	9	6.7	8448	PASS

Volatiles Raw QC Data

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38757_Ev2.D
Acq On : 20 Mar 2020 4:20 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-4,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 17:02:13 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D
Sub List : Default-LCS-AP2 - All compounds listed

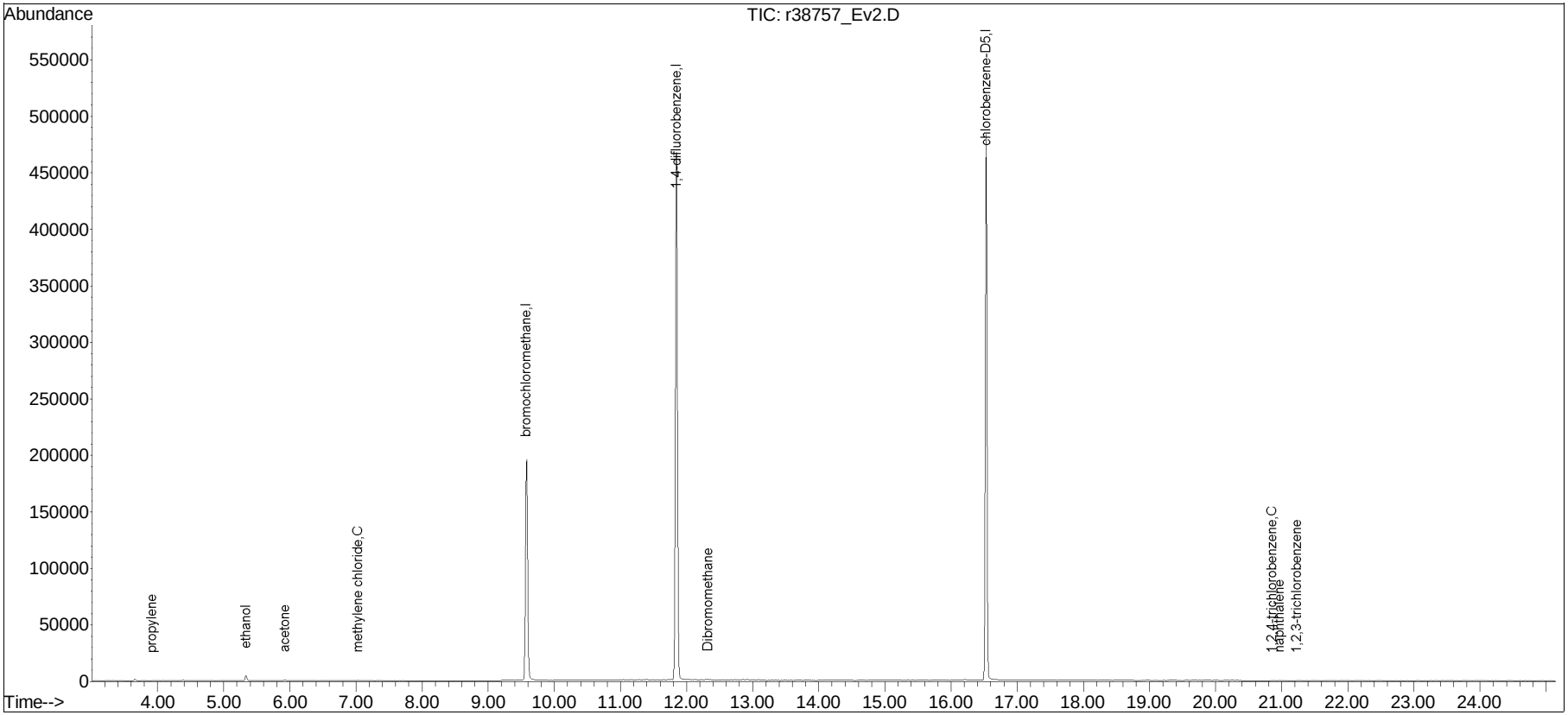
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.575	49	211260	10.000	ppbV	0.03
Standard Area = 225089			Recovery = 93.86%			
33) 1,4-difluorobenzene	11.847	114	605199	10.000	ppbV	0.04
Standard Area = 642201			Recovery = 94.24%			
51) chlorobenzene-D5	16.525	54	75324	10.000	ppbV	0.00
Standard Area = 90362			Recovery = 83.36%			
System Monitoring Compounds						
Target Compounds						Qvalue
6) vinyl chloride	0.000		0		N.D.	
17) 1,1-dichloroethene	0.000		0		N.D.	
28) cis-1,2-dichloroethene	0.000		0		N.D.	
36) 1,1,1-trichloroethane	0.000		0		N.D.	
38) carbon tetrachloride	11.553		0		N.D.	
44) trichloroethene	12.640		0		N.D.	
57) tetrachloroethene	15.792		0		N.D.	

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

Sub List : Default-LCS-AP2 - All compounds listed0320SIM\r38755_Ev2.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38757_Ev2.D
Acq On : 20 Mar 2020 4:20 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-4,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 17:02:13 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration



Manual Integration Report

Data Path	: O:\Forensics\Data\Airpiano	QMethod	: TSIM3_200312.M
Data File	: r38757_Ev2.D	Operator	: AIRPIANO3:EW
Date Inj'd	: 3/20/2020 0:4: 0	Instrument	:
Sample	: WG1353543-4,3,250,250	Quant Date	: 3/20/2020 5:01 pm

There are no manual integrations or false positives in this file.

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-3,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	bromochloromethane	10.000	10.000	0.0	99	0.03
2		propylene	5.000	6.009	-20.2	119	0.02
3		dichlorodifluoromethane	5.000	5.074	-1.5	100	0.02
4	C	chloromethane	5.000	5.775	-15.5	116	0.02
5		Freon-114	5.000	5.405	-8.1	110	0.02
6	C	vinyl chloride	5.000	5.291	-5.8	114	0.02
7	C	1,3-butadiene	5.000	5.064	-1.3	105	0.03
8	C	bromomethane	5.000	5.657	-13.1	121	0.03
9	C	chloroethane	5.000	5.740	-14.8	122	0.03
10		ethanol	25.000	24.383	2.5	99	0.03
11	C	vinyl bromide	5.000	5.881	-17.6	120	0.03
12	C	acrolein	5.000	4.404	11.9	92	0.03
13		acetone	25.000	28.982	-15.9	111	0.03
14		trichlorofluoromethane	5.000	5.922	-18.4	124	0.03
15		isopropyl alcohol	12.500	15.415	-23.3	122	0.03
16	C	acrylonitrile	5.000	4.931	1.4	99	0.03
17	C	1,1-dichloroethene	5.000	5.233	-4.7	114	0.03
18		tertiary butyl alcohol	5.000	4.689	6.2	101	0.03
19	C	methylene chloride	5.000	5.447	-8.9	114	0.03
20	C	3-chloropropene	5.000	6.163	-23.3	125	0.03
21	C	carbon disulfide	5.000	4.587	8.3	92	0.04
22		Freon 113	5.000	5.159	-3.2	106	0.03
23		trans-1,2-dichloroethene	5.000	5.096	-1.9	105	0.03
24	C	1,1-dichloroethane	5.000	5.570	-11.4	115	0.04
25	C	MTBE	5.000	4.963	0.7	100	0.03
26	C	vinyl acetate	5.000	5.740	-14.8	113	0.03
27	C	2-butanone	5.000	5.713	-14.3	115	0.03
28		cis-1,2-dichloroethene	5.000	5.306	-6.1	112	0.03
29		Ethyl Acetate	5.000	5.778	-15.6	118	0.03
30	C	chloroform	5.000	4.748	5.0	99	0.03
31		Tetrahydrofuran	5.000	5.659	-13.2	113	0.04
32	C	1,2-dichloroethane	5.000	4.957	0.9	106	0.03
33	I	1,4-difluorobenzene	10.000	10.000	0.0	97	0.03
34	C	hexane	5.000	5.058	-1.2	100	0.04
36	C	1,1,1-trichloroethane	5.000	5.108	-2.2	105	0.03
37	C	benzene	5.000	4.461	10.8	94	0.04
38	C	carbon tetrachloride	5.000	4.693	6.1	94	0.04
39		cyclohexane	5.000	4.808	3.8	95	0.04

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-3,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
40		Dibromomethane	5.000	4.567	8.7	97	0.04
41	C	1,2-dichloropropane	5.000	5.519	-10.4	116	0.04
42		bromodichloromethane	5.000	4.563	8.7	92	0.03
43	C	1,4-dioxane	5.000	5.285	-5.7	105	0.04
44	C	trichloroethene	5.000	5.556	-11.1	112	0.03
45	C	2,2,4-trimethylpentane	5.000	5.081	-1.6	99	0.03
46		heptane	5.000	5.801	-16.0	112	0.04
47	C	cis-1,3-dichloropropene	5.000	4.510	9.8	88	0.03
48	C	4-methyl-2-pentanone	5.000	6.052	-21.0	115	0.04
49		trans-1,3-dichloropropene	5.000	5.261	-5.2	103	0.03
50	C	1,1,2-trichloroethane	5.000	5.261	-5.2	109	0.03
51	I	chlorobenzene-D5	10.000	10.000	0.0	92	0.02
52	C	toluene	5.000	5.449	-9.0	109	0.03
54		2-hexanone	5.000	6.189	-23.8	109	0.03
55		dibromochloromethane	5.000	6.110	-22.2	111	0.03
56	C	1,2-dibromoethane	5.000	4.959	0.8	98	0.03
57	C	tetrachloroethene	5.000	5.379	-7.6	106	0.03
58		1,1,1,2-tetrachloroethane	5.000	5.238	-4.8	99	0.03
59	C	chlorobenzene	5.000	5.165	-3.3	100	0.03
60	C	ethylbenzene	5.000	5.531	-10.6	107	0.02
61	C	m+p-xylene	10.000	11.013	-10.1	107	0.03
62	C	bromoform	5.000	5.626	-12.5	101	0.02
63	C	styrene	5.000	5.114	-2.3	97	0.03
64	C	1,1,2,2-tetrachloroethane	5.000	5.624	-12.5	106	0.03
65	C	o-xylene	5.000	5.697	-13.9	109	0.03
66		1,2,3-Trichloropropane	5.000	4.671	6.6	86	0.02
68	C	isopropylbenzene	5.000	4.819	3.6	89	0.03
69		Bromobenzene	5.000	4.566	8.7	84	0.03
70		4-ethyl toluene	5.000	5.210	-4.2	93	0.02
71		1,3,5-trimethylbenzene	5.000	5.384	-7.7	99	0.02
72		tert-butylbenzene	5.000	5.174	-3.5	93	0.04
73		1,2,4-trimethylbenzene	5.000	5.578	-11.6	100	0.04
74	C	Benzyl Chloride	5.000	5.368	-7.4	92	0.05
75		1,3-dichlorobenzene	5.000	5.365	-7.3	96	0.04
76	C	1,4-dichlorobenzene	5.000	5.091	-1.8	94	0.05
77		sec-butylbenzene	5.000	4.701	6.0	84	0.05
78		p-isopropyltoluene	5.000	4.798	4.0	84	0.06
79		1,2-dichlorobenzene	5.000	5.367	-7.3	97	0.07

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-3,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
80	n-butylbenzene	5.000	5.345	-6.9	93	0.07
81 C	1,2,4-trichlorobenzene	5.000	6.089	-21.8	98	0.07
82	naphthalene	5.000	5.202	-4.0	87	0.08
83	1,2,3-trichlorobenzene	5.000	5.368	-7.4	83	0.08
84 C	hexachlorobutadiene	5.000	6.893	-37.9#	123	0.07

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 1

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-3,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D
Sub List : Default-LCS-AP2 - All compounds listed

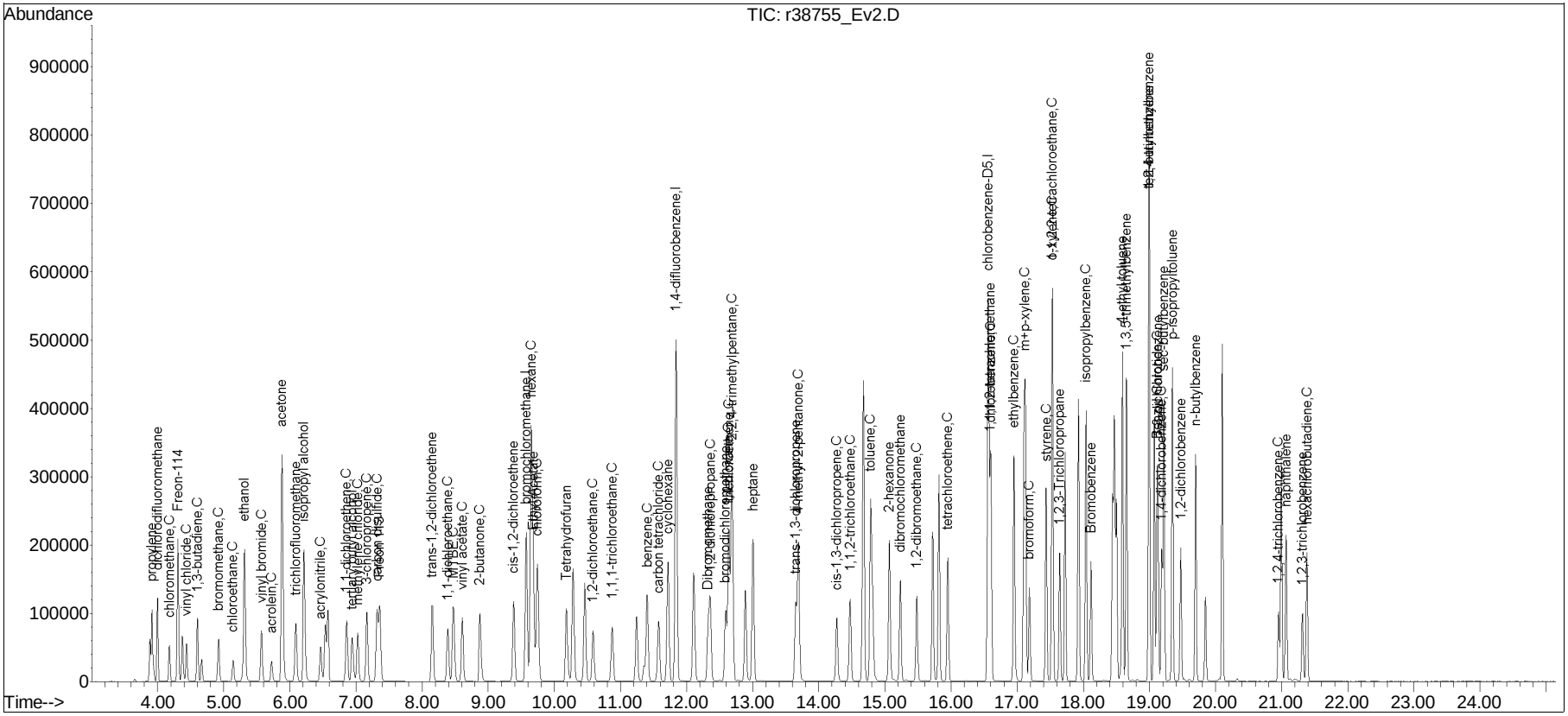
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.575	49	225089	10.000	ppbV	0.03
Standard Area = 225089			Recovery = 100.00%			
33) 1,4-difluorobenzene	11.840	114	642201	10.000	ppbV	0.03
Standard Area = 642201			Recovery = 100.00%			
51) chlorobenzene-D5	16.558	54	90362	10.000	ppbV	0.02
Standard Area = 90362			Recovery = 100.00%			
System Monitoring Compounds						
Target Compounds						Qvalue
6) vinyl chloride	4.438	62	63452	5.291	ppbV	97
17) 1,1-dichloroethene	6.858	61	82575	5.233	ppbV	92
28) cis-1,2-dichloroethene	9.383	61	86846	5.306	ppbV	95
36) 1,1,1-trichloroethane	10.875	97	99987	5.108	ppbV	98
38) carbon tetrachloride	11.580	117	88773	4.693	ppbV	96
44) trichloroethene	12.640	130	101823	5.556	ppbV	97
57) tetrachloroethene	15.950	166	110055	5.379	ppbV	96

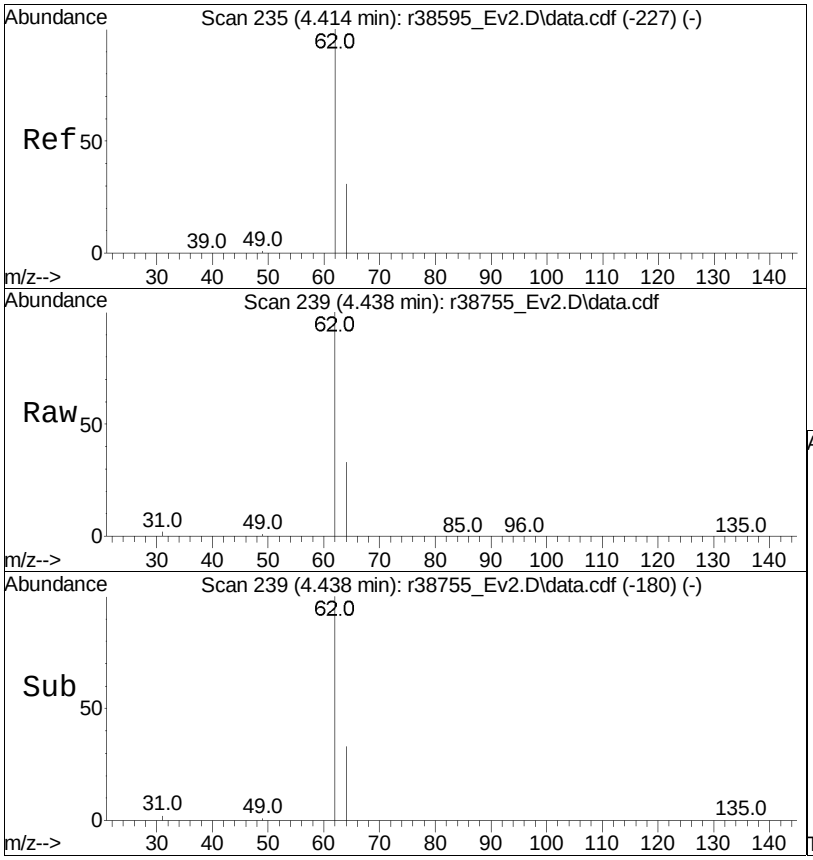
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : Default-LCS-AP2 - All compounds listed0320SIM\r38755_Ev2.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38755_Ev2.D
Acq On : 20 Mar 2020 2:11 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-3,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 20 14:47:03 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

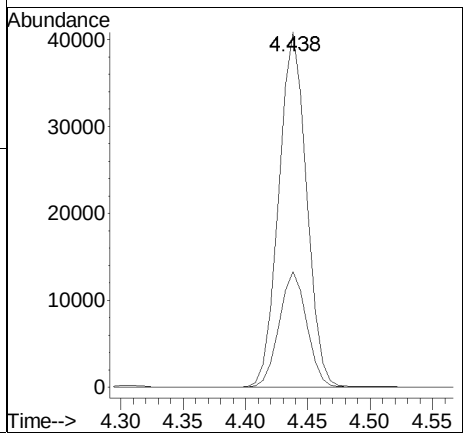


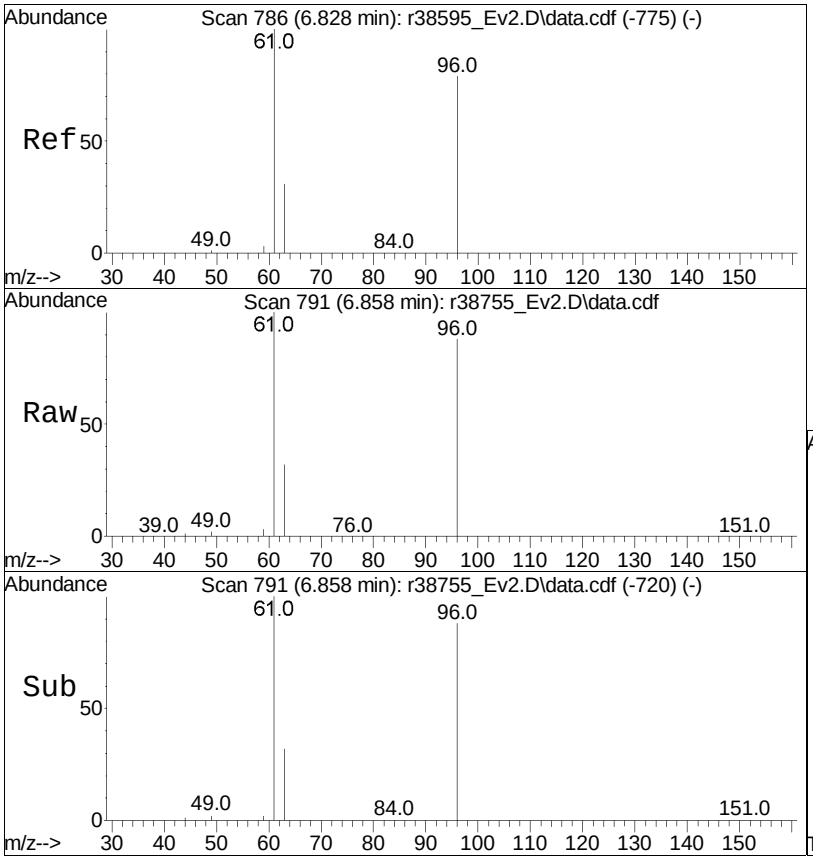


#6
vinyl chloride
Concen: 5.29 ppbV
RT: 4.438 min Scan# 239
Delta R.T. 0.024 min
Lab File: r38755_Ev2.D
Acq: 20 Mar 2020 2:11 PM

Tgt Ion: 62 Resp: 63452

Ion	Ratio	Lower	Upper
62	100		
64	32.6	24.7	37.1

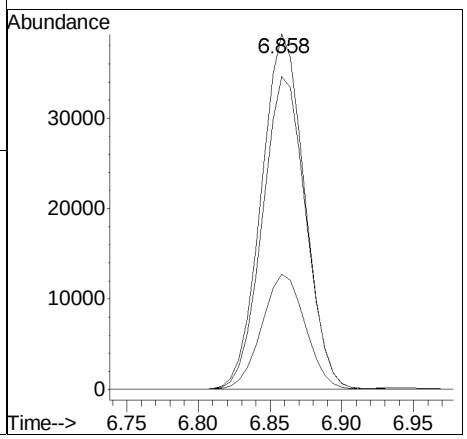


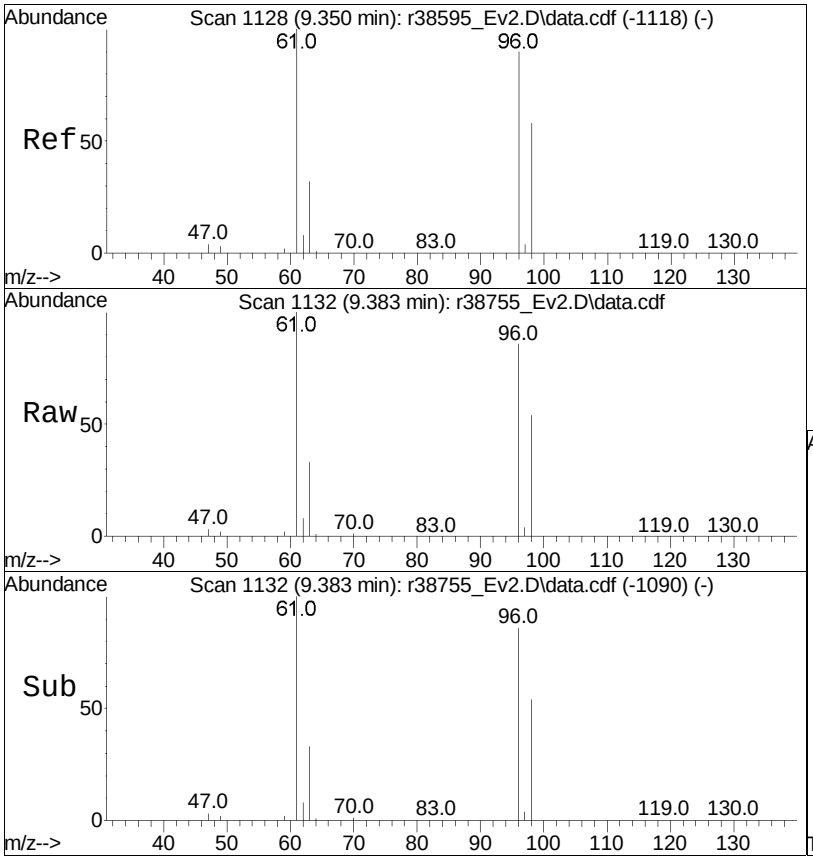


#17
1,1-dichloroethene
Concen: 5.23 ppbV
RT: 6.858 min Scan# 791
Delta R.T. 0.030 min
Lab File: r38755_Ev2.D
Acq: 20 Mar 2020 2:11 PM

Tgt Ion: 61 Resp: 82575

Ion	Ratio	Lower	Upper
61	100		
96	88.0	63.5	95.3
63	32.5	24.6	36.8

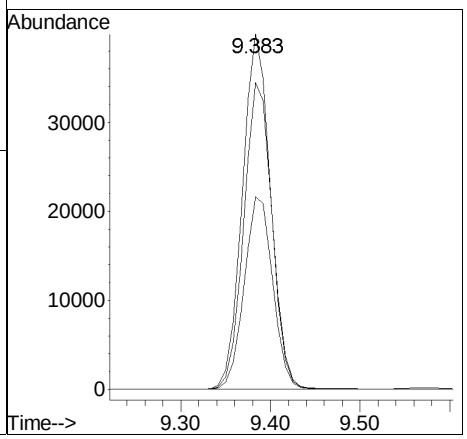


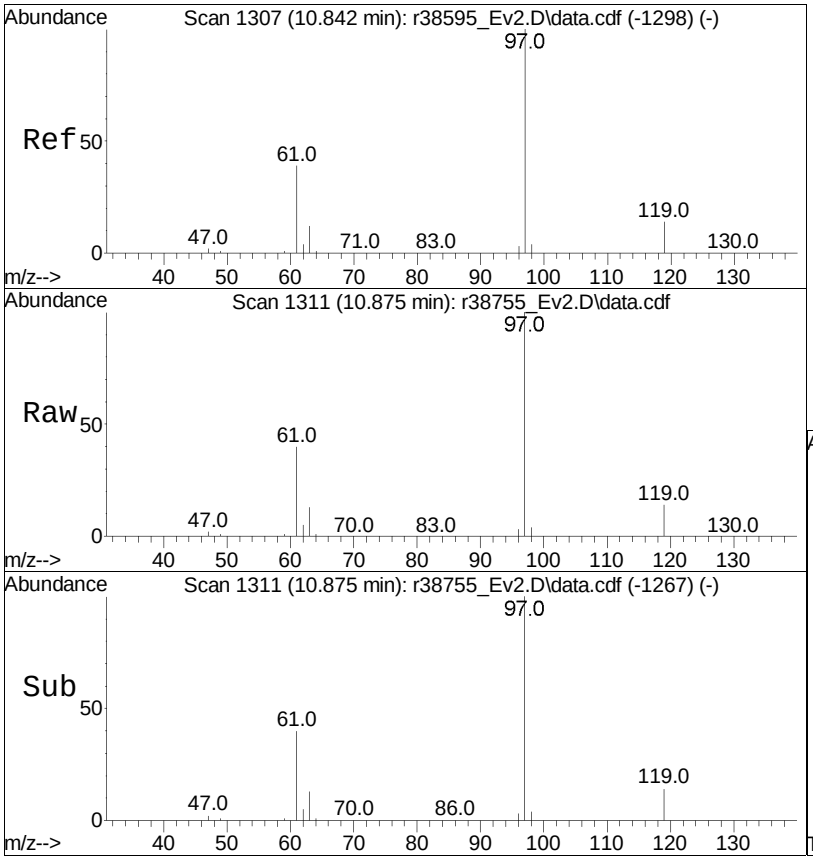


#28
cis-1,2-dichloroethene
Concen: 5.31 ppbV
RT: 9.383 min Scan# 1132
Delta R.T. 0.033 min
Lab File: r38755_Ev2.D
Acq: 20 Mar 2020 2:11 PM

Tgt Ion: 61 Resp: 86846

Ion	Ratio	Lower	Upper
61	100		
96	86.3	72.2	108.4
98	54.2	46.3	69.5

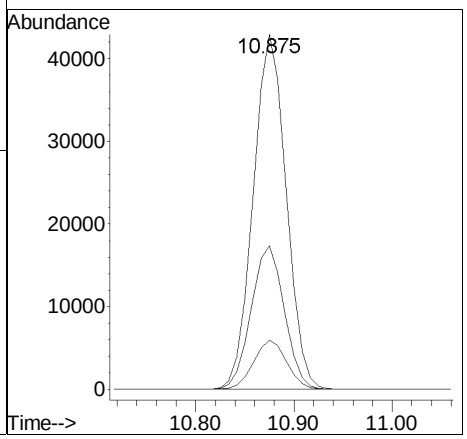


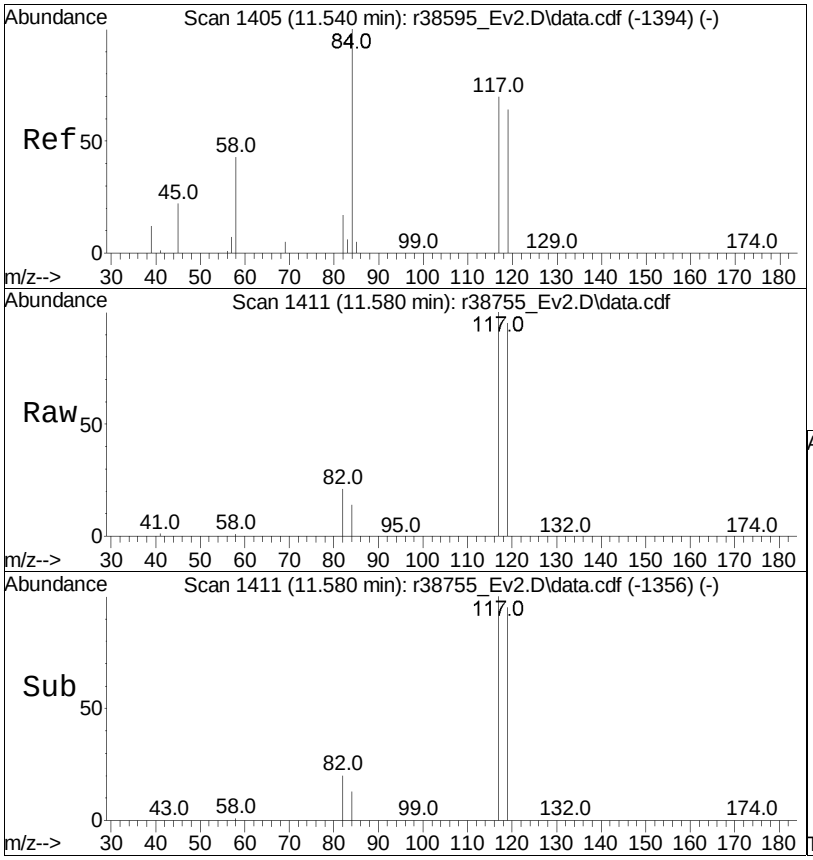


#36
1,1,1-trichloroethane
Concen: 5.11 ppbV
RT: 10.875 min Scan# 1311
Delta R.T. 0.033 min
Lab File: r38755_Ev2.D
Acq: 20 Mar 2020 2:11 PM

Tgt Ion: 97 Resp: 99987

Ion	Ratio	Lower	Upper
97	100		
61	40.4	31.0	46.4
119	13.9	11.7	17.5

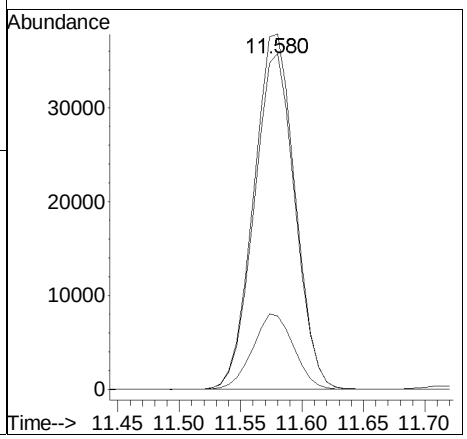


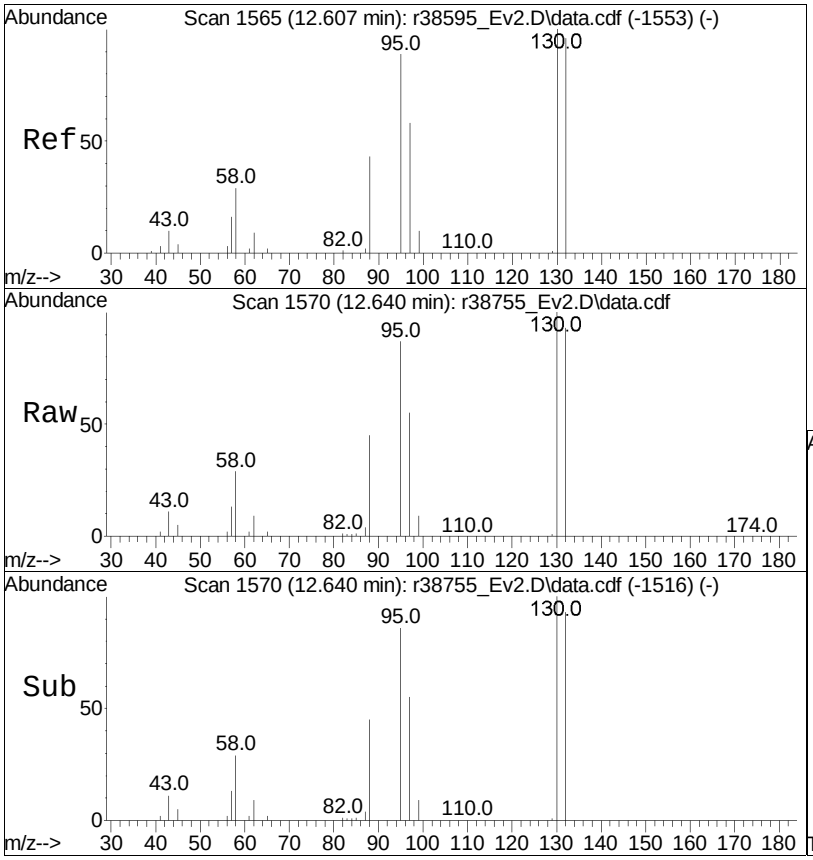


#38
carbon tetrachloride
Concen: 4.69 ppbV
RT: 11.580 min Scan# 1411
Delta R.T. 0.040 min
Lab File: r38755_Ev2.D
Acq: 20 Mar 2020 2:11 PM

Tgt Ion:117 Resp: 88773

Ion	Ratio	Lower	Upper
117	100		
119	94.5	73.0	109.4
82	20.7	19.1	28.7

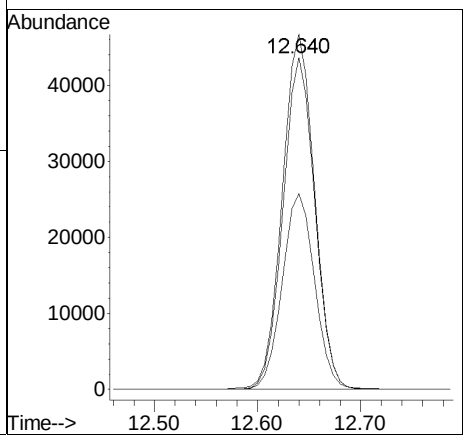


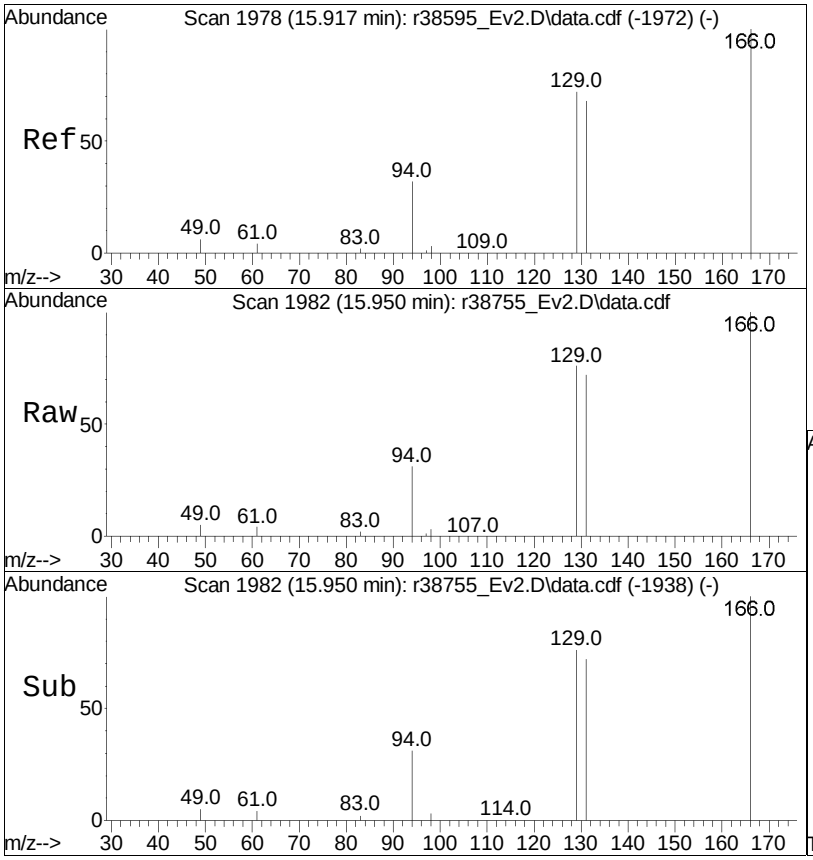


#44
trichloroethene
Concen: 5.56 ppbV
RT: 12.640 min Scan# 1570
Delta R.T. 0.033 min
Lab File: r38755_Ev2.D
Acq: 20 Mar 2020 2:11 PM

Tgt Ion:130 Resp: 101823

Ion	Ratio	Lower	Upper
130	100		
132	93.4	76.5	114.7
97	55.1	46.2	69.4

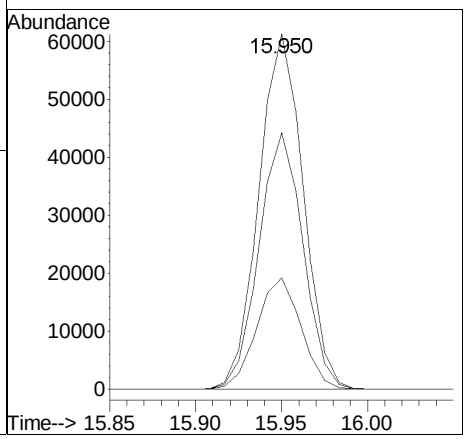




#57
tetrachloroethene
Concen: 5.38 ppbV
RT: 15.950 min Scan# 1982
Delta R.T. 0.033 min
Lab File: r38755_Ev2.D
Acq: 20 Mar 2020 2:11 PM

Tgt Ion:166 Resp: 110055

Ion	Ratio	Lower	Upper
166	100		
131	72.2	54.6	82.0
94	31.4	25.7	38.5



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38760_Ev2.D
Acq On : 20 Mar 2020 7:03 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-5,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 19:11:23 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

CCAL FILE : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D
Sub List : 7-NY-SIM - .

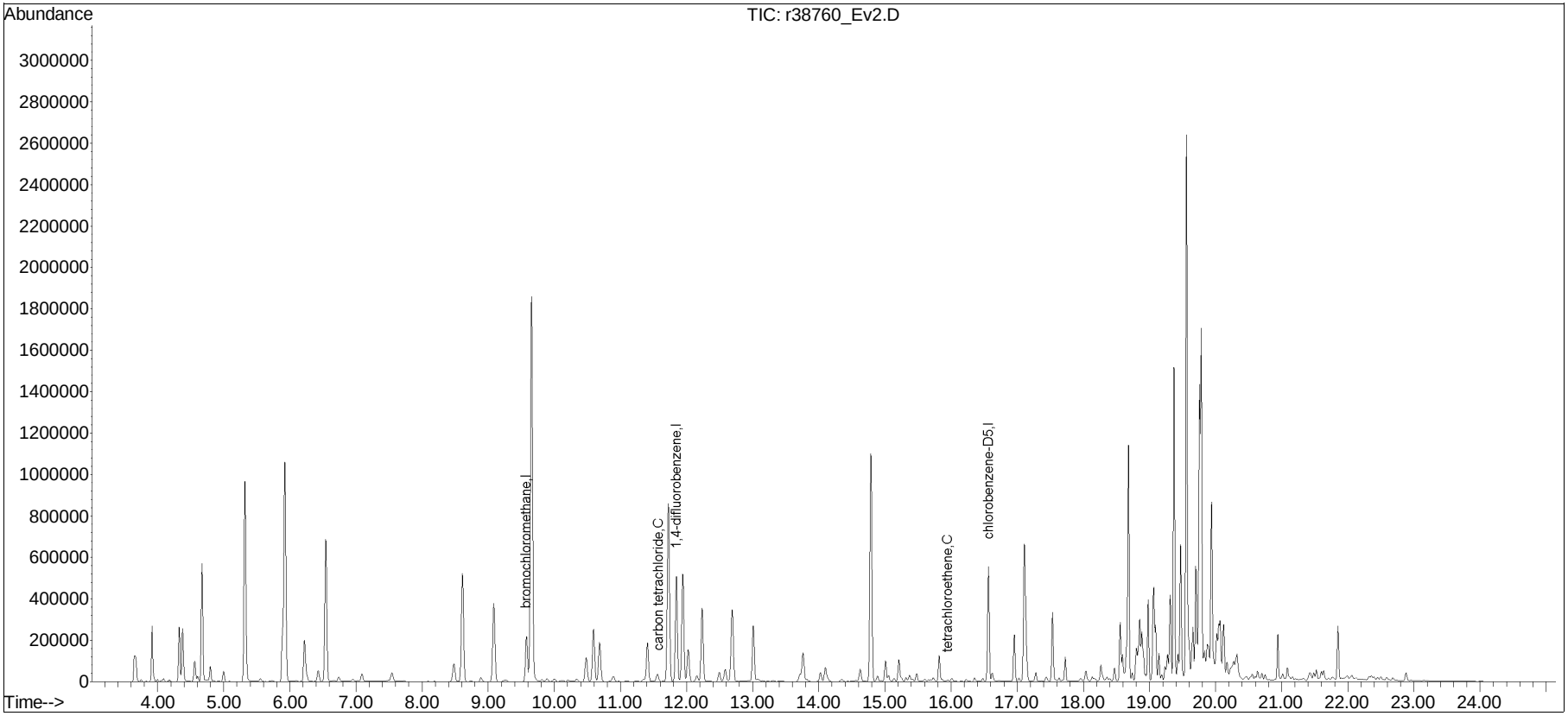
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	9.575	49	238534	10.000	ppbV	0.03
Standard Area = 225089			Recovery = 105.97%			
33) 1,4-difluorobenzene	11.847	114	652384	10.000	ppbV	0.04
Standard Area = 642201			Recovery = 101.59%			
51) chlorobenzene-D5	16.567	54	86728	10.000	ppbV	0.03
Standard Area = 90362			Recovery = 95.98%			
System Monitoring Compounds						
Target Compounds						Qvalue
6) vinyl chloride	0.000		0	N.D.		
17) 1,1-dichloroethene	0.000		0	N.D.	d	
28) cis-1,2-dichloroethene	0.000		0	N.D.		
36) 1,1,1-trichloroethane	0.000		0	N.D.	d	
38) carbon tetrachloride	11.580	117	1044	0.054	ppbV	96
44) trichloroethene	0.000		0	N.D.	d	
57) tetrachloroethene	15.950	166	4639	0.236	ppbV	97

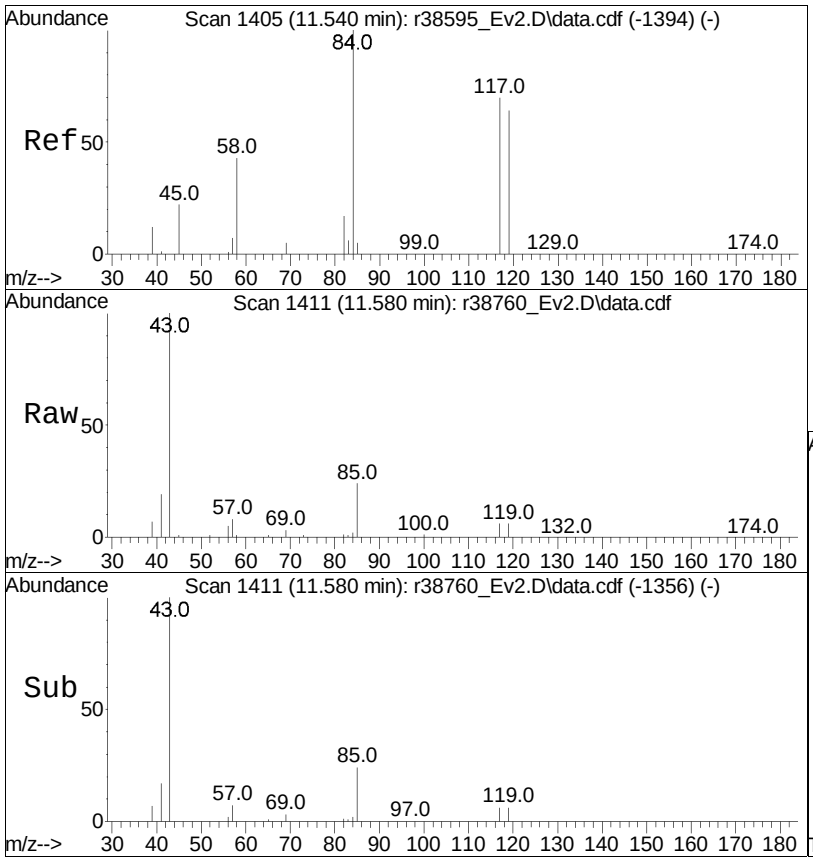
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 7-NY-SIM - .\Data\Airpiano3\2020\03\200320SIM\r38755_Ev2.D

Data Path : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\
Data File : r38760_Ev2.D
Acq On : 20 Mar 2020 7:03 PM
Operator : AIRPIANO3:EW
Sample : WG1353543-5,3,250,250
Misc : WG1353543,ICAL16593
ALS Vial : 0 Sample Multiplier: 1

Quant Time: Mar 21 19:11:23 2020
Quant Method : O:\Forensics\Data\Airpiano3\2020\03\200320SIM\TSIM3_200312.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Mar 12 16:48:11 2020
Response via : Initial Calibration

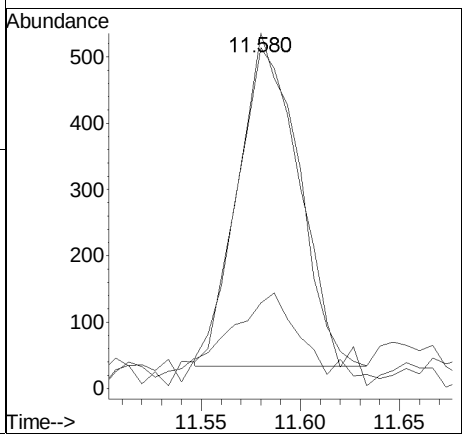


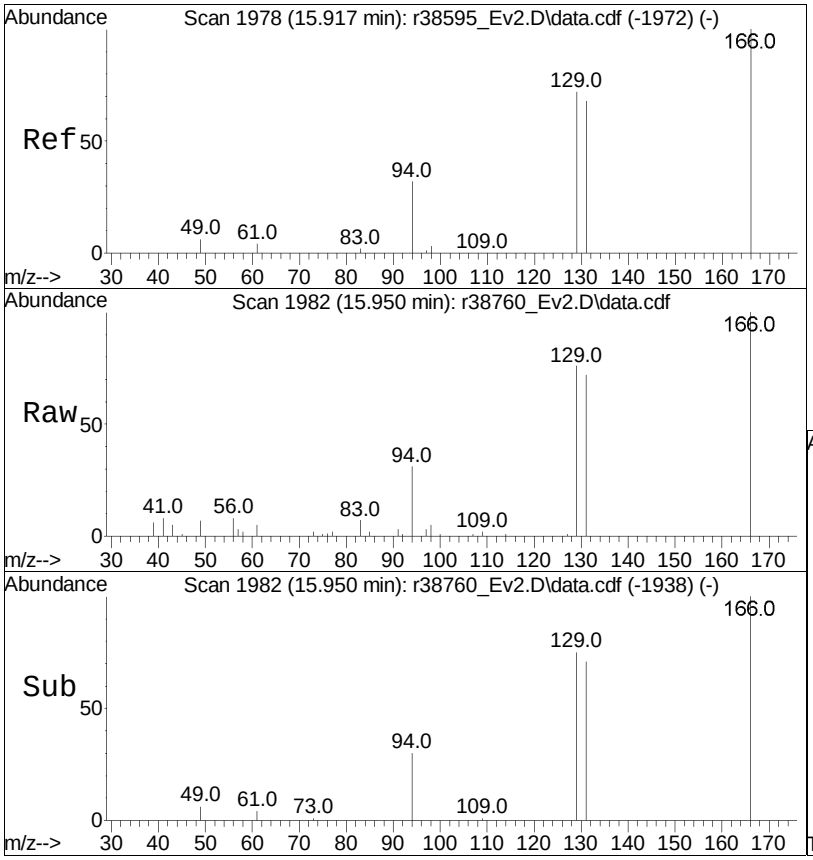


#38
carbon tetrachloride
Concen: 0.05 ppbV
RT: 11.580 min Scan# 1411
Delta R.T. 0.040 min
Lab File: r38760_Ev2.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion:117 Resp: 1044

Ion	Ratio	Lower	Upper
117	100		
119	95.9	73.0	109.4
82	24.1	19.1	28.7

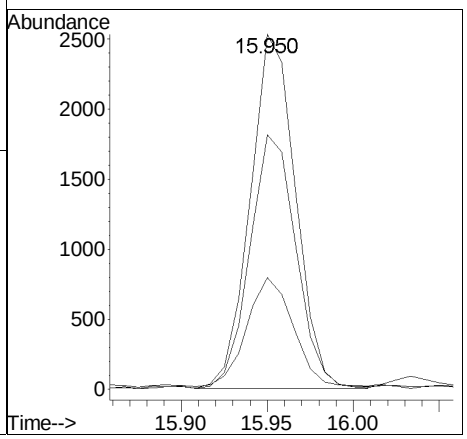




#57
tetrachloroethene
Concen: 0.24 ppbV
RT: 15.950 min Scan# 1982
Delta R.T. 0.033 min
Lab File: r38760_Ev2.D
Acq: 20 Mar 2020 7:03 PM

Tgt Ion:166 Resp: 4639

Ion	Ratio	Lower	Upper
166	100		
131	71.6	54.6	82.0
94	31.5	25.7	38.5



Manual Integration Report

Data Path	: O:\Forensics\Data\Airpiano	QMethod	: TSIM3_200312.M
Data File	: r38760_Ev2.D	Operator	: AIRPIANO3:EW
Date Inj'd	: 3/20/2020 0:7: 3	Instrument	:
Sample	: WG1353543-5,3,250,250	Quant Date	: 3/21/2020 7:09 pm

There are no manual integrations or false positives in this file.

Calculation of Volatile Organic Compounds in Air

The instrument will calculate the concentration (ppbv). If the sample is diluted (DF), the result is multiplied by the DF to generate the final result.

Result, ppbv = C_s x DF
Where:
C_s = Concentration of sample (ppbv)
DF = Dilution Factor

Calculation of Instrument Dilution Factor

For dilutions, smaller sample volumes (< 250mL) are analyzed. The smallest volume that can be analyzed with accuracy is 10 mL.

Samples that arrive at the laboratory with pressures below -15 inches Hg must be pressurized with zero air to greater than -15 inches Hg. This pressurization results in a dilution factor.

Calculation of Dilution Factor
$DF = V_{cf} / V_{ci}$
Where:
V_{ci} = volume of air in canister prior to pressurization, L
P =

Conversion of ppbv to ug/m^3
ug/m^3 = (ppbv) * MW / 24.47
Where:
24.47 = molar gas constant (g/g-mole)
MW = molecular weight of the compound of interest

Dilution Factor for Pressurization of Subatmospheric Samples: Three Steps

Step 1: Calculate the volume in the canister prior to pressurization (Assume a 2.7 liter canister is used).

Dilution Factor for Pressurization of Subatmospheric Samples: Three Steps

Step 1: Calculate the volume in the canister prior to pressurization (Assume a 2.7 liter canister is used).

$V_{ci} = 2.7 * Pl/14.696$

Step 2: Calculate the volume in the canister after pressurization.

$V_{cf} = 2.7 * PF/14.696$

Step 3: Calculate the dilution factor.

$DF = V_{cf} / V_{ci}$

Where:

V_{ci} = volume of air in canister prior to pressurization, L
PI = pressure reading of canister prior to pressurization (psia)
V_{cf} = volume of air in canister after pressurization, L
PF = pressure reading of canister after pressurization (psia)
DF = dilution factor
14.696 = atmospheric pressure (psia)

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Mar 27 2020, 03:40 pm

Work Group: WG1353543 for Department: 3 GC/MS

Created: 20-MAR-20 Due: Operator: EW

Sample	Client ID	C	Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L2011723-05	OA001	S	TO15-SIM	AIR	DONE	U	0412	0323	S0	Can-2.7
L2011723-06	IA001	S	TO15-SIM	AIR	DONE	U	0412	0323	S0	Can-2.7
L2012074-01	IA-8	S	TO15-SIM	AIR	DONE	U	0416	0323	S0	Can-2.7
L2012074-02	IA-7	S	TO15-SIM	AIR	DONE	U	0416	0323	S0	Can-2.7
L2012074-03	IA-10	S	TO15-SIM	AIR	DONE	U	0416	0323	S0	Can-2.7
L2012074-04	IA-6	S	TO15-SIM	AIR	DONE	U	0416	0323	S0	Can-2.7
L2012074-05	IA-9	S	TO15-SIM	AIR	DONE	U	0416	0323	S0	Can-2.7
WG1353543-1	MS BFB Tune Standard	S	TO15-SIM	AIR	DONE	U				
WG1353543-2	Continuing Calibrati	S	TO15-SIM	AIR	DONE	U				
WG1353543-3	Laboratory Control S	S	TO15-SIM	AIR	DONE	U				
WG1353543-4	Laboratory Method Bl	S	TO15-SIM	AIR	DONE	U				
WG1353543-5	Duplicate Sample	S	TO15-SIM	AIR	DONE	U				

Comments:

WG1353543-5 L2011723-06

Alpha Analytical Air Lab
Instrument Run Log

Instrument ID: Airpiano3

Internal Standard/Surrogate IDs: SS20-009 / SS19-022

Date: 03/12/20

Internal Standard/Surrogate Volume: 100 ml

Analyst Initials: TS

Sequence File Name: 200312.S

SIM ICAL# Full Scan ICAL# APH ICAL#

AS Position #	Sample ID	Acquisition Method	Data File ID	Standard ID or Batch ID #, ICAL Ref #	Comment (s)	Product/ sublist	Leak Check Pass ? Y/ N
1	BA3031201	TO15_SFS.qgm	R38585.qgd	250 mL			NA
1	BA3031202	TO15_SFS.qgm	R38586.qgd	250 mL			NA
1	BA3031203	TO15_SFS.qgm	R38587.qgd	250 mL			NA
1	TA3031201	TO15_SFS.qgm	R38588.qgd	250 mL	TUNE		NA
5	ITO15-SIMSTD0.02	TO15_SFS.qgm	R38589.qgd	50 mL SS20-003D	SIM ONLY		NA
5	ITO15-SIMSTD0.05	TO15_SFS.qgm	R38590.qgd	125 mL SS20-003D	SIM ONLY		NA
5	ITO15-SIMSTD0.1	TO15_SFS.qgm	R38591.qgd	250 mL SS20-003D	SIM ONLY		NA
6	ITO15-SIMSTD0.2	TO15_SFS.qgm	R38592.qgd	50 mL SS20-003C			NA
6	ITO15-SIMSTD0.5	TO15_SFS.qgm	R38593.qgd	125 mL SS20-003C			NA
6	ITO15-SIMSTD1.0	TO15_SFS.qgm	R38594.qgd	250 mL SS20-003C			NA
7	ITO15-SIMSTD5.0	TO15_SFS.qgm	R38595.qgd	125 mL SS20-003B1			NA
7	ITO15-SIMSTD010	TO15_SFS.qgm	R38596.qgd	250 mL SS20-003B1			NA
8	ITO15-SIMSTD020	TO15_SFS.qgm	R38597.qgd	50 mL SS20-003A			NA
8	ITO15-SIMSTD050	TO15_SFS.qgm	R38598.qgd	125 mL SS20-003A			NA
8	ITO15-LLSTD100	TO15_SFS.qgm	R38599.qgd	250 mL SS20-003A	LL ONLY		NA
1	BA3031201	TO15_SFS.qgm	R38600.qgd	250 mL			NA
1	BA3031202	TO15_SFS.qgm	R38601.qgd	250 mL			NA
2	CTO15-LLSTD010	TO15_SFS.qgm	R38602.qgd	250 mL SS20-006B	LL ICV		NA
2	CTO15-SIMSTD5.0	TO15_SFS.qgm	R38603.qgd	125 mL SS20-006B	SIM ICV		NA

Alpha Analytical Air Lab
Instrument Run Log

Date(s) of Initial Calibration: Refer to Initial Calibration Summary Form 6

Date Acquired: see Instrument Performance Check Summary and/or quantitation report.

