

Property-Specific Soil Vapor Intrusion Investigation Report: 1769 Emerson Street

Former Emerson Street