Sample ID information: L1301234-01,3,250,250 { Lab sample ID, dept #, actual volume analyzed (mL), nominal volume analyzed (mL) }

Dilution Factor: See Form 1 report, or divide nominal volume by actual volume analyzed

Alpha Analytical Air Lab
Instrument Run Log

Instrument ID: Airpiano3

Internal Standard/Surrogate IDs: SS20-009 / SS19-022

Date: 03/20/20

Internal Standard/Surrogate Volume: 100 ml

Analyst Initials: EW

Sequence File Name: 200320.S

SIM ICAL# 16593 Full Scan ICAL# 16594 APH ICAL#16592

AS Position #	Sample ID	Acquisition Method	Data File ID	Standard ID or Batch ID #, ICAL Ref #	Comment (s)	Product/ sublist	Leak Check Pass ? Y/N
1	TA3032001	TO15_SFS.qgm	R38753.qgd	250 mL	TUNE		NA
3	CTO15-LLSTD010	TO15_SFS.qgm	R38754.qgd	250 mL SS20-006B	LL LCS		NA
3	CTO15-SIMSTD5.0	TO15_SFS.qgm	R38755.qgd	125 mL SS20-006B	SIM LCS		NA
1	BA3032001	TO15_SFS.qgm	R38756.qgd	250 mL	BLANK FAILED		NA
1	BA3032002	TO15_SFS.qgm	R38757.qgd	250 mL	BLANK		NA
1	L2011723-05,3,250,250	TO15_SFS.qgm	R38758.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
2	L2011723-06,3,250,250	TO15_SFS.qgm	R38759.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
2	L2011723-06DUP,3,250,250	TO15_SFS.qgm	R38760.qgd	WG1353541,ICAL16594	LL / SIM DUP	NY / 7-SIM	Y
3	L2012074-01,3,250,250	TO15_SFS.qgm	R38761.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
4	L2012074-02,3,250,250	TO15_SFS.qgm	R38762.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
5	L2012074-03,3,250,250	TO15_SFS.qgm	R38763.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
6	L2012074-04,3,250,250	TO15_SFS.qgm	R38764.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
7	L2012074-05,3,250,250	TO15_SFS.qgm	R38765.qgd	WG1353541,ICAL16594		NY / 7-SIM	Y
8	L2011818-01,3,250,250	TO15_SFS.qgm	R38766.qgd	WG1353541,ICAL16594		NY	Y
9	L2011818-02,3,250,250	TO15_SFS.qgm	R38767.qgd	WG1353541,ICAL16594		NY	Y
10	L2011818-03,3,250,250	TO15_SFS.qgm	R38768.qgd	WG1353541,ICAL16594		NY	Y
11	L2011818-04,3,250,250	TO15_SFS.qgm	R38769.qgd	WG1353541,ICAL16594		NY	Y
12	L2011818-05,3,250,250	TO15_SFS.qgm	R38770.qgd	WG1353541,ICAL16594		NY	Y
13	L2011818-06,3,250,250	TO15_SFS.qgm	R38771.qgd	WG1353541,ICAL16594	IPA OVERCAL	NY	Y
14	L2011818-07D,3,215,250	TO15_SFS.qgm	R38772.qgd	WG1353541,ICAL16594		NY	Y
15	L2011546-02,3,250,250	TO15_SFS.qgm	R38773.qgd	WG1353539,ICAL16594		MCP	Y

Alpha Analytical Air Lab
Instrument Run Log

15	L2011546-02DUP,3,250,250	TO15_SFS.qgm	R38774.qgd	WG1353539,ICAL16594	MCP DUP	MCP	Y
13	L2011818-06D,3,75,250	TO15_SFS.qgm	R38775.qgd	WG1353541,ICAL16594	IPA ONLY	NY	Y

Date(s) of Initial Calibration: Refer to Initial Calibration Summary Form 6

Date Acquired: see Instrument Performance Check Summary and/or quantitation report.

Sample ID information: L1301234-01,3,250,250 { Lab sample ID, dept #, actual volume analyzed (mL), nominal volume

Dilution Factor: See Form 1 report, or divide nominal volume by actual volume analyzed

PWGC
CLIENT DRIVEN SOLUTIONS

APPENDIX D
Data Usability Summary Report

P.W. GROSSER CONSULTING, INC.
P.W. GROSSER CONSULTING ENGINEER & HYDROGEOLOGIST, P.C.
PHONE: 631.589.6353
PWGROSSER.COM
630 JOHNSON AVENUE, STE 7
BOHEMIA, NY 11716
LONG ISLAND • MANHATTAN • SARATOGA SPRINGS • SYRACUSE • SEATTLE • SHELTON

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

P.W. Grosser Consulting
630 Johnson Ave, Suite 7
Bohemia, NY 11716
ATTN: Ms. Jennifer Lewis
jenniferl@pwgrosser.com

April 27, 2020

SUBJECT: 233-20 Braddock Ave, Jamaica, NY, Data Usability Summary Report

Dear Ms. Lewis,

Enclosed is the final validation report for the fraction listed below. This SDG was received on April 2, 2020. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #47705:

SDG #	Fraction
L2011723	Volatiles

The data validation was performed under Category B guidelines using quality control summaries provided by the laboratory. The analyses were validated using the following documents, as applicable to each method:

- USEPA Region 2 Analysis of Volatile Organic Compounds in Air Contained Canisters, SOP HW-31, Revision 6; September 2016
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, EPA 540-R-2017-002; January 2017

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

Sincerely,

Christina Rink

Christina Rink
crink@lab-data.com
Project Manager/Senior Chemist

Category B

LDC #47705 (P.W. Grosser Consulting - Bohemia, NY / 233-20 Braddock Ave, Jamaica, NY)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (TO-15)		VOA (TO-15 -SIM)																													
Matrix:	Air/Water/Soil			A	S	A	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	L2011723	04/02/20	04/23/20	6	0	2	0																												
Total	T/CR			6	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8

Shaded cells indicate Category B validation (all other cells are Category A validation). These sample counts do not include MS, MSD, or DUP's.

Site: 233-20 Braddock Ave, Jamaica, NY
Laboratory: Alpha Analytical, Inc.
Report No.: L2011723
Reviewer: Felomina Tanguilig and Christina Rink/Laboratory Data Consultants for P.W. Grosser Consulting
Date: April 24, 2020

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
SS001	L2011723-01	VOC
SV001	L2011723-02	VOC
SV002	L2011723-03	VOC
SV003	L2011723-04	VOC
OA001	L2011723-05	VOC, VOC-SIM
IA001	L2011723-06	VOC, VOC-SIM
IA001DUP	L2011723-06DUP	VOC, VOC-SIM

Associated QC Samples(s):
Field/Trip Blanks: None Associated
Field Duplicate pair: None Associated

The above-listed air samples were collected on March 13, 2020 and were analyzed for volatile organic compounds (VOCs) by TO-15 and TO15 in selected ion monitoring (SIM) mode. The data validation was performed in accordance with the USEPA Region 2 *Analysis of Volatile Organic Compounds in Air Contained Canisters*, SOP HW-31, Revision 6 (September 2016) and the USEPA *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review,* EPA 540-R-2017-002 (January 2017), modified as necessary to accommodate the non-CLP methodologies used.

The organic data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
- Initial and Continuing Calibrations
- Blanks
- Laboratory Duplicate Results
- Laboratory Control Sample (LCS) Results
- Internal Standards
- Field Duplicate Results
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

Overall Evaluation of Data and Potential Usability Issues

All results are usable as reported or usable with minor qualification due to laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP category B laboratory deliverables.

Holding Times and Sample Preservation

All criteria were met.

GC/MS Tunes

All criteria were met.

Initial and Continuing Calibrations

VOC

Initial calibration:

Compounds that did not meet criteria are summarized in the following table.

Date	Instrument ID	Compound	ICV %D	Associated Samples		Validation Action
03/13/20	ICV	1,2,4-Trichlorobenzene	50.9	OA001 IA001	SS	UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 1,2,4-trichlorobenzene results were estimated due to second source calibration exceedance. The bias cannot be determined. The results can be used for project objectives as nondetects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Continuing calibration:

Compounds that did not meet criteria are summarized in the following table.

Date	Instrument ID	Compound	CC %D	Associated Samples		Validation Action
03/20/20	CCV	2-Hexanone	40.3	OA001 IA001	XX	UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 2-hexanone results were estimated due to continuing calibration exceedance. The bias cannot be determined. The results can be used for project objectives as nondetects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

VOC-SIM

All criteria were met.

Blanks

Contamination was not detected in the method blanks.

A field blank was not associated with this sample set. Validation action was not required on this basis.

Laboratory Duplicate Results

Laboratory duplicates were performed on sample IA001 for VOC and VOC-SIM analyses. All criteria were met.

LCS Results

VOC

The following table lists the LCS percent recoveries (%R) outside of control limits in the VOC analysis and the resulting validation actions.

LCS ID	Compound	LCS %R (Limits)	Affected Sample	Validation Action
WG1353541-3LCS	2-Hexanone	140 (70-130)	OA001	None
	1,2,4-Trichlorobenzene	138 (70-130)	IA001	None
	Hexachlorobutadiene	146 (70-130)		None

Validation action was not required for 2-hexanone, 1,2,4-trichlorobenzene, and hexachlorobutadiene due to high LCS/LCSD percent recoveries as positive results only are affected and these compounds were not detected in the associated samples.

VOC-SIM

All criteria were met.

Internal Standards

All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample set. Validation action was not required on this basis.

Quantitation Limits and Data Assessment

No results were reported below the reporting limit (RL) and above the method detection limit (MDL) in the VOC and VOC-SIM analyses.

Due to high target compound levels or difficult sample matrix, select samples were analyzed at dilutions. The following table lists the sample dilutions which were performed and the results reported. RLs were elevated accordingly.

Sample	VOC Analysis Reported
SV001	3.333-fold dilution due to nature of sample matrix
SV002	6.25-fold dilution due to nature of sample matrix
SV003	2.5-fold dilution due to nature of sample matrix

Dilutions were not required for VOC-SIManalysis.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.

J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified "J" data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The 'J' data may be biased high or low or the direction of the bias may be indeterminable.

UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified "UJ" data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The 'UJ' data may be biased low.

JN - The analysis indicates the presence of a compound that has been "tentatively identified" (N) and the associated numerical value represents its approximate (J) concentration.

R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-01	Date Collected	: 03/13/20 16:25
Client ID	: SS001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 01:52
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193208	Instrument ID	: AIRLAB19
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3				
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	
75-71-8	Dichlorodifluoromethane	0.409	0.200	--	2.02	0.989	--		
74-87-3	Chloromethane	0.259	0.200	--	0.535	0.413	--		
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U	U
75-01-4	Vinyl chloride	ND	0.200	--	ND	0.511	--	U	U
106-99-0	1,3-Butadiene	0.830	0.200	--	1.84	0.442	--		
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U	U
64-17-5	Ethanol	10.8	5.00	--	20.3	9.42	--		
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U	U
67-64-1	Acetone	39.9	1.00	--	94.8	2.38	--		
75-69-4	Trichlorofluoromethane	0.208	0.200	--	1.17	1.12	--		
67-63-0	Isopropanol	1.64	0.500	--	4.03	1.23	--		
75-35-4	1,1-Dichloroethene	ND	0.200	--	ND	0.793	--	U	U
75-65-0	Tertiary butyl Alcohol	2.04	0.500	--	6.18	1.52	--		
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U	U
75-15-0	Carbon disulfide	1.44	0.200	--	4.48	0.623	--		
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U	
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U	
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U	
78-93-3	2-Butanone	5.11	0.500	--	15.1	1.47	--		
156-59-2	cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U	U
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U	U
67-66-3	Chloroform	69.2	0.200	--	338	0.977	--		
109-99-9	Tetrahydrofuran	3.06	0.500	--	9.02	1.47	--		

APR 2 7 2020

Initials: CR

Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-01	Date Collected	: 03/13/20 16:25
Client ID	: SS001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 01:52
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193208	Instrument ID	: AIRLAB19
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	32.4	0.200	--	114	0.705	--	
71-55-6	1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	U
71-43-2	Benzene	3.34	0.200	--	10.7	0.639	--	
56-23-5	Carbon tetrachloride	ND	0.200	--	ND	1.26	--	U
110-82-7	Cyclohexane	14.5	0.200	--	49.9	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	5.24	0.200	--	35.1	1.34	--	
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
79-01-6	Trichloroethene	ND	0.200	--	ND	1.07	--	U
540-84-1	2,2,4-Trimethylpentane	5.24	0.200	--	24.5	0.934	--	
142-82-5	Heptane	5.29	0.200	--	21.7	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	0.590	0.500	--	2.42	2.05	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	18.7	0.200	--	70.5	0.754	--	
591-78-6	2-Hexanone	2.89	0.200	--	11.8	0.820	--	
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
127-18-4	Tetrachloroethene	45.3	0.200	--	307	1.36	--	
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	3.82	0.200	--	16.6	0.869	--	
179601-23-1	p/m-Xylene	10.2	0.400	--	44.3	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	0.203	0.200	--	0.864	0.852	--	

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-01	Date Collected	: 03/13/20 16:25
Client ID	: SS001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 01:52
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193208	Instrument ID	: AIRLAB19
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	4.43	0.200	--	19.2	0.869	--	
622-96-8	4-Ethyltoluene	0.737	0.200	--	3.62	0.983	--	
108-67-8	1,3,5-Trimethylbenzene	0.770	0.200	--	3.79	0.983	--	
95-63-6	1,2,4-Trimethylbenzene	2.23	0.200	--	11.0	0.983	--	
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-02D	Date Collected	: 03/13/20 16:26
Client ID	: SV001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 02:28
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 3.333
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193209	Instrument ID	: AIRLAB19
Sample Amount	: 75.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	0.667	--	ND	3.30	--	U
74-87-3	Chloromethane	ND	0.667	--	ND	1.38	--	U
76-14-2	Freon-114	ND	0.667	--	ND	4.66	--	U
75-01-4	Vinyl chloride	ND	0.667	--	ND	1.71	--	U
106-99-0	1,3-Butadiene	ND	0.667	--	ND	1.48	--	U
74-83-9	Bromomethane	ND	0.667	--	ND	2.59	--	U
75-00-3	Chloroethane	ND	0.667	--	ND	1.76	--	U
64-17-5	Ethanol	ND	16.7	--	ND	31.5	--	U
593-60-2	Vinyl bromide	ND	0.667	--	ND	2.92	--	U
67-64-1	Acetone	793	3.33	--	1880	7.91	--	
75-69-4	Trichlorofluoromethane	ND	0.667	--	ND	3.75	--	U
67-63-0	Isopropanol	13.4	1.67	--	32.9	4.10	--	
75-35-4	1,1-Dichloroethene	ND	0.667	--	ND	2.64	--	U
75-65-0	Tertiary butyl Alcohol	8.96	1.67	--	27.2	5.06	--	
75-09-2	Methylene chloride	ND	1.67	--	ND	5.80	--	U
107-05-1	3-Chloropropene	ND	0.667	--	ND	2.09	--	U
75-15-0	Carbon disulfide	0.820	0.667	--	2.55	2.08	--	
76-13-1	Freon-113	ND	0.667	--	ND	5.11	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.667	--	ND	2.64	--	U
75-34-3	1,1-Dichloroethane	ND	0.667	--	ND	2.70	--	U
1634-04-4	Methyl tert butyl ether	ND	0.667	--	ND	2.40	--	U
78-93-3	2-Butanone	47.1	1.67	--	139	4.93	--	
156-59-2	cis-1,2-Dichloroethene	ND	0.667	--	ND	2.64	--	U
141-78-6	Ethyl Acetate	ND	1.67	--	ND	6.02	--	U
67-66-3	Chloroform	ND	0.667	--	ND	3.26	--	U
109-99-9	Tetrahydrofuran	7.82	1.67	--	23.1	4.93	--	

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-02D	Date Collected	: 03/13/20 16:26
Client ID	: SV001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 02:28
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 3.333
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193209	Instrument ID	: AIRLAB19
Sample Amount	: 75.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.667	--	ND	2.70	--	U
110-54-3	n-Hexane	3.20	0.667	--	11.3	2.35	--	
71-55-6	1,1,1-Trichloroethane	ND	0.667	--	ND	3.64	--	U
71-43-2	Benzene	1.26	0.667	--	4.03	2.13	--	
56-23-5	Carbon tetrachloride	ND	0.667	--	ND	4.20	--	U
110-82-7	Cyclohexane	1.71	0.667	--	5.89	2.30	--	
78-87-5	1,2-Dichloropropane	ND	0.667	--	ND	3.08	--	U
75-27-4	Bromodichloromethane	ND	0.667	--	ND	4.47	--	U
123-91-1	1,4-Dioxane	ND	0.667	--	ND	2.40	--	U
79-01-6	Trichloroethene	ND	0.667	--	ND	3.58	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.667	--	ND	3.12	--	U
142-82-5	Heptane	11.0	0.667	--	45.1	2.73	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.667	--	ND	3.03	--	U
108-10-1	4-Methyl-2-pentanone	2.26	1.67	--	9.26	6.84	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.667	--	ND	3.03	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.667	--	ND	3.64	--	U
108-88-3	Toluene	13.6	0.667	--	51.3	2.51	--	
591-78-6	2-Hexanone	8.08	0.667	--	33.1	2.73	--	
124-48-1	Dibromochloromethane	ND	0.667	--	ND	5.68	--	U
106-93-4	1,2-Dibromoethane	ND	0.667	--	ND	5.13	--	U
127-18-4	Tetrachloroethene	11.6	0.667	--	78.7	4.52	--	
108-90-7	Chlorobenzene	ND	0.667	--	ND	3.07	--	U
100-41-4	Ethylbenzene	1.66	0.667	--	7.21	2.90	--	
179601-23-1	p/m-Xylene	6.72	1.33	--	29.2	5.78	--	
75-25-2	Bromoform	ND	0.667	--	ND	6.90	--	U
100-42-5	Styrene	ND	0.667	--	ND	2.84	--	U

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-02D	Date Collected	: 03/13/20 16:26
Client ID	: SV001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 02:28
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 3.333
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193209	Instrument ID	: AIRLAB19
Sample Amount	: 75.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.667	--	ND	4.58	--	U
95-47-6	o-Xylene	2.44	0.667	--	10.6	2.90	--	
622-96-8	4-Ethyltoluene	ND	0.667	--	ND	3.28	--	U
108-67-8	1,3,5-Trimethylbenzene	0.783	0.667	--	3.85	3.28	--	
95-63-6	1,2,4-Trimethylbenzene	2.97	0.667	--	14.6	3.28	--	
100-44-7	Benzyl chloride	ND	0.667	--	ND	3.45	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.667	--	ND	4.01	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.667	--	ND	4.01	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.667	--	ND	4.01	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.667	--	ND	4.95	--	U
87-68-3	Hexachlorobutadiene	ND	0.667	--	ND	7.11	--	U

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-03D	Date Collected	: 03/13/20 16:27
Client ID	: SV002	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 03:04
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 6.25
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193210	Instrument ID	: AIRLAB19
Sample Amount	: 40.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	1.25	--	ND	6.18	--	U
74-87-3	Chloromethane	ND	1.25	--	ND	2.58	--	U
76-14-2	Freon-114	ND	1.25	--	ND	8.74	--	U
75-01-4	Vinyl chloride	ND	1.25	--	ND	3.20	--	U
106-99-0	1,3-Butadiene	ND	1.25	--	ND	2.77	--	U
74-83-9	Bromomethane	ND	1.25	--	ND	4.85	--	U
75-00-3	Chloroethane	ND	1.25	--	ND	3.30	--	U
64-17-5	Ethanol	ND	31.2	--	ND	58.8	--	U
593-60-2	Vinyl bromide	ND	1.25	--	ND	5.47	--	U
67-64-1	Acetone	428	6.25	--	1020	14.8	--	
75-69-4	Trichlorofluoromethane	ND	1.25	--	ND	7.02	--	U
67-63-0	Isopropanol	6.52	3.12	--	16.0	7.67	--	
75-35-4	1,1-Dichloroethene	ND	1.25	--	ND	4.96	--	U
75-65-0	Tertiary butyl Alcohol	4.80	3.12	--	14.6	9.46	--	
75-09-2	Methylene chloride	ND	3.12	--	ND	10.8	--	U
107-05-1	3-Chloropropene	ND	1.25	--	ND	3.91	--	U
75-15-0	Carbon disulfide	ND	1.25	--	ND	3.89	--	U
76-13-1	Freon-113	ND	1.25	--	ND	9.58	--	U
156-60-5	trans-1,2-Dichloroethene	ND	1.25	--	ND	4.96	--	U
75-34-3	1,1-Dichloroethane	ND	1.25	--	ND	5.06	--	U
1634-04-4	Methyl tert butyl ether	ND	1.25	--	ND	4.51	--	U
78-93-3	2-Butanone	28.0	3.12	--	82.6	9.20	--	
156-59-2	cis-1,2-Dichloroethene	60.0	1.25	--	238	4.96	--	
141-78-6	Ethyl Acetate	ND	3.12	--	ND	11.2	--	U
67-66-3	Chloroform	10.4	1.25	--	50.8	6.10	--	
109-99-9	Tetrahydrofuran	4.63	3.12	--	13.7	9.20	--	

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-03D	Date Collected	: 03/13/20 16:27
Client ID	: SV002	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 03:04
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 6.25
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193210	Instrument ID	: AIRLAB19
Sample Amount	: 40.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	1.25	--	ND	5.06	--	U
110-54-3	n-Hexane	ND	1.25	--	ND	4.41	--	U
71-55-6	1,1,1-Trichloroethane	ND	1.25	--	ND	6.82	--	U
71-43-2	Benzene	ND	1.25	--	ND	3.99	--	U
56-23-5	Carbon tetrachloride	ND	1.25	--	ND	7.86	--	U
110-82-7	Cyclohexane	ND	1.25	--	ND	4.30	--	U
78-87-5	1,2-Dichloropropane	ND	1.25	--	ND	5.78	--	U
75-27-4	Bromodichloromethane	ND	1.25	--	ND	8.37	--	U
123-91-1	1,4-Dioxane	ND	1.25	--	ND	4.50	--	U
79-01-6	Trichloroethene	13.5	1.25	--	72.6	6.72	--	
540-84-1	2,2,4-Trimethylpentane	ND	1.25	--	ND	5.84	--	U
142-82-5	Heptane	2.52	1.25	--	10.3	5.12	--	
10061-01-5	cis-1,3-Dichloropropene	ND	1.25	--	ND	5.67	--	U
108-10-1	4-Methyl-2-pentanone	ND	3.12	--	ND	12.8	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	1.25	--	ND	5.67	--	U
79-00-5	1,1,2-Trichloroethane	ND	1.25	--	ND	6.82	--	U
108-88-3	Toluene	9.82	1.25	--	37.0	4.71	--	
591-78-6	2-Hexanone	8.93	1.25	--	36.6	5.12	--	
124-48-1	Dibromochloromethane	ND	1.25	--	ND	10.6	--	U
106-93-4	1,2-Dibromoethane	ND	1.25	--	ND	9.61	--	U
127-18-4	Tetrachloroethene	320	1.25	--	2170	8.48	--	
108-90-7	Chlorobenzene	ND	1.25	--	ND	5.76	--	U
100-41-4	Ethylbenzene	2.88	1.25	--	12.5	5.43	--	
179601-23-1	p/m-Xylene	9.51	2.50	--	41.3	10.9	--	
75-25-2	Bromoform	ND	1.25	--	ND	12.9	--	U
100-42-5	Styrene	ND	1.25	--	ND	5.32	--	U

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-03D	Date Collected	: 03/13/20 16:27
Client ID	: SV002	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 03:04
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 6.25
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193210	Instrument ID	: AIRLAB19
Sample Amount	: 40.0 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.25	--	ND	8.58	--	U
95-47-6	o-Xylene	3.24	1.25	--	14.1	5.43	--	
622-96-8	4-Ethyltoluene	ND	1.25	--	ND	6.15	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	1.25	--	ND	6.15	--	U
95-63-6	1,2,4-Trimethylbenzene	1.81	1.25	--	8.90	6.15	--	
100-44-7	Benzyl chloride	ND	1.25	--	ND	6.47	--	U
541-73-1	1,3-Dichlorobenzene	ND	1.25	--	ND	7.52	--	U
106-46-7	1,4-Dichlorobenzene	ND	1.25	--	ND	7.52	--	U
95-50-1	1,2-Dichlorobenzene	ND	1.25	--	ND	7.52	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	1.25	--	ND	9.28	--	U
87-68-3	Hexachlorobutadiene	ND	1.25	--	ND	13.3	--	U

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-04D	Date Collected	: 03/13/20 16:28
Client ID	: SV003	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 03:40
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 2.5
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193211	Instrument ID	: AIRLAB19
Sample Amount	: 100 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	0.500	--	ND	2.47	--	U
74-87-3	Chloromethane	ND	0.500	--	ND	1.03	--	U
76-14-2	Freon-114	ND	0.500	--	ND	3.49	--	U
75-01-4	Vinyl chloride	ND	0.500	--	ND	1.28	--	U
106-99-0	1,3-Butadiene	4.51	0.500	--	9.98	1.11	--	
74-83-9	Bromomethane	ND	0.500	--	ND	1.94	--	U
75-00-3	Chloroethane	ND	0.500	--	ND	1.32	--	U
64-17-5	Ethanol	15.3	12.5	--	28.8	23.6	--	
593-60-2	Vinyl bromide	ND	0.500	--	ND	2.19	--	U
67-64-1	Acetone	745	2.50	--	1770	5.94	--	
75-69-4	Trichlorofluoromethane	ND	0.500	--	ND	2.81	--	U
67-63-0	Isopropanol	9.00	1.25	--	22.1	3.07	--	
75-35-4	1,1-Dichloroethene	ND	0.500	--	ND	1.98	--	U
75-65-0	Tertiary butyl Alcohol	8.52	1.25	--	25.8	3.79	--	
75-09-2	Methylene chloride	ND	1.25	--	ND	4.34	--	U
107-05-1	3-Chloropropene	ND	0.500	--	ND	1.57	--	U
75-15-0	Carbon disulfide	ND	0.500	--	ND	1.56	--	U
76-13-1	Freon-113	ND	0.500	--	ND	3.83	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--	U
75-34-3	1,1-Dichloroethane	ND	0.500	--	ND	2.02	--	U
1634-04-4	Methyl tert butyl ether	ND	0.500	--	ND	1.80	--	U
78-93-3	2-Butanone	63.6	1.25	--	188	3.69	--	
156-59-2	cis-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--	U
141-78-6	Ethyl Acetate	ND	1.25	--	ND	4.50	--	U
67-66-3	Chloroform	0.512	0.500	--	2.50	2.44	--	
109-99-9	Tetrahydrofuran	7.13	1.25	--	21.0	3.69	--	

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-04D	Date Collected	: 03/13/20 16:28
Client ID	: SV003	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 03:40
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 2.5
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193211	Instrument ID	: AIRLAB19
Sample Amount	: 100 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.500	--	ND	2.02	--	U
110-54-3	n-Hexane	1.49	0.500	--	5.25	1.76	--	
71-55-6	1,1,1-Trichloroethane	ND	0.500	--	ND	2.73	--	U
71-43-2	Benzene	1.06	0.500	--	3.39	1.60	--	
56-23-5	Carbon tetrachloride	ND	0.500	--	ND	3.15	--	U
110-82-7	Cyclohexane	ND	0.500	--	ND	1.72	--	U
78-87-5	1,2-Dichloropropane	ND	0.500	--	ND	2.31	--	U
75-27-4	Bromodichloromethane	ND	0.500	--	ND	3.35	--	U
123-91-1	1,4-Dioxane	ND	0.500	--	ND	1.80	--	U
79-01-6	Trichloroethene	ND	0.500	--	ND	2.69	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.500	--	ND	2.34	--	U
142-82-5	Heptane	2.36	0.500	--	9.67	2.05	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.500	--	ND	2.27	--	U
108-10-1	4-Methyl-2-pentanone	ND	1.25	--	ND	5.12	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.500	--	ND	2.27	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.500	--	ND	2.73	--	U
108-88-3	Toluene	6.96	0.500	--	26.2	1.88	--	
591-78-6	2-Hexanone	14.3	0.500	--	58.6	2.05	--	
124-48-1	Dibromochloromethane	ND	0.500	--	ND	4.26	--	U
106-93-4	1,2-Dibromoethane	ND	0.500	--	ND	3.84	--	U
127-18-4	Tetrachloroethene	34.0	0.500	--	231	3.39	--	
108-90-7	Chlorobenzene	ND	0.500	--	ND	2.30	--	U
100-41-4	Ethylbenzene	0.905	0.500	--	3.93	2.17	--	
179601-23-1	p/m-Xylene	2.78	1.00	--	12.1	4.34	--	
75-25-2	Bromoform	ND	0.500	--	ND	5.17	--	U
100-42-5	Styrene	ND	0.500	--	ND	2.13	--	U

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-04D	Date Collected	: 03/13/20 16:28
Client ID	: SV003	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/21/20 03:40
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 2.5
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R193211	Instrument ID	: AIRLAB19
Sample Amount	: 100 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.500	--	ND	3.43	--	U
95-47-6	o-Xylene	0.900	0.500	--	3.91	2.17	--	
622-96-8	4-Ethyltoluene	ND	0.500	--	ND	2.46	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.500	--	ND	2.46	--	U
95-63-6	1,2,4-Trimethylbenzene	0.768	0.500	--	3.78	2.46	--	
100-44-7	Benzyl chloride	ND	0.500	--	ND	2.59	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.500	--	ND	3.01	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.500	--	ND	3.01	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.500	--	ND	3.01	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.500	--	ND	3.71	--	U
87-68-3	Hexachlorobutadiene	ND	0.500	--	ND	5.33	--	U

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-05	Date Collected	: 03/13/20 16:29
Client ID	: OA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 17:35
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38758	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	0.467	0.200	--	2.31	0.989	--	
74-87-3	Chloromethane	0.648	0.200	--	1.34	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	16.5	5.00	--	31.1	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	5.09	1.00	--	12.1	2.38	--	
75-69-4	Trichlorofluoromethane	0.238	0.200	--	1.34	1.12	--	
67-63-0	Isopropanol	3.28	0.500	--	8.06	1.23	--	
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	ND	0.500	--	ND	1.47	--	U
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	2.89	0.200	--	10.2	0.705	--	
71-43-2	Benzene	0.421	0.200	--	1.34	0.639	--	

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-05	Date Collected	: 03/13/20 16:29
Client ID	: OA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 17:35
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38758	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
110-82-7	Cyclohexane	1.24	0.200	--	4.27	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
540-84-1	2,2,4-Trimethylpentane	0.368	0.200	--	1.72	0.934	--	
142-82-5	Heptane	0.619	0.200	--	2.54	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	2.16	0.200	--	8.14	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	0.269	0.200	--	1.17	0.869	--	
179601-23-1	p/m-Xylene	0.974	0.400	--	4.23	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	0.345	0.200	--	1.50	0.869	--	
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	0.249	0.200	--	1.22	0.983	--	
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-05	Date Collected	: 03/13/20 16:29
Client ID	: OA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 17:35
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38758	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-06	Date Collected	: 03/13/20 16:30
Client ID	: IA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 18:16
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38759	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	0.469	0.200	--	2.32	0.989	--	
74-87-3	Chloromethane	0.808	0.200	--	1.67	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
106-99-0	1,3-Butadiene	1.48	0.200	--	3.27	0.442	--	
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	121	5.00	--	228	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	15.8	1.00	--	37.5	2.38	--	
75-69-4	Trichlorofluoromethane	0.237	0.200	--	1.33	1.12	--	
67-63-0	Isopropanol	17.3	0.500	--	42.5	1.23	--	
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	1.12	0.500	--	3.30	1.47	--	
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	57.7	0.200	--	203	0.705	--	
71-43-2	Benzene	6.72	0.200	--	21.5	0.639	--	

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-06	Date Collected	: 03/13/20 16:30
Client ID	: IA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 18:16
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38759	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
110-82-7	Cyclohexane	24.8	0.200	--	85.4	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
540-84-1	2,2,4-Trimethylpentane	5.34	0.200	--	24.9	0.934	--	
142-82-5	Heptane	7.98	0.200	--	32.7	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	0.686	0.500	--	2.81	2.05	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	26.1	0.200	--	98.4	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	4.35	0.200	--	18.9	0.869	--	
179601-23-1	p/m-Xylene	15.7	0.400	--	68.2	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	0.315	0.200	--	1.34	0.852	--	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	6.09	0.200	--	26.5	0.869	--	
622-96-8	4-Ethyltoluene	1.06	0.200	--	5.21	0.983	--	
108-67-8	1,3,5-Trimethylbenzene	1.40	0.200	--	6.88	0.983	--	
95-63-6	1,2,4-Trimethylbenzene	5.34	0.200	--	26.3	0.983	--	
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U

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Results Summary
Form 1
Volatile Organics in Air

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-06	Date Collected	: 03/13/20 16:30
Client ID	: IA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 18:16
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: EW
Lab File ID	: R38759	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U V
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U V
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U UJ
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U V

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Initials: CR

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-05	Date Collected	: 03/13/20 16:29
Client ID	: OA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 17:35
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15-SIM	Analyst	: EW
Lab File ID	: R38758_EV2	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	U
56-23-5	Carbon tetrachloride	0.062	0.020	--	0.390	0.126	--	
79-01-6	Trichloroethene	ND	0.020	--	ND	0.107	--	U
127-18-4	Tetrachloroethene	0.041	0.020	--	0.278	0.136	--	

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Initials: CR

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: P. W. Grosser	Lab Number	: L2011723
Project Name	: MHD1801	Project Number	: MHD1801
Lab ID	: L2011723-06	Date Collected	: 03/13/20 16:30
Client ID	: IA001	Date Received	: 03/16/20
Sample Location	: 223-20 BRADDOCK AVE, JAMAICA, NY	Date Analyzed	: 03/20/20 18:16
Sample Matrix	: AIR	Dilution Factor	: 1
Analytical Method	: 48,TO-15-SIM	Analyst	: EW
Lab File ID	: R38759_EV2	Instrument ID	: AIRPIANO3
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	U
56-23-5	Carbon tetrachloride	0.061	0.020	--	0.384	0.126	--	
79-01-6	Trichloroethene	ND	0.020	--	ND	0.107	--	U
127-18-4	Tetrachloroethene	0.239	0.020	--	1.62	0.136	--	

APR 2 7 2020

Initials: CR

LDC #: 47705A48a
SDG #: L2011723
Laboratory: Alpha Analytical, Inc.

VALIDATION COMPLETENESS WORKSHEET
Category B

Date: 4/22/20
Page: 1 of 1
Reviewer: EJ
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA Method TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / SW	%RSD/ICV ≤ 30
IV.	Continuing calibration	SW	CCV ≤ 30
V.	Laboratory Blanks / canister check per Batch	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates / DUP	N / A	
IX.	Laboratory control samples	SW	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	No Results < RL > MDL
XIII.	Target compound identification	A	
XIV.	System performance	A	
XV.	Leak Check Compounds	N	not performed
XVI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

		Client ID		Lab ID	Matrix	Date
1	1	SS001		L2011723-01	Air	03/13/20
2	1	SV001	3.333X	L2011723-02	Air	03/13/20
3	1	SV002	6.25X	L2011723-03	Air	03/13/20
4	1	SV003	2.5X	L2011723-04	Air	03/13/20
5	2	OA001		L2011723-05	Air	03/13/20
6	2	IA001		L2011723-06	Air	03/13/20
7	2	IA001DUP		L2011723-06DUP	Air	03/13/20
8						
9						

Notes:

1	WG1353556-4 MB						
2	WG1353541-4 MB						

LDC #: 47705A48a

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer:

Method: Volatiles (EPA Method TO-15)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was canister pressure criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 24 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30%?	✓			
IIIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after every ICAL for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?		✓		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 24 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?		✓		
V. Laboratory Blanks/Canister Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 24 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
Was a canister blank analyzed for every canister?	✓			
Was there contamination in the canister blanks?		✓		
VI. Field Blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	
VII. Surrogate spikes (Optional)				
Were all surrogate percent recoveries (%R) within QC limits?			✓	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VIII. Laboratory Duplicate				
Was a laboratory duplicate analyzed for this SDG?	✓			
Were the relative percent differences (RPD) within the QC limits?	✓			

LDC #: 47705 A48a

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within ± 40% from the associated calibration standard?	✓			
Were retention times within ± 20.0 seconds from the associated calibration standard?	✓			
XII. Compound quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Leak check compounds				
Was a leak check compound used to evaluate sample integrity and included in the laboratory analyte list?	✓			
Was the leak check compound detected in the samples? If yes, please see leak check validation findings worksheet.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 47705A48

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method ~~8260C~~) TO 15

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y (N) N/A Were all %D within the validation criteria of ≤20 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: <30.0%)	Associated Samples	Qualifications
	3/13/20 1206	ICV-	KKK	50.9	5→7, WG135354-4 MB	J|UJ|P (ND)

ICVvoa.wpd

LDC #: 47705A48a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: FT
2nd Reviewer: O

METHOD: GC/MS VOA (EPA SW 846 Method ~~8260C~~) TO 15

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ~~≤20.0%~~ 30%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	3/20/20	CCV	~~X~~ Z	40.3		5 → 7,	J/UJ/P (ND)
	0132PM					WG135354-4MD	

LDC #: 47705A48a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [signature]

METHOD: GC/MS VOA (EPA ~~SW-846~~ Method ~~8260C~~ TO15)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?

Y (N) N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	WG1353541-3	Z	140 (70-130)	( )	( )	5, 6, WG1353541-4MB	J dets/P (ND)
	LCS	KKK	138 (↓)	( )	( )	↓	↓
		LLL	146 (↓)	( )	( )	↓	↓
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC #: 47705A48a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC/MS VOA (TO15)
The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL AIRLAB19	2/25/20	C	0.411	0.411	0.4449	0.4449	11.53	11.53
			V	0.713	0.713	0.7231	0.7231	13.82	13.82
			AA	4.143	4.143	3.9723	3.9723	22.14	22.14
2	ICAL AIRPIAN03	3/12/20	C	0.468	0.468	0.4844	0.4844	10.58	10.58
			V	0.710	0.710	0.7241	0.7241	12.51	12.51
			AA	2.193	2.193	2.2300	2.2300	11.00	11.00
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 47705A48a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FI
2nd Reviewer:

METHOD: GC/MS VOA (TO15)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV	3/20/20	C	0.4449	0.440	0.440	1.1	1.1
	AIRLAB19		V	0.7231	0.700	0.700	3.2	3.2
	1208		AA	3.9723	2.957	2.957	10.5	10.5
2	CCV	3/20/20	C	0.4844	0.558	0.558	15.3	15.3
	AIR81ANU		V	0.7241	0.705	0.705	2.6	2.6
	0132		AA	2.230U	2.569	2.569	15.2	15.2
3								
4								
5								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 47705A48a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: F7
2nd Reviewer:

METHOD: GC/MS VOA (EPA Method TO-15)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: WG135355 6-3 (LCS)

Compound	Spike Added (ppbv)		Spiked Sample Concentration (ppbv)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
1,1-Dichloroethene	10	NA	10.9	NA	109	109				
Trichloroethene	"		9.60		96	96				
Benzene	"		9.60		96	96				
Toluene	"		10.8		108	108				
Chlorobenzene	"		11.8		118	118				

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 47705A48a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer:

METHOD: GC/MS VOA (EPA Method TO-15)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #1, V:

Conc. = $\frac{(257634)(10.0)}{(1066245)(6.7231)}$

=

3.34 ppbV

#	Sample ID	Compound	Reported Concentration (ppbV)	Calculated Concentration (ppbV)	Qualification
	#1	V	3.34	3.34	

LDC #: 47705A48b
SDG #: L2011723
Laboratory: Alpha Analytical, Inc.

VALIDATION COMPLETENESS WORKSHEET
Category B

Date: 4/22/20
Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA Method TO-15-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	%RSD / ICV ≤ 30
IV.	Continuing calibration	A	CCV ≤ 30
V.	Laboratory Blanks / canister check per batch	A / A	
VI.	Field blanks	N	
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates / DUP	N / A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	No Results < RL > MDL
XIII.	Target compound identification	A	
XIV.	System performance	A	
XV.	Leak Check Compounds	N	not performed
XVI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OA001	L2011723-05	Air	03/13/20
2	IA001	L2011723-06	Air	03/13/20
3	IA001DUP	L2011723-06DUP	Air	03/13/20
4				
5				
6				
7				
8				

Notes:

	WG1353543-1 MB						

LDC #: 47705A48b

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer:

Method: Volatiles (EPA Method TO-15)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was canister pressure criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 24 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30%?	✓			
IIIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after every ICAL for each instrument?	✓			
Were all percent differences (%D) < 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 24 hours for each instrument?	✓			
Were all percent differences (%D) < 30%?	✓			
V. Laboratory Blanks/Canister Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 24 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
Was a canister blank analyzed for every canister?	✓			
Was there contamination in the canister blanks?		✓		
VI. Field Blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	
VII. Surrogate spikes (Optional)				
Were all surrogate percent recoveries (%R) within QC limits?			✓	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VIII. Laboratory Duplicate				
Was a laboratory duplicate analyzed for this SDG?	✓			
Were the relative percent differences (RPD) within the QC limits?	✓			

LDC #: 47705A48b

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within ± 40% from the associated calibration standard?	✓			
Were retention times within ± 20.0 seconds from the associated calibration standard?	✓			
XII. Compound quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Leak check compounds				
Was a leak check compound used to evaluate sample integrity and included in the laboratory analyte list?	✓			
Was the leak check compound detected in the samples? If yes, please see leak check validation findings worksheet.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 47705A486

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC/MS VOA (EPA Method TO-15)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				RRF (std) 1.0 ppb	RRF (std) 1.0 ppb	Average RRF (initial)	Average RRF (initial)	%RSD	%RSD
1	ICAL AIR PIANO	3/12/20	C	0.541	0.541	0.5328	0.5328	12.52	12.52
			B	0.306	0.306	0.2946	0.2946	11.0	11.0
			AA	2.352	2.352	2.2644	2.2644	6.9	6.9
2									
3									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 47705A48b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA TO-15)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV 1411	3/20/20	C	0.5328	0.564	0.564	5.8	5.8
			D	0.2946	0.276	0.276	6.4	6.4
			AD	2.2644	2.436	2.436	7.6	7.6
2								
3								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 47705A48b

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer:
2nd Reviewer:

METHOD: GC/MS VOA (EPA Method TO-15)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: WG135354 3-3 LCS

Compound	Spike Added (ppbv)		Spiked Sample Concentration (ppbv)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
1,1-Dichloroethene	5.0	NA	5.23	NA	105	105				
Trichloroethene	5.0	↓	5.56	↓	111	111	NA			
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 47705A48b

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: F7
2nd reviewer:

METHOD: GC/MS VOA (EPA Method TO-15)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #1, θ:

Conc. = $\frac{(1085)(10)}{(5964731)(02946)}$

=

0.0617 ppbv

#	Sample ID	Compound	Reported Concentration (ppbv)	Calculated Concentration (ppbv)	Qualification
	#1	θ	0.062	0.0617	

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April 27, 2018

New York State Department of Environmental Conservation
Region 2
47-40 21st Street
Long Island City, New York 11101

Attn: Mr. Hiralkumar Patel

Re: Subsurface Investigation Report
NYSDEC Spill # 1604577
223-20 Braddock Avenue
Queens, New York 11428

Dear Mr. Patel,

Island Pump and Tank Corp. (IPT) has prepared this *Subsurface Investigation Report* (SIR), for the property located 223-20 Braddock Avenue, in Queens, New York (Site). The SIR documents the boring and sampling activities conducted at the Site in March 2018, summarizes the findings, and makes recommendations based on the results of the investigation.

If you have any questions, please contact the undersigned at 631-462-2226.

Sincerely,
Island Pump & Tank Corp.

Matthew K. Abbott
Sr. Project Manager

Cc: Mr. Anthony Genduso, 223-20 Braddock Avenue Corp.
Mr. Robert Dooley, Esq., McGiff Halverson (via e-mail)
Mr. Matthew Schieferstein, Island Pump and Tank Corp (via e-mail)

SUBSURFACE INVESTIGATION REPORT

223-20 Braddock Avenue
Queens, New York 11428

NYSDEC Spill No. 1604577

April 27, 2018

Prepared For:

New York State Department of Environmental Conservation
47-40 21st Street
Long Island City, New York 11101
Attn: Mr. Hiralkumar Patel

On Behalf Of:

223-20 Braddock Avenue Corp.
C/O McGiff Halverson, LLP
96 South Ocean Avenue
Patchogue, NY 11772

Prepared by:

Island Pump & Tank Corp.
40 Doyle Court
East Northport, NY 11731

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Appendix B Soil Boring Logs
Appendix C Laboratory Analytical Reports

1.0 INTRODUCTION

223-20 Braddock Avenue Corp. has retained Island Pump & Tank Corp. (IPT) to prepare this Subsurface Investigation Report (SIR) for the property located at 223-20 Braddock Avenue, in Queens, New York (Site). A Site Location Map has been provided as **Figure 1.** In addition, plans depicting site features and boring locations/analytical results has been provided as **Figures 2 and 3**. The purpose of this subsurface investigation was to delineate soil contamination previously encountered during the underground storage tank (UST) removal project in August 2016. Activities and results associated with the subsurface investigation have been summarized below.

2.0 BACKGROUND

The following subsections provide background information for the site.

2.1 Site Description

The Site is located at 223-20 Braddock Avenue, in Queens Village, New York and is situated at the intersections of Braddock Avenue, Moline Street, and 91st Road (see Figure 1 – Site Location Map). The Site is currently being utilized as an automobile repair facility. Site features are depicted in **Figure 2.**

2.2 Site History

The following is a recent history of events and activities associated with the Site.

- On August 5, 2016, IPT personnel were on-site to provide environmental oversight and to document the UST system closure activities. The UST system closure activities included the removal of one 285-gallon, waste oil, single-walled fiberglass UST.

- Following the removal of the former UST, observed petroleum impacts and olfactory odors were present within the soil at the bottom of the excavation. Elevated PID readings, greater than 500 ppm, were also encountered within the entire base of the excavation. At this time, IPT notified the NYSDEC Spills Hotline, Spill Number 16-04577 and Spill Case Manager, Mr. Hiralkumar Patel were assigned to the site, respectively. Due to the observed petroleum impacts and elevated PID readings, all materials were excavated from the base of the former UST excavation as best feasible. Excavated materials were stockpiled on-site, placed on, and covered with polyethylene sheeting for future offsite disposal. Excavation activities ensued until the structural integrity of the surrounding building and sidewalk were threatened and deemed unsafe to continue.

- IPT collected a total of five (5) soil samples, labeled B, N, S, E, & W, collected at various depths from within the excavation, ranging from 5.5-6 feet below ground surface (bgs) to 10 feet bgs. One (1) detected VOC compound was detected significantly above its respective SCO for three (3) of the collected soil samples. All remaining VOC compounds were below their respective SCO's for that sample and all remaining collected samples.

2.3 Site Geology and Hydrogeology

Regionally, groundwater flows north-northwest toward Little Neck Bay. The depth to groundwater beneath the site is currently unknown as groundwater was not encountered during the former UST removal. The approximate ground surface elevation is about 90 feet above mean sea level. Estimated depth to the Upper-Glacial Aquifer is 50 to 75 feet below grade.

3.0 SOIL INVESTIGATION ACTIVITIES

Based upon the endpoint soil sampling results from the UST excavation, IPT performed a subsurface investigation to further delineate existing soil contamination present onsite. The soil boring locations are depicted in **Figure 3**.

3.1 Soil Boring Installation and Soil Sampling

On March 26 and 27, 2018, direct-push sampling technology was utilized to advance the soil borings from grade surface to terminal depths ranging from of 20 to 40 feet below grade surface (ft bgs). Each boring was pre-cleared to approximately five (5) feet below grade surface (bgs). IPT utilized a direct-push sampling system equipped with disposable acetate liners to collect continuous samples, at 5-foot intervals, from approximately 5 feet bgs to the terminal depth of the boring. The sampling device was decontaminated prior to each sample interval using a cleaning solution followed by a tap water rinse.

Eight (8) soil samples were collected and soil boring logs are included in **Appendix B**. Soil samples were placed into re-sealable plastic bags and classified based on ASTM standards for observations of color, composition, and relative moisture content. A photo-ionization detector (PID), equipped with a 10.6 electron-volt (eV) lamp and calibrated utilizing ambient air and 100 parts per million (ppm) isobutylene span gas, was utilized to field screen the samples for volatile organic compounds (VOCs). The complete list of PID results is listed in **Table 1**. Soil sample locations are depicted on **Figure 3**.

Based on field classifications, soils encountered were primarily comprised of non-native fill materials to approximately 5 to 10 ft bgs, underlain by fine to coarse grained sands and some fine gravel to terminal depths of borings (maximum depth was 40 ft bgs). Groundwater was not encountered.

The samples were placed into laboratory-supplied glassware, properly labeled, and placed in a cooler with ice until they were shipped via chain of custody procedures to York Analytical Laboratories, Inc. of Stratford, CT. All samples were analyzed for the NYSDEC Part 375 list of VOCs via EPA Method 8260 and NYSDEC CP-51 list of SVOCs via EPA 8270. A discussion of the soil sampling laboratory results is presented in **Section 4.0**.

4.0 SOIL SAMPLING ANALYTICAL RESULTS

The following subsections describe the soil boring soil sample laboratory analytical results of the investigation. Analytical results for the soil samples collected on November 1, 2017, were compared to the NYSDEC Part 375 Soil Cleanup Objectives for the Protection of Groundwater (SCOs).

4.1 Volatile Organic Compounds

Soil analytical results indicated that the sample collected at B-1 (15-20) exhibited compounds above their respective SCOs. In specific detail:

- B-1 (15 - 20)
  - 1,2,4-Trimethylbenzene @ 32,000 micrograms per kilogram (µg/kg) - SCO level of 3,600 µg/kg
  - 1,3,5-Trimethylbenzene @ 9,000 µg/kg – SCO level of 8,400 µg/kg
  - Acetone @ 5,700 µg/kg – SCO level of 50 µg/kg
  - cis-1,2-Dichloroethylene @ 690 µg/kg – SCO level of 250 µg/kg
  - Ethyl Benzene @ 8,600 µg/kg – SCO level of 1,000 µg/kg
  - n-Propylbenzene @ 4,400 µg/kg – SCO level of 3,900 µg/kg
  - Toluene @ 15,000 µg/kg – SCO level of 700 µg/kg
  - Tetrachloroethylene @ 72,000 µg/kg – SCO level of 1,300 µg/kg
  - Trichloroethylene @ 520 µg/kg – SCO level of 470 µg/kg
  - Total Xylenes @ 46,000 µg/kg - SCO level of 1,600 µg/kg

All other target compounds were either below their respective SCOs or below the laboratory detection limits for the remainder of the samples analyzed. Soil boring analytical results are summarized in **Table 2** and are depicted on **Figure 3**. Laboratory analytical reports are included as **Appendix C**.

4.2 Semi-Volatile Organic Compounds

Soil analytical results indicated that all target SVOCs exhibited concentrations either below their respective SCOs or below the laboratory detection limits within all soil samples analyzed. Soil boring analytical results are summarized in **Table 3** and are depicted on **Figure 3**. Laboratory analytical reports are included as **Appendix C**.

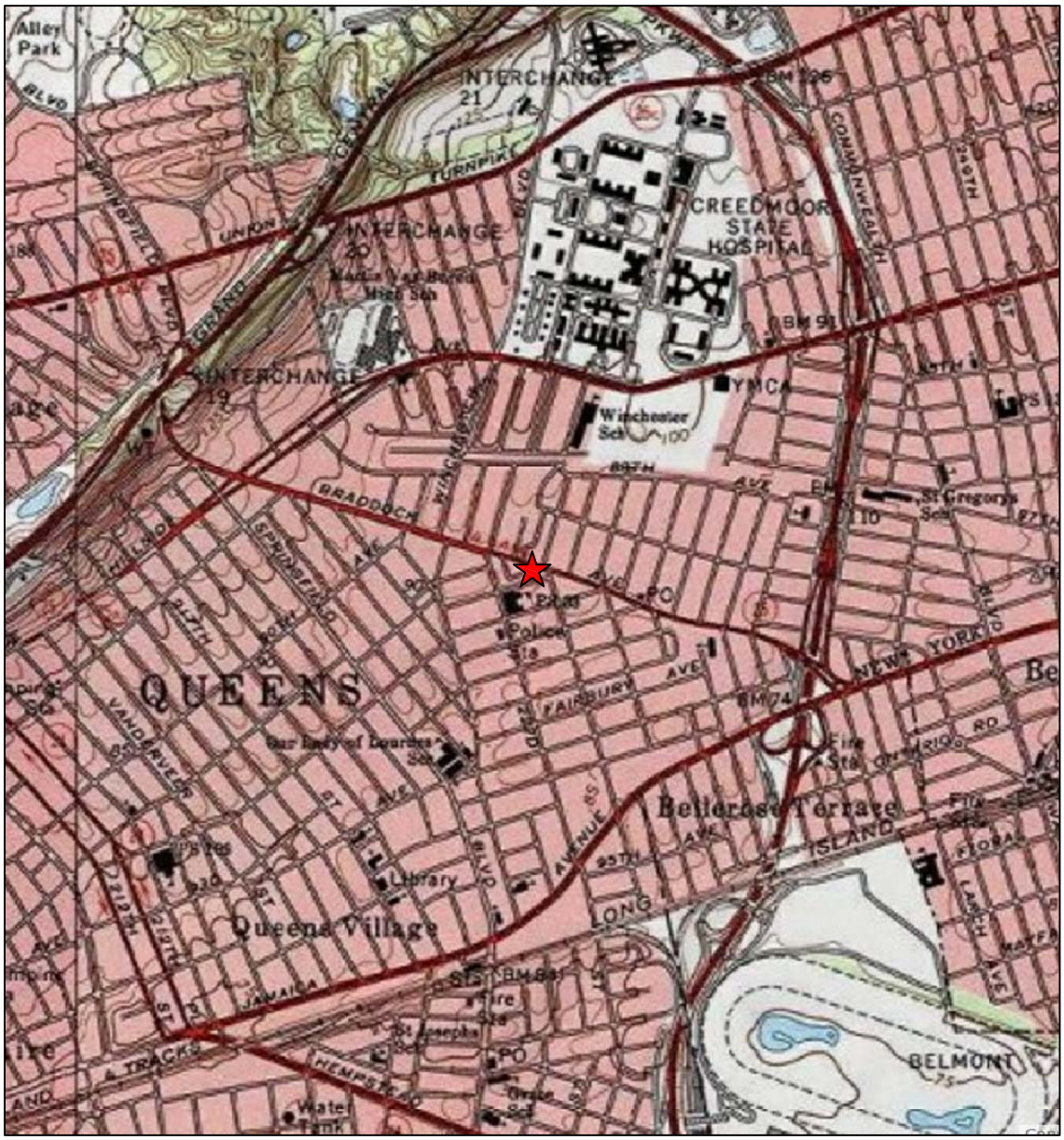
5.0 CONCLUSIONS AND RECOMMENDATIONS

At the request of 223-20 Braddock Ave Corp, IPT performed a subsurface investigation at the property located at 223-20 Braddock Avenue, Queens, New York. The following results of this subsurface investigation are summarized below:

- On March 26 and 27, 2018, IPT utilized direct-push technology to advance each soil boring from grade surface to terminal depths ranging from 20 to 40 ft bgs. Total of eight (8) soil samples were collected and analyzed for the NYSDEC Part List of VOCs and CP-51 List of SVOCs.
    - Soil analytical results indicated that the sample collected at B-1 (15-20) exhibited several VOCs above their respective SCOs. However, the soil sample taken from B-1 (35-40) indicated all target VOCs were below detection limits of laboratory equipment. In addition, all other target compounds were either below their respective SCOs or below the laboratory detection limits for the remainder of the samples analyzed.
    - Soil analytical results indicated that all target SVOCs exhibited concentrations either below their respective SCOs or below the laboratory detection limits within all soil samples analyzed.
    - Groundwater was not encountered during the subsurface investigation.

Based on the results of the subsurface investigation, residual soil contamination around the former used oil UST has been delineated vertically and horizontally. The deepest soil impact observed above SCOs during this investigation was in the interval of 15 to 20 feet below grade at location B-1, in the footprint of the former used oil UST. As estimated depth to the Upper-Glacial Aquifer is 50 to 75 feet below grade, an estimated minimum 30 feet of soil thickness exists between the deepest impacted soil sample observed and the estimated depth to the groundwater existing within the Upper-Glacial Aquifer. Due to these factors, no further action and closure of NYSDEC spill # 1604577 is requested.

Figures



★ = SITE LOCATION

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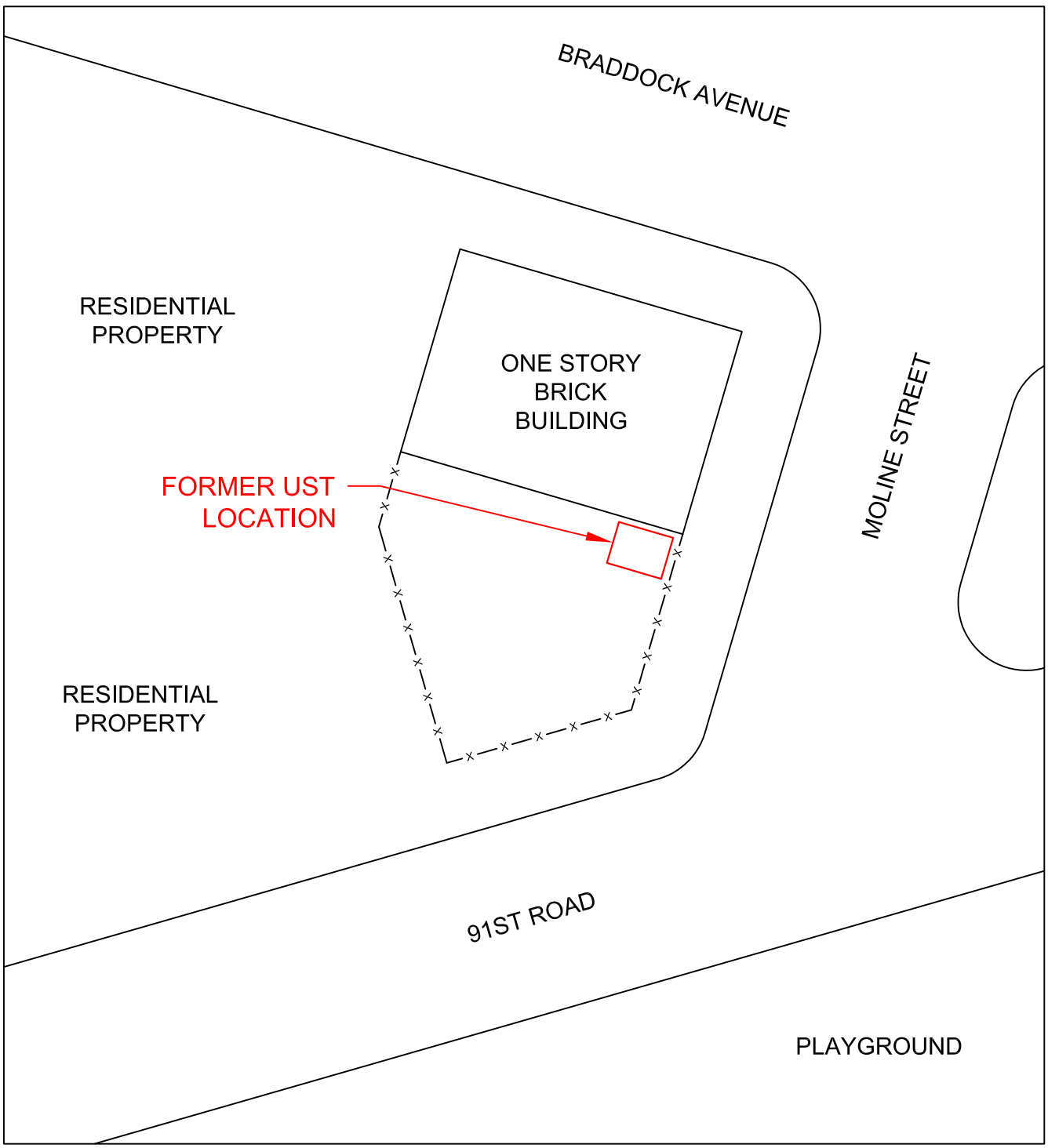
www.IslandPumpandTank.com

SCALE:	N.T.S.	PROJECT MGR:	M.S.	JOB #:	
DATE:	9/15/16	DRAWN BY:	Z.B.	FILE NAME:	

FIGURE 1

SITE LOCATION MAP

223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NY 11428



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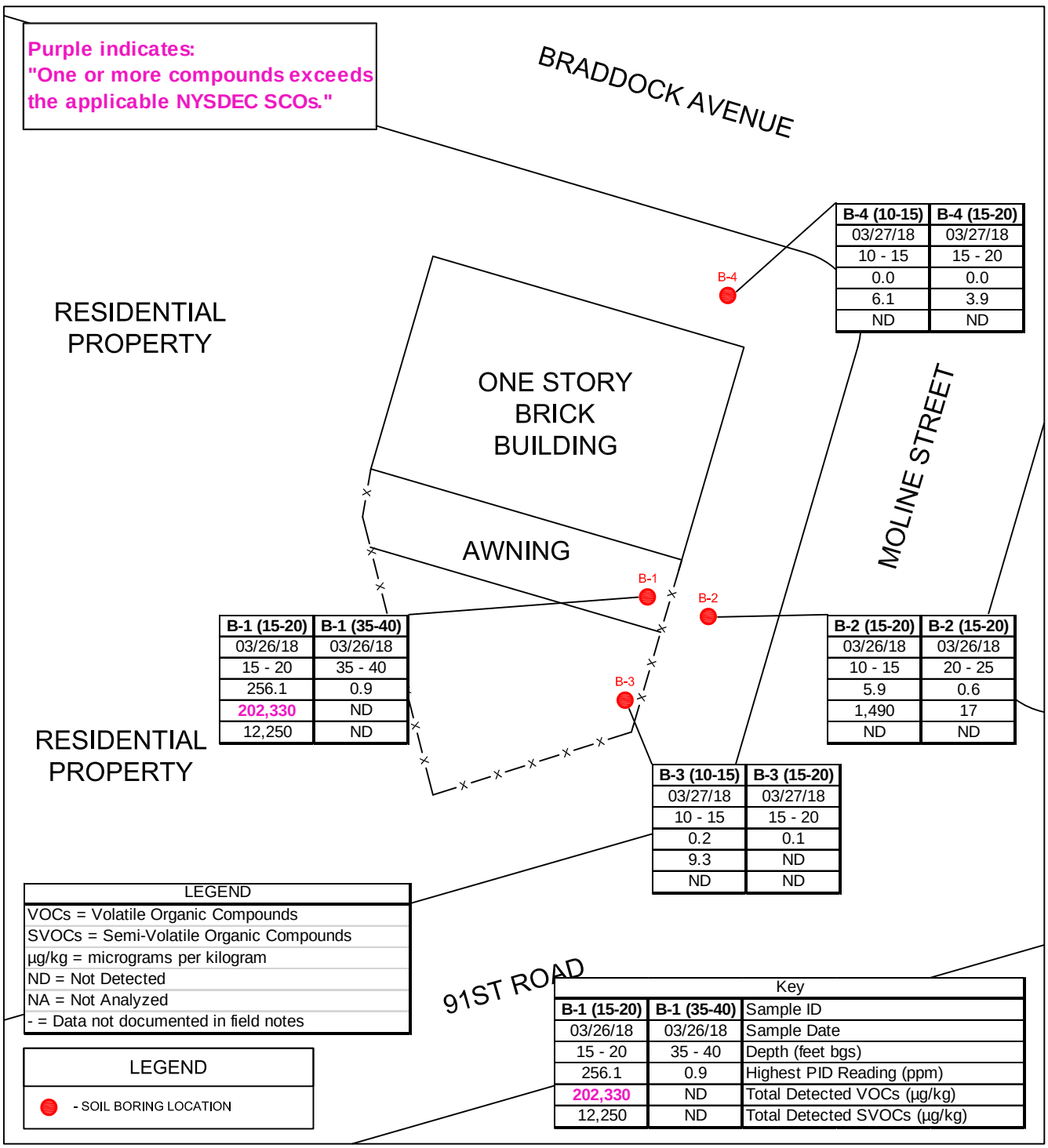
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DATE:	9/15/16	DRAWN BY:	Z.B.	FILE NAME:	

FIGURE 2

SITE PLAN

223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NY 11428



B-4 (10-15)	B-4 (15-20)
03/27/18	03/27/18
10 - 15	15 - 20
0.0	0.0
6.1	3.9
ND	ND

B-1 (15-20)	B-1 (35-40)
03/26/18	03/26/18
15 - 20	35 - 40
256.1	0.9
202,330	ND
12,250	ND

B-2 (15-20)	B-2 (15-20)
03/26/18	03/26/18
10 - 15	20 - 25
5.9	0.6
1,490	17
ND	ND

B-3 (10-15)	B-3 (15-20)
03/27/18	03/27/18
10 - 15	15 - 20
0.2	0.1
9.3	ND
ND	ND

LEGEND
VOCs = Volatile Organic Compounds
SVOCs = Semi-Volatile Organic Compounds
µg/kg = micrograms per kilogram
ND = Not Detected
NA = Not Analyzed
- = Data not documented in field notes

LEGEND
- SOIL BORING LOCATION

Key		
B-1 (15-20)	B-1 (35-40)	Sample ID
03/26/18	03/26/18	Sample Date
15 - 20	35 - 40	Depth (feet bgs)
256.1	0.9	Highest PID Reading (ppm)
202,330	ND	Total Detected VOCs (µg/kg)
12,250	ND	Total Detected SVOCs (µg/kg)

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FIGURE 3

SOIL ANALYTICAL DATA MAP

223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NY 11428

SCALE:	1 : 20	PROJECT MGR:	M.A.	JOB #:	
DATE:	4/19/18	DRAWN BY:	Z.B.	FILE NAME:	

Tables

Table 1

SUMMARY OF PID READINGS

Automobile Repair Facility
223-20 Braddock Avenue
Queens Village, New York

Soil Sample ID #	Sampling/Screening Date	Sample Depth (ft bgs)	PID Reading (ppm)	Submitted for Laboratory Analysis
B-1	03/26/18	0 - 5	-	No
		5 - 10	10.2	No
		10 - 15	29.7	No
		15 - 20	256.1	**Yes**
		20 - 25	108.0	No
		25 - 30	0.7	No
		30 - 35	7.7	No
		35 - 40	0.9	**Yes**
B-2	03/26/18	0 - 5	0.3	No
		5 - 10	0.4	No
		10 - 15	5.9	**Yes**
		15 - 20	2.8	No
		20 - 25	0.6	**Yes**
B-3	03/27/18	0 - 5	0.0	No
		5 - 10	0.0	No
		10 - 15	0.2	**Yes**
		15 - 20	0.1	**Yes**
B-4	03/27/18	0 - 5	0.2	No
		5 - 10	0.0	No
		10 - 15	0.0	**Yes**
		15 - 20	0.0	**Yes**

Notes:

bgs = Below ground surface

PID = Photoionization detector

ppm = Parts per million

Table 2

SOIL ANALYTICAL DATA - VOCs, EPA 8260, NYSDEC PART 375 LIST (DETECTED COMPOUNDS)

223-20 Braddock Avenue
Queens Village, New York

Detected Compounds	NYSDEC Soil Cleanup Objectives for Protection of Groundwater*	B-1	B-1	B-2	B-2	B-3	B-3	B-4	B-4
		15-20 ft bgs	35-40 ft bgs	10-15 ft bgs	20-25 ft bgs	10-15 ft bgs	15-20 ft bgs	10-15 ft bgs	15-20 ft bgs
		03/26/18				03/27/18			
1,2,4-Trimethylbenzene (µg/kg)	3,600	**32,000**	ND<2.2	710	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
1,3,5-Trimethylbenzene (µg/kg)	8,400	**9,000**	ND<2.2	430	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
Acetone (µg/kg)	50	**5,700**	ND<4.4	ND<220	8.7	5.1	ND<5.7	6.1	3.9
cis-1,2-Dichloroethylene	250	**690**	ND<2.2	ND<220	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
Ethyl Benzene (µg/kg)	1,000	**8,600**	ND<2.2	ND<220	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
Methylene Chloride (µg/kg)	50	ND<580	ND<4.4	ND<430	7.9	4.2	ND<5.7	ND<6.0	ND<3.8
Naphthalene (µg/kg)	12,000	5,900	ND<2.2	390	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
n-Butylbenzene (µg/kg)	12,000	2,000	ND<2.2	ND<220	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
n-Propylbenzene (µg/kg)	3,900	**4,400**	ND<2.2	ND<220	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
sec-Butylbenzene (µg/kg)	11,000	520	ND<2.2	ND<220	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
Toluene (µg/kg)	700	**15,000**	ND<2.2	ND<220	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
Tetrachloroethylene (µg/kg)	1,300	**72,000**	ND<2.2	1,100	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
Trichloroethylene (µg/kg)	470	**520**	ND<2.2	ND<220	ND<2.5	ND<2.0	ND<2.8	ND<3.0	ND<1.9
Total Xylenes (µg/kg)	1,600	**46,000**	ND<6.6	ND<650	ND<7.4	ND<6.0	ND<8.5	ND<9.0	ND<5.6
Total VOCs (µg/kg)	NS	**202,330**	ND	1,490	17	9.3	ND	6.1	3.9

Notes:

*	= NYSDEC Soil Cleanup Standards taken from New York Codes, Rules and Regulations (NYCRR) 375-6.8 and Final Commissioner Policy, CP-51
VOCs	= Volatile Organic Compounds
<#	= Less than the method detection limit of #
µg/kg	= Micrograms/kilogram
ND	= Not detected
NS	= No Standard
bgs	= Below ground surface
Bold	= Numbers in **Bold** exceed the NYSDEC Soil Cleanup Objectives

Table 3

SOIL ANALYTICAL DATA - SVOCs, EPA 8270, CP-51 LIST

223-20 Braddock Avenue
Queens Village, New York

Compounds of Concern	NYSDEC Soil Cleanup Objectives for Protection of Groundwater*	B-1	B-1	B-2	B-2	B-3	B-3	B-4	B-4
		15-20 ft bgs	35-40 ft bgs	10-15 ft bgs	20-25 ft bgs	10-15 ft bgs	15-20 ft bgs	10-15 ft bgs	15-20 ft bgs
		03/26/18				03/27/18			
Acenaphthene	20,000	ND<260	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Acenaphthlylene	100,000	300	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Anthracene (µg/kg)	100,000	500	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Benzo(a)anthracene (µg/kg)	1,000	480	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Benzo(a)pyrene (µg/kg)	1,000	ND<260	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Benzo(b)fluoranthene (µg/kg)	1,000	ND<260	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Benzo(g,h,i)perylene (µg/kg)	100,000	ND<260	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Benzo(k)fluoranthene (µg/kg)	800	ND<260	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Chrysene (µg/kg)	1,000	320	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Dibenzo(a,h)anthracene	330	ND<260	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Fluoranthene (µg/kg)	100,000	440	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Fluorene (µg/kg)	30,000	480	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Ideno(1,2,3)pyrene (µg/kg)	500	ND<260	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Naphthalene (µg/kg)	12,000	7,300	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Phenanthrene (µg/kg)	100,000	1,300	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Pyrene (µg/kg)	100,000	1,400	ND<65	ND<160	ND<67	ND<44	ND<44	ND<44	ND<44
Total SVOCs (µg/kg)	NS	12,520	ND	ND	ND	ND	ND	ND	ND

Notes:

SCOs = NYSDEC Soil Cleanup Standards taken from New York Codes, Rules and Regulations (NYCRR) 375-6.8 and Final Commissioner Policy, CP-51
SVOCs =Semi-Volatile Organic Compounds
<# = Less than the method detection limit of #
µg/kg = Micrograms/kilogram
ND = Not detected
NS = No Standard
bgs = Below ground surface
Bold = Numbers in **Bold** exceed the NYSDEC Soil Cleanup Objectives

Appendix A: Photo Log



Above: Geoprobe 7720 setup at B-1

Below: B-2 location patched with concrete (sidewalk adjacent to Moline St)





Above: B-3 location patched with concrete

Below: B-4 location patched with concrete (sidewalk adjacent to Braddock Ave)



Appendix B: Soil Boring Logs

Soil Boring Log

PROJECT:
ADDRESS: **223-20 Braddock Avenue**
Queens Village, New York
JOB #: **297326**

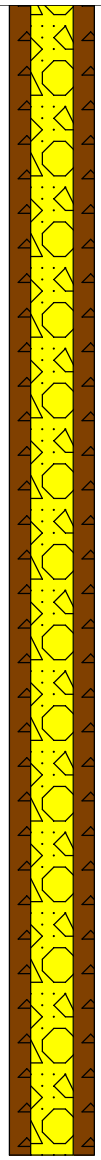
TOTAL DEPTH: **40**
WATER DEPTH: -
BOREHOLE DIA.: **2"**

LOCATION ID: **B-1**
WELL USE.: -
WELL DIA.: -

Logged By: **Michele Biase**
Dates Drilled: **3/26/18**
Driller: **Mike Mede**
Drill Rig Type: **Geoprobe Model #7720**

Drilling Method: **Direct Push**
Sampling Method: **Macrocore**
Soil Class. System: **USCS or Burmister**
Finish: -

Depth (feet)	Sample Interval	PID (PPM)	Sample Lithology	Boring Completion Details
0			Fill: Fill Material, Brown Medium to Fine Sand, Dry, No Odor.	
-5	(0-5')	0.3	Fill: Fill Material, Brown Medium to Fine Sand, Some Coarse to Fine Gravel, Trace Cobbles, Moist, No Odor.	
-10	(5-10')	10.2	SW: Brown to Tan (SW), Medium to Fine Grained Sands, with Some Coarse Gravel, Trace Cobbles, Dry, Slight Odor.	
-15	(10-15')	29.7	SW: Brown to Tan (SW), Medium to Fine Grained Sands, with Some Fine Gravel, Dry, Odor. Soil Sample (B-1 15-20) was collected at 15 to 20 feet below ground surface.	
-20	(15-20')	256.1	SW: Brown to Tan (SW), Coarse to Fine Grained Sands, with Some Fine Gravel, Moist, Odor.	
	(20-23')	246.7		
-25	(23-25')	108.0	SW: Brown to Tan (SW), Coarse to Fine Grained Sands, with Some Fine Gravel, Dry, Odor.	
			SW: Tan (SW), Coarse to Fine Grained Sands, with Trace Fine Gravel, Dry, Slight Odor.	
-30	(25-30')	0.7	SW: Tan (SW), Medium to Fine Grained Sands, with Trace Fine Gravel, Dry, No Odor.	
-35	(30-35')	7.7	SW: Tan (SW), Coarse to Fine Grained Sands, with Trace Coarse to Fine Gravel, Dry, No Odor. Soil Sample (B-1 35-40) was collected at 35 to 40 feet below ground surface.	
-40	(35-40')	0.7	Boring B-1 was terminated at 40 feet below ground surface.	
-45				



Borehole Backfilled with Fill Materials

Soil Boring Log

PROJECT:
ADDRESS: **223-20 Braddock Avenue Queens Village, New York**
JOB #: **297326**

TOTAL DEPTH: **25**
WATER DEPTH: -
BOREHOLE DIA.: **2"**

LOCATION ID: **B-2**
WELL USE.: -
WELL DIA.: -

Logged By: **Michele Biase**
Dates Drilled: **3/26/18**
Driller: **Mike Mede**
Drill Rig Type: **Geoprobe Model #7720**

Drilling Method: **Direct Push**
Sampling Method: **Macrocore**
Soil Class. System: **USCS or Burmister**
Finish: -

Depth (feet)	Sample Interval	PID (PPM)	Sample Lithology	Boring Completion Details
0				
	(0-2')	0.0	Cement Fill: Fill Material, Dark Brown Medium to Fine Sand, Dry, No Odor.	
-5	(2-5')	0.3	Fill: Fill Material, Brown Medium to Fine Sand, Dry, No Odor. SW: Light Brown (SW), Medium to Fine Grained Sands, Some Coarse to Fine Gravel, Dry, No Odor.	
-10	(5-10')	0.4	SW: Tan to Brown (SW), Medium to Fine Grained Sands, with Some Fine Gravel, Dry, Slight Odor. Soil Sample (B-2 10-15) was collected at 10 to 15 feet below ground surface.	
-15	(10-15')	5.9	SW: Tan (SW), Medium to Fine Grained Sands, with Some Fine Gravel,Trace Cobbles, No Odor.	
-20	(15-20')	2.8	SW: Tan (SW), Coarse to Fine Grained Sands, with Some Fine Gravel, Trace Cobbles, Dry, No Odor. Soil Sample (B-2 20-25) was collected at 20 to 25 feet below ground surface.	
-25	(20-25')	0.6	Boring B-2 was terminated at 25 feet below ground surface.	Borehole Backfilled with Fill Materials
-30				

Soil Boring Log

PROJECT:
ADDRESS: **223-20 Braddock Avenue Queens Village, New York**
JOB #: **297326**

TOTAL DEPTH: **20**
WATER DEPTH: -
BOREHOLE DIA.: **2"**

LOCATION ID: **B-3**
WELL USE.: -
WELL DIA.: -

Logged By: **Michele Biase**
Dates Drilled: **3/27/18**
Driller: **Mike Mede**
Drill Rig Type: **Geoprobe Model #7720**

Drilling Method: **Direct Push**
Sampling Method: **Macrocore**
Soil Class. System: **USCS or Burmister**
Finish: -

Depth (feet)	Sample Interval	PID (PPM)	Sample Lithology	Boring Completion Details
0	(0-2')		Concrete Fill: Fill Material, Dark Brown Medium to Fine Grained Sand, Some Coarse Gravel, Dry, No Odor.	
-5	(2-5')	0.0	SW: Tan (SW), Medium to Fine Grained Sands, Trace Coarse Gravel, Dry, No Odor.	
-10	(5-10')	0.0	SW: Tan to Yellow (SW), Coarse to Fine Grained Sands, Some Fine Gravel, Dry, Noi Odor. Soil Sample (B-3 10-15) was collected at 10 to 15 feet below ground surface.	
-15	(10-15')	0.2	SW: Tan (SW), Medium to Fine Grained Sands, Little Fine Gravel,Trace Cobbles, No Odor. Soil Sample (B-3 15-20) was collected at 15-20 feet below ground surface.	
-20	(15-20')	0.1	Boring B-3 was terminated at 20 feet below ground surface.	Borehole Backfilled with Fill Materials
-25	(20-25')			

Soil Boring Log

PROJECT:
ADDRESS: **223-20 Braddock Avenue**
Queens Village, New York
JOB #: **297326**

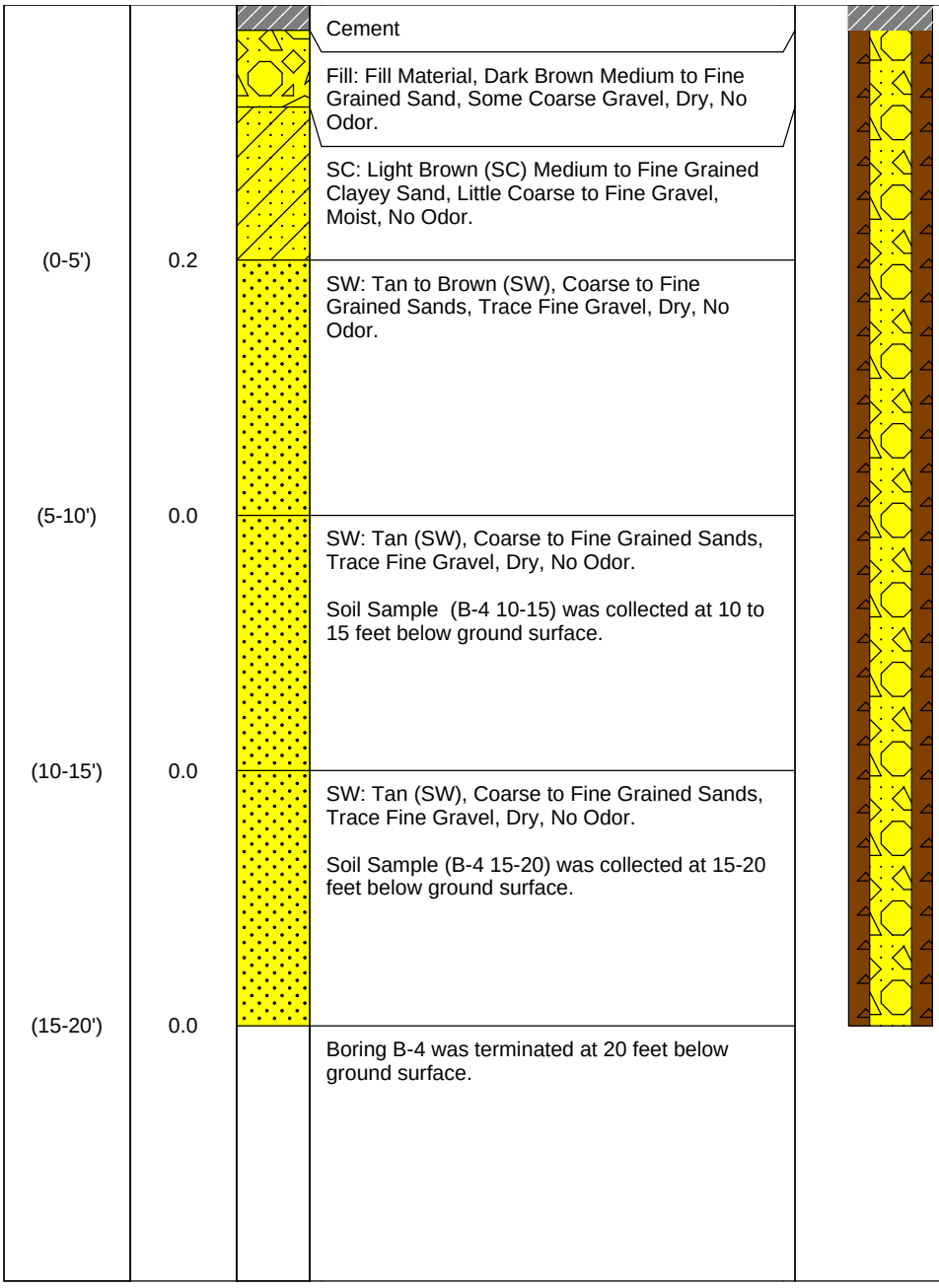
TOTAL DEPTH: **20**
WATER DEPTH: -
BOREHOLE DIA.: **2"**

LOCATION ID: **B-4**
WELL USE.: -
WELL DIA.: -

Logged By: **Michele Biase**
Dates Drilled: **3/27/18**
Driller: **Mike Mede**
Drill Rig Type: **Geoprobe Model #7720**

Drilling Method: **Direct Push**
Sampling Method: **Macrocore**
Soil Class. System: **USCS or Burmister**
Finish: -

Depth (feet)	Sample Interval	PID (PPM)	Sample Lithology	Boring Completion Details
0			Cement	
			Fill: Fill Material, Dark Brown Medium to Fine Grained Sand, Some Coarse Gravel, Dry, No Odor.	
-5	(0-5')	0.2	SC: Light Brown (SC) Medium to Fine Grained Clayey Sand, Little Coarse to Fine Gravel, Moist, No Odor.	
			SW: Tan to Brown (SW), Coarse to Fine Grained Sands, Trace Fine Gravel, Dry, No Odor.	
-10	(5-10')	0.0	SW: Tan (SW), Coarse to Fine Grained Sands, Trace Fine Gravel, Dry, No Odor. Soil Sample (B-4 10-15) was collected at 10 to 15 feet below ground surface.	
-15	(10-15')	0.0	SW: Tan (SW), Coarse to Fine Grained Sands, Trace Fine Gravel, Dry, No Odor. Soil Sample (B-4 15-20) was collected at 15-20 feet below ground surface.	
-20	(15-20')	0.0	Boring B-4 was terminated at 20 feet below ground surface.	
-25				



Borehole Backfilled with Fill Materials

Appendix C: Laboratory Analytical Report

Technical Report

prepared for:

Island Pump & Tank
40 Doyle Court
East Northport NY, 11731
Attention: Matthew Schieferstein

Report Date: 04/09/2018
Client Project ID: 233-20 Braddockk Ave.
York Project (SDG) No.: 18C0974

Revision No. 1.0

CT Cert. No. PH-0723 New Jersey Cert. No. CT005 and NY037 New York Cert. Nos. 10854 and 12058 PA Cert. No. 68-04440

120 RESEARCH DRIVE STRATFORD, CT 06615 ■ 132-02 89th AVENUE RICHMOND HILL, NY 11418
www.YORKLAB.com (203) 325-1371 FAX (203) 357-0166 ClientServices@yorklab.com

Report Date: 04/09/2018
Client Project ID: 233-20 Braddockk Ave.
York Project (SDG) No.: 18C0974

Island Pump & Tank
40 Doyle Court
East Northport NY, 11731
Attention: Matthew Schieferstein

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on March 27, 2018 and listed below. The project was identified as your project: **233-20 Braddockk Ave.**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
18C0974-01	B-1 35-40	Soil	03/26/2018	03/27/2018
18C0974-02	B-1 15-20	Soil	03/26/2018	03/27/2018
18C0974-03	B-2 10-15	Soil	03/26/2018	03/27/2018
18C0974-04	B-2 20-25	Soil	03/26/2018	03/27/2018

General Notes for York Project (SDG) No.: 18C0974

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By: 

Date: 04/09/2018

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: B-1 35-40 **York Sample ID:** 18C0974-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
123-91-1	1,4-Dioxane	ND		ug/kg dry	44	88	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		
78-93-3	2-Butanone	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-64-1	Acetone	ND		ug/kg dry	4.4	8.8	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
71-43-2	Benzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-90-7	Chlorobenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-66-3	Chloroform	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-09-2	Methylene chloride	ND		ug/kg dry	4.4	8.8	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		

Sample Information

Client Sample ID: B-1 35-40 **York Sample ID:** 18C0974-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-20-3	Naphthalene	ND		ug/kg dry	2.2	8.8	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-47-6	o-Xylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.4	8.8	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-88-3	Toluene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
79-01-6	Trichloroethylene	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.2	4.4	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1330-20-7	Xylenes, Total	ND		ug/kg dry	6.6	13	1	EPA 8260C	03/29/2018 07:30	03/29/2018 19:28	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJ		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*101 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*100 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*99.9 %*	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: B-1 35-40 **York Sample ID:** 18C0974-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	Fluoranthene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	Phenanthrene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	Pyrene	ND		ug/kg dry	65	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 09:03	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: Nitrobenzene-d5*	*67.8 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*66.9 %*	*21-113*
1718-51-0	*Surrogate: Terphenyl-d14*	*56.6 %*	*24-116*

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**96.6**		%	0.100	1	SM 2540G	04/03/2018 11:06	04/03/2018 15:34	TAJ
							Certifications:	CTDOH		

Sample Information

Client Sample ID: **B-1 15-20** **York Sample ID:** **18C0974-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-63-6	**1,2,4-Trimethylbenzene**	**32000**		ug/kg dry	1500	2900	500	EPA 8260C	03/30/2018 07:30	03/30/2018 16:29	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-67-8	**1,3,5-Trimethylbenzene**	**9000**		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
123-91-1	1,4-Dioxane	ND		ug/kg dry	5800	12000	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		
78-93-3	2-Butanone	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-64-1	**Acetone**	**5700**		ug/kg dry	580	1200	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
71-43-2	Benzene	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-90-7	Chlorobenzene	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-66-3	Chloroform	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-59-2	**cis-1,2-Dichloroethylene**	**690**		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
100-41-4	**Ethyl Benzene**	**8600**		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-09-2	Methylene chloride	ND		ug/kg dry	580	1200	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
91-20-3	**Naphthalene**	**5900**		ug/kg dry	290	1200	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		

Sample Information

Client Sample ID: B-1 15-20 **York Sample ID:** 18C0974-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	**n-Butylbenzene**	**2000**		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
103-65-1	**n-Propylbenzene**	**4400**		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-47-6	**o-Xylene**	**16000**		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
179601-23-1	**p- & m- Xylenes**	**30000**		ug/kg dry	580	1200	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
135-98-8	**sec-Butylbenzene**	**520**	J	ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
127-18-4	**Tetrachloroethylene**	**72000**		ug/kg dry	1500	2900	500	EPA 8260C	03/30/2018 07:30	03/30/2018 16:29	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-88-3	**Toluene**	**15000**		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
79-01-6	**Trichloroethylene**	**520**	J	ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-01-4	Vinyl Chloride	ND		ug/kg dry	290	580	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1330-20-7	**Xylenes, Total**	**46000**		ug/kg dry	870	1700	100	EPA 8260C	03/29/2018 07:30	03/29/2018 19:57	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJ		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*99.0 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*95.5 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*102 %*	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	**Acenaphthylene**	**300**	J	ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	**Anthracene**	**500**	J	ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	**Benzo(a)anthracene**	**480**	J	ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: B-1 15-20 **York Sample ID:** 18C0974-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND	IS-LO	ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	**Chrysene**	**320**	J	ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND	IS-LO	ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	**Fluoranthene**	**440**	J	ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	**Fluorene**	**480**	J	ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND	IS-LO	ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	**Naphthalene**	**7300**		ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	**Phenanthrene**	**1300**		ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	**Pyrene**	**1400**		ug/kg dry	260	510	5	EPA 8270D	03/28/2018 06:34	03/29/2018 16:20	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: Nitrobenzene-d5*	*90.8 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*96.7 %*	*21-113*
1718-51-0	*Surrogate: Terphenyl-d14*	*101 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**91.5**		%	0.100	1	SM 2540G	04/03/2018 11:06	04/03/2018 15:34	TAJ
							Certifications:	CTDOH		

Sample Information

Client Sample ID: B-2 10-15 **York Sample ID:** 18C0974-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Sample Information

Client Sample ID: **B-2 10-15** **York Sample ID:** **18C0974-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-63-6	**1,2,4-Trimethylbenzene**	**710**		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-67-8	**1,3,5-Trimethylbenzene**	**430**		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
123-91-1	1,4-Dioxane	ND		ug/kg dry	4300	8600	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		
78-93-3	2-Butanone	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-64-1	Acetone	ND		ug/kg dry	430	860	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
71-43-2	Benzene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-90-7	Chlorobenzene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-66-3	Chloroform	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
100-41-4	Ethyl Benzene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-09-2	Methylene chloride	ND		ug/kg dry	430	860	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
91-20-3	**Naphthalene**	**390**	J	ug/kg dry	220	860	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		

Sample Information

Client Sample ID: B-2 10-15 **York Sample ID:** 18C0974-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	n-Butylbenzene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
103-65-1	n-Propylbenzene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-47-6	o-Xylene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	430	860	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
127-18-4	**Tetrachloroethylene**	**1100**		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-88-3	Toluene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
79-01-6	Trichloroethylene	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-01-4	Vinyl Chloride	ND		ug/kg dry	220	430	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1330-20-7	Xylenes, Total	ND		ug/kg dry	650	1300	100	EPA 8260C	03/29/2018 07:30	03/29/2018 20:26	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJ		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*100 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*100 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*98.1 %*	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: B-2 10-15 **York Sample ID:** 18C0974-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND	IS-LO	ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
218-01-9	Chrysene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND	IS-LO	ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
206-44-0	Fluoranthene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
86-73-7	Fluorene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: NELAC-NY10854,NJDEP,PADEP			
193-39-5	Indeno(1,2,3-cd)pyrene	ND	IS-LO	ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
85-01-8	Phenanthrene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	Pyrene	ND		ug/kg dry	160	320	5	EPA 8270D	03/28/2018 06:34	03/29/2018 17:09	SR
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: Nitrobenzene-d5*	*71.3 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*81.7 %*	*21-113*
1718-51-0	*Surrogate: Terphenyl-d14*	*79.0 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**96.3**		%	0.100	1	SM 2540G	04/03/2018 11:06	04/03/2018 15:34	TAJ
							Certifications: CTDOH			

Sample Information

Client Sample ID: **B-2 20-25** **York Sample ID:** **18C0974-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
123-91-1	1,4-Dioxane	ND		ug/kg dry	50	99	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		
78-93-3	2-Butanone	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-64-1	**Acetone**	**8.7**	J	ug/kg dry	5.0	9.9	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
71-43-2	Benzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-90-7	Chlorobenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-66-3	Chloroform	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-09-2	**Methylene chloride**	**7.9**	SCAL-E, J, B	ug/kg dry	5.0	9.9	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
91-20-3	Naphthalene	ND		ug/kg dry	2.5	9.9	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		

Sample Information

Client Sample ID: B-2 20-25 **York Sample ID:** 18C0974-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-47-6	o-Xylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.0	9.9	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-88-3	Toluene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
79-01-6	Trichloroethylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.5	5.0	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.4	15	1	EPA 8260C	03/29/2018 07:30	03/29/2018 20:55	SS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJ		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*100 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*101 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*102 %*	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: B-2 20-25 **York Sample ID:** 18C0974-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C0974	233-20 Braddockk Ave.	Soil	March 26, 2018 3:00 pm	03/27/2018

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	Fluoranthene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	Phenanthrene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	Pyrene	ND		ug/kg dry	67	130	2	EPA 8270D	03/28/2018 06:34	03/29/2018 11:28	SR
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: Nitrobenzene-d5*	*64.1 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*66.6 %*	*21-113*
1718-51-0	*Surrogate: Terphenyl-d14*	*57.0 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**93.4**		%	0.100	1	SM 2540G	04/03/2018 11:06	04/03/2018 15:34	TAJ
							Certifications: CTDOH			

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
18C0974-01	B-1 35-40	40mL Vial with Stir Bar-Cool 4° C
18C0974-02	B-1 15-20	40mL Pre-Tared Vial + 10mL MeOH; Cool to 4° C
18C0974-03	B-2 10-15	40mL Pre-Tared Vial + 10mL MeOH; Cool to 4° C
18C0974-04	B-2 20-25	40mL Vial with Stir Bar-Cool 4° C

Sample and Data Qualifiers Relating to This Work Order

SCAL-E	The value reported is ESTIMATED. The value is estimated due to its behavior during initial calibration (average Rf>20%).
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
IS-LO	The internal std associated with this target compound did not meet acceptance criteria (area <50% CCV) at the stated dilution due to matrix effects. Sample was rerun to confirm matrix effects.
CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.

Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

Revision Description: This report has been revised to switch Sample ID's for -01 and -02 due to suspected field sampling error.

YORK ANALYTICAL LABORATORIES INC
YORK ANALYTICAL LABORATORIES
120 RESEARCH DR.
STRATFORD, CT 06615
(203) 325-1371
FAX (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 18C0974

YOUR Information	Report to:	Invoice To:	Your Project ID	Turn-Around Time
Company: Island Pump & Tank	SAME [X]	SAME [X]	223-20 Braddock Rd	RUSH-Same Day ____
Address: 40 Doyle Court	Name:	Name:		RUSH-Next Day ____
East North	Company:	Company:	**Purchase Order #**	RUSH-Two Day ____
Phone.: (631) 462-2226	Address:	Address:		RUSH-Three Day ____
Contact: Matt S				RUSH-Four Day ____
E-mail: MattS@Islandpumpandtank.com	E-mail:	E-mail	Samples from CT__ NY X NJ__	Standard (5-7day) X

Report/Deliverable Type

Summary Report	
QA Report	
CT RCP	
CT RCP DQA/DUE Pkg	
NY ASP A Package	
NY ASP B Package	
NJDEP Reduced Deliv	
Excel	
NYSDEC EQuIS	
NJDEP SRP HazSite	
EQuIS	
GIS/KEY (std)	

YORK Regulatory Comp Excel *compared to:*

OTHER:

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature)

Michele Biase
Name (printed)

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part360-Routine
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part360-Baseline
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part360-Expanded No Dioxins/Furans
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part360-Expanded Full List
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM

Sample Identification	Date+Time Sampled	Matrix	Analysis Requested (List above includes common analysis)	Container Description
B-1 15-20	3/26/18	S	VOC 8260 NYSDEC Part375 list, SVOC 8270 CP-51 list	1-4oz, 1-5035 kit
B-1 35-40	↓	↓	↓	↓
B-2 10-15				
B-2 20-25				

Comments:

Preservation (check all applicable): 4°C ✓ Frozen ____ HCl ____ MeOH ✓ HNO_3 ____ H_2SO_4 ____ NaOH ____ ZnAc ____ Ascorbic Acid ____ Other ____

Special Instructions
Field Filtered ☐
Lab to Filter ☐

MB	3/26/18	KSoch 3/27/18 1235pm	Temperature on Receipt 1.8 °C
Samples Relinquished By	Date/Time	Samples Received By	Date/Time
		Lyle 3/27/18 1836	
Samples Relinquished By	Date/Time	Samples Received in LAB by	Date/Time

Technical Report

prepared for:

Island Pump & Tank
40 Doyle Court
East Northport NY, 11731
Attention: Matthew Schieferstein

Report Date: 04/04/2018
Client Project ID: 223-20 Braddock Ave.
York Project (SDG) No.: 18C1032

Report Date: 04/04/2018
Client Project ID: 223-20 Braddock Ave.
York Project (SDG) No.: 18C1032

Island Pump & Tank
40 Doyle Court
East Northport NY, 11731
Attention: Matthew Schieferstein

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on March 28, 2018 and listed below. The project was identified as your project: **223-20 Braddock Ave.**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
18C1032-01	B-3 10-15	Soil	03/27/2018	03/28/2018
18C1032-02	B-3 15-20	Soil	03/27/2018	03/28/2018
18C1032-03	B-4 10-15	Soil	03/27/2018	03/28/2018
18C1032-04	B-4 15-20	Soil	03/27/2018	03/28/2018

General Notes for York Project (SDG) No.: 18C1032

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By: 

Date: 04/04/2018

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: B-3 10-15 **York Sample ID:** 18C1032-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 10:00 am	03/28/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
123-91-1	1,4-Dioxane	ND		ug/kg dry	40	160	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		
78-93-3	2-Butanone	ND		ug/kg dry	2.0	8.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-64-1	**Acetone**	**5.1**	SCAL-E, J	ug/kg dry	4.0	8.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
71-43-2	Benzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-90-7	Chlorobenzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-66-3	Chloroform	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-09-2	**Methylene chloride**	**4.2**	J	ug/kg dry	4.0	8.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
91-20-3	Naphthalene	ND		ug/kg dry	2.0	8.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		

Sample Information

Client Sample ID: B-3 10-15 **York Sample ID:** 18C1032-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 10:00 am	03/28/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-47-6	o-Xylene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.0	8.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-88-3	Toluene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
79-01-6	Trichloroethylene	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.0	4.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1330-20-7	Xylenes, Total	ND		ug/kg dry	6.0	12	1	EPA 8260C	04/02/2018 07:30	04/02/2018 11:49	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJ		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*86.8 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*106 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*89.0 %*	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: B-3 10-15 **York Sample ID:** 18C1032-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 10:00 am	03/28/2018

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
218-01-9	Chrysene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
206-44-0	Fluoranthene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
86-73-7	Fluorene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
85-01-8	Phenanthrene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	Pyrene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 19:57	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: Nitrobenzene-d5*	*74.5 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*70.9 %*	*21-113*
1718-51-0	*Surrogate: Terphenyl-d14*	*70.5 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**94.6**		%	0.100	1	SM 2540G	04/03/2018 19:20	04/04/2018 15:24	TAJ
							Certifications: CTDOH			

Sample Information

Client Sample ID: B-3 15-20 **York Sample ID:** 18C1032-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 10:30 am	03/28/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
123-91-1	1,4-Dioxane	ND		ug/kg dry	57	230	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		
78-93-3	2-Butanone	ND		ug/kg dry	2.8	11	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-64-1	Acetone	ND		ug/kg dry	5.7	11	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
71-43-2	Benzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-90-7	Chlorobenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-66-3	Chloroform	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-09-2	Methylene chloride	ND		ug/kg dry	5.7	11	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
91-20-3	Naphthalene	ND		ug/kg dry	2.8	11	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		

Sample Information

Client Sample ID: B-3 15-20 **York Sample ID:** 18C1032-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 10:30 am	03/28/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-47-6	o-Xylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.7	11	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-88-3	Toluene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
79-01-6	Trichloroethylene	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.8	5.7	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1330-20-7	Xylenes, Total	ND		ug/kg dry	8.5	17	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:17	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJ		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*92.3 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*107 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*92.4 %*	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: B-3 15-20 **York Sample ID:** 18C1032-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 10:30 am	03/28/2018

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
218-01-9	Chrysene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
206-44-0	Fluoranthene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
86-73-7	Fluorene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
85-01-8	Phenanthrene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	Pyrene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:28	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: Nitrobenzene-d5*	*81.6 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*77.9 %*	*21-113*
1718-51-0	*Surrogate: Terphenyl-d14*	*68.4 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**95.5**		%	0.100	1	SM 2540G	04/03/2018 19:20	04/04/2018 15:24	TAJ
							Certifications: CTDOH			

Sample Information

Client Sample ID: **B-4 10-15** **York Sample ID:** **18C1032-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 11:00 am	03/28/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
123-91-1	1,4-Dioxane	ND		ug/kg dry	60	240	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		
78-93-3	2-Butanone	ND		ug/kg dry	3.0	12	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-64-1	**Acetone**	**6.1**	SCAL-E, J	ug/kg dry	6.0	12	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
71-43-2	Benzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-90-7	Chlorobenzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-66-3	Chloroform	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
100-41-4	Ethyl Benzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-09-2	Methylene chloride	ND		ug/kg dry	6.0	12	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
91-20-3	Naphthalene	ND		ug/kg dry	3.0	12	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		

Sample Information

Client Sample ID: B-4 10-15 **York Sample ID:** 18C1032-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 11:00 am	03/28/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	n-Butylbenzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
103-65-1	n-Propylbenzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-47-6	o-Xylene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	6.0	12	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
127-18-4	Tetrachloroethylene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-88-3	Toluene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
79-01-6	Trichloroethylene	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-01-4	Vinyl Chloride	ND		ug/kg dry	3.0	6.0	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1330-20-7	Xylenes, Total	ND		ug/kg dry	9.0	18	1	EPA 8260C	04/02/2018 07:30	04/02/2018 12:44	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJ		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*88.5 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*107 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*92.2 %*	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: B-4 10-15 **York Sample ID:** 18C1032-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 11:00 am	03/28/2018

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
218-01-9	Chrysene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
206-44-0	Fluoranthene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
86-73-7	Fluorene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: NELAC-NY10854,NJDEP,PADEP			
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
85-01-8	Phenanthrene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	Pyrene	ND		ug/kg dry	44	88	2	EPA 8270D	03/30/2018 03:58	03/30/2018 20:59	KH
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: Nitrobenzene-d5*	*69.5 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*68.6 %*	*21-113*
1718-51-0	*Surrogate: Terphenyl-d14*	*71.2 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**95.1**		%	0.100	1	SM 2540G	04/03/2018 19:20	04/04/2018 15:24	TAJ
							Certifications: CTDOH			

Sample Information

Client Sample ID: **B-4 15-20** **York Sample ID:** **18C1032-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 11:30 am	03/28/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
123-91-1	1,4-Dioxane	ND		ug/kg dry	38	150	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		
78-93-3	2-Butanone	ND		ug/kg dry	1.9	7.5	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-64-1	**Acetone**	**3.9**	SCAL-E, J	ug/kg dry	3.8	7.5	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
71-43-2	Benzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-90-7	Chlorobenzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
67-66-3	Chloroform	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
100-41-4	Ethyl Benzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-09-2	Methylene chloride	ND		ug/kg dry	3.8	7.5	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
91-20-3	Naphthalene	ND		ug/kg dry	1.9	7.5	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	NELAC-NY10854,NELAC-NY12058,PADEP,NJI		

Sample Information

Client Sample ID: B-4 15-20 **York Sample ID:** 18C1032-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 11:30 am	03/28/2018

Volatile Organics, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	n-Butylbenzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
103-65-1	n-Propylbenzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
95-47-6	o-Xylene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	3.8	7.5	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
127-18-4	Tetrachloroethylene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
108-88-3	Toluene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
79-01-6	Trichloroethylene	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
75-01-4	Vinyl Chloride	ND		ug/kg dry	1.9	3.8	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PA		
1330-20-7	Xylenes, Total	ND		ug/kg dry	5.6	11	1	EPA 8260C	04/02/2018 07:30	04/02/2018 13:11	RDS
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJ		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*92.9 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*102 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*87.9 %*	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: B-4 15-20 **York Sample ID:** 18C1032-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
18C1032	223-20 Braddock Ave.	Soil	March 27, 2018 11:30 am	03/28/2018

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	Fluoranthene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	Phenanthrene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	Pyrene	ND		ug/kg dry	44	87	2	EPA 8270D	03/30/2018 03:58	03/30/2018 21:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: Nitrobenzene-d5*	*71.8 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*67.8 %*	*21-113*
1718-51-0	*Surrogate: Terphenyl-d14*	*62.7 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**95.9**		%	0.100	1	SM 2540G	04/03/2018 19:20	04/04/2018 15:24	TAJ
							Certifications: CTDOH			

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
18C1032-01	B-3 10-15	40mL Vial with Stir Bar-Cool 4° C
18C1032-02	B-3 15-20	40mL Vial with Stir Bar-Cool 4° C
18C1032-03	B-4 10-15	40mL Vial with Stir Bar-Cool 4° C
18C1032-04	B-4 15-20	40mL Vial with Stir Bar-Cool 4° C

Sample and Data Qualifiers Relating to This Work Order

SCAL-E	The value reported is ESTIMATED. The value is estimated due to its behavior during initial calibration (average Rf>20%).
QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).

Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

YORK ANALYTICAL LABORATORIES
120 RESEARCH DR.
STRATFORD, CT 06615
(203) 325-1371
FAX (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 18C1037

YOUR Information	Report to:	Invoice To:	Your Project ID	Turn-Around Time	Report/Deliverable Type
Company: Island Pump & Tank	SAME [X]	SAME [X]	223-20 Braddock Avenue	RUSH-Same Day	Summary Report
Address: 40 Doyle Court	Name:	Name:		RUSH-Next Day	QA Report
East Northport NY 11731	Company:	Company:	Purchase Order #	RUSH-Two Day	CT RCP
Phone.: (631) 462-2226	Address:	Address:		RUSH-Three Day	CT RCP DQA/DUE Pkg
Contact: Matt S				RUSH-Four Day	NY ASP A Package
E-mail: MattS@Islandpumpandtank.com	E-mail:	E-mail	Samples from CT__NY_X_NJ__	Standard (5-7day) X	NY ASP B Package
					NJDEP Reduced Deliv
					Excel
					NYSDEC EQuIS
					NJDEP SRP HazSite
					EQuIS
					GIS/KEY (std)
					YORK Regulatory Comp Excel compared to:
					OTHER:

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature)

Michele Bice

Name (printed)

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part360-Routine
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part360-Baseline
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part360-Expanded No Dioxins/Furans
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part360-Expanded Full List
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM

Sample Identification	Date+Time Sampled	Matrix	Analysis Requested (List above includes common analysis)	Container Description
B-3 10-15	3/27/18 10:00	S	VOC 8260 NYSDEC Part 375 list, SVOC 8260 CP51 list	1-4oz, 1-500ml
B-3 15-20	10:30			
B-4 10-18	11:00			
B-4 15-20	11:30			

Preservation (check all applicable): 4°C ✓ Frozen ___ HCl ___ MeOH ✓ HNO_3 ___ H_2SO_4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other ___

Comments:

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Samples Relinquished By — Date/Time: 3/27/18 1500

Samples Relinquished By — Date/Time:

Samples Received By — Date/Time: 3/28/18 1837

Samples Received in LAB by — Date/Time:

Temperature on Receipt: 2.6°C

ISLAND Pump & Tank CORP.

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40 Doyle Court
East Northport, NY 11731-6405
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www.islandpumpandtank.com

NY City Office
1381 Utica Avenue
Brooklyn, NY 11203
(718) 526-6525

October 4, 2016

New York State Department of Environmental Conservation
Region II Long Island City Office
1 Hunter's Point Plaza
47-40 21st Street
Long Island City, NY 11101-5401

Attn: Mr. Kumar Patel

Re: Tank Excavation Assessment Report
223-20 Braddock Avenue
Queens Village, New York
Spill No. 16-04579

Dear Mr. Patel,

Please find the enclosed *Tank Excavation Assessment Report* for the location identified as 223-20 Braddock Avenue, in Queens Village, New York. The attached report discusses the permanent removal of one 285-gallon waste oil underground storage tank (UST) conducted in August 2016.

Should you have any questions or comments regarding this report, please contact either of the undersigned at (631) 462-2226, Extension 22 or 23, respectively.

Sincerely,

Island Pump & Tank

Matthew F. Schieferstein
Environmental Services Manager

M Leard For
Kristin Guzzardo
Sr. Project Geologist

Enclosures

Cc: Mr. Anthony Genduso, Property, Owner
Mr. Robert Duoley, ESQ, McGiff Halverson (via e-mail)

Tank Excavation Assessment Report

223-20 Braddock Avenue
Queens Village, New York
NYSDEC Spill No. 16-04579

September 2016

Prepared for:

Mr. Anthony Genduso
316 Herricks Road
Mineola, NY 11501

Prepared by:

Island Pump & Tank Corp.
40 Doyle Court
East Northport, New York 11731

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1.0 INTRODUCTION

Island Pump & Tank Corp. (IPT), on behalf of Mr. Anthony Genduso, has prepared this report summarizing environmental services provided during the permanent removal of one 285-gallon, waste oil underground storage tank (UST), located at 223-20 Braddock Avenue, in Queens Village, New York. A Site Location Map has been provided as **Figure 1** and a Site Map depicting the location of the former UST system has been provided as **Figure 2**. All activities associated with the UST removal were conducted by IPT's Construction Department with oversight by IPT's Environmental Services Department personnel. All activities were conducted in general accordance with the New York State Department of Environmental Conservation (NYSDEC) DER-10 Technical Guidance for Site Investigation & Remediation dated, May 3, 2010.

2.0 UNDERGROUND STORAGE TANK REMOVAL

On August 05, 2016, IPT personnel were on-site to provide environmental oversight and to document the UST system closure activities. The UST system closure activities included the removal of one 285-gallon, waste oil, single-walled fiberglass UST. Select photographs taken during the UST removal activities are provided in **Appendix A.**

2.1 Tank Excavation and Removal

Prior to the tank removal, IPT removed the materials covering the UST. The UST was then cleaned and one 55-gallon drum of residual tank sludges was generated, labelled, and placed aside for future off-site disposal. Upon the disposal of such drum, IPT will forward all copies of the Waste Manifests under separate cover.

Following the tank cleaning activities, the UST was vented and the atmospheric condition inside the UST was monitored with a combustible gas indicator (CGI) meter. Once acceptable LEL levels were reached, the fill materials covering the UST were removed and set aside to facilitate the removal of the UST.

Following the removal of the UST, a visual inspection was conducted and documented by IPT personnel. The UST was in poor condition with a large crack evident on the bottom of the UST (**Table 1**). Select photographs depicting the UST removal are included in **Appendix A**. Upon completion of visual inspection, the UST was crushed into a truck for transport to an off-site disposal facility. A UST Removal Disposal Affidavit has been provided in **Appendix B**.

2.2 Tank Excavation Sampling Activities

Following the removal of the former UST, observed petroleum impacts and olfactory odors were present within the soil at the bottom of the excavation. Elevated PID readings, greater than 500 ppm, were also encountered within the entire base of the excavation. At this time, IPT notified the NYSDEC Spills Hotline, Spill Number 16-04579 and Spill Case Manager, Mr. Kumar Patel were assigned to the site, respectively. Due to the observed petroleum impacts and elevated PID readings, all materials were excavated from the base of the former UST excavation as best feasible. Excavated materials were stockpiled onsite, placed on, and covered with polyethylene sheeting for future offsite disposal. Excavation activities ensued until the structural integrity of the surrounding building and sidewalk were threatened and deemed unsafe to continue.

Upon completion of the slight over-excavation, samples were collected in general accordance with the NYSDEC DER-10 Technical Guidance for Site Investigation & Remediation. Based upon the length of the UST and the perimeter of the immediate excavation cavity, a total of five (5) soil samples were collected from the entire excavation. Four (4) samples were collected along the sidewalls of the excavation at approximately 5.5 to 6 feet below grade surface (bgs) and were labeled as such: N, E, S, and W. Additionally, one (1) soil sample (B) was collected from the bottom of the excavation at approximately 10 feet bgs. The soil sample locations have been depicted on **Figure 3**.

A portion of each collected soil sample was temporarily placed into a re-sealable plastic bag. After allowing proper time for headspace to gather, the samples were field screened for the presence of total volatile organic vapors (VOCs) utilizing a photo-ionization detector (PID). The PID was equipped with a 10.6 eV lamp and is calibrated daily utilizing ambient air and a 100 parts per million (ppm) isobutylene span gas. PID concentrations ranged from 0.7 ppm at soil sample location S to 592.4 ppm at soil sample location B. PID results have been summarized for all soil samples collected in **Table 2** and have been depicted on **Figure 3.**

2.3 Tank Excavation Analytical Results

2.3.1 Soil Samples

The five (5) soil samples collected during the UST removal activities were placed in laboratory-supplied glassware and submitted under chain of custody procedures to York Analytical Laboratories, Inc. (York) in Stratford, CT for analysis of VOCs Part 375 List via EPA Method 8260C, Semi-Volatile Organic Compounds (SVOCs) Part 375 List via EPA Method 8270D, and RCRA Metals. Upon receipt, the analytical data was compared to the NYSDEC Part 375 6.8(b) Restricted Use Residential Soil Cleanup Objectives (SCOs).

2.3.1.1 Volatile Organic Compounds

Based upon the laboratory analytical results, total detected VOC concentrations ranged from 2.6 micrograms per kilogram (µg/kg) at soil sample location W to 400,160 µg/kg at soil sample location E. One (1) particular targeted compound (tetrachloroethylene) was detected above its respective SCO level for three (3) of the soil samples collected. All remaining targeted VOC compounds were detected below their respective SCO levels for these samples and all remaining soil samples. Laboratory analytical results have been summarized in **Table 3.** VOC concentrations have been depicted on the UST Removal Soil Analytical Data Map provided on **Figure 3**. Copies of the chain of custody and laboratory analytical report have been provided in **Appendix C**.

2.3.1.2 Semi-Volatile Organic Compounds

Based upon the laboratory analytical results, total detected SVOC concentrations ranged from below their respective laboratory method detection limits (ND) to 5,867.4 µg/kg at soil sample location B. All detected SVOC compounds were below their respective SCO levels. Laboratory analytical results have been summarized in **Table 4.** SVOC concentrations have been depicted on the UST Removal Soil Analytical Data Map provided on **Figure 4**. Copies of the chain of custody and laboratory analytical report have been provided in **Appendix C**.

2.3.1.3 Metals

Based upon the laboratory analytical results, all RCRA Metal concentrations for the each of the collected samples were below their respective SCO levels. Laboratory analytical results have been summarized in **Table 5.** Copies of the chain of custody and laboratory analytical report have been provided in **Appendix C**.

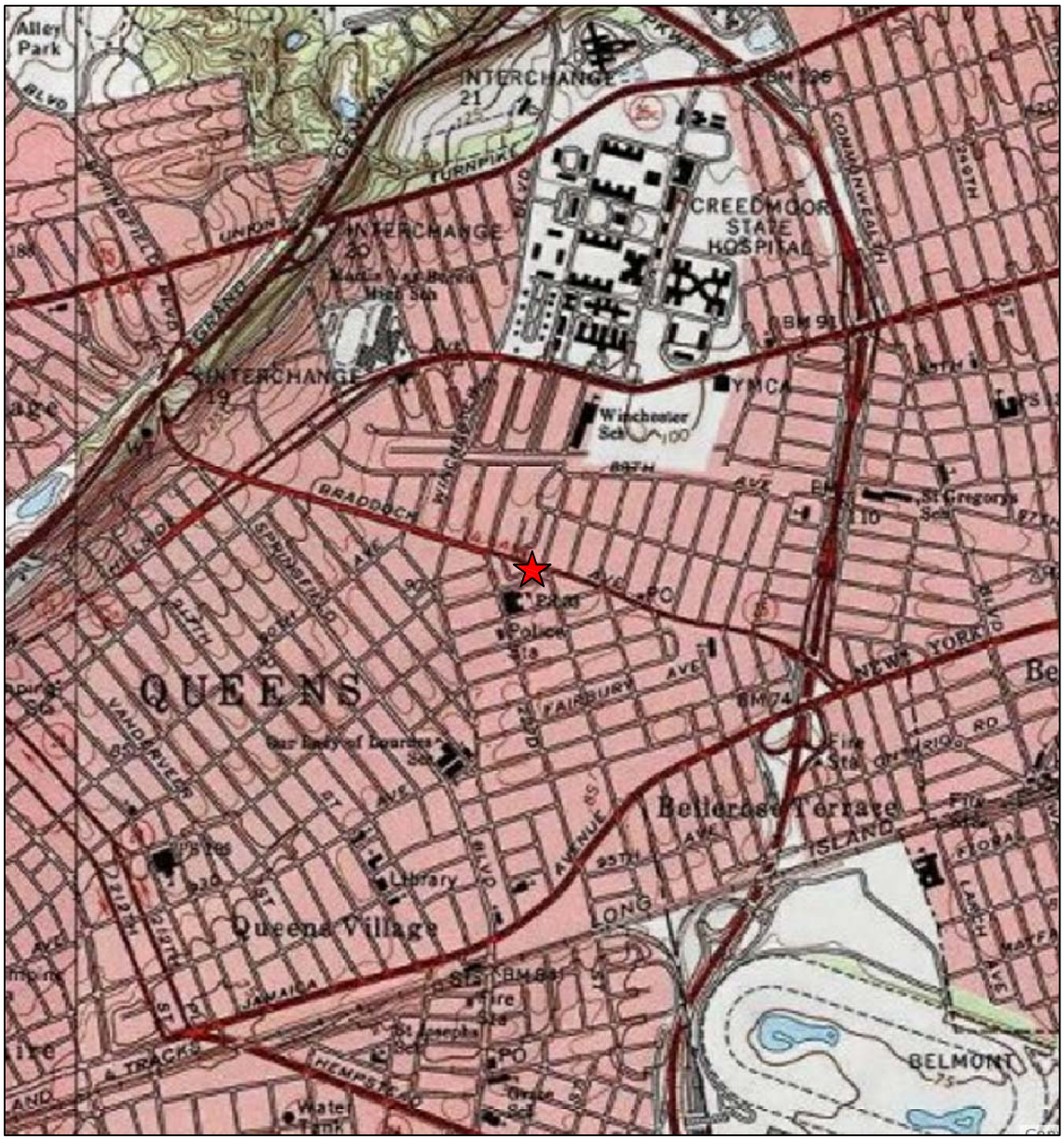
3.0 SUMMARY

On August 5, 2016, IPT, on behalf of the Mr. Anthony Genduso, provided environmental oversight during the permanent removal of the UST system located at the property identified as 223-20 Braddock Avenue, in Queens Village, New York. A summary of the UST removal activities are summarized below:

- One 285-gallon waste oil, single-walled, fiberglass UST was removed from the above referenced property. One 55-gallon drum of residual tank sludges were generated during the removal and cleaning of the UST.
- Following the removal of the former UST, observed petroleum impacts and olfactory odors were present within the soil at the bottom of the excavation. At this time, IPT notified the NYSDEC Spills Hotline, Spill Number 16-04579 and Spill Case Manager, Mr. Kumar Patel were assigned to the site, respectively.
- Following the UST removal activities, five (5) soil samples were collected from within the former UST excavation cavity. One (1) detected VOC compound was detected significantly above its respective SCO for three (3) of the collected soil samples. All remaining VOC compounds were below their respective SCO's for that sample and all remaining collected samples.
- In addition, all SVOC and Metal concentrations were below their respective SCOs for all samples collected.

Based on the review of the laboratory analytical data and associated elevated PID readings encountered within the field, Mr. Kumar Patel, of the NYSDEC, instructed that upon his receipt and respective review of the completed comprehensive Tank Excavation Assessment report, he will then determine if further requirements are required regarding this former UST system.

FIGURES



★ = SITE LOCATION

ISLAND Pump & Tank CORP.

LI OFFICE
40 Doyle Court
East Northport, NY 11731
(631) 462 2226

NYC OFFICE
1381 Utica Ave.
Brooklyn, NY 11203
(718) 526-6525

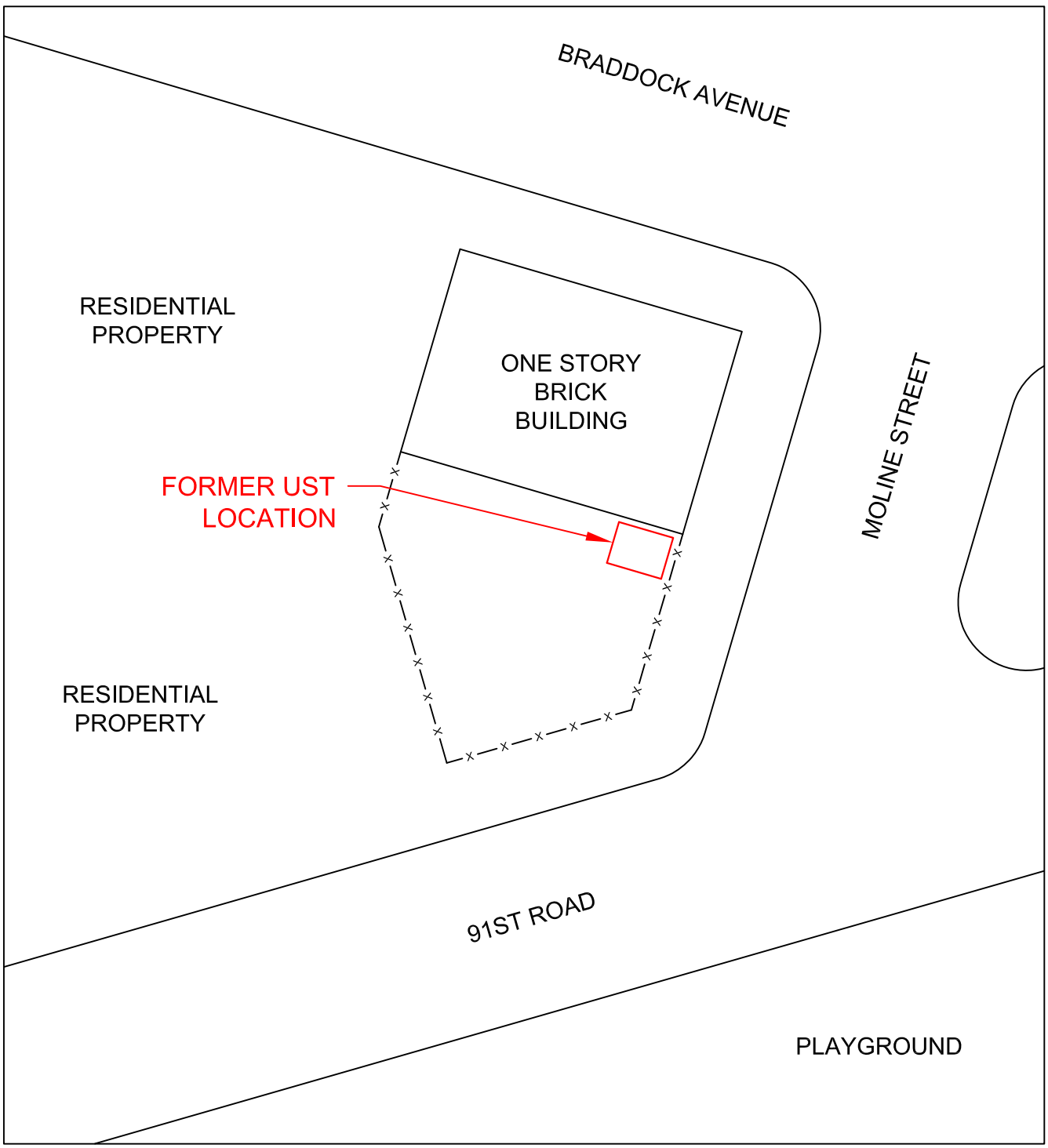
www.IslandPumpandTank.com

SCALE:	N.T.S.	PROJECT MGR:	M.S.	JOB #:	
DATE:	9/15/16	DRAWN BY:	Z.B.	FILE NAME:	

FIGURE 1

SITE LOCATION MAP

223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NY 11428



ISLAND Pump & Tank CORP.

LI OFFICE
40 Doyle Court
East Northport, NY 11731
(631) 462 2226

NYC OFFICE
1381 Utica Ave.
Brooklyn, NY 11203
(718) 526-6525

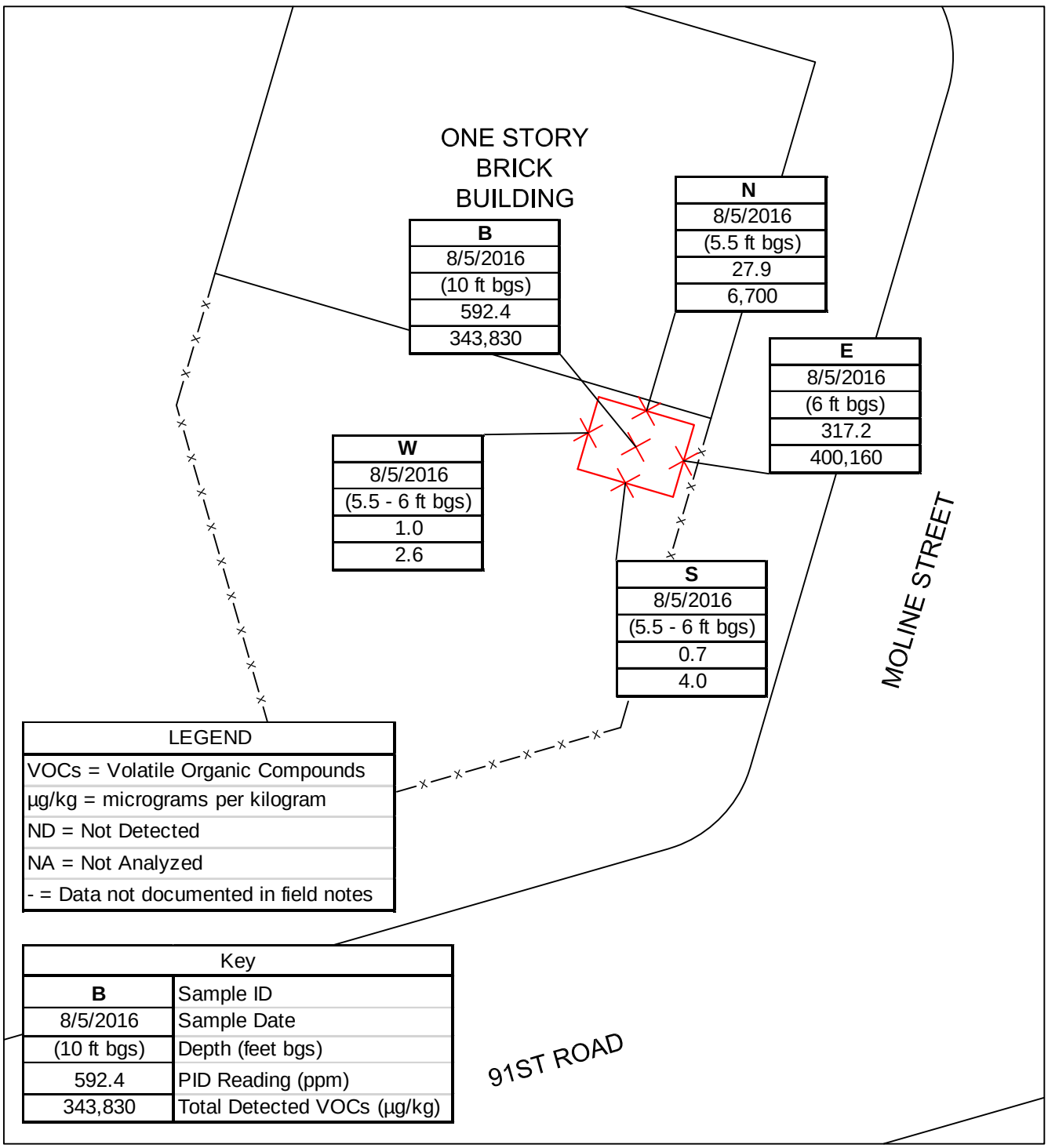
www.IslandPumpandTank.com

SCALE:	N.T.S.	PROJECT MGR:	M.S.	JOB #:	
DATE:	9/15/16	DRAWN BY:	Z.B.	FILE NAME:	

FIGURE 2

SITE PLAN

223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NY 11428



ISLAND Pump & Tank CORP.

LI OFFICE
40 Doyle Court
East Northport, NY 11731
(631) 462 2226

NYC OFFICE
1381 Utica Ave.
Brooklyn, NY 11203
(718) 526-6525

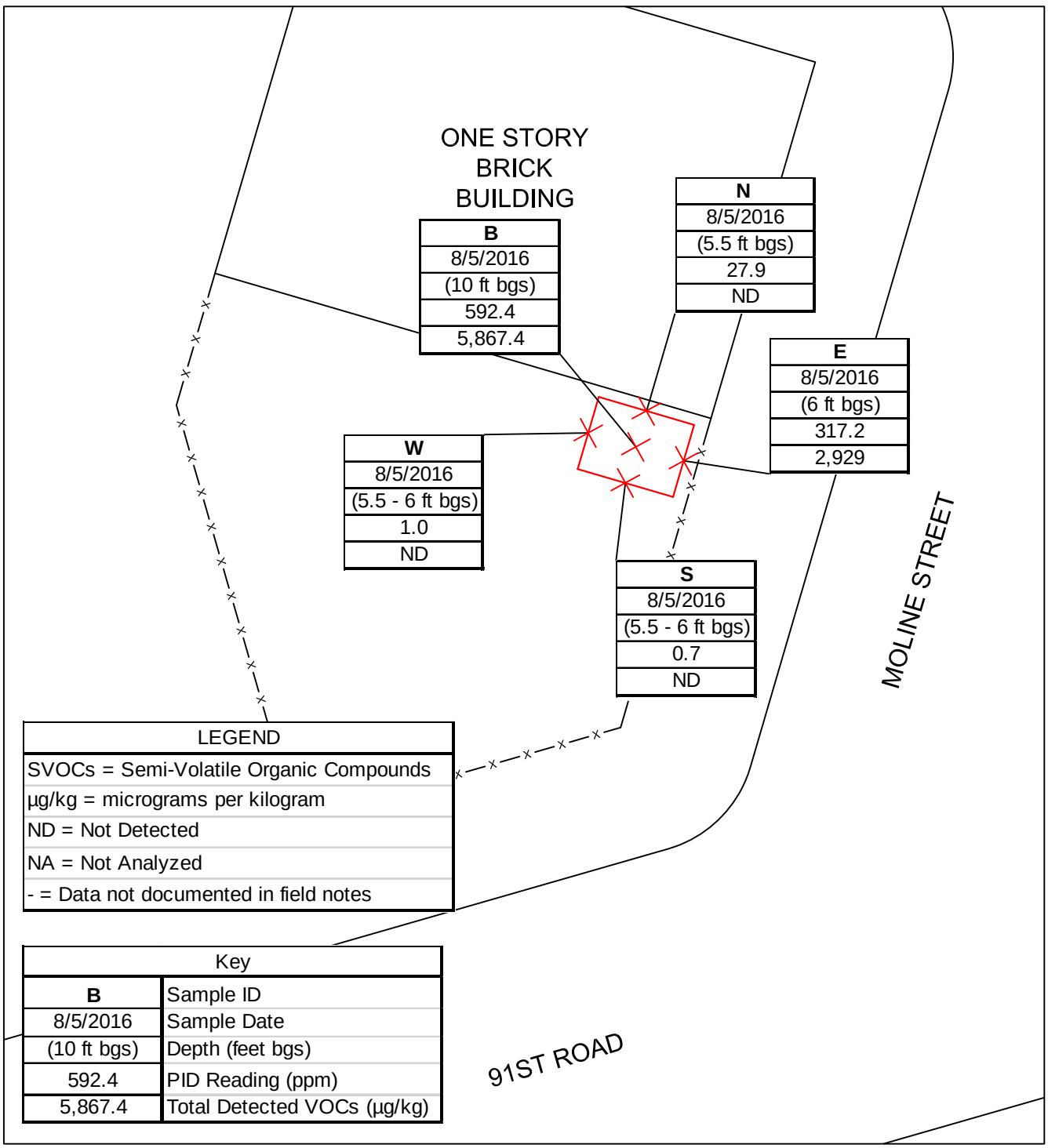
www.IslandPumpandTank.com

FIGURE 3

SOIL ANALYTICAL DATA MAP: VOCS

223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NY 11428

SCALE:	N.T.S.	PROJECT MGR:	M.S.	JOB #:	
DATE:	9/15/16	DRAWN BY:	Z.B.	FILE NAME:	



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FIGURE 4

SOIL ANALYTICAL DATA MAP: SVOCS

223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NY 11428

SCALE:	N.T.S.	PROJECT MGR:	M.S.	JOB #:	
DATE:	9/15/16	DRAWN BY:	Z.B.	FILE NAME:	

TABLES

Table 1

SUMMARY OF REMOVED TANKS

223-20 Braddock Avenue
Queens Village, New York

Tank #	Size (Gallons)	Construction	Product	Condition
1	285	Single-Walled Fiberglass	Waste Oil	Evidence of erosion and cracks.

Table 2

SUMMARY OF PID READINGS

223-20 Braddock Avenue
Queens Village, New York

Soil Sample ID #	Sampling/Screening Date	Sample Location (Depth)	PID Reading (ppm)	Submitted for Laboratory Analysis
B	8/5/2016	Bottom of UST Cavity (6 feet bgs)	374.0	No
B		Bottom of UST Cavity (7 feet bgs)	172.8	No
B		Bottom of UST Cavity (8 feet bgs)	441.6	No
B		Bottom of UST Cavity (9 feet bgs)	702.2	No
B		Bottom of UST Cavity (10 feet bgs)	592.4	**Yes**
N		North Wall of UST Cavity (4 feet bgs)	77.6	No
N		North Wall of UST Cavity (5.5 feet bgs)	27.9	**Yes**
E		East Wall of UST Cavity (4 feet bgs)	12.8	No
E		East Wall of UST Cavity (6 feet bgs)	317.2	**Yes**
S		South Wall of UST Cavity (4 feet bgs)	6.8	No
S		South Wall of UST Cavity (5.5 - 6 feet bgs)	0.7	**Yes**
W		West Wall of UST Cavity (4 feet bgs)	150.1	No
W		West Wall of UST Cavity (5.5 - 6 feet bgs)	1.0	**Yes**

Notes:

bgs = Below ground surface

PID = Photoionization detector

ppm = Parts per million

Table 3

SOIL ANALYTICAL DATA - VOCs (DETECTED COMPOUNDS)

223-20 Braddock Avenue
Queens Village, New York

Compounds of Concern	NYSDEC PART 375-6.8(b) RESTRICTED USE RESIDENTIAL SCOs	Laboratory Analytical Method				
		EPA Method 8260C				
		Sample ID				
		Sample Depth				
		Sample Date				
		B (10 feet bgs)	N (5.5 feet bgs)	E (6 feet bgs)	S (5.5 -6 feet bgs)	W (5.5 -6 feet bgs)
		08/05/2016				
Ethylbenzene (µg/kg)	**30,000**	10,000	ND<240	ND<260	ND<1.9	ND<2.6
Toluene (µg/kg)	**100,000**	30,000	ND<240	1,500	ND<1.9	ND<2.6
o-Xylene (µg/kg)	**NS**	18,000	ND<240	11,000	ND<1.9	ND<2.6
p & m Xylenes (µg/kg)	**NS**	39,000	ND<480	2,400	ND<3.7	ND<5.1
Total Xylenes (µg/kg)	**100,000**	56,000	ND<720	13,000	ND<5.6	ND<7.7
Acetone (µg/kg)	**100,000**	45,000	ND<480	800	ND<3.7	ND<5.1
Tetrachloroethylene (µg/kg)	**5,500**	**97,000**	**6,700**	**360,000**	4.0	2.6
1,2,4-Trimethylbenzene (µg/kg)	**47,000**	27,000	ND<240	1,400	ND<1.9	ND<2.6
1,3,5-Trimethylbenzene (µg/kg)	**47,000**	8,100	ND<240	7,300	ND<1.9	ND<2.6
MTBE (µg/kg)	**62,000**	380	ND<240	460	ND<1.9	ND<2.6
Methylene Chloride (µg/kg)	**51,000**	3,000	ND<480	1,900	ND<3.7	ND<5.1
Naphthalene (µg/kg)	**100,000**	5,200	ND<240	400	ND<1.9	ND<2.6
2-Butanone (µg/kg)	**NS**	620	ND<240	ND<260	ND<1.9	ND<2.6
n-Propylbenzene (µg/kg)	**100,000**	4,100	ND<240	ND<260	ND<1.9	ND<2.6
sec-Butylbenzene (µg/kg)	**100,000**	430	ND<240	ND<260	ND<1.9	ND<2.6
Total VOCs (µg/kg)	**NS**	**343,830**	**6,700**	**400,160**	4.0	2.6

Notes:

SCOs = Soil Cleanup Objectives
VOCs = Volatile Organic Compounds
<# = Less than the method detection limit of #
µg/kg = Micrograms/kilogram
ND = Not detected
NS = No Standard
bgs = Below ground surface
Bold = Numbers in **Bold** exceed the NYSDEC Part 375 SCOs

Table 4

SOIL ANALYTICAL DATA - SVOCs (DETECTED COMPOUNDS)

223-20 Braddock Avenue
Queens Village, New York

Compounds of Concern	NYSDEC PART 375-6.8(b) RESTRICTED USE RESIDENTIAL SCOs	Laboratory Analytical Method				
		EPA Method 8270D				
		Sample ID				
		Sample Depth				
		Sample Date				
		B (10 feet bgs)	N (5.5 feet bgs)	E (6 feet bgs)	S (5.5 -6 feet bgs)	W (5.5 -6 feet bgs)
		08/05/2016				
Anthracene (µg/kg)	**100,000**	110	ND<21.7	ND<110	ND<42.6	ND<42.7
Benzo(a)anthracene (µg/kg)	**1,000**	178	ND<21.7	ND<110	ND<42.6	ND<42.7
Benzo(a)pyrene (µg/kg)	**1,000**	85.8	ND<21.7	303	ND<42.6	ND<42.7
Benzo(b)fluoranthene (µg/kg)	**1,000**	97.8	ND<21.7	210	ND<42.6	ND<42.7
Benzo(g,h,i)perylene (µg/kg)	**100,000**	ND<46.8	ND<21.7	212	ND<42.6	ND<42.7
Benzo(k)fluoranthene (µg/kg)	**1,000**	ND<46.8	ND<21.7	124	ND<42.6	ND<42.7
Chrysene (µg/kg)	**1,000**	171	ND<21.7	ND<110	ND<42.6	ND<42.7
Fluoranthene (µg/kg)	**100,000**	97.8	ND<21.7	ND<110	ND<42.6	ND<42.7
Naphthalene (µg/kg)	**100,000**	2,310	ND<21.7	ND<110	ND<42.6	ND<42.7
Phenanthrene (µg/kg)	**100,000**	537	ND<21.7	ND<110	ND<42.6	ND<42.7
Pyrene (µg/kg)	**100,000**	2,280	ND<21.7	2,080	ND<42.6	ND<42.7
Total SVOCs (µg/kg)	**NS**	5,867.4	ND	2,929	ND	ND

Notes:
SCOs = Soil Cleanup Objectives
SVOCs =Semi-Volatile Organic Compounds
<# = Less than the method detection limit of #
µg/kg = Micrograms/kilogram
ND = Not detected
NS = No Standard
bgs = Below ground surface
Bold = Numbers in **Bold** exceed the NYSDEC Part 375 SCOs

Table 5

SOIL ANALYTICAL DATA - RCRA METALS

223-20 Braddock Avenue
Queens Village, New York

Compounds of Concern	NYSDEC PART 375-6.8(b) RESTRICTED USE RESIDENTIAL SCOs	Laboratory Analytical Method				
		EPA Methods 6010C & 7473C				
		Sample ID				
		Sample Depth				
		Sample Date				
		B (10 feet bgs)	N (5.5 feet bgs)	E (6 feet bgs)	S (5.5 -6 feet bgs)	W (5.5 -6 feet bgs)
		08/05/2016				
Arsenic (mg/kg)	**16**	4.37	2.53	3.14	1.73	1.32
Barium (mg/kg)	**350**	44.2	30.8	54.5	14.9	24.8
Cadmium (mg/kg)	**2.5**	ND<0.336	ND<0.312	ND<0.315	ND<0.306	ND<0.306
Chromium (mg/kg)	**36**	19.7	20.0	13	11.4	17.8
Lead (mg/kg)	**400**	30.1	5.79	25.6	2.79	2.19
Selenium (mg/kg)	**36**	1.67	2.60	2.29	1.40	1.76
Silver (mg/kg)	**36**	ND<0.560	ND<0.520	ND<0.525	ND<0.510	ND<0.511
Mercury (mg/kg)	**0.81**	ND<0.0336	ND<0.0312	ND<0.0315	ND<0.0306	ND<0.0306

Notes:
SCOs = Soil Cleanup Objectives
<# = Less than the method detection limit of #
mg/kg = Milligrams/kilogram
ND = Not detected
NS = No Standard
bgs = Below ground surface
Bold = Numbers in **Bold** exceed the NYSDEC Part 375 SCOs

APPENDIX A

Photographs



View of Former UST



View of crack in Former UST



View of Excavation



View of Excavation after Over-Excavation actives.



View of plastic placed in Excavation.



View of Stock pile of impacted soil.

APPENDIX B

UST Removal Disposal Affidavit

ISLAND Pump & Tank CORP.

LI Office
40 Doyle Court
East Northport, NY 11731-6405
(631) 462-2226
FAX (631) 462-6434
www.islandpumpandtank.com

NY City Office
1381 Utica Avenue
Brooklyn, NY 11203
(718) 526-6525

September 28, 2016

DCI Mr. Frank Cifuentes
New York City Fire Department
9 Metro Tech Center
3rd Floor
Brooklyn, NY 11201-5884

Re: Tank Removal
223-20 Braddock Ave
Queens, NY 11428

Dear DCI Mr. Frank Cifuentes,

Please be advised that Island Pump and Tank Corp. removed One (1) 285gallon single-wall fiberglass underground waste oil tank on August 05, 2016 at the above referenced location. The tank was purged and cleaned before being crushed and disposed of at a lined landfill. This removal complies with Sections 3404.2.13.1 & 3404.2.13.2 of the New York City Fire Code

Please contact me if you have any questions.

Sincerely,

Island Pump & Tank Corp.

Frank DiAndrea
CEO
COF # 86389483 Exp. 04/29/2019
FD/jc

Sworn before me this 28th day of September 2016

Jennifer Caccioppoli
Notary Public State Of New York
No.01CA6096440
Qualified In Suffolk County
Commission Expires July 28, 2019

APPENDIX C

Laboratory Analytical Reports

Technical Report

prepared for:

Island Pump & Tank
40 Doyle Court
East Northport NY, 11731
Attention: Matthew Schieferstein

Report Date: 08/15/2016
Client Project ID: 223-20 Braddock Ave
York Project (SDG) No.: 16H0402

Report Date: 08/15/2016
Client Project ID: 223-20 Braddock Ave
York Project (SDG) No.: 16H0402

Island Pump & Tank
40 Doyle Court
East Northport NY, 11731
Attention: Matthew Schieferstein

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on August 08, 2016 and listed below. The project was identified as your project: **223-20 Braddock Ave**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
16H0402-01	N	Soil	08/05/2016	08/08/2016
16H0402-02	S	Soil	08/05/2016	08/08/2016
16H0402-03	E	Soil	08/05/2016	08/08/2016
16H0402-04	W	Soil	08/05/2016	08/08/2016
16H0402-05	B	Soil	08/05/2016	08/08/2016

General Notes for York Project (SDG) No.: 16H0402

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: 

Date: 08/15/2016

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: N

York Sample ID: 16H0402-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
123-91-1	1,4-Dioxane	ND		ug/kg dry	4800	9600	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	NELAC-NY10854,NJDEP		
78-93-3	2-Butanone	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
67-64-1	Acetone	ND		ug/kg dry	480	960	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
71-43-2	Benzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-90-7	Chlorobenzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
67-66-3	Chloroform	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
100-41-4	Ethyl Benzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
75-09-2	Methylene chloride	ND		ug/kg dry	480	960	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	240	960	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	NELAC-NY10854,NJDEP		

Sample Information

Client Sample ID: N **York Sample ID:** 16H0402-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	n-Butylbenzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
103-65-1	n-Propylbenzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
95-47-6	o-Xylene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	480	960	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
127-18-4	**Tetrachloroethylene**	**6700**		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-88-3	Toluene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
79-01-6	Trichloroethylene	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-01-4	Vinyl Chloride	ND		ug/kg dry	240	480	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
1330-20-7	Xylenes, Total	ND		ug/kg dry	720	1400	100	EPA 8260C	08/12/2016 08:00	08/12/2016 16:15	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*102 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*96.2 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*92.0 %*	*76-130*

Semi-Volatiles, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
83-32-9	Acenaphthene	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: N

York Sample ID: 16H0402-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Semi-Volatiles, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
56-55-3	Benzo(a)anthracene	ND	IS-01	ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
50-32-8	Benzo(a)pyrene	ND	IS-01	ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	Benzo(b)fluoranthene	ND	IS-01	ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND	IS-06	ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND	IS-01	ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND	IS-01	ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND	IS-06	ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
132-64-9	Dibenzofuran	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	Fluoranthene	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
118-74-1	Hexachlorobenzene	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND	IS-06	ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
87-86-5	Pentachlorophenol	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	Phenanthrene	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-95-2	Phenol	ND		ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	Pyrene	ND	IS-01	ug/kg dry	21.7	43.4	1	EPA 8270D	08/12/2016 07:08	08/12/2016 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*29.7 %*	*20-108*
4165-62-2	*Surrogate: Phenol-d5*	*35.2 %*	*23-114*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*34.6 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*37.2 %*	*21-113*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*33.2 %*	*19-110*
1718-51-0	*Surrogate: Terphenyl-d14*	*50.4 %*	*24-116*

Sample Information

Client Sample ID: N **York Sample ID:** 16H0402-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Metals, RCRA

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	**Arsenic**	**2.53**		mg/kg dry	1.04	1.04	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:30	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**30.8**		mg/kg dry	1.04	1.04	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:30	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	Cadmium	ND		mg/kg dry	0.312	0.312	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:30	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**20.0**		mg/kg dry	0.520	0.520	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:30	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**5.79**		mg/kg dry	0.312	0.312	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:30	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	**Selenium**	**2.60**		mg/kg dry	1.04	1.04	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:30	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.520	0.520	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:30	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0312	0.0312	1	EPA 7473	08/10/2016 06:29	08/10/2016 10:25	KV
								Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**96.2**		%	0.100	0.100	1	SM 2540G	08/09/2016 14:56	08/09/2016 20:11	TJM
								Certifications: CTDOH			

Sample Information

Client Sample ID: S **York Sample ID:** 16H0402-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: S **York Sample ID:** 16H0402-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
123-91-1	1,4-Dioxane	ND		ug/kg dry	37	75	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	NELAC-NY10854,NJDEP		
78-93-3	2-Butanone	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
67-64-1	Acetone	ND		ug/kg dry	3.7	7.5	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
71-43-2	Benzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-90-7	Chlorobenzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
67-66-3	Chloroform	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
100-41-4	Ethyl Benzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
75-09-2	Methylene chloride	ND		ug/kg dry	3.7	7.5	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	1.9	7.5	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	NELAC-NY10854,NJDEP		

Sample Information

Client Sample ID: S **York Sample ID:** 16H0402-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	n-Butylbenzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
103-65-1	n-Propylbenzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
95-47-6	o-Xylene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	3.7	7.5	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
127-18-4	**Tetrachloroethylene**	**4.0**		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-88-3	Toluene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
79-01-6	Trichloroethylene	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-01-4	Vinyl Chloride	ND		ug/kg dry	1.9	3.7	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
1330-20-7	Xylenes, Total	ND		ug/kg dry	5.6	11	1	EPA 8260C	08/12/2016 08:35	08/12/2016 15:58	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*99.3 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*103 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*95.2 %*	*76-130*

Semi-Volatiles, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
83-32-9	Acenaphthene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: S **York Sample ID:** 16H0402-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Semi-Volatiles, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
132-64-9	Dibenzofuran	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	Fluoranthene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
118-74-1	Hexachlorobenzene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
87-86-5	Pentachlorophenol	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	Phenanthrene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-95-2	Phenol	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	Pyrene	ND		ug/kg dry	42.6	85.0	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*55.0 %*	*20-108*
4165-62-2	*Surrogate: Phenol-d5*	*67.2 %*	*23-114*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*61.4 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*69.6 %*	*21-113*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*82.7 %*	*19-110*
1718-51-0	*Surrogate: Terphenyl-d14*	*68.0 %*	*24-116*

Sample Information

Client Sample ID: S **York Sample ID:** 16H0402-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Metals, RCRA

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	**Arsenic**	**1.73**		mg/kg dry	1.02	1.02	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:35	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**14.9**		mg/kg dry	1.02	1.02	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:35	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	Cadmium	ND		mg/kg dry	0.306	0.306	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:35	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**11.4**		mg/kg dry	0.510	0.510	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:35	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**2.79**		mg/kg dry	0.306	0.306	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:35	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	**Selenium**	**1.40**		mg/kg dry	1.02	1.02	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:35	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.510	0.510	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:35	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0306	0.0306	1	EPA 7473	08/10/2016 06:29	08/10/2016 10:34	KV
								Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**98.1**		%	0.100	0.100	1	SM 2540G	08/09/2016 14:56	08/09/2016 20:11	TJM
								Certifications: CTDOH			

Sample Information

Client Sample ID: E **York Sample ID:** 16H0402-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: **E** **York Sample ID:** **16H0402-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
95-63-6	**1,2,4-Trimethylbenzene**	**1400**		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
108-67-8	**1,3,5-Trimethylbenzene**	**7300**		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	5200	10000	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 NELAC-NY10854,NJDEP	SS
78-93-3	2-Butanone	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP	SS
67-64-1	**Acetone**	**800**	J, CCV-E	ug/kg dry	520	1000	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP	SS
71-43-2	Benzene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
67-66-3	Chloroform	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP	SS
100-41-4	Ethyl Benzene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
1634-04-4	**Methyl tert-butyl ether (MTBE)**	**460**	J	ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP	SS
75-09-2	**Methylene chloride**	**1900**		ug/kg dry	520	1000	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	SS
91-20-3	**Naphthalene**	**400**	J, CCV-E	ug/kg dry	260	1000	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 NELAC-NY10854,NJDEP	SS
104-51-8	n-Butylbenzene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications:	08/12/2016 08:00	08/12/2016 16:49 CTDOH,NELAC-NY10854,NJDEP	SS

Sample Information

Client Sample ID: E **York Sample ID:** 16H0402-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
103-65-1	n-Propylbenzene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	08/12/2016 08:00	08/12/2016 16:49	SS
95-47-6	**o-Xylene**	**11000**		ug/kg dry	260	520	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854	08/12/2016 08:00	08/12/2016 16:49	SS
179601-23-1	**p- & m- Xylenes**	**2400**		ug/kg dry	520	1000	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854	08/12/2016 08:00	08/12/2016 16:49	SS
135-98-8	sec-Butylbenzene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	08/12/2016 08:00	08/12/2016 16:49	SS
98-06-6	tert-Butylbenzene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	08/12/2016 08:00	08/12/2016 16:49	SS
127-18-4	**Tetrachloroethylene**	**360000**		ug/kg dry	13000	26000	5000	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 08:00	08/15/2016 14:52	BK
108-88-3	**Toluene**	**1500**		ug/kg dry	260	520	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 08:00	08/12/2016 16:49	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP	08/12/2016 08:00	08/12/2016 16:49	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	260	520	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 08:00	08/12/2016 16:49	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	260	520	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 08:00	08/12/2016 16:49	SS
1330-20-7	**Xylenes, Total**	**13000**		ug/kg dry	780	1600	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 08:00	08/12/2016 16:49	SS

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*103 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*107 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*98.8 %*	*76-130*

Semi-Volatiles, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		ug/kg dry	110	219	5	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 07:08	08/14/2016 08:19	KH
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	110	219	5	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 07:08	08/14/2016 08:19	KH
83-32-9	Acenaphthene	ND		ug/kg dry	110	219	5	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 07:08	08/14/2016 08:19	KH
208-96-8	Acenaphthylene	ND		ug/kg dry	110	219	5	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 07:08	08/14/2016 08:19	KH
120-12-7	Anthracene	ND		ug/kg dry	110	219	5	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 07:08	08/14/2016 08:19	KH
56-55-3	Benzo(a)anthracene	ND	IS-01	ug/kg dry	110	219	5	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	08/12/2016 07:08	08/14/2016 08:19	KH

Sample Information

Client Sample ID: E **York Sample ID:** 16H0402-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Semi-Volatiles, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	**Benzo(a)pyrene**	**303**	IS-01	ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	**Benzo(b)fluoranthene**	**210**	J, IS-01	ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	**Benzo(g,h,i)perylene**	**212**	J, CCV-E, IS-06	ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	**Benzo(k)fluoranthene**	**124**	J, IS-01	ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND	IS-01	ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND	IS-06	ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
132-64-9	Dibenzofuran	ND		ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	Fluoranthene	ND		ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
118-74-1	Hexachlorobenzene	ND		ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND	IS-06	ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
87-86-5	Pentachlorophenol	ND		ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	Phenanthrene	ND		ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-95-2	Phenol	ND		ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	**Pyrene**	**2080**	IS-01	ug/kg dry	110	219	5	EPA 8270D	08/12/2016 07:08	08/14/2016 08:19	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result		Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*16.2 %*	S-01	*20-108*
4165-62-2	*Surrogate: Phenol-d5*	*21.9 %*	S-01	*23-114*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*26.0 %*		*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*38.0 %*		*21-113*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*48.1 %*		*19-110*
1718-51-0	*Surrogate: Terphenyl-d14*	*79.7 %*		*24-116*

Metals, RCRA

Log-in Notes:

Sample Notes:

Sample Information

Client Sample ID: E **York Sample ID:** 16H0402-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	**Arsenic**	**3.14**		mg/kg dry	1.05	1.05	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:52	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**54.5**		mg/kg dry	1.05	1.05	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:52	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	Cadmium	ND		mg/kg dry	0.315	0.315	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:52	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**13.0**		mg/kg dry	0.525	0.525	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:52	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**25.6**		mg/kg dry	0.315	0.315	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:52	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	**Selenium**	**2.29**		mg/kg dry	1.05	1.05	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:52	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.525	0.525	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:52	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**0.0370**		mg/kg dry	0.0315	0.0315	1	EPA 7473	08/10/2016 06:29	08/10/2016 10:42	KV
								Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**95.2**		%	0.100	0.100	1	SM 2540G	08/09/2016 14:56	08/09/2016 20:11	TJM
								Certifications: CTDOH			

Sample Information

Client Sample ID: W **York Sample ID:** 16H0402-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: W **York Sample ID:** 16H0402-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
123-91-1	1,4-Dioxane	ND		ug/kg dry	51	100	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	NELAC-NY10854,NJDEP		
78-93-3	2-Butanone	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
67-64-1	Acetone	ND		ug/kg dry	5.1	10	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
71-43-2	Benzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-90-7	Chlorobenzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
67-66-3	Chloroform	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
75-09-2	Methylene chloride	ND		ug/kg dry	5.1	10	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	2.6	10	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	NELAC-NY10854,NJDEP		
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		

Sample Information

Client Sample ID: W **York Sample ID:** 16H0402-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-47-6	o-Xylene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854		
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	5.1	10	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854		
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
127-18-4	**Tetrachloroethylene**	**2.6**	J	ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-88-3	Toluene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
79-01-6	Trichloroethylene	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.6	5.1	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
1330-20-7	Xylenes, Total	ND		ug/kg dry	7.7	15	1	EPA 8260C	08/11/2016 17:00	08/11/2016 21:23	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*102 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*100 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*97.7 %*	*76-130*

Semi-Volatiles, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
83-32-9	Acenaphthene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: W **York Sample ID:** 16H0402-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Semi-Volatiles, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
132-64-9	Dibenzofuran	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	Fluoranthene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
118-74-1	Hexachlorobenzene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
87-86-5	Pentachlorophenol	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	Phenanthrene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-95-2	Phenol	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	Pyrene	ND		ug/kg dry	42.7	85.2	2	EPA 8270D	08/12/2016 07:08	08/12/2016 16:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*63.6 %*	*20-108*
4165-62-2	*Surrogate: Phenol-d5*	*72.1 %*	*23-114*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*65.9 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*73.4 %*	*21-113*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*62.3 %*	*19-110*
1718-51-0	*Surrogate: Terphenyl-d14*	*59.0 %*	*24-116*

Metals, RCRA

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: W **York Sample ID:** 16H0402-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Metals, RCRA

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	**Arsenic**	**1.32**		mg/kg dry	1.02	1.02	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:57	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**24.8**		mg/kg dry	1.02	1.02	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:57	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	Cadmium	ND		mg/kg dry	0.306	0.306	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:57	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**17.8**		mg/kg dry	0.511	0.511	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:57	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**2.19**		mg/kg dry	0.306	0.306	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:57	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	**Selenium**	**1.76**		mg/kg dry	1.02	1.02	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:57	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.511	0.511	1	EPA 6010C	08/09/2016 12:05	08/10/2016 04:57	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0306	0.0306	1	EPA 7473	08/10/2016 06:29	08/10/2016 10:51	KV
								Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**97.9**		%	0.100	0.100	1	SM 2540G	08/09/2016 14:56	08/09/2016 20:11	TJM
								Certifications: CTDOH			

Sample Information

Client Sample ID: B **York Sample ID:** 16H0402-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: B **York Sample ID:** 16H0402-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
95-63-6	**1,2,4-Trimethylbenzene**	**27000**		ug/kg dry	1200	2500	500	EPA 8260C	08/12/2016 08:00	08/15/2016 12:53	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-67-8	**1,3,5-Trimethylbenzene**	**8100**		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
123-91-1	1,4-Dioxane	ND		ug/kg dry	4900	9800	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	NELAC-NY10854,NJDEP		
78-93-3	**2-Butanone**	**620**		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
67-64-1	**Acetone**	**45000**		ug/kg dry	2500	4900	500	EPA 8260C	08/12/2016 08:00	08/15/2016 12:53	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
71-43-2	Benzene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-23-5	Carbon tetrachloride	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-90-7	Chlorobenzene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
67-66-3	Chloroform	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
100-41-4	**Ethyl Benzene**	**10000**		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
1634-04-4	**Methyl tert-butyl ether (MTBE)**	**380**	J	ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
75-09-2	**Methylene chloride**	**3000**		ug/kg dry	490	980	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	**Naphthalene**	**5200**	CCV-E	ug/kg dry	250	980	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	NELAC-NY10854,NJDEP		
104-51-8	n-Butylbenzene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		

Sample Information

Client Sample ID: B **York Sample ID:** 16H0402-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Volatile Organics, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
103-65-1	**n-Propylbenzene**	**4100**		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
95-47-6	**o-Xylene**	**18000**		ug/kg dry	1200	2500	500	EPA 8260C	08/12/2016 08:00	08/15/2016 12:53	BK
								Certifications:	CTDOH,NELAC-NY10854		
179601-23-1	**p- & m- Xylenes**	**39000**		ug/kg dry	2500	4900	500	EPA 8260C	08/12/2016 08:00	08/15/2016 12:53	BK
								Certifications:	CTDOH,NELAC-NY10854		
135-98-8	**sec-Butylbenzene**	**430**	J	ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
98-06-6	tert-Butylbenzene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
127-18-4	**Tetrachloroethylene**	**97000**		ug/kg dry	1200	2500	500	EPA 8260C	08/12/2016 08:00	08/15/2016 12:53	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-88-3	**Toluene**	**30000**		ug/kg dry	1200	2500	500	EPA 8260C	08/12/2016 08:00	08/15/2016 12:53	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP		
79-01-6	Trichloroethylene	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
75-01-4	Vinyl Chloride	ND		ug/kg dry	250	490	100	EPA 8260C	08/12/2016 08:00	08/12/2016 17:23	SS
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
1330-20-7	**Xylenes, Total**	**56000**		ug/kg dry	3700	7400	500	EPA 8260C	08/12/2016 08:00	08/15/2016 12:53	BK
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*109 %*	*77-125*
2037-26-5	*Surrogate: Toluene-d8*	*102 %*	*85-120*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*96.3 %*	*76-130*

Semi-Volatiles, NYSDEC Part 375 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
83-32-9	Acenaphthene	ND		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	**Anthracene**	**110**		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	**Benzo(a)anthracene**	**178**	IS-01	ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: B **York Sample ID:** 16H0402-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Semi-Volatiles, NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	**Benzo(a)pyrene**	**85.8**	J, IS-01	ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	**Benzo(b)fluoranthene**	**97.8**	IS-01	ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND	IS-06	ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND	IS-01	ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	**Chrysene**	**171**	IS-01	ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND	IS-06	ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
132-64-9	Dibenzofuran	ND		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	**Fluoranthene**	**97.8**		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
118-74-1	Hexachlorobenzene	ND		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND	IS-06	ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	**Naphthalene**	**2310**		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
87-86-5	Pentachlorophenol	ND		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	**Phenanthrene**	**537**		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-95-2	Phenol	ND		ug/kg dry	46.8	93.3	2	EPA 8270D	08/12/2016 07:08	08/12/2016 17:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	**Pyrene**	**2280**	IS-01	ug/kg dry	117	233	5	EPA 8270D	08/12/2016 07:08	08/15/2016 11:22	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: 2-Fluorophenol*	*45.1 %*	*20-108*
4165-62-2	*Surrogate: Phenol-d5*	*65.4 %*	*23-114*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*71.7 %*	*22-108*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*98.6 %*	*21-113*
118-79-6	*Surrogate: 2,4,6-Tribromophenol*	*74.1 %*	*19-110*
1718-51-0	*Surrogate: Terphenyl-d14*	*68.9 %*	*24-116*

Metals, RCRA

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: B **York Sample ID:** 16H0402-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
16H0402	223-20 Braddock Ave	Soil	August 5, 2016 3:00 pm	08/08/2016

Metals, RCRA

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	**Arsenic**	**4.37**		mg/kg dry	1.12	1.12	1	EPA 6010C	08/09/2016 12:05	08/10/2016 05:02	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**44.2**		mg/kg dry	1.12	1.12	1	EPA 6010C	08/09/2016 12:05	08/10/2016 05:02	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	Cadmium	ND		mg/kg dry	0.336	0.336	1	EPA 6010C	08/09/2016 12:05	08/10/2016 05:02	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**19.7**		mg/kg dry	0.560	0.560	1	EPA 6010C	08/09/2016 12:05	08/10/2016 05:02	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**30.1**		mg/kg dry	0.336	0.336	1	EPA 6010C	08/09/2016 12:05	08/10/2016 05:02	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	**Selenium**	**1.67**		mg/kg dry	1.12	1.12	1	EPA 6010C	08/09/2016 12:05	08/10/2016 05:02	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.560	0.560	1	EPA 6010C	08/09/2016 12:05	08/10/2016 05:02	KV
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0336	0.0336	1	EPA 7473	08/10/2016 06:29	08/10/2016 11:00	KV
								Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**89.3**		%	0.100	0.100	1	SM 2540G	08/09/2016 14:56	08/09/2016 20:11	TJM
								Certifications: CTDOH			

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
16H0402-01	N	40mL Vial with Stir Bar-Cool 4° C
16H0402-02	S	40mL Vial with Stir Bar-Cool 4° C
16H0402-03	E	40mL Vial with Stir Bar-Cool 4° C
16H0402-04	W	40mL Vial with Stir Bar-Cool 4° C
16H0402-05	B	40mL Vial with Stir Bar-Cool 4° C

Notes and Definitions

S-01	The surrogate recovery for this sample may not be available due to sample dilution required from high analyte concentration and/or matrix interferences.
QR-04	The RPD exceeded control limits for the LCS/LCSD QC.
QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
IS-06	Internal standard perylene-d12 did not meet acceptance criteria. The sample was reanalyzed to confirm matrix interference. Compounds affected are: Benzo(g,h,i)perylene, Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene.
IS-01	This internal standard did not meet acceptance criteria. The sample was reanalyzed to confirm matrix interference.
CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.

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*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

YORK ANALYTICAL LABORATORIES
120 RESEARCH DR.
STRATFORD, CT 06615
(203) 325-1371
FAX (203) 357-0166

Field Chain-of-Custody Record

3

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 16H0402

YOUR Information

Company: Island Pump & Tank
Address: 40 Doyle Court East Northport NY
Phone No. (631) 462-2226
Contact Person: Mark S
E-Mail Address:

Report To:

Company: Same
Address:
Phone No.
Attention:
E-Mail Address:

Invoice To:

Company: Same
Address:
Phone No.
Attention:
E-Mail Address:

YOUR Project ID

2655

Purchase Order No.

223-20 Braddock Ave

Samples from: CT ___ NY ✓ NJ ___

Turn-Around Time

- RUSH - Same Day ☐
- RUSH - Next Day ☐
- RUSH - Two Day ☐
- RUSH - Three Day ☐
- RUSH - Four Day ☐
- Standard(5-7 Days) ☑

Report Type

- Summary Report ___
- Summary w/ QA Summary ___
- CT RCP Package ___
- CTRCP DQA/DUE Pkg ___
- NY ASP A Package ___
- NY ASP B Package ___
- NJDEP Red. Deliv. ___

Electronic Data Deliverables (EDD)

- Simple Excel ___
- NYSDEC EQuIS ___
- EQuIS (std) ___
- EZ-EDD (EQuIS) ___
- NJDEP SRP HazSite EDD ___
- GIS/KEY (std) ___
- Other ___
- **York Regulatory Comparison**
- **Excel Spreadsheet** ___

Compare to the following Regs. (please fill in):

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature)
Michele Brasl
Name (printed)

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded No Dioxins/Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
DUP	8/5/16	S	8260 VOCs 375 list, 8260 SVOC 35 list, RCRA 8 metals	1-8oz, 1-4oz, 1-5035kit
SED				
BLK				

Comments

Preservation Check those Applicable
Special Instructions
Field Filtered ☐
Lab to Filter ☐

4°C ✓ Frozen ___ HCl ___ MeOH ✓ HNO_3 ___ H_2SO_4 ___ NaOH ___
ZnAc Ascorbic Acid Other

Samples Relinquished By — Date/Time: 8/5/16
Samples Relinquished By — Date/Time:

Samples Received By — Date/Time: 8/8/16 1859
Samples Received in LAB by — Date/Time:

Temperature on Receipt 4.3 °C

PWGC
CLIENT DRIVEN SOLUTIONS

APPENDIX B

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name _____ Date/Time Prepared _____

Preparer's Affiliation _____ Phone No._____

Purpose of Investigation_____

1. OCCUPANT:

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: _____First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	Commercial/Multi-use
Industrial	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) _____

Does it include residences (i.e., multi-use)? Y / N If yes, how many? _____

Other characteristics:

Number of floors_____ Building age_____

Is the building insulated? Y / N How air tight? Tight / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

_____

_____

_____

Airflow near source

_____

_____

_____

Outdoor air infiltration

_____

_____

_____

Infiltration into air ducts

_____

_____

_____

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: _____(feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

_____

_____

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Steam radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: _____

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other_____
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

_____

_____

_____

_____

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	_____
1st Floor	_____
2nd Floor	_____
3rd Floor	_____
4th Floor	_____

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / N

b. Does the garage have a separate heating unit? Y / N / NA

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / NA
Please specify_____

d. Has the building ever had a fire? Y / N When?_____

e. Is a kerosene or unvented gas space heater present? Y / N Where? _____

f. Is there a workshop or hobby/craft area? Y / N Where & Type? _____

g. Is there smoking in the building? Y / N How frequently? _____

h. Have cleaning products been used recently? Y / N When & Type? _____

i. Have cosmetic products been used recently? Y / N When & Type? _____

j. Has painting/staining been done in the last 6 months? Y / N Where & When? _____

k. Is there new carpet, drapes or other textiles? Y / N Where & When? _____

l. Have air fresheners been used recently? Y / N When & Type? _____

m. Is there a kitchen exhaust fan? Y / N If yes, where vented?_____

n. Is there a bathroom exhaust fan? Y / N If yes, where vented?_____

o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / N When & Type?_____

Are there odors in the building? Y / N
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist)

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:	Public Water	Drilled Well	Driven Well	Dug Well	Other: _____
Sewage Disposal:	Public Sewer	Septic Tank	Leach Field	Dry Well	Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

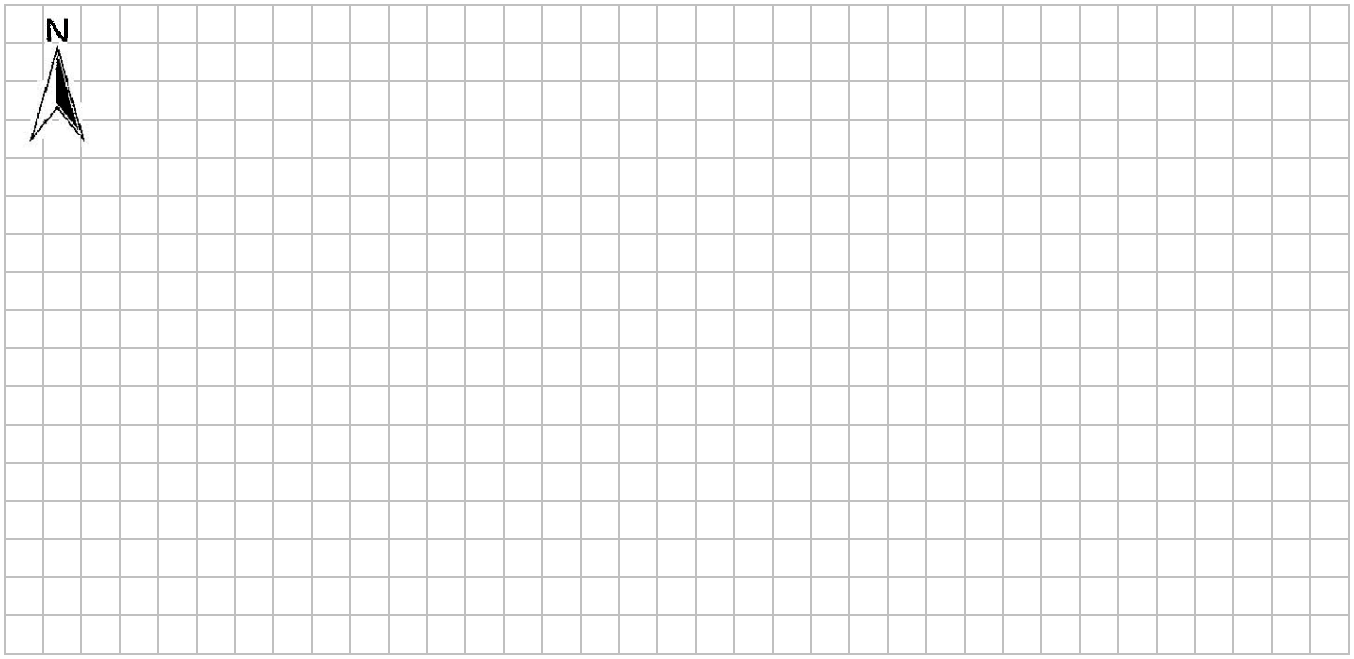
c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

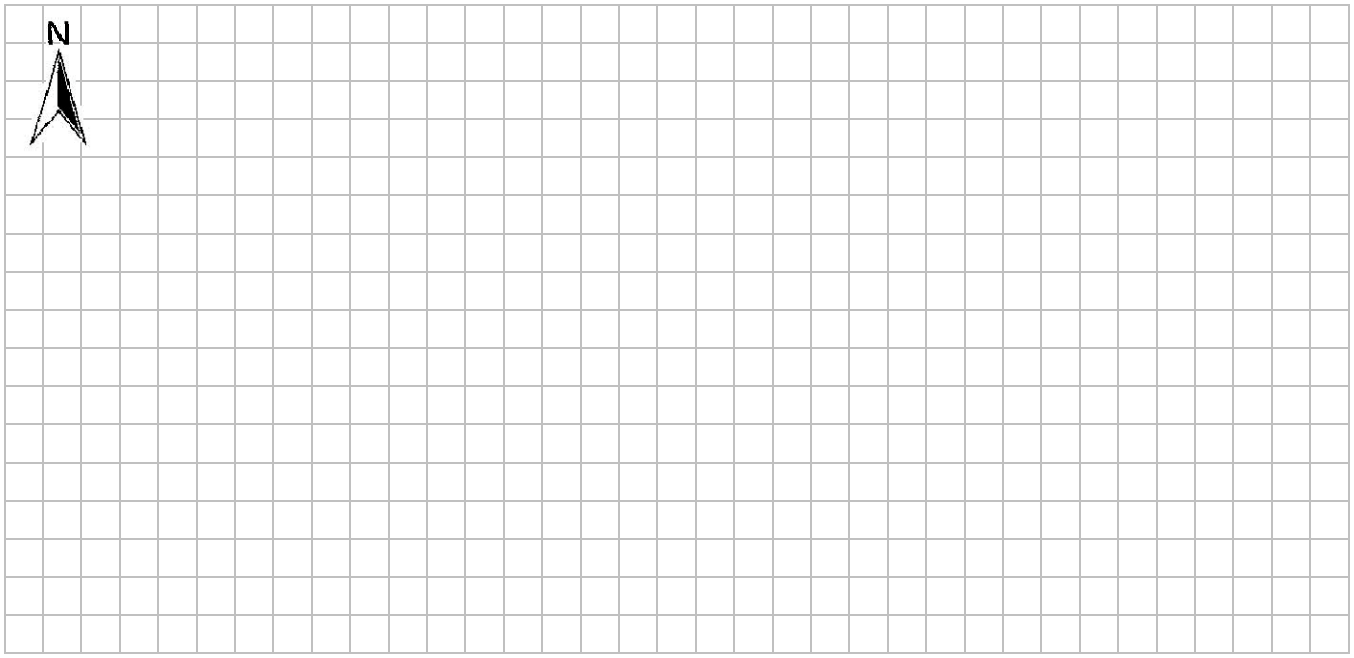
11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:



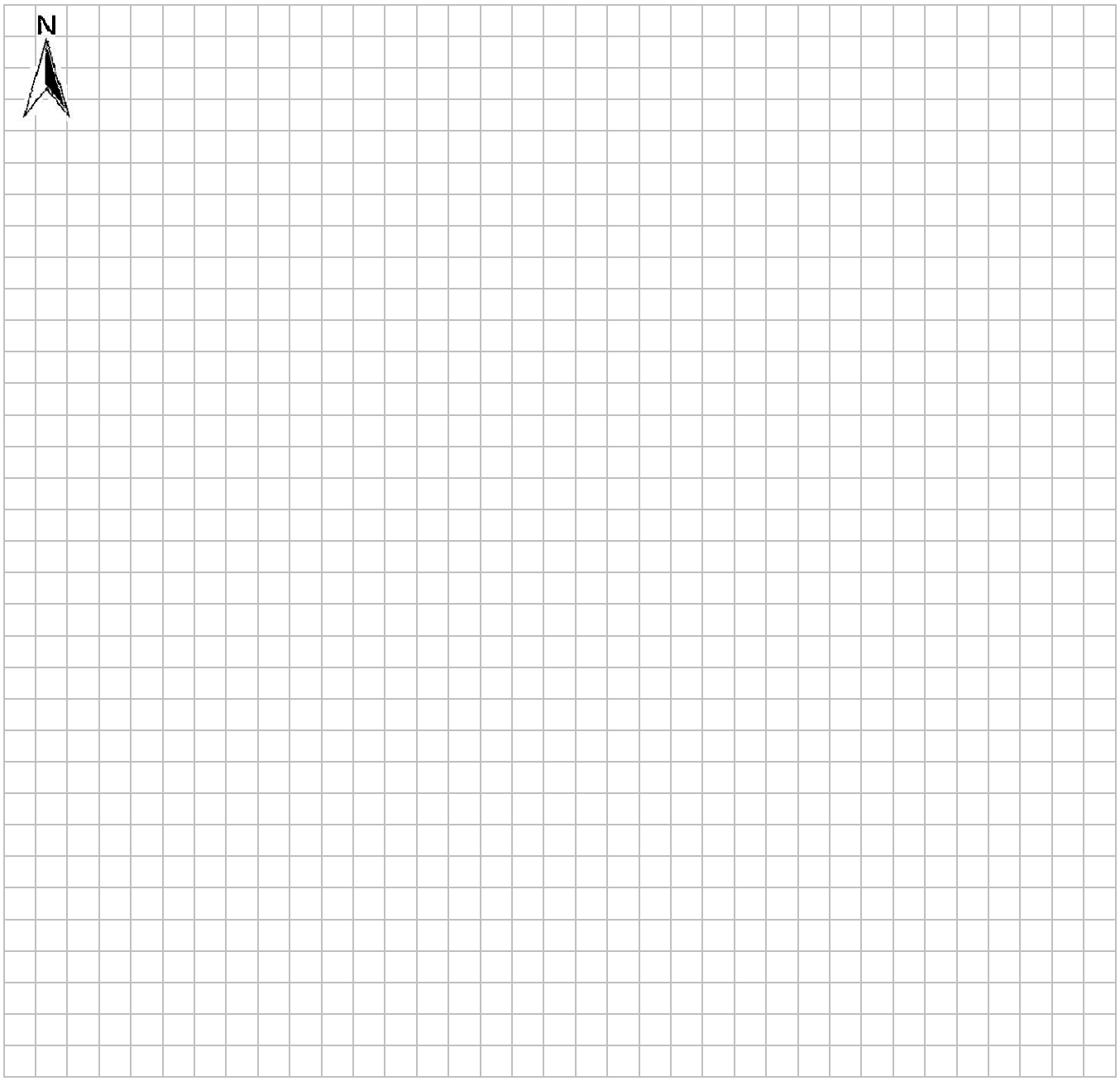
First Floor:



12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

PWGC
CLIENT DRIVEN SOLUTIONS

APPENDIX C

Andrew Lockwood, PG, LEP •

SR. VICE PRESIDENT



PROFESSIONAL EXPERIENCE

PWGC: 13 years
PRIOR: 17 years

AREAS OF EXPERTISE

Phase I and Phase II Environmental Site Assessments
PFAS and other emerging contaminants
Petroleum Spill site investigation/remediation
CERCLA sites
NYSDEC Brownfield Cleanup Program/Environmental Restoration Program
Environmental/Regulatory Compliance (Investigation/Remediation Mgmt)
Radiological Characterization & Remediation
Chemical, Radiological/Mixed Waste Management & Disposal
Groundwater Treatment System (Planning, Design, O&M)
Client Representation & Regulatory Liaison
Environmental Program Mgmt (Planning, Monitoring, Safety)

EDUCATION & TRAINING/CERTIFICATION

BA Geology, SUNY Potsdam, NY
Licensed Professional Geologist - NYS
Licensed Environmental Professional (LEP), State of Connecticut
"D&D of Research Reactors & Other Small Nuclear Facilities" Certificate (Argonne Nat'l Laboratory, 11/2001)
DOE Radiological Worker I & III
OSHA Health & Safety 40-hr, Supervision 8-hr
30-hr OSHA Construction Safety Training,2009
Advanced Radioactive Material Shipper Certification Training, 2004
Advanced Hazardous Waste Shipper Certification Training, 2004
ISOCS Measurements Using the Inspector, Canberra Industries, Inc, 1999
Groundwater Pollution & Hydrogeology, Princeton University, 1990
Project Leadership Course, PCI Global Inc., 2001

PROFILE

Mr. Lockwood specializes in planning and managing CERCLA/NYSDEC remedial investigations/Feasibility Studies, Phase I and Phase II ESAs, Brownfields Cleanup Program (BCP) projects, nuclear facility decontamination & decommissioning (D&D), waste management, and disposal. He has worked at numerous DOE and DOD facilities and more than a dozen states across the country managing radiological, hazardous and mixed wastes investigation/remediation projects. These include multi-million-dollar, multi-year projects that involved complex investigations, remediation and waste management issues. Mr. Lockwood manages PWGCs environmental group, overseeing a staff of more than 30 professionals.

Mr. Lockwood has over 30 years of experience managing environmental investigation and remediation projects including CERCLA RI/FS sites, NYSDEC BCP sites, NYCDEP "E" sites, Municipal Landfill permitting and closure, and environmental investigations for real estate transactions. Mr. Lockwood's clients range from large governmental agencies to small real estate developers. He has performed work across the eastern United States under numerous federal, state, and local regulatory agencies.

NOTABLE PROJECTS

Suffolk County Fire Training Facility - Yaphank, NY—RI/FS

Mr. Lockwood manages the ongoing RI/FS for the Suffolk County fire training facility in Yaphank, NY. The 28-acre site is in the NYSDEC's inactive hazardous waste site program. The site was listed as a NYS Class 2 Inactive Hazardous Waste Disposal Site in August 2017. The primary contaminants of concern are in a class of chemicals referred to as per and poly fluoroalkyl substances (PFAS). The specific PFAS of interest are primarily perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). The presence of these compounds is the result of the use of the Aqueous Film Forming Foam (AFFF) at the site. Mr. Lockwood

was responsible for the preparation of the Citizens Participation Plan, Records Search Report, RI Work Plan, Quality Assurance Project Plan and Health and Safety Plan. The RI field work included delineation of PFAS in soil on-site and in groundwater both on and off site. In addition, site specific protection of groundwater soil cleanup objectives were calculated (no soil cleanup standards are available in NYS). PWGC is currently preparing a feasibility study with alternatives to address both soil and groundwater contamination at the site.

Wertheim National Wildlife Refuge - Shirley, NY—POET System Design and O&M
Three Point of Entry Treatment (POET) Systems were designed and installed at the refuge, one in a maintenance garage and two in residential buildings located within the refuge. The POET Systems were designed to remove per and poly fluoroalkyl substances (PFAS) that were detected in the groundwater supply wells servicing the three structures. Mr. Lockwood was responsible for the preparation of an Engineering Report and Operations and Maintenance Manuals for the systems. PWGC oversaw the installation and start up testing of the systems and is performing the scheduled system sampling to ensure that the systems are functioning as designed.

Carmans River - Shirley, NY—Surface Water and Biota Monitoring
Mr. Lockwood managed the investigation of per and poly fluoroalkyl substances (PFAS) in surface water and biota within the Carmans River and other water bodies within Suffolk County. Mr. Lockwood prepared a Biota Monitoring Work Plan/QAPP that included the collection of surface water and biota samples (eels, blue crabs, white perch, and clams) for PFAS analysis. He prepared a Biota Monitoring Report detailing the results of the investigation

Gabreski Airport – Westhampton Beach, NY
Mr. Lockwood managed a field investigation to investigate the presence of per and poly fluoroalkyl substances (PFAS) in groundwater discovered during routine O&M monitoring of a NYSDEC BCP site. Vertical profile wells were installed upgradient and downgradient of the site. The Investigation is ongoing.

Brookhaven National Laboratory - Upton, NY
Mr. Lockwood served over 10 years as Project Manager on various CERCLA projects for BNL Environmental Restoration Division (ERD). He has managed diverse projects for BNL's Groundwater, Surface, and Reactor Groups. On his most recent projects for the Reactor Group, Mr. Lockwood provided project management services on four remediation projects over a 3-year period with budgets totaling more than 15 million dollars. In addition, he has prepared or assisted in the preparation of site-specific project documents such as work plans, sampling and analysis plans, quality assurance project plans, health and safety plans, records of decision (ROD), completion reports, final status surveys, remedial investigations (RI) and feasibility studies (FS). He has prepared contract documents, including request for proposals (RFP's), scopes of work (SOWs), and contract specifications for both large- and small-scale procurements and has acted as the technical representative on multiple contracts, ensuring the contract scope is being completed.

Mr. Lockwood combines his technical background with his in-depth knowledge of BNL's protocols and procedures to prepare schedules and cost estimates for baseline and fiscal year budgeting and tracking, provide short-term assistance to help BNL complete Baseline Change Proposals, and long-term assistance to manage remedial projects.

Project Manager- Fan Houses and Stack Silencer D&D, Underground Utilities Removal, Perimeter Area Soil Remediation Projects – Mr. Lockwood managed multiple remediation projects at BNL between 2008 and 2011. Project involved overseeing demolition of radiologically contaminated above ground and below ground structures, preparation of project documents including Remedial Action Work Plans, Sampling and Analysis Plans, and Completion Reports. The projects involved the disposition of complex waste streams. He was the primary interface with regulatory agencies and DOE. Mr. Lockwood was responsible for completing the projects on schedule and within the allocated budget. All projects were successfully completed.

Project Manager - Chemical Holes Remediation Project - Mr. Lockwood was involved with the Chemical Holes project since 1995. He served as the project Field Engineer performing and/or overseeing the characterization of the site including soil and groundwater sampling as well as geophysical surveys using EM-51, EM-61, Rapid Geophysical Surveyor (RGS) and multiple GPR surveys to locate the 55 individual waste pits. Pilot Testing for selected remedies was conducted and included in-situ vitrification, excavation, and containment using cement/polymer injection. He participated in the selected remedy, large-scale excavation and disposal, overseeing excavations of the waste pits at the site. He served as the Project Manager for the post-excavation characterization and disposal, wastes generated included mixed, waste, cylinders, liquid mixed waste, and mixed waste soil (mercury). More than 15,000 yd3 of waste was successfully transported for disposal and the site released with no radiological controls, he was responsible for the characterization, management, treatment, transport, and disposal of complex waste streams.

Project Manager - Former Hazardous Waste Management Facility Project - Utilizing his knowledge of chemical and radiological characterization, CERCLA, and DOE procedures and protocols, Mr. Lockwood managed the characterization, and implementation, of a remedial design at a 12-acre site formerly used as the primary facility for the storage, treatment, and packaging of hazardous, radioactive, and mixed waste at BNL. His responsibilities included the development of project plans, project scope and detailed schedule, resource needs and budget estimates. The project involved the characterization of buildings with both hazardous and radiological contamination, their D&D and transport and disposal to permitted facilities. In addition, characterization of the 12-acre facility was performed which included soil, groundwater and sediment sampling, at NYS delineated wetland located within the facility, for chemical and radiological contamination. A remedial design was prepared which included the excavation of approximately 11,000 yd3 of radiologically contaminated soil and sediment and the restoration of the site. As project manager, Mr. Lockwood was responsible for the daily management of this project including preparation of contract specifications, procurement documents and budget forecasting and management. He was responsible for the preparation

or approval of all project documents from characterization, contracting, through implementation of the remedial action. Mr. Lockwood coordinated the successful completion of the project tasks overseeing subcontractors and support from other BNL divisions.

Project Engineer OU III Strontium-90 Pilot Study Design – Mr. Lockwood prepared a Pre-Design Characterization Work Plan to support the preparation of a Pilot Study Design for the remediation of Strontium-90 (sr-90) contaminated groundwater at BNL. Groundwater south of the former Chemical/Animal Pits had been impacted with sr-90 at concentrations exceeding NYSDEC groundwater standards. The purpose of the investigation was to delineate the concentrations within and extent of the sr-90 plume. Mr. Lockwood implemented
the plan, prepared the Pre-Design Characterization Report, and participated in the successful completion of the Pilot Study, which led to the installation of a permanent remedy using resin vessels to remove sr-90 from the groundwater.

Special Projects Manager BNL Waste Management Facility - Mr. Lockwood provided technical services support to the BNL Environmental and Waste Management Services Division. His responsibilities included project planning and implementation of the characterization, packaging, and disposal unknown radioactive sources (including TRU Waste). Mr. Lockwood prepared technical work documents (TWDs) for the D&D of radiologically contaminated equipment including the Building 801 D-Tanks Pipe Removal project and the Building 865 Compactor Repair. He also prepared TWDs for the sampling of low level radioactive liquid wastes in the Bldg. 810/811 storage tanks. Mr. Lockwood prepared maintenance procedures for the facilities infrastructure. Mr. Lockwood prepared and implemented a TWD for the Central Steam Plant Outfall Soil Excavation, Transportation, and Disposal, including preparation of sampling plans, delineation of lead impacted soils, review of contractor deliverables and oversight of the excavation and performance of confirmatory sampling and reporting.

Field Engineer Brookhaven Linear Isotope Producer (BLIP) Investigation - The BLIP facility is used for the production of radio-isotopes used in the medical field. Targets are introduced into the beam line produced by a linear accelerator. The facility was constructed with an earthen beam stop. Mr. Lockwood participated in the preparation of a work plan to characterize the nature and extent of soil and groundwater contamination associated with the operation of the facility. Sodium-22 and tritium were identified as the primary contaminants of concern. The extent of the radiological contaminants was identified and a report detailing the results of the investigation prepared.

Field Engineer OU I Western South Boundary Groundwater Remediation System Design - Mr. Lockwood oversaw the implementation of the Characterization Work Plan installing temporary and permanent groundwater monitoring well points to delineate the extent of contamination within the Western South Boundary groundwater contamination plume at the BNL site. Mr. Lockwood oversaw the preparation of the Remedial Design Documents and construction of the groundwater treatment system identified in the design.

Field Engineer Magothy Characterization Project - Mr. Lockwood oversaw the implementation of the Characterization Work Plan installing temporary and permanent groundwater monitoring well points to delineate the extent of contamination within the Magothy aquifer beneath the BNL site.

Brownfield Cleanup (BCP)/Environmental Restoration Program (ERP)

Mr. Lockwood manages BCP and ERP projects for both private and municipal clients. He prepares applications, technical documents, and interfaces with NYSDEC project managers to ensure project schedule and scope meet NYSDEC's requirements for approval of incentives/reimbursements. These sites require preparation of BCP and ERP applications, technical work plans, RI reports, human health and ecological assessments, remedial alternatives reports (FS), citizens participation plans, public meetings and completion reports. Under contract with the Suffolk County department of Health Services (SCDHS) and the Department of Public Works (DPW), Mr. Lockwood assists the County in managing the technical aspects of County owned sites in the NYSDEC Brownfields Cleanup and Environmental Restoration Programs. These sites include former United State Air Force Disposal Sites and former industrial and gasoline service station sites which are currently vacant or unused because the redevelopment of the sites are hampered by historical site uses which have contaminated soil and groundwater.

New York City "E" Designation Sites

In response to the recent rezoning activities in NYC the NYC Department of Environmental Protection (NYCDEP) oversees environmental investigation and remediation at suspect sites prior to redevelopment. Mr. Lockwood develops scopes of work for environmental investigation required to redevelop the "E" designated property. He prepares work plans and HASP reports; which DEP must approve prior to the start of work. To assess the soil quality, he coordinates and oversees subsurface investigations (including geophysical surveys and soil and groundwater sampling programs). Based on the findings he develops and implements remedial strategies and prepares Remedial Action Plans for NYCDEP approval.

Phase I & Phase II Environmental Site Assessment (ESA)

Project Management – Mr. Lockwood managed Phase I & II ESA's preparation, implementation, and completion. Mr. Lockwood performs these services for a variety of clients including banks, developers and municipalities. For each project, he provides a customized scope of work and relevant documentation to provide clients with pertinent information. He performs Phase I & Phase II ESA's for private clients, environmental attorneys, municipalities, and lending institutions for use in property transactions according to ASTM Standards.

Lowe's Home Center
Mr. Lockwood manages Phase II environmental investigations and remediation for Lowe's Home Centers. Mr. Lockwood is one of a team of consultants who manages site development activities at properties identified by Lowe's as potential development sites. These sites include previously developed sites with past commercial and industrial, including one used as a Municipal Solid Waste Landfill. Each site has a unique environmental issues and regulatory involvement. Mr. Lockwood prepares environmental reports, engineering designs and conducts remedial activities to support redevelopment of the sites.

GTJ-Group/Green Bus Lines, Inc - Queens/Brooklyn, NY
Hydrogeology/Environmental/Civil Engineering Services & Compliance Stipulation Agreement -– Services range from Site Remediation Management & Baseline Environmental Report Preparation (Project Coordination, Oversight, Sample Collection) at large bus facilities.
Mr. Lockwood conducted site/facility investigations and provided, on an accelerated time schedule, site investigations and remedial action planning and design for dissolved and free phase groundwater contamination treatment systems.

NYSDEC Spill Program Compliance - In 2005, an Oil Delivery Company had caused a substantial Oil Spill at one of the client's depots; the new release brought attention to outstanding issues required under an existing Stipulation Agreement, although Cleanup tasks were in compliance. The NYSDEC issued a new Order of Consent, with an accelerated time schedule. Under Mr. Lockwood direction, the PWGC team completed an accelerated Site Assessment (delineating the extent of LNAPL and dissolved contamination at the site) and submitted a Remedial Action Plan and preliminary treatment system design to meet the accelerated schedule. Mr. Lockwood managed PWGC construction oversight of the selected remedy and performed operation/maintenance of the remedial system.

PA, City Industries Superfund Site - Winter Park, FL.
Mr. Lockwood managed the preparation of work plans, health and safety plans, project schedule, and budget estimate. He coordinated and supervised soil boring/monitoring well installations and soil and groundwater sampling activities. Analyses were conducted for volatile organics, semi-volatile organics, and chlorinated compounds. Mr. Lockwood served as the primary author of the PA report.

Department of Transportation Facilities - Nashville, TN.
Managed RIs and prepared RI reports and CAPs at several Department of Transportation facilities in Tennessee. Investigations included preparation of work plans, installation of boring and monitoring well networks, and preparation of an RI report. The CAPs included the performance of aquifer pumping tests. The RI report contained options for recovery and treatment of soil and groundwater contamination with dissolved and free phase petroleum compounds. Mr. Lockwood served as primary author of the RI reports and CAP.

Loring AFB Operable Unit 5 RI - Caribou, ME
Field Team Leader for the RI Investigation, Loring AFB – The field effort extended over six months and included the complete investigation of three separate sites. Field activities included the installation of Geoprobes® (250), soil borings (50), and monitoring wells (25) including three multiport Westbay wells; and groundwater, stormwater, and sediment sampling. Mr. Lockwood's responsibilities included preparation of Statements of Work, client interface, and RI report preparation.

Chandler Precht • FIELD HYDRO/ES



PROFESSIONAL EXPERIENCE

PWGC: 1 year

AREAS OF EXPERTISE

- ☐ Water, Soil, Air Sampling
- ☐ Field Work (Protocol, Oversight, Documentation)
- ☐ Site Investigation/Analysis
- ☐ Health & Safety Monitoring

EDUCATION & TRAINING/CERTIFICATION

BA, Environmental Science and Spanish & Latin American Cultures (Concentration: Chemistry), Columbia University
40 Hour HAZWOPER Certification

PROFILE

Chandler Precht is a Field Hydrogeologist/Environmental Scientist at PWGC. Ms. Precht brings a wealth of experience to her position where she will focus on projects related to groundwater remediation, soil sampling, air quality sampling and Phase I & II Environmental Site Assessments (ESA). Working from PWGC's New York City base of operations, Ms. Precht has established an excellent record in timely completion and maintenance of project coordination, monitoring, and document preparation, while successfully maintaining communication between clients, government agencies, and relevant entities.

NOTABLE PROJECTS

Columbia University
Teaching Assistant
Spring 2018

- Lead section of approximately 50 students
- Cover weekly topics and address student questions and concerns during office hours
- Coordinate and execute weekly labs and field trips
- Grade weekly assignments/labs

The Earth Institute, Columbia University
Undergraduate Sustainable Development Program Intern
June 2015 – June 2018

- Assist with administration of over 100 students in this cutting-edge educational program at Columbia University
- Work with a dynamic team on various tasks
- Supervise event planning
- Write blogs on events that take place in the program
- Formulate newsletters to inform students of opportunities, events, and deadlines
- Research current events and news in the field of sustainable development
- Cody-editing documents for Program Director
- Prepare materials for faculty and program meetings
- Evaluate and interpret program data
- Serve as the main contributor and creative director of the program website

Jennifer Lewis, PG • SR. PROJECT MANAGER



PROFESSIONAL EXPERIENCE

PWGC: 13 years

AREAS OF EXPERTISE

Environmental Site Assessment
Vapor Barrier Inspection
Well (Monitoring, Abandonment, Surveying)
Groundwater Remediation via Chemical Injection
Water, Soil, Air Sampling
Field Actions/Work (QA/QC, Protocol, Oversight, Documentation)
Data Management & Interpretation
Laboratory Data Analyses Field Work (Protocol, Oversight, Documentation)
Remedial Investigations QA/QC
Site Investigation/Analysis
Health & Safety Monitoring
Environmental Compliance & Investigation
Soil/Groundwater Investigations, Analysis, Sampling
Underground Injection Well Monitoring
Underground Storage Tank Remediation
Hazardous Waste Site Investigation/Cleanup Support
Work Plan/Report Preparation

EDUCATION & TRAINING/CERTIFICATION

BS, Geology, SUNY Stony Brook, NY
AA, Liberal Arts, Suffolk County Community College, Selden, NY
OSHA Health & Safety 8-hr Supervisor, 40-hr HazWoper
Construction Management Certification
CPR and AED / Basic First Aid
NYSDEC Erosion & Sediment Control Certification
ASTM Training on Phase I and Phase II Environmental Site Assessments for Commercial Real Estate
LIRR Roadway Worker Protection

PROFILE

As a PWGC Sr. Project Manager, Ms. Lewis will provide hands-on support to implement field activities according to work plans and project schedule. She will work closely with clients, sub-contractors, and regulatory agencies to ensure prompt and accurate data collection/dissemination. Her educational background and prior research assignments prepare Ms. Lewis well to support our clients' efforts in meeting environmental management objectives. She will monitor drilling operations and collection of groundwater elevation measurements, as well as perform several methods of groundwater sampling, utilizing numerous field-screening instruments and sampling tools (ie: Manual; Mud Rotary/Hollow Stem Auger, Direct Push Technology, Roto-Sonic Drilling Techniques).

NOTABLE PROJECTS

Brookhaven National Laboratory - Upton, NY

OUIII Western South Boundary/OUI South Boundary Vertical Profiles and Monitoring Well Installation

Ms. Lewis provided sampling services and hydrogeologic oversight for multiple vertical profiles, as part of the on-site OUIII plume evaluation. Her responsibilities included the collection of groundwater samples during sampling. She was responsible for construction observation and documentation for 3 monitoring well installations. After installation, wells were developed by pumping and surging. Ms. Lewis documented field activities and verified the work that was performed in accordance with BNL's Standard Operating Procedures and Project Work Plans. She conducted daily tailgate safety meetings, completed BNL's daily field reports and reported to BNL's Project Manager at the completion of each day.

Pratt Institute – Brooklyn, NY
Well Installation – Ms. Lewis provided over-site for the installation of a geothermal test well. She generated boring logs, documented soil characteristics, and classified in accordance with USGS' Monthly/Quarterly Groundwater/Air Sampling.
Well Monitoring - Ms. Lewis performs routine monitoring and sampling of air and groundwater, and product removal if necessary, at various sites. In addition to the fieldwork at these sites, Ms. Lewis analyzes the data and prepares a site plan and a quarterly report detailing the results and future recommendations.

Brookhaven National Laboratory - Upton, NY
Environmental Protection Division: Groundwater Protection and Remediation – Ms. Lewis supervised the installation of multiple vertical profiles via geoprobe to monitor strontium-90, tritium, and volatile organic compound (VOC) plumes on site. Her responsibilities included the collection of groundwater samples during sampling. Ms. Lewis documented field activities and verified the work that was performed in accordance with BNL's Standard Operating Procedures and Project Work Plans. She conducted daily tailgate safety meetings, completed BNL's daily field reports and reported to BNL's Project Manager at the completion of each day.

Newark-Liberty International Airport
The Automotive Fueling Station at Newark-Liberty Airport is the site of a UST failure regulated by the NJDEP Site Remediation Program. Ms. Lewis performs routine groundwater monitoring and sampling as well as supplemental remedial activities at the site. Ms. Lewis is also responsible for coordinating field activities with regulators and assisting with preparation of periodic Status Reports. Field work and reporting is completed in accordance with NJDEP Technical Requirements for Site Investigation 7.26E.

New York City Housing Authority - New York City, NY
Sub-Surface Investigations - Ms. Lewis performs environmental assessments associated with site specific NYSDEC spill files in order to delineate petroleum and tetrachloroethene impacts. Specifically, collection of soil, groundwater, and sub-surface air samples, oversight of monitoring well installations, preparation and submittal of site assessment reports, and coordination with NYCHA staff and regulatory agencies.

Jackson Heights Property, NY, NY
Professional Support Services - Ms. Lewis provides professional support services to meet the client's environmental engineering management needs. She acts as a liaison to the NYSDEC and prepares and submits quarterly status reports detailing the groundwater sampling events and monthly monitoring events.

Holand Properties - Bronx, NY
Groundwater Remediation via Chemical Injection - Ms. Lewis oversaw the installation of a monitoring well and the injection of Regen-Ox compounds into the eight monitoring wells onsite. She coordinated the surveying of the wells and performed multiple rounds of water level measurements and groundwater sampling to determine the effectiveness of the chemical injection.

The Naftali Group, Brooklyn, NY
NYCOER E-Designation Site – Ms. Lewis has provided management services for the site which was included in the NYCOER E-Designation Program. The services included reporting to the NYCOER, coordinating field efforts, and coordinating with contractors for the removal of impacted soils to site specific cleanup objectives.

105 Metropolitan Ave, NY, NY
NYCOER VCP Site – Ms. Lewis has provided management services for the site which was entered into the NYCOER Voluntary Cleanup Program. The services included reporting to the NYCOER, coordinating field efforts, and coordinating with contractors for the removal of impacted soils to Track 1 standards.

NYCDEP DEP "E" Designation Sites - New York City, NY
RAP & HASP enforcement, air monitoring for particulates and VOCs – Ms. Lewis's on-site services focus on monitoring that work is performed in accordance with the Remedial Action Plan (RAP) and Health & Safety Plan (HASP).

Coney Island Realty
NYSDEC BCP Site – During the Interim Remedial Measure Phase, Ms. Lewis coordinated the soil excavation, community air monitoring, and sampling activities. Ms. Lewis also prepared reports detailing the Supplemental Remedial Investigation and Interim Remedial Measure.

Former Penetrex Remedial Investigation
Ms. Lewis oversaw a chemical injection at a former dry cleaning facility utilizing a Geoprobe® that drilled down to 50 feet below grade and pulled the rods up during the injection.

Former Darby Drug - Rockville Centre, NY
NYSDEC BCP Site – Ms. Lewis has provided oversight during sampling activities at the NYSDEC BCP site as part of the Remedial Investigation Phase. The RI included multi-medium sample collection including groundwater, soil, and soil gas. During the Interim Remedial Measure Phase, Ms. Lewis has provided oversight during the installation of a dewatering and treatment system, soil excavation, sampling activities, community air monitoring, and UIC cleanout.

USEPA Superfund Site
Treatment System O&M
Ms. Lewis provided assistance with the remediation efforts of the down-gradient pond system and oversight of the down-gradient recovery well installation for the USEPA Superfund remediation project. Additional duties included sampling backfill material brought on-site and overseeing the backfilling and compaction of excavations. Allstate Insurance Company – NY Wide
Residential/Commercial Fuel Oil Spills Oversight & Reporting - Ms. Lewis oversees fieldwork for projects such as petroleum spill remediation. She completes spill reports, and coordinates with contractors and the NYSDEC to ensure that the project stays on schedule, is compliant with regulatory guidelines, and meets the client's goals.

UIC Control Programs - Suffolk and Nassau Counties, NY
Remediation Oversight – Ms. Lewis has been overseeing the remediation activities of dry wells (Class V wells) at multiple sites for various clients throughout Suffolk and Nassau Counties. She performs endpoint sampling of storm drains and sanitary systems, coordinates and performs sampling in conjunction with the SCDHS and NCDH, and ensures proper soil and sediment removal during VacTruck operations.

Rechler Equity Partners - Melville, NY
250 Miller Place, Hicksville, NY - The subject site, a large commercial property and formerly used by a circuit board manufacturer and trucking company, had a history of chemical uses (i.e. chlorinated solvents, diesel fuel, and gasoline). To determine if subsurface soils had been impacted, PWGC conducted a Phase II investigation for a potential buyer. Ms. Lewis was present during the Phase II and oversaw the project's subsurface investigation-phase. She directed the Geoprobe® operator, and participated in the preparation of the Phase II investigation report. In addition, Ms. Lewis observed the follow-up investigation and remediation performed by the current property owner's consultant.

Phase II Environmental Site Assessment (ESA)
Phase II ESA preparation, implementation, and completion - Ms. Lewis provides a customized scope of work and relevant documentation to provide clients with pertinent information. She performs Phase II ESAs for private clients, environmental attorneys, municipalities, and lending institutions for use in property transactions according to ASTM Standards.

Franklin Hospital - Valley Stream, NY
Water Sampling - Ms. Lewis collected water samples from the dialysis treatment suite and from a sink in order to determine the source of a bacterial contamination.

Kris Almskog, PG • VICE PRESIDENT



PROFESSIONAL EXPERIENCE
PWGC: 22 years

AREAS OF EXPERTISE

- Property Due Diligence
  - Phase I, Phase II Investigations (Soil, Groundwater, Soil Vapor)
  - Environmental Liability Cost Estimating
  - NYSDEC Brownfield Cleanup Program Management
  - NYCOER Brownfield & E Designation Management
  - Aerial Drone Applications for Site Evaluations (Stockpile Calculations, Construction Status)
- Material Management Services
  - Mined Land Reclamation Permitting (Reserve Analysis, Groundwater Evaluation)
  - NYSDEC Part 360 Compliance
  - Dredging Permitting and Design
- Remedial Alternative Evaluation
  - Remedial Design and Implementation Services
  - Soil Excavations, Cost Effective Soil Disposal/Reuse Options
  - Lake Rehabilitation (Sedimentation, Aquatic Invasive Species)
  - Health & Safety Oversight/Consulting

EDUCATION & TRAINING/CERTIFICATION
BS, Geology, Stony Brook University, NY
New York State Licensed Professional Geologist
OSHA Health & Safety 40-hr, Supervisor 8-hr, Competent Person for Excavation
OSHA 10-hr Construction
Mine Safety Administration (8 hr)
Manager Leadership Training (Dale Carnegie)
Advanced Technologies for Natural Attenuation (Regenesis)

AFFILIATION
New York Construction Materials Association
Long Island Solid Waste Leadership Council
Long Island Association of Professional Geologists (Past Board Member)
New York City Brownfield Partnership (Past Board Member)
New York City Building Congress
New York Council of Professional Geologists

PROFILE

Mr. Almskog has more than two decades of project management experience, which includes a strong focus on property due diligence, environmental portfolio management, environmental liability services, land use, mining permitting and compliance, dredge permitting, planning and sediment disposal, lake restoration, soil, groundwater and soil vapor investigations and remediations, and C&D facility and vegetative organic recycling facility permitting and quality control.

Mr. Almskog has been providing professional services to Federal facilities, municipalities, the sand and gravel aggregate mining industry, private developers, material recyclers and organic waste recycling industry for over two decades. He assists with permit applications and renewals, reserve analysis and volume calculations, groundwater evaluations, drone modeling, and facility compliance issues.

Mr. Almskog is a licensed professional geologist and maintains an excellent working knowledge of hydrology and geoscience related to groundwater, soil, and air quality investigations, characterizations, remediation and reporting. He has provided coordination and field oversight for soil and subsurface water characterizations, pesticide investigations and remediation services on diverse environmental studies such as Phase II investigations, geothermal well installations, treatment system installation and dredging projects.

Mr. Almskog assists real estate interests with environmental issues to facilitate transactions and site development. His expertise includes New York State Brownfield Cleanup Programs and New York City's Office of Environmental Remediation "E" designation zoning requirements. He focuses on soil and groundwater investigations, air quality studies, and associated remedial measures. He coordinates with PWGC clients to prepare and implement time and money saving plans - Remedial Action Plans, Health and Safety Plans, Work Plans, Interim Remedial Measures.

Mr. Almskog's construction background, including 15 major groundwater treatment system construction projects, large scale redevelopment projects for Northwell Health, numerous redevelopment projects with remedial requirements, and numerous dredging and mining operations, enables an understanding of combining design planning with real world implementation. He focusses on both short-term scheduling deadlines and long term strategic planning for his clients and their industries.

NOTABLE PROJECTS

Land Use / Mining Permitting / Compliance

Roanoke Sand and Gravel, Coram Materials, Huntington Ready Mix, Sand Highway & others –Mr. Almskog has represented numerous NYSDEC permitted Mined Land Reclamation facilities through Long Island for the past ten years. His responsibilities have included Mined Land Reclamation (MLR) permit application preparation, hydrogeologic evaluations, renewal packet applications, reserve quality and volume analysis, reclamation slope confirmation services, Spill Prevention, Control and Countermeasure Plan and Stormwater Pollution Prevention Plan preparation, compliance with NYSDEC and Department of Health tank storage requirements, surveying of the sites, sub-marine surveys of underwater mining operations, and drone flights for stockpile volume analysis. He represents numerous existing and expanding clients in this industry as regulations tighten.

NYSDEC Part 360 Compliance Permitting, Compliance, Engineering Services

Calverton Tree Farms, Bistrian Materials, Nicolai Facilities

Mr. Almskog has represented numerous NYSDEC Part 360 permitted C&D and vegetative organic recycling facilities with permit application preparation, compliance issues, stormwater management, groundwater quality evaluation, and strategic planning related to implementing best management practices and expansions. These facilities represent the largest stream of recycling effort in the State, but new legislations continue further regulate their operations and impose new monitoring requirements and stormwater management provisions. Mr. Almskog has been involved with assisting to review and comment on new legislation and regulations through his involvement in the LI Solid Waste Management Leadership Council.

6 NYCRR Part 360 Compliance – Various Locations, NY

Mr. Almskog recently performed environmental compliance services for multiple facilities located in New York City operated/leased by Triumph Construction and one facility located in Calverton owned/operated by Crown Recycling Facility. Services were provided to assess each facilities' compliance with the regulations. In support of the projects, Mr. Almskog coordinated site visits to evaluate existing site conditions, prepared Soil Stockpile Sampling Plans, oversaw sampling and data evaluation and prepared reports documenting the quality and reuse options for the mixed construction materials. The scope of work included collecting routine soil samples and comparing soil data to the standards contained in 6 NYCRR Part 375-6.8 (as referenced in Part 6 NYCRR Part 360.13(e)and(f)).

Lake Restoration / Dredging Management / Stormwater Runoff

Canaan Lake – Client: Suffolk County Economic Development

Mr. Almskog was responsible for strategic planning, preparation of alternative analysis and cost estimates, work plan preparation, coordination of multiple government agencies, permit applications, dam stability evaluation, culvert design, pre-post lake lower drone modeling, sediment collection and analysis, sediment disposal options and cost estimates and presenting at public meetings for this project that was tasked with removing invasive aquatic species from this 22 acre man-made lake surrounded by residential homes in Patchogue, New York. Based upon consultation with NYSDEC, traditional options to address the non-native weeds choking out the lake were not allowed because of turbidity concerns. PWGC worked with the stakeholders to design a system to lower the lake and remove impacted sediments from the dry lake bottom. In addition, because of elevated metals in lake bottom sediments from leachate from a nearby landfill, Mr. Almskog had to work with numerous municipal agencies to determine a cost effective disposal option and look for potential beneficial reuse options.

Lower Lake – Client: Town of Brookhaven

Mr. Almskog was responsible for strategic planning, preparation of alternative analysis, benthic surveys, work plan preparation, coordination of multiple government agencies, permit applications, pre-post lake lower drone modeling, sediment disposal options for this project that was tasked with removing invasive aquatic species from this 28-acre man-made lake surrounded by residential homes in Yaphank, New York. Based upon consultation with NYSDEC, traditional options to address the non-native weeds choking out the lake were not allowed because of turbidity concerns and the sensitive downstream brook trout population.

Islip Marina Dredging Browns River – Client: Town of Islip

Mr. Almskog was responsible for strategic planning and permitting for sediment disposal and underwater dredging operations related to dredging and sediment disposal of more than 40,000 yards of dredge sediment for the scenic Browns River corridor which houses numerous ferry terminals, freight lines, several marinas and hundreds of recreational boat slips as well as sensate wetland habitats. The project began with the need to dredge some local town-maintained boat slips and grew to address the shoaling and sedimentation issues affecting numerous commercial, residential and recreational stakeholders that utilize the river corridor.

Nichols Point Dredge Permitting and Implementation – Client: Sayville Yacht Club, Blue Point Community Association

Mr. Almskog has been responsible for permit application preparation, submission and obtaining approvals for these facilities for the past 20 years. He has prepared and obtained the joint permits from NYSDEC, USACE, and the Town of Brookhaven as well as renewals. His responsibilities including surveying of the sites, sub-marine surveys of the boat basins and canals, sediment collection and analysis, bulkhead permitting, earthen dyke design and maintenance plans,

preparation contractor bids and specifications and project coordination and oversight for numerous rounds of dredging, sediment disposal, and earthen dyke maintenance.

Shore Road, Cold Spring Harbor - Former Exxon Fuel Farm - Client: North Shore Land Alliance
Mr. Almskog has conducted environmental document reviews, remedial cleanup evaluations, benthic surveys and permit planning services to the North Shore Land Alliance for the past five years. The seven-acre waterfront property was once home to an oil tank farm and is now being restored to wetland habitats and a public nature preserve. PWGC is working with NSLA to address stormwater runoff from the neighboring roadways and apply federal and state grant moneys for restoration and clean water projects on and around the site.

Northport Harbor, Georgica Pond – Client: NYSDOT
Mr. Almskog has worked with NYSDOT to determine sources and concentrations of both stormwater and dry-weather flow into both coastal marine environments and lakes. His responsibilities have included site investigations, tracking discharge piping and determining sources for discharge, sampling and analysis for nutrients and specific personal care products to determine potential sources for the illicit discharges, and preparation of plans to address and reduce the contaminants from entering the waterways.

Property Portfolio Environment Services
Booth Street Capital, Cactus Holdings, United Properties, Rolling V Transportation, GTJ Reit
Mr. Almskog provides environmental review and consulting services for multiple property portfolio managers within New York State and New York City. He provides professional services prior to, during and after properties are purchased related to environmental due diligence, investigations, property conduction assessments, entry and navigation through State and Federal remedial programs for tax benefits and liability relief. Prior to closings, he evaluates liabilities and provides cost estimating services to address potential environmental related investigations and remediations. During the contract process he works with the buyer and their legal counsel to negotiate price reductions or remedial escrow accounts. Following closings, he often coordinates tank removals, underground injection control point cleanouts, tenant environmental baseline sampling events and addresses mortgage and refinancing environmental issues and cost estimates for various portfolio owners.

Green Bus Lines

Underground Storage Tank (UST) Investigation – UST Closure – Groundwater Investigation & Remediation NYSDEC Spill Management - PWGC conducted the investigations at five bus storage and maintenance yards through New York City. Mr. Almskog was part of the team performing field oversight of soil sampling using a Geoprobe®. He was integral in determining the source and amount of contamination in multiple areas, which contained up to 80 UST. Mr. Almskog is now working closely with NYSDEC to implement stipulation agreements and corrective action plans at each of the sites to deal with residual sub-surface impact from the UST removal action

Brownfield Redevelopment / NYS BCP / NYCOER E Designation

Former Darby Drug Facility - Rockville Centre, NY
NYSDEC BCP Implementation During Redevelopment Mr. Almskog is serving as Project Manager to implement an environmental investigation and substantial remediation effort during redevelopment activities at this 150,000 square foot warehouse being converted to apartments. PWGC previously conducted a subsurface investigation and was able to get the project accepted into the NYSDEC Brownfield Cleanup Program (BCP). As part of the remediation of the site, PWGC prepared an Interim Remedial Measure Work Plan to address significant chlorinated solvent contamination beneath the existing warehouse. As project manager, Mr. Almskog was responsible for ensuring compliance with strict administrative policies of the BCP, while working within the developer's strict schedule requirements. He has prepared Remedial Investigation Work Plans, Community Participation Plans and a Remedial Investigation Report. He has represented the developer at public meetings, prepared and conducted a competitive bid process to ensure a competitive price for this multi-million dollar remedial phase.

White Plains Courtyard Apartments - Bronx, NY
NYSDEC BCP Implementation During Redevelopment PWGC provided sub-surface investigation services and analysis of site conditions to get this previously rejected project entered into the NYSDEC Brownfield Cleanup program (BCP). Formerly an abandoned gas station, the current developer was able to obtain funding, upon acceptance into the BCP, to remediate the VOC impacted groundwater and transform this abandoned lot into an eight story residential building with retail space on the first floor. Mr. Almskog managed the remedial investigation and the IRM implementation at the site, which was conducted during construction of the new mixed-use building. Following the field effort and the installation of engineering controls at the site, Mr. Almskog prepared and received approval on the Final Engineering Report which documented the previous investigations, IRMs, remedial actions conducted, engineering controls installed, and the site management plan for the property. Due to the aggressive approach implemented at this site, the developer received his certificate of completion from the BCP program prior to construction activities being finished.

McCarren Park Mews - Williamsburg, NY
Subsurface Investigation – NYCDEP E Designation/NYSDEC Spill Site Redevelopment - PWGC conducted a subsurface investigation and submitted a subsequent Remedial Action Plan & Health and Safety Plan to NYCDEP. PWGC provided engineering oversight during earth moving activities and during installation of engineering controls to mitigate vapor intrusion concerns at this NYSDEC spill site. Mr. Almskog provided project management services and coordinated remedial designs and field efforts with NYCDEP and NYSDEC throughout construction. He acted as a spokesperson for the developer, to news media, to address environmental concerns of the neighborhood residents and assisted the developer with tenants questions during sales of the units.

North Development Group - Brooklyn, NY

Property Transaction, Subsurface Investigations, NYCDEP E Designation Redevelopment, & NYSDEC Spills Remediation - PWGC coordinated subsurface investigations and remediation of five ongoing re-development projects for North Development Group. PWGC provided services that included a sub-surface investigation beneath existing buildings and a design and implementation of engineering controls that could be implemented during ongoing construction to meet regulatory compliance and assure that project schedules would remain on track. Mr. Almskog provided project management services, field investigation oversight and coordinated remedial designs.

Soil and Air Sampling

BNL, Environmental Management Directorate

Landfill Monitoring/Maintenance - He was responsible for the monthly inspections and maintenance of BNL's Former, Interim and Current Landfills. He performed monthly site visits and inspections of the landfills and conducted soil-gas monitoring. Mr. Almskog then prepared monthly status reports documenting the findings. Mr. Almskog also worked with BNL's Plant Engineering group to keep the landfills maintained according to NYSDEC requirements. He later coordinated landfill gas sampling by BNL's Environmental Services Division and was responsible for gathering data and contributing to the preparation of the Annual Landfill Report.

Calibration Coordinator – In his role, he assisted with revisions of OPM 4.14 and was responsible for implementing and monitoring project procedures according to guidelines (e.g. field calibration, equipment usage, and manufacturer's maintenance, recommendations). He provided assistance to determine calibration based on equipment function and use conditions (required the use of level C personal protection).

PCB Delineation & Excavation System - Conducted sampling activities defining the vertical and horizontal extent of PCB contaminated soils. Upon completion of the sampling, he was responsible for oversight of the excavation, disposal of the soils and for collection of confirmatory endpoint samples. Due to the hazards involved with the contaminated soils, he was responsible for conducting daily tailgate safety meetings with all of the contractors and coordinating the effort with EM ES&H professional.

Groundwater Remediation

BNL, Environmental Management Directorate

Off Site Treatment Systems: LIPA/Airport, North Street/North Street East, Industrial Park East, & OUVI EDB Treatment Systems - Provided long term construction inspections services for multiple large-scale GTS designed to remove volatile organic compounds from groundwater. He was responsible for ensuring contractors followed stringent design specifications at various treatment buildings and long-run buried piping through residential areas of BNL property. He also acted as the site geologist to determine the pumping/recharge wells locations and screen zones.

Sr-90 Pilot Study Groundwater Treatment System (GTS) Oversight and System Start-Up Administration - Mr. Almskog provided construction inspection services for an on-site groundwater treatment system (GTS) aimed at removing Sr-90 from the groundwater. His oversight responsibilities included project planning, as well as oversight and coordination of contractors (e.g. drillers, plumbers, electricians, heavy equipment operators, programmers, engineers, and consultants). He ensured the work was performed in accordance with BNL's SBMS, OPMs, and in accordance with applicable OSHA guidelines. He provided administrative and invoice review to ensure that the project was documented properly to meet BNL's strict guidelines.

Off-Site Groundwater Remedial System - Provided sampling services and hydrogeologic oversight for several vertical profiles as part of the off-site OUIII plume evaluation. His responsibilities included logging of soil borings and collection of groundwater samples. He was responsible for construction observation and documentation for numerous monitoring well and remediation well installations. He collected groundwater quality data for analysis to determine the effectiveness of the treatment system.

OUIII Western South Boundary GTS Construction/Hydrogeologic Oversight & Coordination – Mr. Almskog provided construction oversight for a GTS designed to remove volatile organic compounds from groundwater. Specifically, he provided hydrogeologic oversight to locate extraction screen zones and construction oversight to coordinate trades working on the project in order to complete the system in a timely fashion. He provided health and safety coordination to ensure that work was performed in a safe manner and by properly trained professionals. Mr. Almskog also provided administrative and billing assistance to the BNL project manager to ensure that the project was properly documented and invoiced according to BNL's SOP's.

OUIII Middle Road GTS Construction & System Start Up - Mr. Almskog was involved on this project from the construction kick-off meeting through system start-up and reporting. In addition to responsibilities similar in scope to his current Sr-90 construction project duties, he provided hydrogeologic, health & safety oversight for the project as part of the OUIII plume evaluation. His responsibilities included the coordination of a drilling crew, conducting daily tailgate meetings, using and maintaining granular activated carbon units and ambient air monitoring. He was responsible for the logging of soil
borings and collection of groundwater samples from temporary vertical profile wells. He performed these duties for nine months while working on several other ongoing remediation projects at BNL.

HFBR Tritium On-Site Tritium Remediation - Mr. Almskog provided intermittent oversight for the Low-Flow Tritium Extractions as part of the remediation of the onsite HFBR tritium plume. He monitored groundwater extraction rates, conducted daily tailgate safety meetings, managed the collection and shipment of groundwater samples and coordinated the mobilization/demobilization of all necessary equipment and personnel. Mr. Almskog ensured that the work was performed under a Radiological Work Permit and required strict health and safety, sampling, and QA/QC procedures.

Off Site Treatment Systems: LIPA/Airport, North Street/North Street East, Industrial Park East, & OUVI EDB Treatment Systems - Provided long term construction inspections services for multiple large-scale GTS designed to remove volatile organic compounds from groundwater. He was responsible for ensuring that contractors followed stringent design specifications at various treatment buildings and long-run buried piping through residential areas of BNL property. He acted as the site geologist to determine the pumping/recharge wells locations and screen zones.

Glen Isle Development - Glen Cove, NY

Waterfront Redevelopment – Mr. Almskog served as Project Manager of environmental Due Diligence for the redevelopment of a 56-acre industrial site, slated for residential-use. The site's multiple parcels included Federal and State Superfund sites as well as municipal brownfields. Contamination ranged from organics,

metals, and radionuclides in soil and groundwater. He provided document review and fact checking of previous investigations of the multiple sites and prepared a summary report detailing the findings of the previous investigations, data gaps that represented potential environmental areas of concern, cost and schedule estimates to conduct further investigation and remediation and administrative services to get the sites delisted by the various regulatory agencies involved.

Bright Bay Lincoln- Bay Shore, NY

Groundwater Quality Monitoring - Mr. Almskog provided quarterly sampling and reporting to evaluate the ongoing groundwater quality of the site. He used a soil-vapor extraction system that PWGC had designed for the project. The DEC ordered the spill number for the site be closed based upon these reports.

Reactor Decommissioning

Brookhaven National Laboratory (BNL) - Upton, NY

At BNL, Mr. Almskog has provided practical environmental engineering solutions at the evolving world class science institution. His work focused on coordination with the Environmental Management Director and Plant Engineering Construction Coordination Group/Modernization Project Office. He provided support to the facility's Groundwater, Surface and Reactor Groups. His construction knowledge, in association with BNL's EM Operational Procedure Manual (OPM), Standard Operating Procedures, Standards Based Management System and Work Control Procedures, has enabled the completion of projects on time and within budget. He has a strong understanding of water treatment and remedial system construction, including well installation, piping, concrete work, control systems, and health and safety. His field responsibilities included oversight and management of remediation system development, start-up testing, and reporting; surface soil excavation; decontamination and decommissioning of reactor structures; landfill inspections; disposal coordination of generated project waste; environmental procedural compliance; health and safety oversight; and oversight of subcontractors.

BNL, BGRR Decontamination and Decommissioning Activities

Mr. Almskog provided management and field oversight for several Decontamination and Decommissioning (D&D) related activities at the BGRR. He was responsible for stabilizing asbestos containing materials and flaking lead paint throughout the reactor structure. He also oversaw brick facade refurbishment and the replacement of a built-up-roof on the reactor structure. Due to the nature of the building being a nuclear reactor, the strictest security and safety procedures were called for during the projects to ensure that BNL technical and health and safety procedures were followed by the contractors.

Environmental Compliance

Neptune Transmission System

Mr. Almskog supported the environmental and health and safety compliance for the Neptune project, a large-scale power generation construction project. The project had two separate construction contractors and two distinct scopes: the upland cable route, a 13-mile stretch through environmentally sensitive areas including wetlands and the converter station, constructed on a former landfill. This required the use of a team of inspectors that were on-site daily as well as auditors that reported monthly. Prior to commencing the field effort, he directed the effort to generate inspector checklists that warranted the review of multiple plans and documents including the Certificate of Environmental Compatibility and Public Need. The checklists were accepted by the Public Service Commission (PSC) without comment. He reviewed the inspector's daily checklists and auditors reports to ensure the project met environmental and safety requirements. The reports were then released to the PSC. His project management approach allowed each contractor to operate more efficiently and save money. This was done by not duplicating effort and being part of the project team, i.e. notifying contractors of potential issues before problems arose and reducing need for additional environmental oversight on the contractor's part resulting in money savings. This approach resulted in participation of all upland operations, as opposed to those areas deemed solely environmentally sensitive, as had been called for in the project documents. The project was completed with no significant violations, satisfying the regulatory agencies as well as the PSC.

Risk Assessment

Computer Circuits - Hauppauge, NY

Remedial Investigation and Feasibility Study (RI/FS) - Mr. Almskog acted as project director evaluating remedial alternatives following an extensive remedial investigation at the former Computer Circuits industrial site, a US Environmental Protection Agency Superfund Site (CERCLA-02-2000-2036). Mr. Almskog compiled data collected over several years of the remedial investigation to compile the Final Remedial Investigation Report and prepare remedial alternatives detailed in the Feasibility Study for the site. In addition, Mr. Almskog is responsible for implementation of the Interim Remedial Measure, which consists of a SVE system designed to remove VOCs from the impacted sub-surface soils.

Paul K. Boyce, PE, PG • CEO/PRESIDENT



PROFESSIONAL EXPERIENCE
PWGC: 25 years

AREAS OF EXPERTISE
Water Resource/Supply Design
Civil Site Design
Remedial System Design
Geothermal Systems
Groundwater Hydrology
Groundwater Modeling

EDUCATION & TRAINING/CERTIFICATION
MS, Environmental Engineering, Polytechnic University, NY (now NYU)
BS, Civil Engineering, SUNY Buffalo, NY
Professional Engineer, NY, PA
New York State Professional Geologist
OSHA HAZWOPER 40-hr (29CRR 1910.120)

AFFILIATIONS
American Society of Civil Engineers (ASCE)
NYS Society of Professional Engineers
American Council of Engineering Companies (ACEC)
Long Island Professional Geologists Association
American Water Works Association (AWWA)
National Groundwater Association (NGWA)

PROFILE
An environmental engineering professional Mr. Boyce has amassed an impressive portfolio of successful project in the New York Metropolitan region. He is an expert at providing public and private clients with targeted analyses, designs, modeling services, investigations, master planning development, construction oversight, regulatory, and sustainability consulting.

For more than 25 years at PWGC, Mr. Boyce has been immersed in some of the most innovative and successful environmental engineering projects on Long Island, playing key roles in developments that have improved the region's economy and environment. Whether using cutting-edge geothermal technology to assist Amneal Pharmaceuticals in the development of its base of operations in Yaphank or conducting detailed groundwater modeling at Brookhaven National Laboratory, his client expertise covers a wide spectrum of applications including targeted design and analysis, groundwater modeling, environmental investigations, construction oversight, and sustainability consulting.

Overall, Mr. Boyce develops project-specific civil and environmental engineering designs, implementation strategies and project management plans. He is an expert on the design and construction oversight related to the application of geothermal technologies. He assists clients with selecting the appropriate system and location, feasibility assessment, design preparation, system development and startup.

In his tenure at PWGC, Mr. Boyce has earned an industry-recognized reputation for his ability to assess project parameters and design and developing economical environmental engineering solutions that meet the stringent demands of our clients.

NOTABLE PROJECTS

Mr. Boyce's responsibilities with regards to lead sampling and analysis include interpretation of regulatory requirements and federal action levels as they pertain to lead in potable systems, investigations into causes for high lead concentrations in drinking water, recommending solutions to remedy high lead levels, cost estimates for lead treatment strategies, designs for remedial solutions involving flushing, plumbing material replacements and chemical treatment and water chemistry modeling. He provided coordination and supervision of field teams performing lead sample collection. Mr. Boyce was the regulatory agency liaison for all parties involved.

NYC School Construction Authority (SCA)
Discolored Water Investigations and Remedies at Numerous Schools across New York City – Notable projects included: 229K, 163K, R062, Q316. Mr. Boyce's responsibilities included aiding STV and SCA in investigating causes, overseeing field investigation services, water quality sampling, metallurgy of pipe sections, water quality/chemistry analyses, recommending remedies, report preparation, oversight of remedy implementation and follow-up samplings.
Disinfection Oversight – Mr. Boyce's responsibilities included overseeing field teams who were responsible for witnessing disinfection of potable water systems at new or renovated school buildings.
Disinfection Specification Update – Mr. Boyce was responsible for updating the SCA's standard disinfection specification for potable water systems.
Brooklyn Army Terminal Pre-K Site – Incoming potable water into the leased space was experiencing bacteriological issues. Mr. Boyce was responsible for investigating the cause and designing a remedy which consisted of new piping system and filtration units.
Lead Sampling – Mr. Boyce served as a lead consultant to SCA for a major sampling program of all schools in the New York City school system. His responsibilities included assembling lead sampling teams, coordinating and scheduling sampling events with STV and SCA, coordinating with analytical laboratories, review sampling results and consulting with SCA regarding results and potential remedies.

Diocese of Rockville Center
Lead Sampling – Mr. Boyce was responsible for overall project management and coordination of sampling for lead in the potable drinking water systems at more than 25 Long Island Catholic schools in Nassau and Suffolk Counties. His responsibilities included coordinating field sampling teams, working directly with individual school staffs, reviewing lead results and recommending remedies. Once a remedy was implemented, Mr. Boyce oversaw follow-up sampling. Mr. Boyce is the primary point of contact for Senior Diocese management staff.

Northwell Health – Long Island Jewish Medical Center (LIJMC), New Hyde Park, NY
Environmental Policy & Procedures for the Prevention of Legionella Contamination
Mr. Boyce's responsibilities for this project included researching local, state, and federal legionella standards and guidelines and updating a pre-existing environmental policy and procedures manual for the prevention of legionella contamination in LIJMC healthcare facilities. Mr. Boyce coordinated with the New York State Health Department to determine the present status of legionella updates on the state level. Following extensive research on revisions undertaken to various guidelines and standards pertinent to legionella, Mr. Boyce updated the routine legionella sampling program, disinfection procedures, maintenance and long-term control measures to prevent legionellae contamination and the requirements for the development of a water safety management program.

Water Resource Management

Ross School, East Hampton, NY
Master Planning & Campus Design - Mr. Boyce provided civil engineering design services to develop a master plan for the private school campus, which was to be a "one of a kind," transforming the school into a state-of-the-art learning institution, situated in a rural, wooded groundwater recharge area.
Civil Engineering Services - Civil engineering and consulting were provided for grading, drainage, utility layout, roadways, parking, site lighting, athletic playing fields, irrigation, water supply, sanitary, wastewater collection, and open loop geothermal heating/cooling water systems. Throughout the project, Mr. Boyce collaborated with other project consultants, foremost planners, architects, landscape architects, MEP engineers, surveyors, contractors, the construction manager and the school administration. He oversaw and participated in the conceptualization and preliminary design of the campus' proposed layout, which included eco-friendly engineering designs consulting/development and integration of civil engineering design aspects with other important features such as academic programs, architecture, landscaping and pedestrian walkways.
Environmental Engineering Services - The campus was to be as green as possible utilizing available eco-friendly technologies for the most environmentally sensitive and appealing design. The campus' sensitive environmental location as well as sanitary density issues required a sewage treatment plant. Mr. Boyce investigated and evaluated different sewage treatment technologies capable to meet the school's projected needs functionally, aesthetically and academically. Mr. Boyce took into consideration some sustainability goals and follow regulatory requirements.
Environmental Consulting/Conceptual Design Services After researching the latest sewage treatment technologies, Mr. Boyce recommended to the master planning team and school administration a wastewater treatment system that naturally treats sewage and industrial waste to re-use quality that met the Master Plan goals: aesthetics, economic/environmental advantages and well below regulatory discharge standards. The panel accepted his recommendation and he created conceptualized layouts, sited for possible plant locations and designed a preliminary ecologically engineered sewage collection system.
Geothermal Well System Design – Mr. Boyce managed the site assessment, design, construction oversight and preparation of O&M manuals for the systems and conducted a feasibility study of using open-loop geothermal systems to heat and cool two of the school's most prominent buildings - The Center for Well Being (Bldg. 5) and the Media Pavilion (Bldg. 2). He researched local hydrogeological and groundwater quality conditions and analyzed the effects of required flow rates on a nearby Suffolk County Water Authority (SCWA) well field. Mr. Boyce employed Groundwater Vistas by ESI, to create a detailed 3-dimensional model for the area. His analysis illustrated the potential effects of supply and recharge wells on (1) each other, (2) nearby neighboring shallow wells, (3) the SCWA well field, and (4) the local water table (The model also took into account of the local groundwater divide). Once he had demonstrated that operating two separate open-loop geothermal well systems in close proximity would not have an impact, he prepared the engineering report for the NYS Department of Environmental Conservation, along with the appropriate Long Island Well permit applications for approval.

Northwell Health – Glen Cove Hospital, Glen Cove, NY

Northwell Health – Glen Cove Hospital, Glen Cove, NY, Geothermal Wells Project – As project manager, Mr. Boyce prepared the feasibility study, well permits, construction documents, oversaw the construction and fieldwork for the installation of a 400 GPM open-loop groundwater heat pump system. Before design, Mr. Boyce conducted the study to assess the feasibility of augmenting the AC's geothermal well system; he investigated size and location options for new wells and prepared construction cost estimates based on minimizing potential conflicts with existing site constraints and the likelihood of regulatory agency approval. He determined that expansion to the existing system would be feasible based on cost, local hydrogeology, and his modeling results. He advised the client that construction would cause significant disruptions to the hospital's daily operations. In accordance with NYSDEC guidelines, he investigated the potential effects of the proposed project on a nearby inactive hazardous waste site, obtained baseline water quality data, estimated aquifer characteristics to refine and calibrate the model and drafted a design and construction plan of a test and monitoring well to determine local geologic conditions. As liaison between NSUH, the NYSDEC, and the local regulatory agencies, Mr. Boyce established that a scaled-down, relocated system would have negligible effects on the hazardous waste site, and consequently, obtained approval for the proposed construction. NSUH selected Mr. Boyce to design, plan, and oversee the construction of the new system, which involved developing the design and strategy for a supply and recharge well system with inter-connecting process piping, detailed hydraulic analyses, sizing the various system components, and coordination with other project consultants on the installation of piping and process equipment.

Water Supply & Treatment

Suffolk County Department of Public Works, Yaphank, NY

Timber Point Country Club, Great River, Water Supply System & Irrigation Well Upgrades - Mr. Boyce directed the well's condition assessment, including pump test, to determine capacity and water quality and prepared specifications/plans to upgrade supply well with new pump and motor. Further, he designed new piping configurations to integrate an irrigation well with distribution and cross-connection to the Suffolk County Water Authority and specified new variable frequency drive for well pump motor.

West Sayville Golf Course, Sanitary System Improvements – Mr. Boyce oversaw construction phases through completion including, supervised design, development of permitting, bidding and administrative buildings sub-surface sanitary disposal system.

Peconic Dunes Park, Peconic, NY, Water Distribution System Improvements – Mr. Boyce supervised design/development of permitting, bidding, and construction documents to upgrade the existing water distribution system's components including backflow prevention devices water mains/meters, hydrants, and internal plumbing. Further, he oversaw construction phase services through to completion.

BOMARC Police Firing Range Westhampton, Drainage Improvements - Mr. Boyce directed design/development of permitting, bidding, and construction documents for drainage conditions improvements (i.e. stormwater collection/conveyance systems, new recharge system), and oversaw construction phase services through to completion.

Suffolk County Fire Academy, Yaphank, Water Supply Well Improvements - Mr. Boyce supervised design/development of bidding and construction documents for the re-circulated supply system. This included: physical/chemical rehabilitation, electrical service upgrades, a new motor starter, and replacement of a diesel driven booster pump with an electrically operated one, as well as the deep well vertical turbine pump and motor with a new submersible pumping unit. He managed construction phase services (administration, observation) to project completion.

SUNY Stony Brook, Sewer District 21, Groundwater Modeling Study, Stony Brook NY - Mr. Boyce performed a 3-d numerical groundwater modeling to estimate flow path and travel time of sewage treatment plant effluent from recharge basins to the Long Island Sound and prepared an engineering report documenting findings and modeling results.

Water Authority of Great Neck North, Nassau County, NY

Weybridge Road Clearwell Design - Mr. Boyce prepared a design for a new air stripper clearwell, upgraded the booster pump, piping, controls modifications, coordinated with NCDOH, and performed cost estimates. The design is completed and NCDOH has approved it, however, funding constraints have put the project on hold.

SCADA System Design - Mr. Boyce prepared a design for a new Supervisory Control and Data Acquisition System. He prepared bidding and construction documents, providing construction administration and observation services, and cost estimates.

Emergency Water Main Replacement, Berkshire Road - Mr. Boyce prepared design, construction and bidding documents for emergency water main replacements, expedited NCDOH review and approval, and provided PE certification services.

Air Stripper Cap at Watermill Lane – Mr. Boyce coordinated with contractor and WAGNN regarding design and sizing of appropriate air exit cap atop existing air stripper at Watermill Lane treatment plant.

Valve Book Review/Updates – Mr. Boyce updated valve location sketches as new valves are being installed in the distribution system.

Municipal Supply Well Design, Well #14 – Mr. Boyce oversaw the design services for the new 1,400 gpm municipal supply well. The design included an engineering report for NYSDEC and NCDOH review/approval, preparation of plans and specifications for a new well, associated piping, well house, electric, controls, instrumentation, chemical treatment, safeties, etc. Project is just underway as of Sept 2007. Construction phase services will also be provided.

Weybridge Road Ground Storage Tank Replacement – Mr. Boyce lead the project team charged with designing a new 500,000-gallon steel ground storage tank to replace a deteriorated and dilapidated existing 400,000-gallon ground storage tank. The team prepared bidding/construction documents, inclusive plans and specifications, obtained NCDOH approval, provided construction administration and oversight services.

General Consulting Services – Mr. Boyce attended Board of Directors meetings to present monthly engineering report, assist with hydrogeological issues, contaminant fate and transport concerns, well maintenance, water main rehabilitation, etc.

Hampton Bays Water District, Suffolk, NY

Well Field Construction & Integration – Mr. Boyce prepared the structural, mechanical, and electrical designs for a new well field including two pump stations. In addition to construction plans and specifications, Mr. Boyce oversaw the integration of a new well field with an existing distribution system via hydraulic analyses and guided the client through the regulatory agency review and approval process. In a subsequent project phase, he partook in creating the layout of several residential water main projects, for which he analyzed the proposed water main layouts and prepared conceptual designs based on Health Department and ISO requirements.

Caustic Feed Systems Design - Mr. Boyce was responsible for the design of caustic feed systems at all eight District supply wells. He prepared existing conditions drawings by conducting field visits to obtain the necessary information. He then designed caustic feed systems consisting of double-walled underground storage tanks, piping, metering pumps, safety interlocks, controls, alarms and injection equipment to raise the ambient pH of the groundwater withdrawn from the shallow aquifer system to between seven and eight and a half. He was responsible for preparing plans and specifications, obtaining Health Department approval, and then overseeing the construction administration and observation aspects of the project.

Isolated Pressure Zone Design - Mr. Boyce was responsible for designing an isolated pressure zone in an area that was experiencing chronic low-pressure conditions within the District's distribution system. He worked with existing distribution system maps and survey data to identify the boundaries of the proposed zone, he worked with available hydraulic data to estimate pressure conditions and developed a planned approach on how to isolate the zone and create a booster pumping station to raise pressures within the zone to acceptable levels. Mr. Boyce was responsible for preparing the project plans and specifications that included a new packaged booster pumping station, water main and valve work, electrical service and site work. The SCDHS approved the plans and the pressure zones were constructed closely to his design and construction cost estimate.

Good Samaritan Hospital, West Islip NY

Well Turbidity Study – After review of existing water quality data, Mr. Boyce recommended sampling and analyses for additional parameters. He applied a water quality model, using the existing raw water quality data. To achieve optimal water quality pH-level, hardness, and alkalinity, he performed trial and error solutions using a numerical model. Different treatment chemicals were included in the model in various combinations or by themselves. Concluding modeling efforts led to a realistic chemical concentration.

Copper & Lead Desktop Study – The results of the study Mr. Boyce performed served to identify the possible cases for turbid water condition and proposing alternative options for corrective actions to restore acceptable water quality. He presented each alternative for evaluation and comparison to determine most advantageous choice, based on potential for success, technical complexity, and cost. In addition, he prepared a treatment specification and coordinated with an experienced well driller, resulting in a successful chemical treatment, and restoration of the water quality to acceptable conditions.

Town of Oyster Bay, Syosset, NY

Potable Water Supply System Upgrade Design & Compliance Management Services – As Project Manager, Mr. Boyce coordinates inspection and assessment services for the town's Tobay Beach Park & Marina potable water supply system. PWGC focuses on the water supply system's status of compliance with NYSDOH, NCDOH, 10-State Standards, and provides feasible engineering designs to in response to the town's objectives: Safe, potable water for Tobay Beach patrons, in an economically sound fashion. Mr. Boyce managed the authoring of a feasibility report and selected/recommended minimum corrections and system upgrades. In addition, he prepared the design of a dry-briquette calcium hypochlorite chlorination system and other upgrades at Well House 3 of the Tobay Beach Park & Marina. To date, he continues to provide engineering services and design specifications for wellhead improvements. He also directs PWGC water quality monitoring and assessment services at the beach to determine compliance with local and state health department water quality and equipment guidance.

Civil Site

Three Mile Harbor Boat Yard, East Hampton, NY

Site Planning Analysis – After evaluating site conditions, Mr. Boyce recommended feasible improvements to enhance an existing boat yard facility. He investigated local zoning/building codes, sized/located sanitary facilities, sized/designed layout and arrangement of parking facilities, sized/located/orientated a new proposed structure to house a marine shop, offices, storage, and industrial space. He effectively addressed critical issues such as the site's location in a harbor protection area and no public water access, which put severe constraints on sizing and locating the sanitary facilities. He prepared plans and reports delineating suitable site alternatives and requirements for implementation in compliance with regulatory agencies and utility companies.

Inlet Seafood, East Hampton, NY

Site Plan Application - As senior engineer, Mr. Boyce designed and coordinated the preparation of site-plan application drawings for the commercial/industrial fishing marina looking to expand the site from a commercial to a multiple use area that included retail, restaurant, and commercial fishing. He managed civil/site concerns, which included grading, drainage, sanitary, water supply, utilities, parking, traffic controls, site lighting, and building locations/elevations. Mr. Boyce worked with the owners and other project consultants to conceptualize and plan the site layout for optimum use and compliance with local zoning and building codes. In addition, he prepared site-plan application drawings for the Town Planning Board and local regulatory

agencies. He supervised development of designs and bidding/construction documents for new water mains/services/flow meters, hydrants, and drinking water fountains. Mr. Boyce oversaw construction, and supervised wetlands delineation and permitting with the NYSDEC through to project completion.

Jay Construction Corp, NY
Pile Foundation Designs for Residential Homes - Mr. Boyce was responsible for designing foundations for four residential homes in Patchogue, New York. The design included investigating existing soil conditions, reviewing architectural plans, sizing piles based on soil conditions, locating piles based on architectural layout, determining number of piles based on loads including self-weight, building dead, live, snow and wind load, and worst-case combination of loads based on building code. He created designs for reinforced concrete pile caps in accordance with ACI requirements and created foundation walls to serve as grade beams between pile caps. In addition, Mr. Boyce prepared construction documents including plans and specifications and acted as the primary client contact throughout the project.

Times Square Construction, New York, NY
Geotechnical Report for 47 East 34th Street Building Construction – Mr. Boyce oversaw a rock core boring program, characterized rock core samples and developed a geotechnical report based upon findings of the rock core boring program. He provided foundation recommendations for a new 38 story residential building being erected upon Manhattan schist on the east side of midtown Manhattan. Mr. Boyce assisted with the rock anchor design and specification. He supervised and managed field observation services for rock anchor testing. Supervised and managed the September 2007 design and development of a foundation waterproofing system.

Storm Water Management

Benjamin Beechwood, LLC, Arverne Urban Renewal Area (URA), Far Rockaway, NY
Design/Engineering Management Services, Stormwater Collection & Conveyance System - Mr. Boyce managed the design and siting of a stormwater collection and conveyance system for an 80+ acre development along the south shore of Queens County. He coordinated catch basins locating, grading design, sizing interconnected piping networks and tie-ins with the local NYC storm sewer system. Mr. Boyce was also responsible for incorporating BMP's in the system design.
Stormwater Quality Impact Assessment on Local Surface Water Body - Mr. Boyce was responsible for determining stormwater roadway run-off concentrations for TPH's, suspended solids, metals, coli forms, pH, and dissolved oxygen. To estimate the influence of these parameters on the nearby canal basins into which they were to be discharged, he employed chemical and mathematical relations using chemical properties and mass balances based on flow rates and tidal flushing volumes to estimate potential effects. Subsequently, he assisted in preparing the stormwater portion section of a Draft Environmental Impact Statement.

NYSDOT, Kensico Reservoir Route, Westchester, NY
120 Expansion Stormwater Management System Stormwater Quality Pre-Construction Baseline Assessment – Mr. Boyce directed the roadway run-off sampling of 15 storm events and 5 outfalls along the Reservoir. He oversaw installation of automated sampling equipment to monitor weather conditions, sampling events, and system/statistical data analyses for a stormwater-runoff quality report.

Allied Aviation Services, LaGuardia Airport, NY
Storm water Sediment & pH Control Investigation, LaGuardia Airport, Queens, NY – Mr. Boyce was responsible for reviewing and investigating an ongoing problem of storm water discharge to a surface water body with a too high solids content level. Storm water runoff collected at the fuel tank farm for LGA is passed through a treatment system to remove oils and organic contaminants. Under severe rainfall events, the treated storm water effluent had been discharged to the adjacent harbor with unusually high amounts of suspended solids, which were temporary violations of the facility's State Pollutant Discharge Elimination System permit. To find a cost-effective solution for the continuing problem, he evaluated various alternatives from in line cartridge filters, to settling tanks, to storm drain separators. Aside from cost, he considered other restrictions, such as limited space for installation, maintenance, durability, and reliability. Mr. Boyce studied peak hydrologic events and recommended the most efficient and effective treatment option for the owner to implement. Elevated pH of the discharged treated storm water effluent presented an unexpected, and separate, water quality issue. In addition, he was responsible for investigating the cause of the problem and recommending a course of corrective action.

AIL Systems Inc, Deer Park, NY
Recharge Basin Size Analysis – To assess the feasibility of reclaiming land used for recharge purposes, to sell or alter its land use, Mr. Boyce analyzed the industrial facility's existing cooling water recharge system. His analysis included an investigation of the facility's hydrological and drainage characteristics, and the existing storm water handling facilities' capability to accommodate various storm events. Mr. Boyce reviewed local building codes to make sure any proposed alterations could handle the minimum required storm events. He investigated the cooling water discharge rates to the recharge basins, to determine how much of the existing basins were required to handle the cooling water. With his report, AIL Systems was able to effectively evaluate its real estate options.

Groundwater Remediation

Brookhaven National Laboratory, Upton, NY

Engineering Services for the Glass Holes & Animal Chemical Pits CERCLA Remedial Excavation - Mr. Boyce prepared the excavation plan and design drawings for a remedial excavation of over 50 individual waste pits at the client's site. He managed the waste pits' initial delineation, oversaw the geophysical survey using electromagnetic survey equipment, and prepared the excavation plan detailing technical guidelines for the hazardous waste site's remediation. The plan provided direction for the removal/recovery of organic, inorganic, biological and radioactive buried wastes, as well as explosive, reactive, and corrosive materials. His engineering drawings detailed excavation layout, work/stockpiling areas, grading, drainage, haul routes, utilities, and site restoration. He acted as a field engineer during the field operations, oversaw excavation/waste removal, stockpiling, characterization and segregation of excavated materials, and monitored daily logistics for field crews.

Mercury-Contaminated Soil Treatment Alternatives Evaluation Report - Mr. Boyce's report evaluated various appropriate remedial treatment technologies, including visual and technical system descriptions, a comparison study of each alternative's technology, treatment process efficiency in the types, quantities and concentrations of mercury present in the soil, as well as the overall economics and cost effectiveness. He called attention to the presence of other contaminants such as organics and radioactive parameters and studied the available technologies. He also presented recommendations for a soil stabilization process and options for the remediated soil's disposal.

OUIII Western South Boundary Remedial System Design - Mr. Boyce was responsible for assisting in selecting the appropriate remedial technology for a groundwater pump treatment system for a volatile organic contaminant plume clean up. He suggested appropriate technologies and reviewed them from a feasibility standpoint. He recommended the most applicable one, based on effectiveness, available capital and O&M costs, implementation, reliability, operation, and maintenance. Mr. Boyce was then responsible for preparing a portion of the design of the recommended treatment technology, which included sizing and optimizing the primary treatment equipment (4-foot diameter x 35-foot tall air stripping tower).

Ash Pits Capping –Mr. Boyce was responsible for preparing the design of a capping system for an area formerly used as incinerator ash repository. He conducted the initial investigation to assess the area's extent by reviewing old aerial photographs, digging test pits, and conducting interviews with BNL personnel. Once he had delineated and surveyed the area, Mr. Boyce designed a soil-cap cover system in accordance with NYSDEC regulations to prevent surface exposure to ash and to minimize rainfall infiltration through the area. He was responsible for repairing design/construction drawings that included grading, drainage, slope stabilization details, limits of clearing and coverage and site restoration work such as fencing, roadways, signage, etc.

Minmilt Realty, Farmingdale NY

Groundwater & Soil Remediation Systems Design - Mr. Boyce evaluated, selected and designed appropriate remediation systems to cleanup a large industrial solvent plume that had contaminated nearby soil and groundwater. The chosen groundwater remediation consisted of an air-stripping tower, granular activated carbon (GAC) filters for off gas treatment and recharge structures; the soil treatment system was a soil-vapor extraction system (SVE) and GAC filters. Mr. Boyce's design responsibilities included sizing and selecting remediation system equipment, structural, mechanical, electrical, hydraulic, well, controls and instrumentation design. Mr. Boyce also performed three-dimensional numerical groundwater modeling to evaluate the effectiveness of the proposed groundwater remediation system and to size and locate a series of deep and shallow wells. Mr. Boyce prepared plans and specifications, a technical report for the NYSDEC detailing the choice of the specific components overall design process. He was involved in the construction administration and oversight of the remediation systems and was responsible for reviewing and approving shop drawings and performing routine construction observation services.

Brentwood Water District (BWD) Air Stripper, Plant No. 2, Brentwood, NY

Treatment Alternatives Study & System Design – As Project Engineer, Mr. Boyce conducted the treatment alternatives study for a VOC contaminated well field at BWD. The study ultimately recommended air stripping as the most effective and cost efficient technology to treat groundwater withdrawn from Plant No. 2. Upon the study's completion and acceptance, he prepared the design for the treatment system, which encompassed mechanical, electrical, structural, hydraulic, architectural and site components. Specific design components included an 11′ diameter by 30′ packed bed depth aluminum air stripper, a 100,000-gallon ground storage clearwell, and booster pumps. Specific design aspects include restaging an existing well pump, electrical service upgrade, a new natural gas engine generator set, stripping tower enclosure and three existing pumping stations refinish. Mr. Boyce prepared the plans and specifications, which were approved by the SCDHS and ultimately used to construct the air stripper and related facilities. Following the design phase of the project Mr. Boyce was responsible for providing construction administration and observation services.

Nitrate Study & Analysis - Mr. Boyce prepared a statistical analysis to compare increasing groundwater nitrate concentrations with pumpage from Plant No. 2 of the BWD. The analysis involved compiling water quality data to measure levels in three wells of Plant No. 2, reviewing the data, and using statistical methods to forecast the water quality of pumpage from the aquifers utilized by the BWD. He superimposed pumpage data from Plant No. 2 over his water quality findings to create a trend analysis, which showed nitrate concentrations fluctuated in the different wells based on pumpage. Mr. Boyce recommended available treatment technologies which eventually would be necessary to slow the deterioration rate of water quality caused by nitrate level changes. He advised that, based on the statistical analysis, establishing pumping sequences would slow the rate of water quality deterioration. His report also included estimates for when treatment of nitrate will become necessary and appropriate treatment technologies available.

Roanoke Sand & Gravel, Mid Island, NY
Sand Mining Design and Permitting – As the primary client contact, Mr. Boyce oversaw the application submittal to the Town of Brookhaven and NYSDEC to expand mining operations at an existing sand and gravel mine. The scope of services included assembling engineering drawings for proposed mining operations by excavating deeper through the bottom; preparing an engineering report addressing environmental, geotechnical and hydrogeological issues; preparing volume estimates to determine how much more sand and gravel could be mined by expanding the operations at the existing site and acting as regulatory liaison for the client.

PUBLICATIONS

- Not Just a Chemical Interaction: Complementary Roles of Geologist & Engineer on a Hazardous Waste Remediation Project at BNL (5th Conference: Metropolitan & Long Island Association of Prof'l Geologists (M/LIPAG, 04/98, SUNY Stony Brook)
- Much Ado About Mercury: Evaluation of Treatment Options for Mercury Contaminated Soil at Brookhaven Nat'l Laboratory (BNL) (6th Conference, M/LIPAG, 04/99, SUNY Stony Brook)
- Open-Loop Geothermal Well Systems on Long Island (10th Conference, M/LIPAG, 04/03, SUNY Stony Brook)

PWGC
CLIENT DRIVEN SOLUTIONS

Appendix B

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

Project Team Summary

LDC personnel have hands-on experience in the areas of data validation, laboratory QA/QC, CLP SOWs, and environmental laboratory analyses. As documented in the resumes of our staff, the project team has significant experience with USACE and DoD protocols, current technology, SW-846, and all methods stated in the SOW.

LDC is presenting the following staff to perform key roles for this contract. The key staff of the project team and their experience are as follows:

- **Stella Cuenco, Principal Chemist/Operations Manager**
  Project Role: Principal Chemist/Program Manager
  Data Validation Experience: 22 years
  Overall Laboratory and Data Validation Experience: 27 years
  B.S. Chemistry, University of the Philippines, 1991

  Ms. Cuenco has over 27 years of environmental laboratory and data validation experience under DoD and EPA guidelines. Her experience includes performance of data validation in gas chromatography/mass spectrometry for volatile and semivolatile organics and extensive Navy and EPA data review and data verification for all organic and inorganic analyses. Her laboratory experience includes hands-on CLP and SW-846 GC/MS methods.

- **Pei Geng, Senior Chemist/Project Manager**
  Project Role: Senior Organic Data Validator
  Data Validation Experience: 21 years
  Overall Laboratory and Data Validation Experience: 28 years
  M.S. Chemistry, Sam Houston University, 1989

  Ms. Geng will perform the role of organic data validator for this project. She will perform data validation for GC/MS and gas chromatography analyses and serve as a peer reviewer in the initial validation review process.

  Ms. Geng has over 28 years of environmental laboratory and data validation experience. Her experience includes performance of data validation in the gas chromatography area for volatile and semivolatile organics and extensive DoD data review and data verification for all organic analyses. Her laboratory experience includes hands-on CLP and SW-846 GC/MS methods.

- **Richard M. Amano, Principal Chemist**
  Project Role: Senior Technical Reviewer/Director
  Data Validation Experience: 26 years
  Overall Laboratory and Data Validation Experience: 38 years
  B.S. Biochemistry, UCLA, 1979

  Mr. Amano has over 38 years of environmental laboratory, QA/QC, and data validation experience. He has managed data validation projects using the DoD QSM data validation guidelines for the past twenty years. Prior to founding LDC in 1991, he directed two major laboratories, Analytical Technologies, Inc. and Brown and Caldwell, from 1983 to 1991. His data validation experience includes oversight and direction of major efforts for Superfund sites, DoE sites, Navy RI/FS projects, Army Corps of Engineers investigations, and AFCEE/AFCEC projects. He also has overseen several laboratory audits for major analytical testing programs for the Navy, Texaco, and

Hewlett-Packard. His laboratory experience includes hands-on CLP and SW-846 GC/MS analysis, direction of GC/MS (including TO-14 air analyses) and radiochemistry groups, dioxins method development, and complex GC data interpretation of Aroclors. He has performed expert witness support for litigation purposes.

- **Erlinda T. Rauto, Principal Chemist**
  Project Role: Technical Reviewer
  Data Validation Experience: 25 years
  Overall Laboratory and Data Validation Experience: 38 years
  B.S Chemical Engineering, Feati University, Manila, 1967

  Ms. Rauto will perform the role of Technical Reviewer for this project. She will monitor schedules, compliance of the validation to the applicable documents, perform routine surveillance activities such as generation of nonconformance reports, validator training, and QA reports to management.

  Ms. Rauto has over 38 years of environmental laboratory and data validation experience. She has worked under the DoD QSM data validation guidelines for the past 10 years. Her experience includes performance of data validation in the GC, trace metals, and wet chemistry areas for major Federal projects. Her laboratory experience includes hands-on CLP and SW-846 ICP/GFAA analysis, pesticide/PCBs and wet chemistry analysis.

- **Christina Rink-Ashdown, Inorganic Chemist**
  Project Role: Inorganic Data Validator/Project Manager
  Data Validation Experience: 9 years
  Overall Laboratory and Data Validation Experience: 11 years
  B.S. Biology, University of California, San Diego 2006

  Ms. Rink-Ashdown will perform the role of day to day Project Manager for this project. She will monitor schedules, compliance of validation to the Required Guidelines, perform routine surveillance activities such as generation of non-conformance reports, validator training and QA reports to management.

  Ms. Rink-Ashdown has over 11 years combined environmental laboratory and data validation experience. Her experience includes performance of data validation in the trace metals, radiochemistry, and wet chemistry areas for major Federal and commercial projects. Her laboratory experience includes hands-on CLP and SW-846 ICP/CVAA analysis and overall technical review of data deliverables.

  Ms. Rink-Ashdown specializes in the data validation of radiochemistry, trace metals, wet chemistry, and methyl mercury and analyses under MARLAP and USEPA functional guidelines or equivalent protocol. Over the past two years, she has worked under various DoD, CERCLA and EPA data validation guidelines for the various CERCLA, Navy, Army Corps, AFCEE/AFCEC and commercial projects. She is also certified as a “Radiometric Data Validation Specialist” through course work and testing by the Radiochemistry Society.

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- **Linda Ta, Chemist / Project Manager**
  Project Role: Chemist
  Data Validation Experience: 1 year
  Overall Laboratory and Data Validation Experience: 5 years
  B.S. Geology, CSU Long Beach, 2012

  Although Ms. Ta has less than one year of experience at LDC, she is proficient in data validation for GC and GCMS methods for Level II and III.

  Ms. Ta has so far become responsible for writing project data quality assessment reports (DQAR), has learned to use ADR for validation, and is in training to perform ERPIMS database tasks.

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Resumes of Key Staff

- Stella Cuenco, Senior Chemist
- Pei Geng, Senior Chemist
- Richard Amano, Principal Chemist
- Linda Rauto, Principal Chemist
- Christina Rink-Ashdown, Inorganic Chemist
- Linda Ta, Chemist

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RESUME
STELLA S. CUENCO

EDUCATION

B.S. Chemistry, 1991
University of the Philippines (UP)

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Senior Chemist
1996 to present

Ceimic Corporation
GC/MS Chemist
1996

Analytical Technologies, Inc.
GC/MS VOA Group Leader
1992 to 1996

Analytical Technologies, Inc.
GC/MS Chemist
1991 to 1992

Natural Products Research, UP
Research Assistant
1990 to 1991

REPRESENTATIVE EXPERIENCE

Ms. Cuenco has over 27 years combined environmental laboratory and data validation experience. Her experience includes performance of data validation in the GC and GC/MS areas for major Federal projects. She has performed large validation projects under Boeing, Navy Southwest, Northwest and Pacific Division, EPA Region IX ESAT, USACE and AFCEE/AFCEC programs. Her laboratory experience includes hands-on CLP and EPA analysis of GC and GC/MS volatile organic compounds.

Specifically, Ms. Cuenco has over 22 years organic data validation experience using USEPA (including Region III) functional guidelines and other applicable documents.

- As senior chemist with LDC, Ms. Cuenco specializes in the data validation and contract compliance screening of gas chromatography-mass spectrometry analyses as well as gas chromatography analyses. She has a thorough knowledge and understanding of gas chromatography and gas chromatography-mass spectrometry (GCMS) and high resolution GCMS methods referenced in EPA CLP, SW-846, EPA 500, 600 and 1600 series documents. She has performed large data validation under Boeing, Navy Southwest and Pacific Divisions and EPA Region IX ESAT, USACE and AFCEE/AFCEC projects.

Ms. Cuenco has over 5 years experience in an environmental laboratory performing the analysis of organic parameters.

- As GC/MS chemist at Ceimic Corporation, a full service environmental analytical chemistry facility, Ms. Cuenco performed GC and GC/MS volatile analyses. She was responsible for the final reporting of analytical data for this section.

- As GC/MS VOA Group Leader at Analytical Technologies Inc., a full service environmental analytical chemistry facility, Ms. Cuenco was responsible for all GC/MS functions which included overseeing daily operations, training staff, final reporting of analytical data, and compliance with method requirements.

- As research assistant at Natural Products Research, UP, Ms. Cuenco researched chemical literature for plants with known medicinal properties as well as performed microbiological and pharmacological tests on plant extracts.

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RESUME
PEI GENG

EDUCATION

M.S. Organic Chemistry, 1989
Sam Houston State University

B.S. Environmental Chemistry, 1983
Nankai University

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Senior Chemist
1997 to present

Ceimic Corporation
GC/MS and GC Chemist
1996 to 1997

PACE Analytical Service Inc.
GC/MS and GC Chemist
1990 to 1996

REPRESENTATIVE EXPERIENCE

Ms. Geng has over 28 years combined environmental laboratory and data validation experience. Her experience includes performance of data validation in the GC and GC/MS areas for major Federal projects. She has performed large validation projects under Boeing, Navy Southwest, Northwest and Pacific Division, EPA Region IX ESAT, USACE and AFCEE/AFCEC programs. Her laboratory experience includes hands-on CLP and EPA analysis of GC and GC/MS volatile organic compounds.

Specifically, Ms. Geng has over 21 years organic data validation experience using USEPA CLP (including Region III) functional guidelines and other applicable documents.

- As chemist with LDC, Ms. Geng specializes in the data validation and contract compliance screening of gas chromatography-mass spectrometry analyses as well as gas chromatography analyses. She has a thorough knowledge and understanding of gas chromatography and gas chromatography-mass spectrometry (GCMS) and high resolution GCMS methods referenced in EPA CLP, SW-846, EPA 500, 600 and 1600 series documents. She has performed large data validation under Boeing, Navy Southwest and Pacific Divisions and EPA Region IX ESAT, USACE and AFCEE/AFCEC projects.

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Ms. Geng has over 7 years of experience in an environmental laboratory performing the analysis of organic parameters.

- As both a GC and GC/MS chemist at Ceimic Corporation, a full service environmental analytical chemistry facility, Ms. Geng performed GC and GC/MS volatile and semivolatile analyses.

- As both a GC and GC/MS chemist at PACE Analytical Service Inc., a full service environmental analytical chemistry facility, Ms. Geng performed GC and GC/MS volatile and semivolatile analyses as well as overseeing the final reporting of analytical data, and compliance with method requirements.

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RESUME
RICHARD M. AMANO

EDUCATION

B.S. Biochemistry
University of California, Los Angeles, 1979

A.A. Chemistry
El Camino College, 1977

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Program Manager/Principal Scientist
2011-present
President/Principal Chemist,
1991 to 2011

Analytical Technologies, Inc
Laboratory Director
1986 to 1991

Brown & Caldwell
Laboratory Supervisor
1983 to 1986

West Coast Technical Service
Senior Chemist
1980 to 1983

University of California, Los Angeles
Laboratory Technician
1979 to 1980

REPRESENTATIVE EXPERIENCE

Mr. Amano has over 38 years of combined environmental laboratory, QA/QC, laboratory auditing, data management, environmental software development, and data validation experience. Prior to founding LDC in 1991, he directed to two major laboratories, Analytical Technologies, Inc. (San Diego) and Brown and Caldwell. His experience includes oversight and direction of major QA/QC and data validation efforts for confidential petroleum spill projects, Boeing sites, Superfund sites, DoE sites, Navy RI/FS projects, Army Corps of Engineers investigations, and AFCEE/AFCEC projects. He has also overseen several laboratory audits for major analytical testing programs and large scale environmental software development for the US Army Corps of Engineers (USACE).

Specifically, Mr. Amano has over 26 years of experience with validation of organic, inorganic, and radiochemical analyses using USEPA, Navy, USACE, DoD, AFCEE/AFCEC, and other applicable guidance documents.

- As program manager/principal scientist with LDC, Mr. Amano provides management and technical support to the data validation, data quality, and software group. He oversees and directs all environmental software projects developed for the USACE. Additionally, he acts as the primary LDC/USACE contract manager for software development projects. He is the primary author of the nationally distributed Automated Data Review (ADR) software used by the USACE, Navy, DTSC, and commercial clients.

- As President/principal chemist with LDC, Mr. Amano provided management and technical support to the data validation, data quality, and software group. He provided technical support in the organic, inorganic, and radiochemical areas. Under several major QA/QC and data validation programs, he provided, as needed, a final review of data validation and assessment reports. Mr. Amano specializes in the evaluation, validation, and interpretation of environmental testing data. Additional responsibilities include laboratory QA/QC and NELAC audits, implementation and support of QA/QC programs and data management support for engineering firms, environmental lab training, consultation on LIMS data base designs for environmental laboratories, and expert witness litigation support. Mr. Amano has managed and directed several major data validation and QA/QC projects for Army Corps, Navy, Air Force, and commercial contracts. Industrial projects include major petroleum oil spill related data validation and assessment of hydrocarbon analyses. The DoD projects include Southwest Division CLEAN 1 (Jacobs Engineering/IT Corporation/CH2M Hill), Southwest Division CLEAN 2 (Bechtel National), Pacific Northwest Division CLEAN (URS Greiner), Southern Division CLEAN (ABB Environmental), Atlantic Division CLEAN (EA Engineering), Southwest Division RAC (OHM Remediation), Pacific Division CLEAN (Earth Tech), AFCEE/AFCEC Mather AFB (Montgomery Watson), AFCEE/AFCEC Pease AFB (Bechtel Environmental), AFCEE/AFCEC England AFB (Law Environmental), Army Corps Travis AFB (CH2M Hill), Army Corps Hawthorne Army Depot (Tetra Tech), Nevada Test Site (IT Corp), and Army Corps Fort Ord (Harding Lawson). He provided oversight and direction for major USACE environmental software development including Automated Data Review (ADR), FUDSFORUM, MRSPP, and FUDSCHEM. He has a thorough knowledge and understanding of EPA CLP, SW-846, EPA 500, EPA 900, and EPA 600 series methods. He additionally has supported attorneys as an expert witness and has taught data integrity and lab ethics courses for several organizations.

Mr. Amano has over 12 years environmental laboratory experience in commercial laboratories supervising or performing the analyses of organic, inorganic, and radiochemical parameters.

- As laboratory director and technical director of Analytical Technologies, Inc, a full service environmental analytical chemistry facility, Mr. Amano was responsible for all facets of operations. These responsibilities include direct technical input for GC, GC/MS, and inorganic operations, personnel selection, assisting in method development, and selection of non-routine analysis. In addition, Mr. Amano was responsible for supervision of the 80 scientists employed at ATI's San Diego laboratory with all group supervisors, quality assurance and safety coordinators reporting directly to him. Mr. Amano has managed numerous analytical testing programs including the North Island Navy Confirmation Study, Miramar Air Force Base Confirmation Study, and investigations at several of the EPA Superfund sites. His environmental expertise focuses on the chemical testing related to hazardous waste investigations, site remediation, and groundwater monitoring programs.

- While at Brown & Caldwell, Mr. Amano's responsibilities encompassed supervision of daily operations of the laboratory, personnel staffing, technical advisor for operation of the gas chromatograph/mass spectrometer (GC/MS) section, maintenance of QA/QC programs, and coordination between engineers, clients, and laboratory analysts. Additionally, he supervised the daily operation of all radiochemistry activities which included alpha, beta, and radium analyses.

- At West Coast Technical Service, Mr. Amano was responsible for daily operation and quality control of the GC/MS group. Mr. Amano was highly involved with the USEPA hazardous waste contracts. Some special projects included dioxin selected ion monitoring analysis, EPA method 624 and 625 validation studies, and low level drinking water evaluations.

TECHNICAL PRESENTATIONS

"Understanding the Workings of an Environmental Laboratory"
Southern California Department of Health Services, 1984
Hargis & Associates, Inc, La Jolla, CA, 1987
Hargis & Associates, Inc, Tucson, AZ, 1987
Westec Services, San Diego, CA, 1987
Applied Hydrogeologic, Inc, San Diego, CA 1989

"Data Validation, QA/QC, and Environmental Analysis"
Van, Waters, and Rogers, Seattle, WA, 1990
ERC Environmental, Honolulu, HI, 1991
Harding Lawson Associates, Honolulu, HI, 1991
Pacific Division Naval Engineering Group, Honolulu, HI, 1991
OHM, Irvine, CA, 1996
Southwest Division Naval Engineering Group, San Diego, CA, 1996
Navy Public Works Center, San Diego, CA 1996

"GC versus GC/MS"
J.H. Kleinfelder & Associates, Artesia, CA 1986
Hargis & Associates, Inc, La Jolla, CA 1987

"Analytical Methods and QA/QC Procedures for Environmental Analysis"
County of San Diego Department of Health Services, San Diego, CA 1989
Regional Water Quality Control Board, San Diego, CA 1990
ERC Environmental, San Diego, CA 1990
Mittlehauser Corporation, Laguna Hills, CA 1991

"Hydrocarbon Testing Related to Underground Storage Tanks (UST)"
San Diego County DOHS, San Diego, CA, 1986
J.H. Kleinfelder & Associates, Artesia, CA 1986
Woodward Clyde Consultants, San Diego, CA 1987

Engineering Enterprises, Long Beach, CA 1987

"Quality Control/Quality Assurance in Laboratories"
Assoc of Hazardous Materials Professionals, Anaheim, CA 1986
R.L. Stollar & Associates, Santa Ana, CA 1989

"The Influence of Sample Matrix on Environmental Analysis"
Assoc of Hazardous Materials Professionals, San Diego, CA 1990

"Comparison of Air Sampling Media"
Assoc of Hazardous Materials Professionals, Anaheim, CA 1991

"Building a Second Generation LIMS for Commercial Laboratory Operations"
Pittsburgh Conference, New York, NY, 1990 (Invited Speaker)

"Employment Outlook in Environmental Laboratories"
Southern California American Chemical Society, 1985

"Opportunities in the Environmental Lab in the 1990's"
American Chemical Society, 1990

"Data Validation of Radiochemical Analyses"
Hargis + Associates, La Jolla, CA 1991

"Detection Limits - MDL, PQL, RDL, LOD ?"
Analytical Technologies, Inc., 1991

"Poor QA/QC or Laboratory Fraud: Have labs crossed the fine line?"
Environmental Professionals Organization, Newport Beach, CA 1996

"Electronic Data Deliverables and Automated Data Review/Validation"
Army Corps of Engineers, Sacramento District, Sacramento, CA 1996

"Navy Environmental Data Transfer Standards"
Kleinfelder, San Diego, CA 1997

"Laboratory QA/QC Update for DoD Programs"
ACTLabs, Long Beach, CA 1997

LECTURING AND TEACHING

"Instrumental Analysis of Hazardous Materials"
University of California, San Diego 1988 - 1995

"Field Monitoring & Laboratory Analysis of Hazardous Materials"

University of California, San Diego 1995 - 1998

California State Fullerton, Guest Lecturer, 1985 & 1990

San Diego State University, Hydrology Department, Guest Lecturer, 1988

"EPA Level 4 Data Validation" Workshop
Applied Geotechnology, Inc., Bellevue, WA, 1993

"Environmental Analyses in the 90's"
National University, Guest Lecturer, 1993

"Data Quality Objectives for Federal Environmental Programs"
University of California, San Diego 1993

"Data Integrity and Data Management for Federal Environmental Programs"
University of California, San Diego 1994

"Laboratory QA/QC and Electronic Data Requirements for DoD Programs"
University of California, San Diego 1995

"Application and Utilization of Department of Defense (DoD) Guidance Documents"
University of California, San Diego 1996

"Laboratory Quality Assurance for Department of Defense Programs"
University of California, San Diego 1997

PUBLICATIONS

"Managing an Environmental Chemistry Laboratory for Profit",
John H. Taylor, Jr and Richard M. Amano,
Journal of Chromatographic Science, 1987

MEMBERSHIPS AND AFFILIATIONS

American Chemical Society
Association of Hazardous Materials Professionals, (Steering Committee 1988-1994)
Association of California Testing Laboratories, (Board Member 1989-1991)
County of San Diego, Site Assessment and Mitigation Technical Forum (Steering Committee 1990-2000)
American Society Quality Control (1992-2005)

FOUNDATIONS

Golf for Autistic Children in America (GACA), Founder/President (2011)

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RESUME
ERLINDA T. RAUTO

EDUCATION

B.S. Chemical Engineering 1967
Feati University - Manila, Philippines

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Senior Chemist/Validation Group Manager
1993 to present

Appropriate Technologies, Inc.
Chemist II
1992 to 1993

AECOS Inc.
Laboratory Supervisor
1989 to 1992

PWCSA #4 County Complex
Laboratory Analyst
1986 to 1989

Kalama Specialty Chemical
Chemist
1980 to 1982

REPRESENTATIVE EXPERIENCE

Ms. Rauto has over 38 years combined environmental laboratory, QA/QC, and data validation experience. Her experience includes performance of data validation in the GC, trace metals, and wet chemistry areas for major Federal projects. Her laboratory experience includes hands-on CLP and EPA ICP/GFAA analysis, pesticide/PCBs and wet chemistry analysis.

Specifically, Ms. Rauto has over 25 years of experience with organic data validation and assessment using USEPA (including Region III) functional guidelines and other applicable documents.

- As a Principal chemist with LDC, Ms. Rauto provides management and technical support to the data validation group. She specializes in the data validation and compliance screening of gas chromatography organic analyses. This validation includes EPA CLP, SW-846, and EPA Water and Wastewater methods. Over the past 16 years, Ms. Rauto has performed USEPA Level 3 and Level 4 (including NFESC Level C and D) validation for projects including Boeing SSFL, Southwest Division CLEAN 1 (Jacobs Engineering/IT Corporation/CH2M Hill), Southwest Division CLEAN 2 (Bechtel National), Pacific Northwest Division CLEAN (URS Greiner), Southern Division CLEAN (ABB Environmental), Atlantic Division CLEAN (EA Engineering), Southwest Division RAC (OHM Remediation), Pacific Division CLEAN (Earth Tech), DoE Atomic City (Jacobs Engineering Group), Army Corps of Engineers, Travis AFB (CH2M Hill), Army Corps of

Engineers, Camp Navajo (Tetra Tech), AFCEE/AFCEC Mather AFB (Montgomery Watson), AFCEE/AFCEC Pease AFB (Bechtel Environmental), AFCEE/AFCEC England AFB (Law Environmental), Army Corps of Engineers, Hawthorne Army Depot (Tetra Tech), Army Corps of Engineers, Fort Ord (Harding Lawson), Nevada Test Site (IT Corp), and AFCEE/AFCEC Beale AFB (Law/Crandall, Inc.).

Ms. Rauto has organic laboratory experience with over 13 years of experience in an environmental laboratory supervising or performing the analyses of organic parameters.

- As a chemist II at Appropriate Technologies, Inc., a hazardous waste disposal facility, Ms. Rauto was responsible for the operation of the gas chromatographs. Organochlorine pesticides and PCBs analysis was the primary method performed. In addition, Ms. Rauto performed ICP analyses for trace metals, as well as, supported engineers in developing waste treatment processes.

- As the laboratory supervisor at AECOS Inc., Ms. Rauto supervised and directed operation of gas chromatography, atomic absorption, and wet chemistry instrumentation. She interfaced with state and federal agencies to maintain certification and developed a written QA/QC plan for the laboratory.

- As chemist at Kalama Specialty Chemical, Ms. Rauto performed gas chromatography analysis on raw materials and finished products. She worked on the research and development of new chemicals.

Additionally, Ms. Rauto has 2 years inorganic/conventional analytical experience.

- While employed at the Prince William County laboratory, Ms. Rauto was involved in the analysis of water and wastewater for metals and wet chemistry parameters. This included BOD, COD, nitrate, nitrite, sulfate, chloride, fluoride, TDS, conductivity, pH, cyanide, and phenols analyses. She maintained the QA/QC program to assure compliance with EPA guidelines.

AFFILIATIONS
American Society for Quality Control

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RESUME
CHRISTINA RINK-ASHDOWN

EDUCATION

BS Biology, 2006
University of California, San Diego

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Inorganic Chemist
2009 to present

Enviromatrix Analytical, Inc.
Metals Chemist
2007 to 2009

REPRESENTATIVE EXPERIENCE

Ms. Rink-Ashdown has over 11 years combined environmental laboratory and data validation experience. Her experience includes performance of data validation in the trace metals, radiochemistry, and wet chemistry areas for major Federal and commercial projects. Her laboratory experience includes hands-on CLP and SW-846 ICP/CVAA analysis and overall technical review of data deliverables. Specifically, Ms. Rink-Ashdown has over 6 years inorganic and radiochemistry data validation experience using USEPA (including Region III) functional guidelines and other applicable documents.

As chemist with LDC, Ms. Rink-Ashdown specializes in the data validation of trace metals, wet chemistry, methyl mercury and radiochemistry analyses using USEPA functional guidelines or equivalent protocol. She has worked under various CERCLA and EPA data validation guidelines for the various CERCLA, Navy, Army Corps, AFCEE/AFCEC and commercial projects. She is certified as a “Radiometric Data Validation Specialist” through course work and testing by the Radiochemistry Society. **Ms. Rink-Ashdown has validated over 2,000 samples for various isotopes in the last two years.**

Ms. Rink-Ashdown has over 2 years of environmental laboratory experience in a laboratory performing the analyses of inorganic parameters.

As lead inorganic chemist at Enviromatrix Analytical, Inc., Ms. Rink-Ashdown managed the inorganic chemistry section which performed techniques such as atomic absorption and inductively coupled argon plasma spectrometry. These analyses were performed from methods referenced in EPA CLP, SW-846, and Standard Methods documents.

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RESUME
LINDA TA

EDUCATION

B.S. Geology, 2012
California State University Long Beach

PROFESSIONAL HISTORY

Laboratory Data Consultants, Inc.
Chemist and Project Manager
July 2018 to present

Eurofins Calscience
Project Manager Assistant
02/2014-07/2018

Eurofins Calscience
Chemist
10/2013-02/2014

REPRESENTATIVE EXPERIENCE

Although Ms. Ta has less than one year of experience at LDC, she is proficient in data validation for GC and GCMS methods for Level II and III.

- As a project manager with LDC, Ms. Ta assists the other project managers through project set-up, validation, report review, and writing project data quality assessment reports. Ms. Ta is also in training to perform ADR validation and ERPIMS database tasks. She is also the administrative support specialist for LDC Advantage secure data sharing portal where she assists with project and client set-up.

Ms. Ta has 5 years of experience in an environmental laboratory performing the analysis of organic parameters.

- As a GC/MS chemist at Eurofins Calscience, a full service environmental analytical chemistry facility, Ms. Ta performed GC/MS volatile analyses using various EPA Methods in accordance with standard operating procedures. Ms. Ta utilized Agilent Chemstation and Laboratory Information Management Systems (LIMS) to analyze and report data.

- As a Project Manager Assistant at Eurofins Calscience, Ms. Ta assisted multiple Project Managers to oversee all laboratory functions for various projects. In addition, she managed several minor projects for various Environmental consultants. She served as the secondary point of contact for clients, ensured that Chain of Custodies are accurate and analyses are logged in correctly, directed preparation of bottle orders, scheduled pickups and deliveries, coordinated subcontracted analyses, provided quality control review of project-related documents and compliance to project criteria, worked closely with lab group supervisors and executive managers in planning new projects and managed ongoing analytical work. Ms. Ta evaluated analytical data, prepared project

case narratives and summaries, compiled laboratory reports for external validation, and worked closely with chemists and lab group supervisors in resolving quality assurance and quality control issues. She prepared detailed project billing and generated multiple Electronic Data Deliverables. She was also responsible for training new Project Manager Assistants on various PM tasks, data review and compilation of laboratory Level III/IV QC Data Deliverables.

Below is a partial listing of clients and projects which Ms. Ta has assisted:

-Department of Defense Sites
- Edwards AFB
- George AFB
- Vandenberg AFB

-SSFL NASA
-BP/ARCO
-Aerospace Company

Below is a listing of various database management software which Ms. Ta has extensive training on:

-ERPIMS
-EQUIS
-Envirodata
-NEDD
-ADR
-Geotracker

PWGC
CLIENT DRIVEN SOLUTIONS

APPENDIX D

AUTO REPAIR SHOP
223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NEW YORK 11428
BLOCK 10757, LOT 32

HEALTH & SAFETY PLAN

SUBMITTED TO:

New York State Department of Environmental Conservation
Region 2
47-40 21st Street
Long Island City, New York 11101

PREPARED FOR:

223-20 Braddock Avenue Corp.
c/o Robert R. Dooley, Esq.
McGiff Halverson, LLP
96 South Ocean Avenue
Patchogue, NY 11772

PREPARED BY:

P.W. Grosser Consulting, Inc.
630 Johnson Avenue, Suite 7
Bohemia, New York 11716
Phone: 631-589-6353
Fax: 631-589-8705

Kris Almskog, PG, Vice President — KrisA@pwgrosser.com
Jennifer Lewis, PG, Senior Project Manager — JenniferL@pwgrosser.com

PWGC Project Number: MHD1801

JUNE 2019

HEALTH & SAFETY PLAN
223-20 BRADDOCK AVENUE, QUEENS VILLAGE, NY

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APPENDICES

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APPENDIX B SITE SAFETY PLAN AMENDMENTS
APPENDIX C DRILLING PROTOCOLS
APPENDIX D HEAT/COLD STRESS PROTOCOLS
APPENDIX E CHEMICAL HAZARDS
APPENDIX F CONFINED SPACE ENTRY CHECKLIST/PERMIT
APPENDIX G EMERGENCY INFORMATION

1.0 STATEMENT OF COMMITMENT

On-site employees may be exposed to risks from hazardous conditions related to subsurface investigation activities to be performed at the 223-20 Braddock Avenue project site. P.W. Grosser Consulting Inc.'s (PWGC's) policy is to minimize the possibility of work-related injury through awareness and qualified supervision, health and safety training, medical monitoring, use of appropriate personal protective equipment, and the following activity specific safety protocols contained in this Health and Safety Plan (HASP). PWGC has established a guidance program to implement this policy in a manner that protects personnel to the maximum reasonable extent.

This HASP, which applies to PWGC personnel actually or potentially exposed to safety or health hazards, describes emergency response procedures for actual and potential physical and chemical hazards. This HASP is also intended to inform and guide personnel entering site work zones. Persons are to acknowledge that they understand the potential hazards and the contents of this Health and Safety policy by signing off on receipt of their individual copy of the document. Contractors and suppliers are retained as independent contractors and are responsible for ensuring the health and safety of their own employees.

PWGC may require that its personnel take certain precautions in accordance with this HASP and PWGC requests that others protect their personnel in a manner that they deem necessary or sufficient.

CLIENT DRIVEN SOLUTIONS
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2.0 INTRODUCTION AND SITE ENTRY REQUIREMENTS

This document describes the health and safety guidelines developed by PWGC at the request of 223-20 Braddock Avenue Corp. ("the Client") for the proposed subsurface investigation to be performed at the 223-20 Braddock Avenue project site ("the site") to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes. In accordance with the Occupational Safety and Health Administration (OSHA) 29 CFR Part 1910.120 Hazardous Waste Operations and Emergency Response (HAZWOPER) Final rule, this HASP, including the attachments, addresses safety and health hazards relating to each phase of site operations and is based on the best information available. The HASP may be revised by PWGC at the request of the Client and/or the regulatory agency upon receipt of new information regarding site conditions. Changes will be documented by written amendments signed by PWGC's project director, project manager, and/or site safety officer.

2.1 Training Requirements

Personnel entering the exclusion zone or decontamination zone must meet the training requirements for hazardous waste site operations and emergency response operations in accordance with OSHA 29 CFR 1910.120(e).

Each subcontractor and supplier working on the job must provide the site safety officer with training documentation for its personnel upon request.

2.2 Medical Monitoring Requirements

PWGC personnel and visitors entering the exclusion zone or decontamination zone must have completed appropriate medical monitoring required under OSHA 29 CFR 1910.120(f). Medical monitoring enables a physician to monitor each employee's health, physical condition, and his fitness to wear respiratory protective equipment and carry out on-site tasks.

Evidence of compliance with additional medical monitoring requirements for this site must also be included upon request.

2.3 Fit Test Requirements

Personnel and visitors entering a work zone using a negative pressure air purifying respirator (APR) must have successfully passed a qualitative respirator fit test in accordance with OSHA 29 CFR 1910.134 or the American National Standards Institute (ANSI).

Fit testing documentation is the responsibility of each subcontractor. Documentation of PWGC's personnel fit-testing is maintained on file. PWGC does not anticipate the need for work to be performed using APR's.

2.4 Site Safety Plan Acceptance, Acknowledgement and Amendments

The project superintendent and the site safety officer are responsible for informing personnel (P.W. Grosser employees and/or owner or owners representatives) entering a work area of the contents of this plan and ensuring that each person signs the safety plan acknowledging the on-site hazards and procedures required to minimize exposure to adverse effects of these hazards. A copy of the Acknowledgement Form is included in **Appendix A**.

Site conditions may warrant an amendment to the HASP. Amendments to the HASP are acknowledged by completing forms included in **Appendix B**.

2.5 Daily Safety Meetings

Each day before work begins; the site safety officer will hold safety (tailgate or tool box) meetings to ensure that on-site personnel understand the site conditions and operating procedures and to address safety questions and concerns. Meeting minutes and attendance will be recorded. Personnel eligible to enter a work zone must attend the meetings. Project staff will discuss and remedy health and safety issues at these meetings.

2.6 Key Personnel – Roles and Responsibilities

The following PWGC key personnel are planned for this project:

- PWGC Project Director — Mr. Kris Almskog
- PWGC Project Manager — Ms. Jennifer Lewis
- PWGC Site Safety Officer — Ms. Chandler Precht, or assignee

The PWGC project manager is responsible for overall project administration and, with guidance from the PWGC site safety officer, for supervising the implementation of this HASP. The site safety officer will conduct daily (tail gate or tool box) safety meetings at the project site and oversee daily safety issues. Each subcontractor and supplier (defined as an OSHA employer) is also responsible for the health and safety of its employees. If there is any dispute about health and safety or project activities, on-site personnel will attempt to resolve the issue. If the issue cannot be resolved at the site, then the project manager will be consulted.

The PWGC site safety officer is also responsible for coordinating and enforcing health and safety activities on-site. The site safety officer must meet the emergency response and hazardous materials training requirements of OSHA 29 CFR Part 1910.120; must have completed OSHA supervisor training, 29 CFR 1910.120 (e) 4; and must have appropriate experience to the related site work. The site safety officer is authorized to suspend the site work based on safety concerns, and is responsible for the following:

1. Educating personnel about information in this HASP and other safety requirements to be observed during site operations, including, but not limited to, decontamination procedures, designation of work zones and levels of protection, air monitoring, fit testing, and emergency procedures dealing with fire and first aid.
2. Coordinating site safety decisions with the project manager.
3. Designating exclusion, decontamination and support zones (work zones) on a daily basis.
4. Monitoring the condition and status of known on-site hazards and maintaining and implementing the air quality monitoring program specified in this HASP.
5. Maintaining the work zone entry/exit log and site entry/exit log.
6. Maintaining records of safety problems, corrective measures and documentation of chemical exposures or physical injuries (the site safety officer will document these conditions in a bound notebook and maintain a copy of the notebook on-site).

The person who observes safety concerns and potential hazards that have not been addressed in the daily safety meetings should immediately report their observations/concerns to the site safety officer or appropriate key personnel.

3.0 SITE BACKGROUND AND SCOPE OF WORK

The Site is located in the Queens Village section of the Borough of Queens and is identified as Block 10757, Lot 32. The site measures approximately 2,388 square feet and is developed with an auto repair shop and an asphalt paved parking lot.

The use of the property is intended to remain as an auto body repair shop throughout the investigation and remediation.

The following is a recent history of events and activities associated with the Site:

- On August 5, 2016, Island Pump and Tank (IPT) personnel were on-site to remove an underground storage tank (UST). The UST system closure activities included the removal of one 285-gallon fiberglass waste oil UST. Following the removal of the former UST, observed petroleum impacts were present within the soil at the bottom of the excavation. Elevated PID readings, greater than 500 parts per million (ppm), were also encountered within the base of the excavation. At this time, IPT notified the New York State Department of Environmental Conservation (NYSDEC) Spills Hotline; Spill Number 16-04577 and Spill Case Manager, Mr. Hiralkumar Patel, were assigned to the site. Due to the observed petroleum impacts and elevated PID readings, soils were excavated from the base of the former UST excavation to the extent feasible. Excavation activities ensued until the structural integrity of the surrounding building and sidewalk were threatened and deemed unsafe to continue. IPT collected a total of five soil samples ranging from 5.5-6 feet below ground surface (bgs) on the sidewalls and to 10 feet bgs on the bottom of the excavation. Several volatile organic compounds (VOCs) were detected which included petroleum related compounds and tetrachloroethylene (PCE) which contained the highest detection at 360,000 µg/kg in the eastern sidewall sample. Elevated concentrations of PCE were also detected in the north sidewall and bottom samples. The western sidewall sample contained a concentration of PCE of only 2.6 µg/kg.
- In March 2018, IPT conducted a subsurface investigation at the Site which included the collection of eight soil samples from four soil borings along the eastern portion of the site, around the former UST location, and within the former UST excavation. The 15 to 20 feet bgs sample collected from within the excavation contained the highest concentration of VOCs, including PCE at 72,000 µg/kg. The deeper sample collected from 35 to 40 feet bgs was non-detect.

4.0 HAZARD ASSESSMENT

This section identifies the hazards associated with the proposed scope of work, general site operations which may also be conducted at site, and the standard operating procedures (SOPs) that should be implemented to reduce the hazards; identifies general physical hazards that can be expected at most sites; and presents a summary of documented or potential chemical hazards at the site. Every effort must be made to reduce or eliminate these hazards. Those that cannot be eliminated must be guarded against using engineering controls and/or personal protective equipment.

4.1 Activity-Specific Hazards and Standard Operating Procedures

4.1.1 Drilling and Probing Operations

Soil borings and/or groundwater monitoring wells using Geoprobe® direct push technology and/or rotary drilling technology will be installed as part of the proposed subsurface investigation. PWGC and/or subcontractors shall follow the standard drilling protocols included as **Appendix C**.

4.1.2 Work in Extreme Temperatures

Work under extremely hot or cold weather conditions requires special protocols to minimize the chance that employees will be affected by heat or cold stress. As necessary, PWGC shall follow the heat and cold stress safety protocols included as **Appendix D**.

4.1.3 Dust Control and Monitoring

Dust generated during work activities may contain contaminants associated with the site characteristics. Dust generation is not anticipated during the subsurface investigation. In the event that fugitive dust is generated, PWGC shall control the dust by wetting the working surface with water, or other approved method of dust suppression.

4.2 Chemical Hazards

Historic environmental investigations at the subject site have identified elevated VOCs and SVOCs in soils at the site. The primary routes of exposure to contaminants in soil are inhalation, ingestion and absorption.

Appendix E includes information sheets for the potential chemicals that may be encountered at the site.

4.2.1 Respirable Dust

The subsurface investigation activities are not anticipated to generate particulate dust; however dust may be generated from vehicular traffic and/or other construction activities. If visible observation detects elevated

levels of dust, a program of wetting will be employed by the site safety officer. If elevated dust levels persist, the site safety office will employ dust monitoring using a particulate monitor (Miniram or equivalent). If monitoring detects concentrations greater than 150 µg/m^3 over daily background, the site safety officer will take corrective actions as defined herein, including the use of water for dust suppression and if this is not effective, requiring workers to wear APRs with efficiency particulate air (HEPA) cartridges.

Absorption pathways for dust and direct contact with soils will be mitigated with the implementation of latex gloves, hand washing and decontamination exercises when necessary.

4.2.2 Organic Vapors

Based upon historical environmental investigations, the potential for isolated areas of VOCs impacts exists. Therefore, drilling/excavation activities may cause the release of organic vapors to the atmosphere. The site safety officer will monitor organic vapors with a Photoionization Detector (PID) during drilling activities to determine whether organic vapor concentrations exceed action levels shown below.

PID Response	Action
Sustained readings of 5 ppm or greater	Shut down drilling equipment and allow area to vent. Resume when readings return to background
Sustained readings of 5 ppm or greater that do not subside after venting	Implement Vapor Release Plan (Section 9.8). Re-evaluate respiratory protection as upgrade may be required.

4.3 General Site Hazards

Applicable OSHA 29 CFR 1910.120(m) standards for illumination shall apply. Work is to be conducted during daylight hours whenever possible.

Electrical power must be provided through a ground fault circuit interrupter. Equipment that will enter an excavation must be suitable and approved (i.e. intrinsically safe) for use in potentially explosive environments. Applicable OSHA 29 CFR 1926 Subpart K standards for use of electricity shall apply.

Work where there is a fall hazard will be performed using appropriate ladders and/or protection (e.g. body harness and lifeline). All work should be conducted at the ground surface or in trench excavations.

In accordance with 29 CFR 1910.151(c), workers involved in operations where there is the risk of eye injury, (chemical splash, etc.), must have ready access to an approved eye wash unit. Protective eye wear shall be

donned in Level D, when directed by the site safety officer.

Operations where there is a potential for fire will be conducted in a manner that minimizes risk. Non-sparking tools and fire extinguishers shall be used or available as directed by the site safety officer when work is in potentially explosive atmospheres. Ignition sources shall be removed from work areas. Explosion-proof instruments and/or bonding and grounding will be used to prevent fire or explosion when the site safety officer directs their use.

Overhead and underground utilities shall be identified and/or inspected and appropriate safety precautions taken before conducting operations where there is potential for contact or interference.

5.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) shall be selected in accordance with the site air monitoring program, OSHA 29 CFR 1910.120(c), (g), and 1910.132. Protective equipment shall be NIOSH-approved and respiratory protection shall conform to OSHA 29 CFR Part 1910.133 and 1910.134 specifications; head protection shall conform to 1910.135; eye and face protection shall conform to 1910.133; and foot protection shall conform to 1910.136. The only true difference among the levels of protection from D thru B is the addition of the type of respiratory protection.

PWGC anticipates that work performed under the scope of the proposed subsurface investigation will be conducted in Level D PPE.

5.1 Level D

Level D PPE shall be donned when the atmosphere contains no known hazards and work functions preclude splashes, immersion, or the potential for inhalation of, or contact with, hazardous concentrations of harmful chemicals. Level D PPE consists of:

- Standard work uniform, coveralls, or Tyvek (as needed).
- Steel toe and steel shank work boots (or equivalent).
- Hard hat.
- Gloves (as needed).
- Safety glasses.
- Hearing protection (as needed)
- Equipment replacements are available as needed.

5.2 Level C

Level C PPE shall be donned when the concentrations of measured total organic vapors in the breathing zone exceed background concentrations (using a portable PID, or equivalent), but are less than 5 ppm. The specifications on the APR filters used must be appropriate for contaminants identified or expected to be encountered. Level C PPE shall be donned when the identified contaminants have adequate warning properties and criteria for using APR have been met. Level C PPE consists of:

- Chemical resistant or coated Tyvek coveralls.
- Steel toe and steel shank work boots (or equivalent).

- Chemical resistant over boots or disposable boot covers.
- Disposable inner gloves (surgical gloves).
- Disposable outer gloves.
- Full-face APR fitted with organic vapor/dust and mist filters or filters appropriate for the identified or expected contaminants.
- Hard hat.
- Splash shield (as needed)
- Ankles/wrists taped with duct tape.

The site safety officer will verify if Level C is appropriate by checking organic vapor concentrations using compound and/or class-specific detector tubes.

5.3 Level B

Level B PPE shall be donned when the contaminants have not been identified and/or the concentrations of unknown measured total organic vapors in the breathing zone exceed 5 ppm (using a portable OVA, or equivalent). Level B PPE shall be donned if the IDLH of a known contaminant is exceeded. If a contaminant is identified or is expected to be encountered for which NIOSH and/or OSHA recommend the use of a positive pressure self-contained breathing apparatus (SCBA) when that contaminant is present, Level B PPE shall be donned even though the total organic vapors in the breathing zone may not exceed 5 ppm. Level B shall be donned for confined space entry, and when the atmosphere is oxygen deficient (oxygen less than 19.5%) or potentially oxygen deficient. If Level B PPE is required for a task, at least three people shall be donned in Level B at any one time during that task. PPE shall only be donned at the direction of the site safety officer. Level B PPE consists of:

- Supplied air SCBA or air line system with five minute egress system.
- Chemical resistant or coated Tyvek coveralls.
- Steel toe and steel shank work boots (or equivalent).
- Chemical resistant over boots or disposable boot covers.
- Disposable inner gloves (surgical gloves).
- Disposable outer gloves.
- Hard hat.
- Ankles/wrists taped with duct tape.

The exact PPE ensemble is decided on a site-by-site basis by the PWGC Health and Safety Officer with the intent to provide the most protective and efficient worker PPE.

5.4 Activity Specific Levels of Personal Protection

The required level of PPE is activity-specific and is based on air monitoring results (Section 7.0) and properties of identified or expected contaminants. It is expected that all site work will be performed in Level D. If air monitoring results indicate the necessity to upgrade the level of protection engineering controls (i.e. Facing equipment away from the wind and placing site personnel upwind of excavations, active venting, etc.) will be implemented before requiring the use of respiratory protection.

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6.0 DECONTAMINATION PROCEDURES

Equipment and PPE exiting the exclusion zone must be decontaminated or properly discarded upon exit. Personnel must enter and exit the exclusion zone through the decontamination area. The exclusion and decontamination zones may change depending on the nature of the site work. Plastic bags containing personal protective clothing and equipment will be placed in designated receptacles.

Boots and other potentially contaminated garments that have come in contact with hazardous materials will be cleaned in wash tubs with detergent/water solution and rinsed with water and must remain on site. The wash water, rinse water, and residues will be collected and properly stored until sampling results are received and the final method of disposal can be determined. Disposable PPE, including spent respirator cartridges and canisters, will be properly bagged and disposed. Contaminated boots, clothing, and equipment (e.g. leather boots, equipment carrying straps) that cannot be decontaminated will be disposed of with the disposable garments or left on site in the decontamination area.

The ***minimum*** measures for Level B doffing and decontamination are:

1. Deposit equipment on plastic drop cloths.
2. Scrub outer boots and gloves with a water and detergent solution and rinse.
3. Remove outer boots and outer gloves. Discard disposable outer garments in receptacle provided.
4. Remove SCBA and face piece and place on rack provided.
5. Remove Tyvek/outer garment and place in receptacle provided.
6. Remove inner gloves and deposit in receptacle provided.
7. Shower/wash face and hands.

The ***minimum*** measures for Level C doffing and decontamination are:

1. Deposit equipment on plastic drop cloths.
2. Scrub outer boots and gloves (if worn) with a water and detergent solution and rinse.
3. Remove outer boots and outer gloves. Discard disposable outer garments in receptacle provided.
4. Remove Tyvek/outer garment and place in receptacle provided.
5. Remove first pair of inner gloves.
6. Remove respirator (using "clean" inner gloves) and place on rack provided.

7. Remove last pair of inner gloves and deposit in receptacle provided.
8. Shower/wash face and hands.

The second to last item to be removed is the APR, and the last item to be removed is the last of several pairs of surgical gloves. Wearing several pairs of inner gloves permits layers to be removed as needed during various stages of the doffing procedure, and if the APR inadvertently becomes contaminated, inner gloves guard against bare hands contacting the APR.

Equipment that comes into contact with site contaminants is decontaminated according to manufacturer specifications. Decontamination is done in the exclusion or decontamination zones. Rented equipment is photographed after decontamination.

7.0 AIR MONITORING AND ACTION LEVELS

Air monitoring will be performed for protection for on-site workers and the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved in the remedial work) from potential airborne contaminant releases resulting from remedial activities at the site. Air monitoring will be used to help to confirm that the remedial work will not spread contamination off-site through the air.

Perimeter air monitoring will be performed in accordance with the Community Air Monitoring Plan (CAMP) for the site included as Appendix E of the RI Work Plan. Air monitoring will be performed for protection for on-site workers as described below.

7.1 Work Zone Monitoring

Respirable dust will be monitored using a MiniRAM Model PDM-3 aerosol monitor (or equivalent) and air will be monitored for VOCs with a MiniRAE 2000 PID (or equivalent) during intrusive activities such as excavation and drilling. Monitoring will be performed continuously during intrusive activities and hourly, at a minimum, otherwise. Upwind readings will be recorded at least twice daily to determine background concentrations at the site.

Monitoring Instrument	**Monitoring Location**	**Monitoring Frequency**	**Action Level (above background)**	**Action**
PID	Work Area	Continuous during intrusive activities; hourly, at a minimum, otherwise	<5ppm*	Level D PPE, continue work
			≥5ppm, ≤50ppm*	Level C PPE, notify PM/HSM
			>50ppm*	Stop work, notify PM/HSM
Particulate monitor	Work Area	Continuous during intrusive activities; hourly, at a minimum, otherwise	≤150 µg/m^3	Continue work
			>150 µg/m^3	Take corrective actions (see below)
*Sustained levels in the breathing zone for a minimum of 5 minutes				

If particulate monitoring detects concentrations greater than 150 µg/m^3 over daily background, the site safety

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officer will take corrective actions as defined herein, including the use of water for dust suppression and if this is not effective, requiring workers to wear APRs with efficiency particulate air (HEPA) cartridges.

7.2 Air Monitoring Recordkeeping

The field team lead will document air monitoring data in a log book. Data will include instrument used, calibration date, wind/weather conditions and work activities.

7.3 Calibration Requirements

The PID will be calibrated daily, prior to the start of work. Calibration details (i.e., date, time, span gas, etc) will be recorded in a log book.

8.0 SITE CONTROL

8.1 Work Zones

The primary purpose of site controls is to establish the perimeter of a hazardous area, to reduce the migration of contaminants into clean areas, and to prevent access or exposure to hazardous materials by unauthorized persons. When operations are to take place involving hazardous materials, the site safety officer will establish an exclusion zone, a decontamination zone, and a support zone. These zones "float" (move around the site) depending on the tasks being performed on any given day. The site safety officer will outline these locations before work begins and when zones change. The site safety officer records this information in the site log book. It is expected that for subsurface investigation activities, identification of an exclusion zone, decontamination zone, and support zone will not be necessary.

Tasks requiring OSHA 40-hour Hazardous Waste Operations and Emergency Response Operations training are carried out in the exclusion zone. The exclusion zone is defined by the site safety officer but will typically be a 50-foot area around work activities. Gross decontamination (as determined by the site Health and Safety Officer) is conducted in the exclusion zone; all other decontamination is performed in the decontamination zone or trailer.

Protective equipment is removed in the decontamination zone. Disposable protective equipment is stored in receptacles staged in the decontamination zone, and non-disposable equipment is decontaminated. All personnel and equipment exit the exclusion zone through the decontamination zone. If a decontamination trailer is provided the first aid equipment, an eye wash unit, and drinking water are kept in the decontamination trailer.

The support zone is used for vehicle parking, daily safety meetings, and supply storage. Eating, drinking, and smoking are permitted only in the support zone. When a decontamination trailer is not provided, the eye wash unit, first aid equipment, and drinking water are kept at a central location designated by the site safety officer.

8.2 General Field Safety and Standard Operating Procedures

PWGC's policy is to control hazards at all site areas by limiting entrance to exclusion zones to essential personnel and by implementing the following rules:

- Non-essential (as judged by the site safety officer) personnel and unauthorized persons will not enter

the exclusion or decontamination zone.

- Before entering the exclusion or decontamination zones, all personnel must be familiar with emergency response procedures (Section 9.0), site safety locations, first aid and communication equipment, and the location of the map to the hospital and the list of emergency telephone numbers.
- The buddy system will be used at all times by field personnel in the exclusion zone; no one is to perform work within the exclusion zone alone. When in Level D or C, visual contact or radio contact shall be maintained at all times.
- Contact with contaminated and potentially contaminated surfaces should be avoided. Walk around (not through) puddles and discolored surfaces. Do not kneel on the ground or place equipment on the ground. Protect equipment from contamination.
- Eating, drinking, or smoking is permitted only in designated areas in the support zone.

Each worker must be supplied with and maintain his/her own personal protective equipment.

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9.0 CONFINED SPACE

OSHA published a Final Rule on permit-required confined spaces on January 14, 1993, for General Industry at 29 CFR 1910.146 et seq., with an implementation date of April 15, 1993. The rule specifically excludes agriculture, construction, or shipyard employment. Confined space entry and work within confined spaces is not anticipated to be performed under the proposed scope of work. However, if confined space work is conducted it will be performed in accordance with the applicable OSHA regulations. OSHA defines confined space as:

1. is large enough and so configured that an employee can bodily enter and perform assigned work;
2. has limited or restricted areas for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited entry); and
3. is not designed for continuous worker occupancy.

OSHA further requires that an "entry supervisor" (the site designated safety officer) decide at the time of entry whether the space is permit-required or non-permit required space. The site safety officer will monitor the space two hours prior to entry and continuously during work to ensure that the atmosphere is not hazardous. OSHA defines as hazardous atmosphere as:

1. Flammable gas, vapor, or mist in excess of 10 percent of its lower explosive limit (LEL);
2. Airborne combustible dust at a concentration that meets or exceeds its LEL; NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.
3. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
4. Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z. Toxic
5. and Hazardous Substances, of this part and which could result in employee exposure in excess of its dose or permissible exposure limit;
6. Any other atmospheric condition that is immediately dangerous to life or health.

A space is non-permit required if none of the above defined hazardous conditions are present. OSHA requires that an attendant (e.g., an individual stationed outside one or more spaces who monitors the entrants and who performs air monitoring of the space(s)) be assigned to each space. The attendant is not allowed to perform any direct rescue related duties, but is there to communicate with the entrant and call for rescue procedures if

required.

The following protocol applies when PWGC employees must enter a confined space:

- The site safety officer evaluates the space and site conditions to determine whether the space must be considered "confined".
- If so, the site safety officer monitors the space for hazardous atmospheres prior to entry and fills out a pre-entry checklist (**Appendix F**) to determine whether an entry-permit is required.
- If there is no hazardous atmosphere, the space will be continuously monitored during the entry to assure that the atmosphere remains non-hazardous.
- If the space contains a hazardous atmosphere, an entry permit (**Appendix F**) will be prepared and the space will only be entered in accordance with 29 CFR 1910.146.

10.0 CONTINGENCY PLAN/EMERGENCY RESPONSE PLAN

Site personnel must be prepared in the event of an emergency. Emergencies can take many forms: illnesses, injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather.

Emergency telephone numbers and a map to the hospital (Figure 1) will be posted in the command post. Site personnel should be familiar with the emergency procedures, and the locations of site safety, first aid, and communication equipment.

10.1 Emergency Equipment On-site

Private telephones:	Site personnel.
Two-way radios:	Site personnel where necessary.
Emergency Alarms:	On-site vehicle horns*.
First aid kits:	On-site, in vehicles or office.
Fire extinguisher:	On-site, in office or on equipment.

* Horns: Air horns will be supplied to personnel at the discretion of the project manager or site safety officer.

10.2 Emergency Telephone Numbers

General Emergencies - New York City Police/Fire Department/Ambulance	911
Non-Emergency Hotline - New York City Police/Fire Department/Ambulance	311
Local Emergency Medical Center (Northwell Health – Zucker Hillside)	1-718-470-8100
National Response Center	1-800-424-8802
Poison Control	1-212-340-4494
NYSDEC Spills Division	1-800-457-7362
NYSDEC Hazardous Waste Division	1-718-482-4994
NYC Office of Environmental Remediation	1-212-788-8841
NYC Department of Health	1-212-788-4711
PWGC Project Director, Kris Almskog	1-631-589-6353
PWGC Project Manager, Jennifer Lewis	1-631-589-6353
PWGC Site Safety Officer, Chandler Precht (or assignee)	1-631-404-0938

A copy of this page shall be posted in the office and a copy is provided in **Appendix G**.

10.3 Personnel Responsibilities During an Emergency

The project manager is primarily responsible for responding to and correcting any emergency situations. However, in the absence of the project manager, the site safety officer shall act as the project manager's on-site designee and perform the following tasks:

- Take appropriate measures to protect personnel including: withdrawal from the exclusion zone, evacuate and secure the site, or upgrade/downgrade the level of protective clothing and respiratory protection;
- Ensure that appropriate federal, state, and local agencies are informed and emergency response plans are coordinated. In the event of fire or explosion, the local fire department should be summoned immediately. If toxic materials are released to the air, the local authorities should be informed in order to assess the need for evacuation;
- Ensure appropriate decontamination, treatment, or testing for exposed or injured personnel;
- Determine the cause of incidents and make recommendations to prevent recurrence; and,
- Ensure that all required reports have been prepared.

The following PWGC key personnel are planned for this project:

- PWGC Project Director — Mr. Kris Almskog
- PWGC Project Manager — Ms. Jennifer Lewis
- PWGC Site Safety Officer — Ms. Chandler Precht, or assignee

10.4 Medical Emergencies

A person who becomes ill or injured in the exclusion zone will be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination will be completed and first aid administered prior to transport. First aid will be administered while waiting for an ambulance or paramedics. A Field Accident Report (**Appendix G**) must be filled out for any injury.

A person transporting an injured/exposed person to a clinic or hospital for treatment will take the directions to the hospital and information on the chemical(s) to which they may have been exposed (**Appendix G**).

10.5 Fire or Explosion

In the event of a fire or explosion, the local fire department will be summoned immediately. The site safety officer or his designated alternate will advise the fire commander of the location, nature and identification of

the hazardous materials on-site. If it is safe to do so, site personnel may:

- use firefighting equipment available on site; or,
- remove or isolate flammable or other hazardous materials that may contribute to the fire.

10.6 Evacuation Routes

Evacuation routes established by work area locations for each site will be reviewed prior to commencing site operations. As the work areas change, the evacuation routes will be altered accordingly, and the new route will be reviewed.

Under extreme emergency conditions, evacuation is to be immediate without regard for equipment. The evacuation signal will be a continuous blast of a vehicle horn, if possible, and/or by verbal/radio communication.

- When evacuating the site, personnel will follow these instructions:
- Keep upwind of smoke, vapors, or spill location.
- Exit through the decontamination corridor if possible.
- If evacuation through the decontamination corridor is not possible, personnel should remove contaminated clothing once they are in a safe location and leave it near the exclusion zone or in a safe place.
- The site safety officer will conduct a head count to ensure that all personnel have been evacuated safely. The head count will be correlated to the site and/or exclusion zone entry/exit log.
- If emergency site evacuation is necessary, all personnel are to escape the emergency situation and decontaminate to the maximum extent practical.

10.7 Spill Control Procedures

Spills associated with site activities may be attributed to project specific heavy equipment and include gasoline, diesel and hydraulic oil. In the event of a leak or a release, site personnel will inform their supervisor immediately, locate the source of spillage and stop the flow if it can be done safely. A spill containment kit including absorbent pads, booms and/or granulated speedy dry absorbent material will be available to site personnel to facilitate the immediate recovery of the spilled material. Daily inspections of site equipment components including hydraulic lines, fuel tanks, etc. will be performed by their respective operators as a preventative measure for equipment leaks and to ensure equipment soundness. In the event of a spill, site personnel will immediately notify the NYSDEC (1-800-457-7362), and a spill number will be generated.

10.8 Vapor Release Plan

If work zone organic vapor (excluding methane) exceeds 5 ppm, then a downwind reading will be made either 200 feet from the work zone or at the property line, whichever is closer. If readings at this location exceed 5 ppm over background, the work will be stopped.

If 5 ppm of VOCs are recorded over background on a PID at the property line, then an off-site reading will be taken within 20 feet of the nearest residential or commercial property, whichever is closer. If efforts to mitigate the emission source are unsuccessful for 30 minutes, then the designated site safety officer will:

- contact the local police;
- continue to monitor air every 30 minutes, 20 feet from the closest off-site property. If two successive readings are below 5 ppm (non-methane), off-site air monitoring will be halted.
- All property line and off site air monitoring locations and results associated with vapor releases will be recorded in the site safety log book.

APPENDIX A
SITE SAFETY ACKNOWLEDGMENT FORM

SITE SAFETY ACKNOWLEDGMENT FORM

This form serves as documentation that field personnel have read, or have been informed of, and understand the provisions of the HASP/EAP. It is maintained on site by the FTL/SHSO as a project record. Each field team member shall sign this section after site-specific training is completed and before being permitted to work on site.

I have read, or have been informed of, the Health and Safety Plan/Emergency Action Plan and understand the information presented. I will comply with the provisions contained therein.

Name (Print and Sign)	Date

APPENDIX B
SITE SAFETY PLAN AMENDMENTS

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SITE SAFETY PLAN AMENDMENT FORM

SITE SAFETY PLAN AMENDMENT NUMBER: _____

SITE NAME: _____

REASON FOR AMENDMENT: _____

_____

_____

_____

_____

ALTERNATIVE PROCEDURES: _____

_____

_____

_____

_____

REQUIRED CHANGES IN PPE: _____

_____

_____

_____

_____

_____ _____

SITE SAFETY OFFICER DATE

_____ _____

PROJECT MANAGER DATE

_____ _____

PROJECT DIRECTOR DATE

APPENDIX C
DRILLING PROTOCOLS

SAFETY PROCEDURES DURING THE OPERATION OF DRILLING/PROBING MACHINESINCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- All site personnel should know the location of the rig emergency shut-off switch prior to beginning operations.
- The rig should be inspected prior to operation to ensure that it is in proper working condition and that all safety devices are functioning.
- Each rig should have a first-aid kit and fire extinguisher which should be inspected to ensure that they are adequate.
- All operators should wear, at a minimum, hard hats, steel-toe safety shoes or boots, gloves and safety glasses. Additional clothing and protective equipment may be required at sites where hazardous conditions are likely. Clothing must be close fitting, without loose ends, straps, draw strings or belts or other unfastened parts that might catch on moving machinery.
- Work areas should be kept free of materials, debris and obstruction, and substances such as grease or oil that could cause a surface to become slick or otherwise hazardous.
- Prior to drilling, the site must be checked to determine whether it can accommodate the rig and supplies and provide a safe working area.
- The drill rig mast (derrick) must be lowered prior to moving between drilling locations.
- The drill rig masts should not be raised if the rig will not be at least 20 feet away from overhead utilities.
- The location of underground utilities should be determined prior to erecting the rig.
- The drill rigs must be properly erected, leveled and stabilized prior to drilling.
- The operator must shut down the vehicle engine before leaving the vicinity of the machine.
- All personnel not directly involved in operating the rig or in sampling should remain clear of the drilling equipment when it is in operation.
- All unattended boreholes must be adequately covered or otherwise protected to prevent trip and fall hazards. All open boreholes should be covered, protected or backfilled as specified in local or state regulations.
- When climbing to or working on a derrick platform that is higher than 20 feet, a safety climbing device should be used.
- The user of wire line hoists, wire rope and hoisting hardware should be as stipulated by the American Iron and Steel Institute Wire Rope User's Manual.
- The rig should be operated in a manner which is consistent with the manufacturers' ratings of speed, force, torque, pressure, flow, etc. The rig and tools should be used for the purposes for which they were intended.

APPENDIX D
HEAT/COLD STRESS PROTOCOLS

HEAT STRESS

Heat Stress (Hyperthermia)

Heat stress is the body's inability to regulate the core temperature. A worker's susceptibility to heat stress can vary according to his/her physical fitness, degree of acclimation to heat, humidity, age and diet.

1. Prior to site activity, the field team leader may make arrangements for heat stress monitoring (i.e., monitoring heart rate, body temperature, and body water loss) during actual site work if conditions warrant. In addition, the FTL is to ensure that each team member has been acclimatized to the prevailing environmental conditions, that personnel are aware of the signs and symptoms of heat sickness, that they have been adequately trained in first aid procedures, and that there are enough personnel on-site to rotate work assignments and schedule work during hours of reduced temperatures. Personnel should not consume alcoholic or caffeinated beverages but rather drink moderate levels of an electrolyte solution and eat well prior to commencing site work.
2. Although there is no specific test given during a baseline physical that would identify a person's intolerance to heat, some indicators are tobacco or medication use, dietary habits, body weight, and chronic conditions such as high blood pressure or diabetes.
3. *Heat cramps*, caused by profuse perspiration with inadequate fluid intake and salt replacement, most often afflict people in good physical condition who work in high temperature and humidity. Heat cramps usually come on suddenly during vigorous activity. Untreated, heat cramps may progress rapidly to heat exhaustion or heat stroke. First aid treatment: remove victim to a cool place and replace lost fluids with water.
4. Thirst is not an adequate indicator of heat exposure. Drinking fluid by itself does not indicate sufficient water replacement during heat exposure. A general rule, the amount of water administered should replace the amount of water lost, and it should be administered at regular intervals throughout the day. For every half pound of water lost, 8 ounces of water should be ingested. Water should be replaced by drinking 2 – 4 ounce servings during every rest period. A recommended alternative to water is an electrolyte drink split 50/50 with water.
5. Heat exhaustion results from salt and water loss along with peripheral pooling of blood. Like heat cramps, heat exhaustion tends to occur in persons in good physical health who are working in high temperatures and humidity. Heat exhaustion may come on suddenly as dizziness and collapse. Untreated, heat exhaustion may progress to heat stroke.

6. Treatment for heat exhaustion: Move the victim to a cool environment (e.g. air-conditioned room/car), lay victim down and fan him/her. If the air-conditioning is not available, remove the victim to a shaded area, remove shirt, and fan. If symptoms do not subside within an hour, notify 911 to transport to hospital.
7. Heat stroke results from the body's inability to dissipate excess heat. A true medical emergency that requires immediate care, it usually occurs when one ignores the signs of heat exhaustion and continues strenuous activities. Working when the relative humidity exceeds 60% is a particular problem. Workers in the early phase of heat stress may not be coherent of they will be confused, delirious or comatose. Changes in behavior, irritability and combativeness are useful early signs of heat stroke.
8. Treatment of heat stroke: Move the victim to a cool, air-conditioned environment. Place victim in a semi-reclined position with head elevated and strip to underclothing. Cool victim as rapidly as possible, applying ice packs to the arms and legs and massaging the neck and torso. Spray victim with tepid water and constantly fan to promote evaporation. Notify 911 to transport to hospital as soon as possible.

SYMPTOMS OF HEAT STRESS

Heat cramps are caused by heavy sweating with inadequate fluid intake. Symptoms include;

- Muscle cramps
- Cramps in the hands, legs, feet and abdomen

Heat exhaustion occurs when body organs attempt to keep the body cool. Symptoms include;

- Pale, cool moist skin
- Core temperature elevated 1-2o
- Thirst
- Anxiety
- Rapid heart rate
- Heavy sweating
- Dizziness
- Nausea

Heat stroke is the most serious form of heat stress. Immediate action must be taken to cool the body before serious injury and death occur. Symptoms are;

- Red, hot, dry skin
- Lack of perspiration
- Seizures
- Dizziness and confusion
- Strong, rapid pulse
- Core temperature of 104o or above
- Coma

HEAT STRESS INDICATORS

Heat stress indicator:	When to measure:	If Exceeds:	Action:
Heart rate (pulse)	Beginning of rest period	110 beats per minute	Shorten next work period by 33%
Oral temperature	Beginning of rest period	99°F (after thermometer is under tongue for 3 minutes) 100.6°F (after thermometer is under tongue for 3 minutes)	Shorten next work period by 33% Prohibit work in impermeable clothing
Body Weight	1. Before workday begins 2. After workday ends		Increase fluid intake

COLD STRESS

Cold stress (Hypothermia)

In hypothermia the core body temperature drops below 95°F. Hypothermia can be attributed to a decrease in heat production, increased heat loss or both.

Prevention

Institute the following steps to prevent overexposure of workers to cold:

1. Maintain body core temperature at 98.6oF or above by encouraging workers to drink warm liquids during breaks (preferably not coffee) and wear several layers of clothing that can keep the body warm even when the clothing is wet.
2. Avoid frostbite by adequately covering hands, feet and other extremities. Clothing such as insulated gloves or mittens, earmuffs and hat liners should be worn. To prevent contact frostbite (from touching metal and cold surfaces below 20°F), workers should wear gloves. Tool handles should be covered with insulating material.
3. Adjust work schedules to provide adequate rest periods. When feasible, rotate personnel and perform work during the warmer hours of the day.
4. Provide heated shelter. Workers should remove their outer layer(s) of clothing while in the shelter to allow sweat to evaporate.
5. In the event that wind barriers are constructed around an intrusive operation (such as drilling), the enclosure must be properly vented to prevent the buildup of toxic or explosive gases or vapors. Care must be taken to keep a heat source away from flammable substances.
6. Using a wind chill chart such as the one included below, obtain the equivalent chill temperature (ECT) based on actual wind speed and temperature. Refer to the ECT when setting up work warm-up schedules, planning appropriate clothing, etc. Workers should use warming shelters at regular intervals at or below an ECT of 20°F. For exposed skin, continuous exposure should not be permitted at or below an ECT of -25°F.

FROSTBITE

Personnel should be aware of symptoms of frostbite/hypothermia. If the following symptoms are noticed in any worker, he/she should immediately go to a warm shelter.

Condition	Skin Surface	Tissue Under Skin	Skin Color
Frostnip	Soft	Soft	Initially red, then white
Frostbite	Hard	Soft	White and waxy
Freezing	Hard	Hard	Blotchy, white to yellow-grey to grey

1. Frostnip is the incipient stage of frostbite, brought about by direct contact with a cold object or exposure of a body part to cool/cold air. Wind chill or cold water also can be major factors. This condition is not serious. Tissue damage is minor and the response to care is good. The tip of the nose, tips of ears, upper cheeks and fingers (all areas generally exposed) are most susceptible to frostnip.
2. Treatment of frostnip: Care for frostnip by warming affected areas. Usually the worker can apply warmth from his/her bare hands, blow warm air on the site, or, if the fingers are involved, hold them in the armpits. During recovery, the worker may complain of tingling or burning sensation, which is normal. If the condition does not respond to this simple care, begin treatment for frostbite.
3. Frostbite: The skin and subcutaneous layers become involved. If frostnip goes untreated, it becomes superficial frostbite. This condition is serious. Tissue damage may be serious. The worker must be transported to a medical facility for evaluation. The tip of the nose, tips of ears, upper cheeks and fingers (all areas generally exposed) are most susceptible to frostbite. The affected area will feel frozen, but only on the surface. The tissue below the surface must still be soft and have normal response to touch. DO NOT squeeze or poke the tissue. The condition of the deeper tissues can be determined by gently palpating the affected area. The skin will turn mottled or blotchy. It may also be white and then turn grayish-yellow.
4. Treatment of frostbite: When practical, transport victim as soon as possible. Get the worker inside and keep him/her warm. Do not allow any smoking or alcohol consumption. Thaw frozen parts by immersion, re-warming in a 100°F to 106°F water bath. Water temperature will drop rapidly, requiring additional warm water throughout the process. Cover the thawed part with a dry sterile dressing. Do not puncture or drain any blisters. NOTE: Never listen to myths and folk tales about the care of frostbite. Never rub a frostbitten or frozen area. Never rub snow on a frostbitten or frozen area. Rubbing the area may cause

serious damage to already injured tissues. Do not attempt to thaw a frozen area if there is any chance it will be re-frozen.

5. General cooling/Hypothermia: General cooling of the body is known as systemic hypothermia. This condition is not a common problem unless workers are exposed to cold for prolonged periods of time without any shelter.

Body Temp (°F)	Body Temp (°C)	Symptoms
99-96	37-35.5	Intense uncontrollable shivering
95-91	35.5-32.7	Violent shivering persists. If victim is conscious, has difficulty speaking.
90-86	32.6-30	Shivering decreases and is replaced by strong muscular rigidity. Muscle coordination is affected. Erratic or jerkey movements are produced. Thinking is less clear. General comprehension is dulled. There may be total amnesia. The worker is generally still able to maintain the appearance of psychological contact with his surroundings.
85-81	29.9-27.2	Victim becomes irrational, loses contact with his environment, and drifts into a stupor. Muscular rigidity continues. Pulse and respirations are slow and the worker may develop cardiac arrhythmias.
80-78	27.1-25.5	Victim becomes unconscious. He does not respond to the spoken word. Most reflexes cease to function. Heartbeat becomes erratic
Below 78	Below 25.5	Cardiac and respiratory centers of the brain fail. Ventricular fibrillation occurs; probably edema and hemorrhage in the lungs; death.

6. Treatment of hypothermia: Keep worker dry. Remove any wet clothing and replace with dry clothes, or wrap person in dry blankets. Keep person at rest. Do not allow him/her to move around. Transport the victim to a medical facility as soon as possible.

PWGC
CLIENT DRIVEN SOLUTIONS

COOLING POWER OF WIND ON EXPOSED FLESH EXPRESSED AS AN EQUIVALENT TEMPERATURE (UNDER CALM CONDITIONS)

Estimated wind Speed (in mph)	Actual Temperature Reading (^{0}F)P											
	50	40	30	20	10	0	10	20	30	40	50	60
	Equivalent Chill Temperature (^{0}F)											
Calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	15	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-146
(Wind speeds greater than 40 mph have little additional effect.)	LITTLE DANGER in < hr with dry skin. Maximum danger of false sense of security.				INCREASING DANGER Danger from freezing of exposed flesh within one minute			GREAT DANGER Flesh may freeze within 30 seconds.				
	Trench foot and imersion foot may occur at any point on this chart											

Developed by U.S. Army Research Institute of Environmental Medicine, Natick, MA.

(1) Reproduced from American Conference of Governmental Industrial Hygienists, Threshold Limit Values and Biological Exposure Indices for 1985-1986, p.01.

APPENDIX E
CHEMICAL HAZARDS

Benzene

Synonyms & Trade Names Benzol, Phenyl hydride

CAS No.	RTECS No.	DOT ID & Guide
71-43-2	CY1400000 (/niosh-rtecs/CY155CCo.html)	1114 130 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=130) (http://www.cdc.gov/Other/disclaimer.html)
Formula C_6H_6	**Conversion** 1 ppm = 3.19 mg/m3	**IDLH** Ca [500 ppm] See: 71432 (/niosh/idlh/71432.html)

Exposure Limits

NIOSH REL : Ca TWA 0.1 ppm ST 1 ppm See Appendix A (nengapdxa.html)
OSHA PEL : [1910.1028] TWA 1 ppm ST 5 ppm See Appendix F (nengapdxf.html)

Measurement Methods
NIOSH 1500 (/niosh/docs/2003-154/pdfs/1500.pdf), 1501 (/niosh/docs/2003-154/pdfs/1501.pdf), 3700 (/niosh/docs/2003-154/pdfs/3700.pdf), 3800 (/niosh/docs/2003-154/pdfs/3800.pdf);
OSHA 12 (http://www.osha.gov/dts/sltc/methods/organic/org012/org012.html) (http://www.cdc.gov/Other/disclaimer.html), 1005 (http://www.osha.gov/dts/sltc/methods/validated/1005/1005.html) (http://www.cdc.gov/Other/disclaimer.html)
See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless to light-yellow liquid with an aromatic odor. [Note: A solid below 42°F.]

MW:	BP:	FRZ:	Sol:	VP:	IP:
78.1	176°F	42°F	0.07%	75 mmHg	9.24 eV
Sp.Gr:	**Fl.P:**	**UEL:**	**LEL:**		
0.88	12°F	7.8%	1.2%		

Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.

Incompatibilities & Reactivities Strong oxidizers, many fluorides & perchlorates, nitric acid

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen]

Target Organs Eyes, skin, respiratory system, blood, central nervous system, bone marrow

Cancer Site [leukemia]

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet (flammable)
Change: No recommendation
Provide: Eyewash, Quick drench

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations
(See Appendix E) (nengapdxe.html)

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0015 (/niosh/ipcsneng/neng0015.html) See MEDICAL TESTS: 0022 (/niosh/docs/2005-110/nmed0022.html)

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Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA
800-CDC-INFO (800-232-4636) TTY: (888) 232-6348 - Contact CDC–INFO

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Ethyl benzene

Synonyms & Trade Names Ethylbenzol, Phenylethane		
CAS No. 100-41-4	**RTECS No.** DA0700000 (/niosh-rtecs/DAAAE60.html)	**DOT ID & Guide** 1175 130 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=130) (http://www.cdc.gov/Other/disclaimer.html)
Formula $CH_3CH_2C_6H_5$	**Conversion** 1 ppm = 4.34 mg/m3	**IDLH** 800 ppm [10%LEL] See: 100414 (/niosh/idlh/100414.html)
Exposure Limits **NIOSH REL** : TWA 100 ppm (435 mg/m3) ST 125 ppm (545 mg/m3) **OSHA PEL** † (nengapdxg.html) : TWA 100 ppm (435 mg/m3)		**Measurement Methods** **NIOSH** 1501 (/niosh/docs/2003-154/pdfs/1501.pdf) ; **OSHA** 7 (http://www.osha.gov/dts/sltc/methods/organic/org001/org001.html) (http://www.cdc.gov/Other/disclaimer.html) , 1002 (http://www.osha.gov/dts/sltc/methods/mdt/mdt1002/1002.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid with an aromatic odor.

MW:	BP:	FRZ:	Sol:	VP:	IP:
106.2	277°F	-139°F	0.01%	7 mmHg	8.76 eV
Sp.Gr:	**Fl.P:**	**UEL:**	**LEL:**		
0.87	55°F	6.7%	0.8%		

Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.

Incompatibilities & Reactivities Strong oxidizers

Exposure Routes inhalation, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma

Target Organs Eyes, skin, respiratory system, central nervous system

Personal Protection/Sanitation (See protection codes (protect.html)) **Skin:** Prevent skin contact **Eyes:** Prevent eye contact **Wash skin:** When contaminated **Remove:** When wet (flammable) **Change:** No recommendation	**First Aid** (See procedures (firstaid.html)) **Eye:** Irrigate immediately **Skin:** Water flush promptly **Breathing:** Respiratory support **Swallow:** Medical attention immediately

Respirator Recommendations

NIOSH/OSHA

Up to 800 ppm:
(APF = 10) Any chemical cartridge respirator with organic vapor cartridge(s)*
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
(APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)*
(APF = 10) Any supplied-air respirator*
(APF = 50) Any self-contained breathing apparatus with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0268 (/niosh/ipcsneng/neng0268.html)
See MEDICAL TESTS: 0098 (/niosh/docs/2005-110/nmed0098.html)

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Toluene

Synonyms & Trade Names Methyl benzene, Methyl benzol, Phenyl methane, Toluol

CAS No. 108-88-3	**RTECS No.** XS5250000 (/niosh-rtecs/XS501BDo.html)	**DOT ID & Guide** 1294 130 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=130) (http://www.cdc.gov/Other/disclaimer.html)
Formula $C_6H_5CH_3$	**Conversion** 1 ppm = 3.77 mg/m3	**IDLH** 500 ppm See: 108883 (/niosh/idlh/108883.html)

Exposure Limits

NIOSH REL : TWA 100 ppm (375 mg/m3) ST 150 ppm (560 mg/m3)
OSHA PEL † (nengapdxg.html) : TWA 200 ppm C 300 ppm 500 ppm (10-minute maximum peak)

Measurement Methods
NIOSH 1500 (/niosh/docs/2003-154/pdfs/1500.pdf) , 1501 (/niosh/docs/2003-154/pdfs/1501.pdf) , 3800 (/niosh/docs/2003-154/pdfs/3800.pdf) , 4000 (/niosh/docs/2003-154/pdfs/4000.pdf) ;
OSHA 111 (http://www.osha.gov/dts/sltc/methods/organic/org111/org111.html) (http://www.cdc.gov/Other/disclaimer.html)
See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid with a sweet, pungent, benzene-like odor.

MW:	BP:	FRZ:	Sol(74°F):	VP:	IP:
92.1	232°F	-139°F	0.07%	21 mmHg	8.82 eV

Sp.Gr:	Fl.P:	UEL:	LEL:
0.87	40°F	7.1%	1.1%

Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.

Incompatibilities & Reactivities Strong oxidizers

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage

Target Organs Eyes, skin, respiratory system, central nervous system, liver, kidneys

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash promptly

Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet (flammable)
Change: No recommendation

Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

Up to 500 ppm:
(APF = 10) Any chemical cartridge respirator with organic vapor cartridge(s)*
(APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)*
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
(APF = 10) Any supplied-air respirator*
(APF = 50) Any self-contained breathing apparatus with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0078 (/niosh/ipcsneng/neng0078.html) See MEDICAL TESTS: 0232 (/niosh/docs/2005-110/nmed0232.html)

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p-Xylene

Synonyms & Trade Names 1,4-Dimethylbenzene; para-Xylene; p-Xylol

CAS No. 106-42-3	**RTECS No.** ZE2625000 (/niosh-rtecs/ZE280DE8.html)	**DOT ID & Guide** 1307 130 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=130) (http://www.cdc.gov/Other/disclaimer.html)
Formula $C_6H_4(CH_3)_2$	**Conversion** 1 ppm = 4.41 mg/m³	**IDLH** 900 ppm See: 95476 (/niosh/idlh/95476.html)
Exposure Limits **NIOSH REL** : TWA 100 ppm (435 mg/m³) ST 150 ppm (655 mg/m³) **OSHA PEL** † (nengapdxg.html) : TWA 100 ppm (435 mg/m³)		**Measurement Methods** **NIOSH** 1501 (/niosh/docs/2003-154/pdfs/1501.pdf), 3800 (/niosh/docs/2003-154/pdfs/3800.pdf); **OSHA** 1002 (http://www.osha.gov/dts/sltc/methods/mdt/mdt1002/1002.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid with an aromatic odor. [Note: A solid below 56°F.]

MW:	BP:	FRZ:	Sol:	VP:	IP:
106.2	281°F	56°F	0.02%	9 mmHg	8.44 eV

Sp.Gr:	Fl.P:	UEL:	LEL:
0.86	81°F	7.0%	1.1%

Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F.

Incompatibilities & Reactivities Strong oxidizers, strong acids

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis

Target Organs Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys

Personal Protection/Sanitation (See protection codes (protect.html)) **Skin:** Prevent skin contact **Eyes:** Prevent eye contact **Wash skin:** When contaminated **Remove:** When wet (flammable)	**First Aid** (See procedures (firstaid.html)) **Eye:** Irrigate immediately **Skin:** Soap wash promptly **Breathing:** Respiratory support **Swallow:** Medical attention immediately

Change: No recommendation

Respirator Recommendations

NIOSH/OSHA

Up to 900 ppm:
(APF = 10) Any chemical cartridge respirator with organic vapor cartridge(s)*
(APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)*
(APF = 10) Any supplied-air respirator*
(APF = 50) Any self-contained breathing apparatus with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0086 (/niosh/ipcsneng/neng0086.html)

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o-Xylene

Synonyms & Trade Names 1,2-Dimethylbenzene; ortho-Xylene; o-Xylol

CAS No. 95-47-6	**RTECS No.** ZE2450000 (/niosh-rtecs/ZE256250.html)	**DOT ID & Guide** 1307 130 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=130) (http://www.cdc.gov/Other/disclaimer.html)
Formula $C_6H_4(CH_3)_2$	**Conversion** 1 ppm = 4.34 mg/m³	**IDLH** 900 ppm See: 95476 (/niosh/idlh/95476.html)

Exposure Limits
NIOSH REL : TWA 100 ppm (435 mg/m³)
ST 150 ppm (655 mg/m³)
OSHA PEL † (nengapdxg.html) : TWA 100 ppm (435 mg/m³)

Measurement Methods
NIOSH 1501 (/niosh/docs/2003-154/pdfs/1501.pdf), 3800 (/niosh/docs/2003-154/pdfs/3800.pdf);
OSHA 1002 (http://www.osha.gov/dts/sltc/methods/mdt/mdt1002/1002.html) (http://www.cdc.gov/Other/disclaimer.html)
See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid with an aromatic odor.

MW:	BP:	FRZ:	Sol:	VP:	IP:
106.2	292°F	-13°F	0.02%	7 mmHg	8.56 eV
Sp.Gr:	**Fl.P:**	**UEL:**	**LEL:**		
0.88	90°F	6.7%	0.9%		

Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F.

Incompatibilities & Reactivities Strong oxidizers, strong acids

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis

Target Organs Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet (flammable)

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash promptly
Breathing: Respiratory support
Swallow: Medical attention immediately

Remove: When wet (flammable)
Change: No recommendation

Respirator Recommendations

NIOSH/OSHA

Up to 900 ppm:
(APF = 10) Any chemical cartridge respirator with organic vapor cartridge(s)*
(APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)*
(APF = 10) Any supplied-air respirator*
(APF = 50) Any self-contained breathing apparatus with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0084 (/niosh/ipcsneng/neng0084.html)

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m-Xylene

Synonyms & Trade Names 1,3-Dimethylbenzene; meta-Xylene; m-Xylol

CAS No. 108-38-3	**RTECS No.** ZE2275000 (/niosh-rtecs/ZE22B6B8.html)	**DOT ID & Guide** 1307 130 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=130) (http://www.cdc.gov/Other/disclaimer.html)
Formula $C_6H_4(CH_3)_2$	**Conversion** 1 ppm = 4.34 mg/m³	**IDLH** 900 ppm See: 95476 (/niosh/idlh/95476.html)
Exposure Limits **NIOSH REL** : TWA 100 ppm (435 mg/m³) ST 150 ppm (655 mg/m³) **OSHA PEL** † (nengapdxg.html) : TWA 100 ppm (435 mg/m³)		**Measurement Methods** **NIOSH** 1501 (/niosh/docs/2003-154/pdfs/1501.pdf), 3800 (/niosh/docs/2003-154/pdfs/3800.pdf); **OSHA** 1002 (http://www.osha.gov/dts/sltc/methods/mdt/mdt1002/1002.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid with an aromatic odor.

MW:	BP:	FRZ:	Sol:	VP:	IP:
106.2	282°F	-54°F	Slight	9 mmHg	8.56 eV
Sp.Gr:	**Fl.P:**	**UEL:**	**LEL:**		
0.86	82°F	7.0%	1.1%		

Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F.

Incompatibilities & Reactivities Strong oxidizers, strong acids

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis

Target Organs Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys

Personal Protection/Sanitation (See protection codes (protect.html)) **Skin:** Prevent skin contact **Eyes:** Prevent eye contact **Wash skin:** When contaminated **Remove:** When wet (flammable)	**First Aid** (See procedures (firstaid.html)) **Eye:** Irrigate immediately **Skin:** Soap wash promptly **Breathing:** Respiratory support **Swallow:** Medical attention immediately

Change: No recommendation

Respirator Recommendations

NIOSH/OSHA

Up to 900 ppm:
(APF = 10) Any chemical cartridge respirator with organic vapor cartridge(s)*
(APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)*
(APF = 10) Any supplied-air respirator*
(APF = 50) Any self-contained breathing apparatus with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0085 (/niosh/ipcsneng/neng0085.html)

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Tetrachloroethylene

Synonyms & Trade Names Perchlorethylene, Perchloroethylene, Perk, Tetrachlorethylene

CAS No. 127-18-4	**RTECS No.** KX3850000 (/niosh-rtecs/KX3ABF10.html)	**DOT ID & Guide** 1897 160 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=160) (http://www.cdc.gov/Other/disclaimer.html)
Formula $Cl_2C=CCl_2$	**Conversion** 1 ppm = 6.78 mg/m3	**IDLH** Ca [150 ppm] See: 127184 (/niosh/idlh/127184.html)
Exposure Limits **NIOSH REL** : Ca Minimize workplace exposure concentrations. See Appendix A (nengapdxa.html) **OSHA PEL** † (nengapdxg.html): TWA 100 ppm C 200 ppm (for 5 minutes in any 3-hour period), with a maximum peak of 300 ppm		**Measurement Methods** **NIOSH** 1003 (/niosh/docs/2003-154/pdfs/1003.pdf); **OSHA** 1001 (http://www.osha.gov/dts/sltc/methods/mdt/mdt1001/1001.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid with a mild, chloroform-like odor.

MW:	BP:	FRZ:	Sol:	VP:	IP:
165.8	250°F	-2°F	0.02%	14 mmHg	9.32 eV
Sp.Gr:	**Fl.P:**	**UEL:**	**LEL:**		
1.62	NA	NA	NA		

Noncombustible Liquid, but decomposes in a fire to hydrogen chloride and phosgene.

Incompatibilities & Reactivities Strong oxidizers; chemically-active metals such as lithium, beryllium & barium; caustic soda; sodium hydroxide; potash

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]

Target Organs Eyes, skin, respiratory system, liver, kidneys, central nervous system

Cancer Site [in animals: liver tumors]

Personal Protection/Sanitation (See protection codes (protect.html))	First Aid (See procedures (firstaid.html))
Skin: Prevent skin contact **Eyes:** Prevent eye contact **Wash skin:** When contaminated **Remove:** When wet or contaminated **Change:** No recommendation **Provide:** Eyewash, Quick drench	**Eye:** Irrigate immediately **Skin:** Soap wash promptly **Breathing:** Respiratory support **Swallow:** Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0076 (/niosh/ipcsneng/neng0076.html) See MEDICAL TESTS: 0179 (/niosh/docs/2005-110/nmed0179.html)

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Trichloroethylene

Synonyms & Trade Names Ethylene trichloride, TCE, Trichloroethene, Trilene

CAS No. 79-01-6	**RTECS No.** KX4550000 (/niosh-rtecs/KX456D70.html)	**DOT ID & Guide** 1710 160 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=160) (http://www.cdc.gov/Other/disclaimer.html)
Formula $ClCH=CCl_2$	**Conversion** 1 ppm = 5.37 mg/m3	**IDLH** Ca [1000 ppm] See: 79016 (/niosh/idlh/79016.html)
Exposure Limits **NIOSH REL** : Ca See Appendix A (nengapdxa.html) See Appendix C (nengapdxc.html) **OSHA PEL** † (nengapdxg.html) : TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 2 hours)		**Measurement Methods** **NIOSH** 1022 (/niosh/docs/2003-154/pdfs/1022.pdf) , 3800 (/niosh/docs/2003-154/pdfs/3800.pdf) ; **OSHA** 1001 (http://www.osha.gov/dts/sltc/methods/mdt/mdt1001/1001.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid (unless dyed blue) with a chloroform-like odor.

MW:	BP:	FRZ:	Sol:	VP:	IP:
131.4	189°F	-99°F	0.1%	58 mmHg	9.45 eV
Sp.Gr: 1.46	**Fl.P:** ?	UEL(77°F): 10.5%	LEL(77°F): 8%		

Combustible Liquid, but burns with difficulty.

Incompatibilities & Reactivities Strong caustics & alkalis; chemically-active metals (such as barium, lithium, sodium, magnesium, titanium & beryllium)

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]

Target Organs Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system

Cancer Site [in animals: liver & kidney cancer]

Personal Protection/Sanitation (See protection codes (protect.html))	**First Aid** (See procedures (firstaid.html)) **Eye:** Irrigate immediately

codes (protectionin.)

Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: No recommendation
Provide: Eyewash, Quick drench

Eye: Irrigate immediately
Skin: Soap wash promptly
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0081 (/niosh/ipcsneng/neng0081.html)
See MEDICAL TESTS: 0236 (/niosh/docs/2005-110/nmed0236.html)

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Vinylidene chloride

Synonyms & Trade Names 1,1-DCE; 1,1-Dichloroethene; 1,1-Dichloroethylene; VDC; Vinylidene chloride monomer; Vinylidene dichloride

CAS No. 75-35-4	**RTECS No.** KV9275000 (/niosh-rtecs/KV8D8678.html)	**DOT ID & Guide** 1303 130P (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=130&poly=1) (http://www.cdc.gov/Other/disclaimer.html) (inhibited)
Formula $CH_2=CCl_2$	**Conversion**	**IDLH** Ca [N.D.] See: IDLH INDEX (/niosh/idlh/intridl4.html)
Exposure Limits **NIOSH REL** : Ca See Appendix A (nengapdxa.html) **OSHA PEL** † (nengapdxg.html) : none		**Measurement Methods** **NIOSH** 1015 (/niosh/docs/2003-154/pdfs/1015.pdf) ; **OSHA** 19 (http://www.osha.gov/dts/sltc/methods/organic/org019/org019.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid or gas (above 89°F) with a mild, sweet, chloroform-like odor.

MW:	BP:	FRZ:	Sol:	VP:	IP:
96.9	89°F	-189°F	0.04%	500 mmHg	10.00 eV
Sp.Gr:	**Fl.P:**	**UEL:**	**LEL:**		
1.21	-2°F	15.5%	6.5%		

Class IA Flammable Liquid: Fl.P. below 73°F and BP below 100°F.

Incompatibilities & Reactivities Aluminum, sunlight, air, copper, heat [Note: Polymerization may occur if exposed to oxidizers, chlorosulfonic acid, nitric acid, or oleum. Inhibitors such as the monomethyl ether of hydroquinone are added to prevent polymerization.]

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, throat; dizziness, headache, nausea, dyspnea (breathing difficulty); liver, kidney disturbance; pneumonitis; [potential occupational carcinogen]

Target Organs Eyes, skin, respiratory system, central nervous system, liver, kidneys

Cancer Site [in animals: liver & kidney tumors]

Personal Protection/Sanitation (See protection codes (protect.html))	First Aid (See procedures (firstaid.html))
Skin: Prevent skin contact **Eyes:** Prevent eye contact **Wash skin:** When contaminated **Remove:** When wet (flammable) **Change:** No recommendation **Provide:** Eyewash, Quick drench	**Eye:** Irrigate immediately **Skin:** Soap flush immediately **Breathing:** Respiratory support **Swallow:** Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0083 (/niosh/ipcsneng/neng0083.html)

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1,2-Dichloroethylene

Synonyms & Trade Names Acetylene dichloride, cis-Acetylene dichloride, trans-Acetylene dichloride, sym-Dichloroethylene

CAS No. 540-59-0	**RTECS No.** KV9360000 (/niosh-rtecs/KV8ED280.html)	**DOT ID & Guide** 1150 130P (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=130&poly=1) (http://www.cdc.gov/Other/disclaimer.html)
Formula ClCH=CHCl	**Conversion** 1 ppm = 3.97 mg/m3	**IDLH** 1000 ppm See: 540590 (/niosh/idlh/540590.html)
Exposure Limits **NIOSH REL** : TWA 200 ppm (790 mg/m3) **OSHA PEL** : TWA 200 ppm (790 mg/m3)		**Measurement Methods** **NIOSH** 1003 (/niosh/docs/2003-154/pdfs/1003.pdf); **OSHA** 7 (http://www.osha.gov/dts/sltc/methods/organic/org001/org001.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid (usually a mixture of the cis & trans isomers) with a slightly acrid, chloroform-like odor.

MW: 97.0	**BP:** 118-140°F	**FRZ:** -57 to -115°F	**Sol:** 0.4%	**VP:** 180-265 mmHg	**IP:** 9.65 eV
Sp.Gr(77°F): 1.27	**Fl.P:** 36-39°F	**UEL:** 12.8%	**LEL:** 5.6%		

Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.

Incompatibilities & Reactivities Strong oxidizers, strong alkalis, potassium hydroxide, copper [Note: Usually contains inhibitors to prevent polymerization.]

Exposure Routes inhalation, ingestion, skin and/or eye contact

Symptoms irritation eyes, respiratory system; central nervous system depression

Target Organs Eyes, respiratory system, central nervous system

Personal Protection/Sanitation (See protection codes (protect.html)) **Skin:** Prevent skin contact **Eyes:** Prevent eye contact	**First Aid** (See procedures (firstaid.html)) **Eye:** Irrigate immediately **Skin:** Soap wash promptly **Breathing:** Respiratory support

Wash skin: When contaminated **Remove:** When wet (flammable) **Change:** No recommendation	**Swallow:** Medical attention immediately

Respirator Recommendations

NIOSH/OSHA

Up to 1000 ppm:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode£
(APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)£
(APF = 50) Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s)
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0436 (/niosh/ipcsneng/neng0436.html)

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Vinyl chloride

Synonyms & Trade Names Chloroethene, Chloroethylene, Ethylene monochloride, Monochloroethene, Monochloroethylene, VC, Vinyl chloride monomer (VCM)

CAS No. 75-01-4	**RTECS No.** KU9625000 (/niosh-rtecs/KU92DDA8.html)	**DOT ID & Guide** 1086 116P (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=116&poly=1) (http://www.cdc.gov/Other/disclaimer.html) (inhibited)
Formula CH_2=CHCl	**Conversion** 1 ppm = 2.56 mg/m3	**IDLH** Ca [N.D.] See: IDLH INDEX (/niosh/idlh/intridl4.html)
Exposure Limits **NIOSH REL** : Ca See Appendix A (nengapdxa.html) **OSHA PEL** : [1910.1017] TWA 1 ppm C 5 ppm [15-minute]		**Measurement Methods** **NIOSH** 1007 (/niosh/docs/2003-154/pdfs/1007.pdf) ; **OSHA** 4 (http://www.osha.gov/dts/sltc/methods/organic/org004/org004.html) (http://www.cdc.gov/Other/disclaimer.html) , 75 (http://www.osha.gov/dts/sltc/methods/organic/org075/org075.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless gas or liquid (below 7°F) with a pleasant odor at high concentrations. [Note: Shipped as a liquefied compressed gas.]

MW: 62.5	**BP:** 7°F	**FRZ:** -256°F	Sol(77°F): 0.1%	**VP:** 3.3 atm	**IP:** 9.99 eV
	Fl.P: NA (Gas)	**UEL:** 33.0%	**LEL:** 3.6%	**RGasD:** 2.21	

Flammable Gas

Incompatibilities & Reactivities Copper, oxidizers, aluminum, peroxides, iron, steel [Note: Polymerizes in air, sunlight, or heat unless stabilized by inhibitors such as phenol. Attacks iron & steel in presence of moisture.]

Exposure Routes inhalation, skin and/or eye contact (liquid)

Symptoms lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]

Target Organs Liver, central nervous system, blood, respiratory system, lymphatic system

Cancer Site [liver cancer]

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Frostbite
Eyes: Frostbite
Wash skin: No recommendation
Remove: When wet (flammable)
Change: No recommendation
Provide: Frostbite wash

First Aid (See procedures (firstaid.html))
Eye: Frostbite
Skin: Frostbite
Breathing: Respiratory support

Respirator Recommendations
(See Appendix E) (nengapdxe.html)

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0082 (/niosh/ipcsneng/neng0082.html)
See MEDICAL TESTS: 0241 (/niosh/docs/2005-110/nmed0241.html)

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Methyl chloroform

Synonyms & Trade Names Chlorothene; 1,1,1-Trichloroethane; 1,1,1-Trichloroethane (stabilized)

CAS No. 71-55-6	**RTECS No.** KJ2975000 (/niosh-rtecs/KJ2D6518.html)	**DOT ID & Guide** 2831 160 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=160) (http://www.cdc.gov/Other/disclaimer.html)
Formula CH_3CCl_3	**Conversion** 1 ppm = 5.46 mg/m3	**IDLH** 700 ppm See: 71556 (/niosh/idlh/71556.html)
Exposure Limits **NIOSH REL** : C 350 ppm (1900 mg/m3) [15-minute] See Appendix C (nengapdxc.html) (Chloroethanes) **OSHA PEL** † (nengapdxg.html): TWA 350 ppm (1900 mg/m3)		**Measurement Methods** **NIOSH** 1003 (/niosh/docs/2003-154/pdfs/1003.pdf) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless liquid with a mild, chloroform-like odor.

MW:	BP:	FRZ:	Sol:	VP:	IP:
133.4	165°F	-23°F	0.4%	100 mmHg	11.00 eV
Sp.Gr: 1.34	**Fl.P:** ?	**UEL:** 12.5%	**LEL:** 7.5%		

Combustible Liquid, but burns with difficulty.

Incompatibilities & Reactivities Strong caustics; strong oxidizers; chemically-active metals such as zinc, aluminum, magnesium powders, sodium & potassium; water [Note: Reacts slowly with water to form hydrochloric acid.]

Exposure Routes inhalation, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin; headache, lassitude (weakness, exhaustion), central nervous system depression, poor equilibrium; dermatitis; cardiac arrhythmias; liver damage

Target Organs Eyes, skin, central nervous system, cardiovascular system, liver

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: No recommendation

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash promptly
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH/OSHA

Up to 700 ppm:
(APF = 10) Any supplied-air respirator*
(APF = 50) Any self-contained breathing apparatus with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0079 (/niosh/ipcsneng/neng0079.html) See MEDICAL TESTS: 0141 (/niosh/docs/2005-110/nmed0141.html)

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Coal tar pitch volatiles

Synonyms & Trade Names Synonyms vary depending upon the specific compound (e.g., pyrene, phenanthrene, acridine, chrysene, anthracene & benzo(a)pyrene). [Note: NIOSH considers coal tar, coal tar pitch, and creosote to be coal tar products.]

CAS No.	RTECS No.	DOT ID & Guide
65996-93-2	GF8655000 (/niosh-rtecs/GF841098.html)	2713 153 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=153) (http://www.cdc.gov/Other/disclaimer.html) (acridine)
	Conversion	**IDLH** Ca [80 mg/m3] See: 65996932 (/niosh/idlh/65996932.html)

Exposure Limits

NIOSH REL : Ca TWA 0.1 mg/m3 (cyclohexane-extractable fraction)
See Appendix A (nengapdxa.html)
See Appendix C (nengapdxc.html)
OSHA PEL : TWA 0.2 mg/m3 (benzene-soluble fraction) [1910.1002] See Appendix C (nengapdxc.html)

Measurement Methods
OSHA 58 (http://www.osha.gov/dts/sltc/methods/organic/org058/org058.html) (http://www.cdc.gov/Other/disclaimer.html)
See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Black or dark-brown amorphous residue.

Properties vary depending upon the specific compound.					

Combustible Solids

Incompatibilities & Reactivities Strong oxidizers

Exposure Routes inhalation, skin and/or eye contact

Symptoms dermatitis, bronchitis, [potential occupational carcinogen]

Target Organs respiratory system, skin, bladder, kidneys

Cancer Site [lung, kidney & skin cancer]

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: Daily
Remove: No recommendation
Change: Daily

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 1415 (/niosh/ipcsneng/neng1415.html) See MEDICAL TESTS: 0054 (/niosh/docs/2005-110/nmed0054.html)

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Phenol

Synonyms & Trade Names Carbolic acid, Hydroxybenzene, Monohydroxybenzene, Phenyl alcohol, Phenyl hydroxide

CAS No. 108-95-2	**RTECS No.** SJ3325000 (/niosh-rtecs/SJ32BC48.html)	**DOT ID & Guide** 1671 153 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=153) (http://www.cdc.gov/Other/disclaimer.html) (solid) 2312 153 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=153) (http://www.cdc.gov/Other/disclaimer.html) (molten) 2821 153 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=153) (http://www.cdc.gov/Other/disclaimer.html) (solution)
Formula C_6H_5OH	**Conversion** 1 ppm = 3.85 mg/m3	**IDLH** 250 ppm See: 108952 (/niosh/idlh/108952.html)
Exposure Limits **NIOSH REL** : TWA 5 ppm (19 mg/m3) C 15.6 ppm (60 mg/m3) [15-minute] [skin] **OSHA PEL** : TWA 5 ppm (19 mg/m3) [skin]		**Measurement Methods** **NIOSH** 2546 (/niosh/docs/2003-154/pdfs/2546.pdf) ; **OSHA** 32 See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless to light-pink, crystalline solid with a sweet, acrid odor. [Note: Phenol liquefies by mixing with about 8% water.]

MW: 94.1	**BP:** 359°F	MLT: 109°F	Sol(77°F): 9%	**VP:** 0.4 mmHg	**IP:** 8.50 eV
Sp.Gr: 1.06	**Fl.P:** 175°F	**UEL:** 8.6%	**LEL:** 1.8%		

Combustible Solid

Incompatibilities & Reactivities Strong oxidizers, calcium hypochlorite, aluminum chloride, acids

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, nose, throat; anorexia, weight loss; lassitude (weakness, exhaustion), muscle ache, pain; dark urine; cyanosis; liver, kidney damage; skin burns; dermatitis; ochronosis; tremor, convulsions, twitching

Target Organs Eyes, skin, respiratory system, liver, kidneys

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: Daily
Provide: Eyewash, Quick drench

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations
NIOSH/OSHA

Up to 50 ppm:
(APF = 10) Any air-purifying half-mask respirator with organic vapor cartridge(s) in combination with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100, P100.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 10) Any supplied-air respirator

Up to 125 ppm:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode
(APF = 25) Any powered, air-purifying respirator with an organic vapor cartridge in combination with a high-efficiency particulate filter.

Up to 250 ppm:
(APF = 50) Any air-purifying full-facepiece respirator equipped with organic vapor cartridge(s) in combination with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and organic vapor cartridge(s) in combination with a high-efficiency particulate filter
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0070 (/niosh/ipcsneng/neng0070.html) See MEDICAL TESTS: 0182 (/niosh/docs/2005-110/nmed0182.html)

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Naphthalene

Synonyms & Trade Names Naphthalin, Tar camphor, White tar

CAS No. 91-20-3	**RTECS No.** QJ0525000 (/niosh-rtecs/QJ802C8.html)	**DOT ID & Guide** 1334 133 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=133) (http://www.cdc.gov/Other/disclaimer.html) (crude or refined) 2304 133 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=133) (http://www.cdc.gov/Other/disclaimer.html) (molten)
Formula $C_{10}H_8$	**Conversion** 1 ppm = 5.24 mg/m³	**IDLH** 250 ppm See: 91203 (/niosh/idlh/91203.html)
Exposure Limits **NIOSH REL** : TWA 10 ppm (50 mg/m³) ST 15 ppm (75 mg/m³) **OSHA PEL** † (nengapdxg.html) : TWA 10 ppm (50 mg/m³)		**Measurement Methods** **NIOSH** 1501 (/niosh/docs/2003-154/pdfs/1501.pdf) ; **OSHA** 35 (http://www.osha.gov/dts/sltc/methods/organic/org035/org035.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless to brown solid with an odor of mothballs. [Note: Shipped as a molten solid.]

MW:	BP:	MLT:	Sol:	VP:	IP:
128.2	424°F	176°F	0.003%	0.08 mmHg	8.12 eV

Sp.Gr:	Fl.P:	UEL:	LEL:
1.15	174°F	5.9%	0.9%

Combustible Solid, but will take some effort to ignite.

Incompatibilities & Reactivities Strong oxidizers, chromic anhydride

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes; headache, confusion, excitement, malaise (vague feeling of discomfort); nausea, vomiting, abdominal pain; irritation bladder; profuse sweating; jaundice; hematuria (blood in the urine), renal shutdown; dermatitis, optical neuritis, corneal damage

Target Organs Eyes, skin, blood, liver, kidneys, central nervous system

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: Daily

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Molten flush immediately/solid-liquid soap wash promptly
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH/OSHA

Up to 100 ppm:
(APF = 10) Any air-purifying half-mask respirator with organic vapor cartridge(s) in combination with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100, P100.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.*
(APF = 10) Any supplied-air respirator*

Up to 250 ppm:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode*
(APF = 50) Any air-purifying full-facepiece respirator equipped with organic vapor cartridge(s) in combination with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 25) Any powered, air-purifying respirator with an organic vapor cartridge in combination with a high-efficiency particulate filter.*
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0667 (/niosh/ipcsneng/neng0667.html) See MEDICAL TESTS: 0152 (/niosh/docs/2005-110/nmed0152.html)

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p-Cresol

Synonyms & Trade Names para-Cresol, 4-Cresol, p-Cresylic acid, 1-Hydroxy-4-methylbenzene, 4-Hydroxytoluene, 4-Methyl phenol

CAS No. 106-44-5	**RTECS No.** GO6475000 (/niosh-rtecs/GO62CCF8.html)	**DOT ID & Guide** 2076 153 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=153) (http://www.cdc.gov/Other/disclaimer.html)
Formula $CH_3C_6H_4OH$	**Conversion** 1 ppm = 4.43 mg/m³	**IDLH** 250 ppm See: cresol (/niosh/idlh/cresol.html)
Exposure Limits **NIOSH REL** : TWA 2.3 ppm (10 mg/m³) **OSHA PEL** : TWA 5 ppm (22 mg/m³) [skin]		**Measurement Methods** **NIOSH** 2546 (/niosh/docs/2003-154/pdfs/2546.pdf) ; **OSHA** 32 See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Crystalline solid with a sweet, tarry odor. [Note: A liquid above 95°F.]

MW: 108.2	**BP:** 396°F	MLT: 95°F	**Sol:** 2%	VP(77°F): 0.11 mmHg	**IP:** 8.97 eV
Sp.Gr: 1.04	**Fl.P:** 187°F	**UEL:** ?	LEL(300°F): 1.1%		

Combustible Solid Class IIIA Combustible Liquid: Fl.P. at or above 140°F and below 200°F.

Incompatibilities & Reactivities Strong oxidizers, acids

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, mucous membrane; central nervous system effects: confusion, depression, resp failure; dyspnea (breathing difficulty), irreg rapid resp, weak pulse; eye, skin burns; dermatitis; lung, liver, kidney, pancreas damage

Target Organs Eyes, skin, respiratory system, central nervous system, liver, kidneys, pancreas, cardiovascular system

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: Daily
Provide: Eyewash, Quick drench

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

Up to 23 ppm:
(APF = 10) Any air-purifying half-mask respirator with organic vapor cartridge(s) in combination with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100, P100.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 10) Any supplied-air respirator

Up to 57.5 ppm:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode
(APF = 25) Any powered, air-purifying respirator with an organic vapor cartridge in combination with a high-efficiency particulate filter.

Up to 115 ppm:
(APF = 50) Any air-purifying full-facepiece respirator equipped with organic vapor cartridge(s) in combination with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and organic vapor cartridge(s) in combination with a high-efficiency particulate filter*
(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode*
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 250 ppm:
(APF = 2000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is

operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0031 (/niosh/ipcsneng/neng0031.html) See MEDICAL TESTS: 0059 (/niosh/docs/2005-110/nmed0059.html)

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o-Cresol

Synonyms & Trade Names ortho-Cresol, 2-Cresol, o-Cresylic acid, 1-Hydroxy-2-methylbenzene, 2-Hydroxytoluene, 2-Methyl phenol

CAS No. 95-48-7	**RTECS No.** GO6300000 (/niosh-rtecs/GO602160.html)	**DOT ID & Guide** 2076 153 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=153) (http://www.cdc.gov/Other/disclaimer.html)
Formula $CH_3C_6H_4OH$	**Conversion** 1 ppm = 4.43 mg/m³	**IDLH** 250 ppm See: cresol (/niosh/idlh/cresol.html)
Exposure Limits **NIOSH REL** : TWA 2.3 ppm (10 mg/m³) **OSHA PEL** : TWA 5 ppm (22 mg/m³) [skin]		**Measurement Methods** **NIOSH** 2546 (/niosh/docs/2003-154/pdfs/2546.pdf) ; **OSHA** 32 See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description White crystals with a sweet, tarry odor. [Note: A liquid above 88°F.]

MW: 108.2	**BP:** 376°F	MLT: 88°F	**Sol:** 2%	VP(77°F): 0.29 mmHg	**IP:** 8.93 eV
Sp.Gr: 1.05	**Fl.P:** 178°F	**UEL:** ?	LEL(300°F): 1.4%		

Combustible Solid Class IIIA Combustible Liquid: Fl.P. at or above 140°F and below 200°F.

Incompatibilities & Reactivities Strong oxidizers, acids

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, mucous membrane; central nervous system effects: confusion, depression, resp failure; dyspnea (breathing difficulty), irreg rapid resp, weak pulse; eye, skin burns; dermatitis; lung, liver, kidney, pancreas damage

Target Organs Eyes, skin, respiratory system, central nervous system, liver, kidneys, pancreas, cardiovascular system

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: Daily
Provide: Eyewash, Quick drench

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

Up to 23 ppm:
(APF = 10) Any air-purifying half-mask respirator with organic vapor cartridge(s) in combination with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100, P100.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 10) Any supplied-air respirator

Up to 57.5 ppm:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode
(APF = 25) Any powered, air-purifying respirator with an organic vapor cartridge in combination with a high-efficiency particulate filter.

Up to 115 ppm:
(APF = 50) Any air-purifying full-facepiece respirator equipped with organic vapor cartridge(s) in combination with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and organic vapor cartridge(s) in combination with a high-efficiency particulate filter*
(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode*
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 250 ppm:
(APF = 2000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is

operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0030 (/niosh/ipcsneng/neng0030.html)

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m-Cresol

Synonyms & Trade Names meta-Cresol, 3-Cresol, m-Cresylic acid, 1-Hydroxy-3-methylbenzene, 3-Hydroxytoluene, 3-Methyl phenol

CAS No. 108-39-4	**RTECS No.** GO6125000 (/niosh-rtecs/GO5D75C8.html)	**DOT ID & Guide** 2076 153 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=153) (http://www.cdc.gov/Other/disclaimer.html)
Formula $CH_3C_6H_4OH$	**Conversion** 1 ppm = 4.43 mg/m³	**IDLH** 250 ppm See: cresol (/niosh/idlh/cresol.html)
Exposure Limits **NIOSH REL** : TWA 2.3 ppm (10 mg/m³) **OSHA PEL** : TWA 5 ppm (22 mg/m³) [skin]		**Measurement Methods** **NIOSH** 2546 (/niosh/docs/2003-154/pdfs/2546.pdf); **OSHA** 32 See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Colorless to yellowish liquid with a sweet, tarry odor. [Note: A solid below 54°F.]

MW: 108.2	**BP:** 397°F	**FRZ:** 54°F	**Sol:** 2%	VP(77°F): 0.14 mmHg	**IP:** 8.98 eV
Sp.Gr: 1.03	**Fl.P:** 187°F	**UEL:** ?	LEL(300°F): 1.1%		

Class IIIA Combustible Liquid: Fl.P. at or above 140°F and below 200°F.

Incompatibilities & Reactivities Strong oxidizers, acids

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin, mucous membrane; central nervous system effects: confusion, depression, resp failure; dyspnea (breathing difficulty), irreg rapid resp, weak pulse; eye, skin burns; dermatitis; lung, liver, kidney, pancreas damage

Target Organs Eyes, skin, respiratory system, central nervous system, liver, kidneys, pancreas, cardiovascular system

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated
Remove: When wet or contaminated
Change: Daily
Provide: Eyewash, Quick drench

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

NIOSH

Up to 23 ppm:
(APF = 10) Any air-purifying half-mask respirator with organic vapor cartridge(s) in combination with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100, P100.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 10) Any supplied-air respirator

Up to 57.5 ppm:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode
(APF = 25) Any powered, air-purifying respirator with an organic vapor cartridge in combination with a high-efficiency particulate filter.

Up to 115 ppm:
(APF = 50) Any air-purifying full-facepiece respirator equipped with organic vapor cartridge(s) in combination with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and organic vapor cartridge(s) in combination with a high-efficiency particulate filter*
(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode*
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 250 ppm:
(APF = 2000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0646 (/niosh/ipcsneng/neng0646.html)

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Arsenic (inorganic compounds, as As)

Synonyms & Trade Names Arsenic metal: Arsenia
Other synonyms vary depending upon the specific As compound. [Note: OSHA considers "Inorganic Arsenic" to mean copper acetoarsenite and all inorganic compounds containing arsenic except ARSINE.]

CAS No. 7440-38-2 (metal)	**RTECS No.** CG0525000 (metal) (/niosh-rtecs/CG802C8.html)	**DOT ID & Guide** 1558 152 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=152) (http://www.cdc.gov/Other/disclaimer.html) (metal) 1562 152 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=152) (http://www.cdc.gov/Other/disclaimer.html) (dust)
Formula As (metal)	**Conversion**	**IDLH** Ca [5 mg/m³ (as As)] See: 7440382 (/niosh/idlh/7440382.html)
Exposure Limits **NIOSH REL** : Ca C 0.002 mg/m³ [15-minute] See Appendix A (nengapdxa.html) **OSHA PEL** : [1910.1018] TWA 0.010 mg/m³		**Measurement Methods** **NIOSH** 7300 (/niosh/docs/2003-154/pdfs/7300.pdf), 7301 (/niosh/docs/2003-154/pdfs/7301.pdf), 7303 (/niosh/docs/2003-154/pdfs/7303.pdf), 7900 (/niosh/docs/2003-154/pdfs/7900.pdf), 9102 (/niosh/docs/2003-154/pdfs/9102.pdf); **OSHA** ID105 (http://www.osha.gov/dts/sltc/methods/inorganic/id105/id105.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Metal: Silver-gray or tin-white, brittle, odorless solid.

MW: 74.9	**BP:** Sublimes	MLT: 1135°F (Sublimes)	**Sol:** Insoluble	**VP:** 0 mmHg (approx)	**IP:** NA
Sp.Gr: 5.73 (metal)	**Fl.P:** NA	**UEL:** NA	**LEL:** NA		

Metal: Noncombustible Solid in bulk form, but a slight explosion hazard in the form of dust when exposed to flame.

Incompatibilities & Reactivities Strong oxidizers, bromine azide [Note: Hydrogen gas can react with inorganic arsenic to form the highly toxic gas arsine.]

arsine to form the highly toxic gas arsine.]

Exposure Routes inhalation, skin absorption, skin and/or eye contact, ingestion

Symptoms Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, resp irritation, hyperpigmentation of skin, [potential occupational carcinogen]

Target Organs Liver, kidneys, skin, lungs, lymphatic system

Cancer Site [lung & lymphatic cancer]

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated/Daily
Remove: When wet or contaminated
Change: Daily
Provide: Eyewash, Quick drench

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations
(See Appendix E) (nengapdxe.html)

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted acid gas canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0013 (/niosh/ipcsneng/neng0013.html)
See MEDICAL TESTS: 0017 (/niosh/docs/2005-110/nmed0017.html)

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Lead

Synonyms & Trade Names Lead metal, Plumbum		
CAS No. 7439-92-1	**RTECS No.** OF7525000 (/niosh-rtecs/OF72D288.html)	**DOT ID & Guide**
Formula Pb	**Conversion**	**IDLH** 100 mg/m3 (as Pb) See: 7439921 (/niosh/idlh/7439921.html)

Exposure Limits

NIOSH REL *: TWA (8-hour) 0.050 mg/m3 See Appendix C (nengapdxc.html) [*Note: The REL also applies to other lead compounds (as Pb) -- see Appendix C.]

OSHA PEL *: [1910.1025] TWA 0.050 mg/m3 See Appendix C (nengapdxc.html) [*Note: The PEL also applies to other lead compounds (as Pb) -- see Appendix C.]

Measurement Methods

NIOSH 7082 (/niosh/docs/2003-154/pdfs/7082.pdf), 7105 (/niosh/docs/2003-154/pdfs/7105.pdf), 7300 (/niosh/docs/2003-154/pdfs/7300.pdf), 7301 (/niosh/docs/2003-154/pdfs/7301.pdf), 7303 (/niosh/docs/2003-154/pdfs/7303.pdf), 7700 (/niosh/docs/2003-154/pdfs/7700.pdf), 7701 (/niosh/docs/2003-154/pdfs/7701.pdf), 7702 (/niosh/docs/2003-154/pdfs/7702.pdf), 9100 (/niosh/docs/2003-154/pdfs/9100.pdf), 9102 (/niosh/docs/2003-154/pdfs/9102.pdf), 9105 (/niosh/docs/2003-154/pdfs/9105.pdf);

OSHA ID121 (http://www.osha.gov/dts/sltc/methods/inorganic/id121/id121.html) (http://www.cdc.gov/Other/disclaimer.html), ID125G (http://www.osha.gov/dts/sltc/methods/inorganic/id125g/id125g.html) (http://www.cdc.gov/Other/disclaimer.html), ID206 (http://www.osha.gov/dts/sltc/methods/inorganic/id206/id206.html) (http://www.cdc.gov/Other/disclaimer.html)

See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description A heavy, ductile, soft, gray solid.

MW:	BP:	MLT:	Sol:	VP:	IP:
207.2	3164°F	621°F	Insoluble	0 mmHg (approx)	NA

Sp.Gr:	Fl.P:	UEL:	LEL:		
11.34	NA	NA	NA		

Noncombustible Solid in bulk form.

Incompatibilities & Reactivities Strong oxidizers, hydrogen peroxide, acids

Exposure Routes inhalation, ingestion, skin and/or eye contact

Symptoms lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension

Target Organs Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: Daily
Remove: When wet or contaminated
Change: Daily

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap flush promptly
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations
(See Appendix E) (nengapdxe.html)
NIOSH/OSHA

Up to 0.5 mg/m3:
(APF = 10) Any air-purifying respirator with an N100, R100, or P100 filter (including N100, R100, and P100 filtering facepieces) except quarter-mask respirators.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 10) Any supplied-air respirator

Up to 1.25 mg/m3:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode
(APF = 25) Any powered, air-purifying respirator with a high-efficiency particulate filter.

Up to 2.5 mg/m3:
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 50 mg/m3:
(APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode

Up to 100 mg/m3:
(APF = 2000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0052 (/niosh/ipcsneng/neng0052.html) See MEDICAL TESTS: 0127 (/niosh/docs/2005-110/nmed0127.html)

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Mercury compounds [except (organo) alkyls] (as Hg)

Synonyms & Trade Names Mercury metal: Colloidal mercury, Metallic mercury, Quicksilver
Synonyms of "other" Hg compounds vary depending upon the specific compound.

CAS No. 7439-97-6 (metal)	**RTECS No.** OV4550000 (metal) (/niosh-rtecs/OV456D70.html)	**DOT ID & Guide** 2809 172 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx?guide=172) (http://www.cdc.gov/Other/disclaimer.html) (metal)
Formula Hg (metal)	**Conversion**	**IDLH** 10 mg/m3 (as Hg) See: 7439976 (/niosh/idlh/7439976.html)
Exposure Limits **NIOSH REL** : Hg Vapor: TWA 0.05 mg/m3 [skin] Other: C 0.1 mg/m3 [skin] **OSHA PEL** † (nengapdxg.html) : TWA 0.1 mg/m3		**Measurement Methods** **NIOSH** 6009 (/niosh/docs/2003-154/pdfs/6009.pdf) ; **OSHA** ID140 (http://www.osha.gov/dts/sltc/methods/inorganic/id140/id140.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Metal: Silver-white, heavy, odorless liquid. [Note: "Other" Hg compounds include all inorganic & aryl Hg compounds except (organo) alkyls.]

MW: 200.6	**BP:** 674°F	**FRZ:** -38°F	**Sol:** Insoluble	**VP:** 0.0012 mmHg	**IP:** ?
Sp.Gr: 13.6 (metal)	**Fl.P:** NA	**UEL:** NA	**LEL:** NA		

Metal: Noncombustible Liquid

Incompatibilities & Reactivities Acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis;

tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria

Target Organs Eyes, skin, respiratory system, central nervous system, kidneys

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: No recommendation
Wash skin: When contaminated
Remove: When wet or contaminated
Change: Daily

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash promptly
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations

Mercury vapor:

NIOSH

Up to 0.5 mg/m3:
(APF = 10) Any chemical cartridge respirator with cartridge(s) providing protection against the compound of concern†
(APF = 10) Any supplied-air respirator

Up to 1.25 mg/m3:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode
(APF = 25) Any powered, air-purifying respirator with cartridge(s) providing protection against the compound of concern†(canister)

Up to 2.5 mg/m3:
(APF = 50) Any chemical cartridge respirator with a full facepiece and cartridge(s) providing protection against the compound of concern†
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern†
(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and cartridge(s) providing protection against the compound of concern(canister)
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 10 mg/m3:
(APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern
Any appropriate escape-type, self-contained breathing apparatus

Other mercury compounds: NIOSH/OSHA

Up to 1 mg/m3:
(APF = 10) Any chemical cartridge respirator with cartridge(s) providing protection against the compound of concern†

(APF = 10) Any supplied-air respirator

Up to 2.5 mg/m3:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode
(APF = 25) Any powered, air-purifying respirator with cartridge(s) providing protection against the compound of concern†(canister)

Up to 5 mg/m3:
(APF = 50) Any chemical cartridge respirator with a full facepiece and cartridge(s) providing protection against the compound of concern†
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern†
(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and cartridge(s) providing protection against the compound of concern(canister)
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 10 mg/m3:
(APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0056 (/niosh/ipcsneng/neng0056.html) See MEDICAL TESTS: 0136 (/niosh/docs/2005-110/nmed0136.html)

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APPENDIX F
CONFINED SPACE ENTRY CHECKLIST/PERMIT

PWGC
CLIENT DRIVEN SOLUTIONS

CONFINED SPACE ENTRY PERMIT

Confined Space □	Hazardous Area □	Non Permit Required □

Notes:
No work will be performed unless the space meets non permit requirements
Permit valid 8 hours only. All copies of permit will remain at this job site until job is completed.
A single entry permit can be filled out prior to start of daily work.
SAFETY STANDBY PERSON IS REQUIRED FOR ALL CONFINED SPACE WORK

Site Location and Description:_____
Purpose of Entry:_____
Supervisor(s) in charge of Crew:_____

Requirements	**Date**	**Time**	**Requirements**	**Date**	**Time**
Lock Out/De-energize/try-out			**Full Body Harness w/"D" Ring**		
Line(s) Broken-capped-blanked			**Emergency Escape Retrieval**		
Purged-Flush and Vent			**Lifelines**		
Ventilation			Fire Extinguishers		
Secure Area (Post and Flag)			Lighting (Explosive Proof)		
Breathing Apparatus			Protective Clothing		
Resuscitator-Inhalator			Respirator(s) (Air Purifying)		
Standby Safety Personnel			Burning and Welding Permit		

BOLD DENOTES MINIMUM REQUIREMENTS TO BE COMPLETED & REVIEWED PRIOR TO ENTRY
Items that do not apply enter N/A in the blank

Monitoring Tests	Permissible Entry Levels	Results (record every 30 minutes beginning ½ hour prior to entry)							
Oxygen	19.5 to 23.5%								
LEL	Below 10%								
Hydrogen sulfide (H_2S)	10ppm† 15ppm‡								

†Short term exposure limit (STEL)
‡8 hour Time weighted average (TWA)

Monitoring Equipment

_____
Type Model # Serial #

_____
Type Model # Serial #

Safety standby person(s):_____

Supervisor authorizing entry:_____

APPENDIX G
EMERGENCY INFORMATION



HOSPITAL ROUTE

223-20 Braddock Ave, Jamaica, NY
to
75-59 263rd St, Glen Oaks, NY 11004

0 ¼ ½ ¾ 1 Miles

PWGC
CLIENT DRIVEN SOLUTIONS
P.W. Grosser Consulting, Inc.
630 Johnson Ave., Suite 7
Bohemia, NY 11716
Ph: 631-589-6353 • Fax: 631-589-8705
pwgc.info@pwgrosser.com

Project:	MHD1801
Date:	6/17/2019
Designed by:	JL
Drawn by:	TS
Approved by:	JL
Figure No:	1

Document Path: W:\Projects\M-R\MHD\1801\maps\Hosptial_route.mxd

EMERGENCY PHONE NUMBERS

General Emergencies - New York City Police/Fire Department/Ambulance	911
Non-Emergency Hotline - New York City Police/Fire Department/Ambulance	311
Local Emergency Medical Center (Northwell Health – Zucker Hillside)	1-718-470-8100
National Response Center	1-800-424-8802
Poison Control	1-212-340-4494
NYSDEC Spills Division	1-800-457-7362
NYSDEC Hazardous Waste Division	1-718-482-4994
NYC Office of Environmental Remediation	1-212-788-8841
NYC Department of Health	1-212-788-4711
PWGC Project Director, Kris Almskog	1-631-589-6353
PWGC Project Manager, Jennifer Lewis	1-631-589-6353
PWGC Site Safety Officer, Chandler Precht (or assignee)	1-631-404-0938

PWGC
CLIENT DRIVEN SOLUTIONS

INCIDENT / NEAR MISS REPORT AND INVESTIGATION - PAGE 1 OF 2
TYPE OF INCIDENT - CHECK ALL THAT APPLY
☐INJURY/ILLNESS ☐VEHICLE DAMAGE ☐PROPERTY DAMAGE ☐FIRE ☐SPILL/RELEASE ☐PERMIT EXCEEDENCE ☐NEAR MISS ☐OTHER
GENERAL INFORMATION
PROJECT NAME: DATE OF REPORT: REPORT NO.:
DATE OF INCIDENT: TIME: DAY OF WEEK:
LOCATION OF INCIDENT:
WEATHER CONDITIONS: ADEQUATE LIGHTING AT SCENE? ☐YES ☐NO ☐N/A
DESCRIBE WHAT HAPPENED (STEP BY STEP - USE ADDITIONAL PAGES IF NECESSARY)
AFFECTED EMPLOYEE INFORMATION
NAME: EMPLOYEE: ☐YES ☐NO
HOME ADDRESS:
SOCIAL SECURITY NO.: HOME PHONE NO.:
JOB CLASSIFICATION: YEARS IN JOB CLASSIFICATION:
HOURS WORKED ON SHIFT PRIOR TO INCIDENT: AGE:
DID INCIDENT RELATE TO ROUTINE TASK FOR JOB CLASSIFICATION? ☐YES ☐NO
INJURY/ILLNESS INFORMATION
NATURE OF INJURY OR ILLNESS:
OBJECT/EQUIPMENT/SUBSTANCE CAUSING HARM:
FIRST AID PROVIDED? ☐YES ☐NO
IF YES, WHERE WAS IT GIVEN: ☐ON-SITE ☐OFF-SITE
IF YES, WHO PROVIDED FIRST AID:
WILL THE INJURY/ILLNESS RESULT IN: ☐RESTRICTED DUTY ☐LOST TIME ☐UNKNOWN

INCIDENT / NEAR MISS REPORT AND INVESTIGATION - PAGE 2 OF 2 REPORT NO.
MEDICAL TREATMENT INFORMATION
WAS MEDICAL TREATMENT PROVIDED? ☐YES ☐NO
IF YES, WAS MEDICAL TREATMENT PROVIDED: ☐ON-SITE ☐DR.'S OFFICE ☐HOSPITAL
NAME OF PERSON(S) PROVIDING TREATMENT:
ADDRESS WHERE TREATMENT WAS PROVIDED:
TYPE OF TREATMENT:
VEHICLE AND PROPERTY DAMAGE INFORMATION
VEHICLE/PROPERTY DAMAGED:
DESCRIPTION OF DAMAGE:
SPILL AND AIR EMISSIONS INFORMATION:
SUBSTANCE SPILLED OR RELEASED: FROM WHERE: TO WHERE:
ESTIMATED QUANTITY/DURATION:
CERCLA HAZARDOUS SUBSTANCE? ☐YES ☐NO
REPORTABLE TO AGENCY? ☐YES ☐NO SPECIFY:
WRITTEN REPORT: ☐YES ☐NO TIME FRAME:
RESPONSE ACTION TAKEN:
PERMIT EXCEEDENCE
TYPE OF PERMIT: PERMIT #:
DATE OF EXCEEDENCE: DATE FIRST KNOWLEDGE OF EXCEEDENCE:
PERMITTED LEVEL OR CRITERIA:
EXCEEDENCE LEVEL OR CRITERIA:
REPORTABLE TO AGENCY? ☐YES ☐NO SPECIFY:
WRITTEN REPORT: ☐YES ☐NO TIME FRAME:
RESPONSE ACTION TAKEN:
NOTIFICATIONS
NAMES OF PERSONNEL NOTIFIED: DATE/TIME:
CLIENT NOTIFIED: DATE/TIME:
AGENCY NOTIFIED: DATE/TIME:
CONTACT NAME:
PERSONS PREPARING REPORT
EMPLOYEE'S NAME:(PRINT) SIGN:
SUPERVISOR'S NAME:(PRINT) SIGN:

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INVESTIGATIVE REPORT			
DATE OF INCIDENT:	DATE OF REPORT:	REPORT NUMBER:	
INCIDENT COST: ESTIMATED: $_____		ACTUAL: $_____	
OSHA RECORDABLE(S): ☐YES ☐NO # RESTRICTED DAYS ____ # DAYS AWAY FROM WORK ____			
CAUSE ANALYSIS			
IMMEDIATE CAUSES - WHAT ACTIONS AND CONDITIONS CONTRIBUTED TO THIS EVENT?			
BASIC CAUSES - WHAT SPECIFIC PERSONAL OR JOB FACTORS CONTRIBUTED TO THIS EVENT?			
ACTION PLAN			
REMEDIAL ACTIONS - WHAT HAS AND OR SHOULD BE DONE TO CONTROL EACH OF THE CAUSES LISTED?			
ACTION	PERSON RESPONSIBLE	TARGET DATE	COMPLETION DATE
PERSONS PERFORMING INVESTIGATION			
INVESTIGATOR'S NAME: (PRINT)	SIGN:	DATE:	
INVESTIGATOR'S NAME: (PRINT)	SIGN:	DATE:	
INVESTIGATOR'S NAME: (PRINT)	SIGN:	DATE:	
MANAGEMENT REVIEW			
PROJECT MANAGER: (PRINT)	SIGN:	DATE:	
COMMENTS:			
H&S MANAGER: (PRINT)	SIGN:	DATE:	
COMMENTS:			

EXAMPLES OF IMMEDIATE CAUSES

Substandard Actions

1. Operating equipment without authority
2. Failure to warn
3. Failure to secure
4. Operating at improper speed
5. Making safety devices inoperable
6. Removing safety devices
7. Using defective equipment
8. Failure to use PPE properly
9. Improper loading
10. Improper placement
11. Improper lifting
12. Improper position for task
13. Servicing equipment in operation
14. Under influence of alcohol/drugs
15. Horseplay

Substandard Conditions

1. Guards or barriers
2. Protective equipment
3. Tools, equipment, or materials
4. Congestion
5. Warning system
6. Fire and explosion hazards
7. Poor housekeeping
8. Noise exposure
9. Exposure to hazardous materials
10. Extreme temperature exposure
11. Illumination
12. Ventilation
13. Visibility

EXAMPLES OF BASIC CAUSES

Personal Factors

1. Capability
2. Knowledge
3. Skill
4. Stress
5. Motivation
6. Work Standards
7. Wear and tear
8. Abuse or misuse

Job Factors

1. Supervision
2. Engineering
3. Purchasing
4. Maintenance
5. Tools/equipment

MANAGEMENT PROGRAMS FOR CONTROL OF INCIDENTS

1. Leadership and administration
2. Management training
3. Planned inspections
4. Task analysis and procedures
5. Task observation
6. Emergency preparedness
7. Organizational rules
8. Accident/incident analysis
9. Personal protective equipment
10. Health control
11. Program audits
12. Engineering controls
13. Personal communications
14. Group meetings
15. General promotion
16. Hiring and placement
17. Purchasing controls

PWGC
CLIENT DRIVEN SOLUTIONS

APPENDIX E

AUTO REPAIR SHOP
223-20 BRADDOCK AVENUE
QUEENS VILLAGE, NEW YORK 11428
BLOCK 10757, LOT 32

COMMUNITY AIR MONITORING PLAN

SUBMITTED TO:

New York State Department of Environmental Conservation
Region 2
47-40 21st Street
Long Island City, New York 11101

PREPARED FOR:

223-20 Braddock Avenue Corp.
c/o Robert R. Dooley, Esq.
McGiff Halverson, LLP
96 South Ocean Avenue
Patchogue, NY 11772

PREPARED BY:

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Kris Almskog, PG, Vice President KrisA@pwgrosser.com
Jennifer Lewis, PG, Senior Project Manager JenniferL@pwgrosser.com

PWGC Project Number: MHD1801

JUNE 2019

HEALTH & SAFETY PLAN
223-20 BRADDOCK AVENUE, QUEENS VILLAGE, NY

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1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) provides measures for protection for the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved) from potential airborne contaminant releases resulting from investigation and/or remedial action at the 223-20 Braddock Avenue, Queens Village, New York site.

The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that the investigation and/or remedial work did not spread contamination off-site through the air. The CAMP will be implemented as follows:

- Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.
- Periodic monitoring for volatile organic compounds (VOCs) will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

The primary concerns for this site are VOCs, SVOCs, metals, and dust particulates.

1.1 Regulatory Requirements

This CAMP was established in accordance with the following requirements:

- New York State Department of Health's (NYSDOH) Generic Community Air Monitoring Plan: This guidance specifies that a community air-monitoring program shall be implemented to protect the surrounding community and to confirm that the work does not spread contamination off-site through the air.

2.0 AIR MONITORING

The following sections contain information describing the types, frequency and location of real-time monitoring.

2.1 Real-Time Monitoring

This section addresses the real-time monitoring that will be conducted within the work area, and along the site perimeter, during intrusive activities such as excavation, product recovery, manipulation of soil piles, extraction of sheet piling, etc.

Air monitoring data will be documented in a site log book by the designated site safety officer. PWGC's site safety officer or delegate must ensure that air monitoring instruments are calibrated and maintained in accordance with manufacturer's specifications. All instruments will be zeroed daily and checked for accuracy. A daily log will be kept. If additional monitoring is required, the protocols will be developed and appended to this plan.

2.1.1 Air Monitoring Equipment

Air will be monitored for VOCs with a MiniRAE 2000 PID (or equivalent). This instrument is appropriate to measure the types of contaminants known or suspected to be present, and is capable of calculating 15-minute running average concentrations, which will be compared to the levels specified in Section 2.1.2

Fugitive respirable dust will be monitored using a MiniRAM Model PDM-3 aerosol monitor (or equivalent). This instrument is capable of measuring particulate matter less than 10 micrometers in size (PM-10), is capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level, and is equipped with an audible alarm to indicate exceedance of the action level specified in Section 2.1.3.

2.1.2 VOC Monitoring, Response Levels, and Actions

VOCs will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. VOC monitoring Action Levels are as described below:

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued.
- If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over

background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings will be recorded and be available for NYSDEC and/or NYSDOH personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

2.1.3 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. In addition, fugitive dust migration should be visually assessed during all work activities. Particulate monitoring Action Levels are as described below:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (µg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 µg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 µg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 µg/m^3 of the upwind level and in preventing visible dust migration.

All 15-minute readings will be recorded and be available for NYSDEC and/or NYSDOH personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

3.0 SPECIAL REQUIREMENTS

3.1 Requirements for Work within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.
- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 µg/m^3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to µg/m^3 or less at the monitoring point.
- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

3.2 Requirements for Indoor Work with Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under “Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures” except that in this instance “nearby/occupied structures” would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

4.0 VAPOR SUPPRESSION TECHNIQUES

Vapor suppression techniques must be employed when action levels warrant the use of these techniques.

The techniques to be implemented for control of VOCs from stockpiled soil or from the open excavation will include one or more of the following:

- cover with plastic
- cover with “clean soil”
- application of hydro-mulch material*
- limit working hours to favorable wind and temperature conditions

*This material is a seedless version of the hydro-seed product commonly used by commercial landscaping contractors to provide stabilization and rapid grow-in of grasses or wild flowers along highways, embankments and other large areas. Hydro-mulch can be sprayed over open excavation areas, temporary stockpile areas and loaded trucks, as necessary. This is a highly effective method for controlling odors, because the release of odors is sealed immediately at the source.

5.0 DUST SUPPRESSION TECHNIQUES

Reasonable dust-suppression techniques must be employed during all work that may generate dust, such as excavation, grading, and placement of clean fill. The following techniques were shown to be effective for controlling the generation and migration of dust during remedial activities:

- Wetting equipment and excavation faces;
- Spraying water on buckets during excavation and dumping;
- Hauling materials in properly covered containers; and,
- Restricting vehicle speeds to 10 mph.

Using atomizing sprays will prevent overly wet conditions, conserve water, and offer an effective means of suppressing fugitive dust. It is imperative that utilizing water for suppressing dust will not create surface runoff.

6.0 DATA QUALITY ASSURANCE

6.1 Calibration

Instrument calibration shall be documented in the designated field logbook. All instruments shall be calibrated before each shift. Calibration checks may be used during the day to confirm instrument accuracy. Duplicate readings may be taken to confirm individual instrument response.

6.2 Operations

All instruments shall be operated in accordance with the manufacturer's specifications. Manufacturers' literature, including an operations manual for each piece of monitoring equipment will be maintained on-site by the FTL/HSO for reference.

6.3 Data Review

The Field Team Leader FTL/HSO will interpret all monitoring data based on the action levels specified in Sections 2.1.2 and 2.1.3 and his/her professional judgment. The FTL/HSO shall review the data with the HSM to evaluate the potential for worker exposure, upgrades/downgrades in level of protection, comparison to direct reading instrumentation and changes in the integrated monitoring strategy.

Monitoring and sampling data, along with all sample documentation will be periodically reviewed by the HSM.

7.0 RECORDS AND REPORTING

All readings must be recorded and available for review by personnel from NYSDEC and NYSDOH. Should any of the action levels be exceeded, the NYSDEC Division of Air Resources must be notified in writing within five (5) working days.

The notification shall include a description of the control measures implemented to prevent further exceedances.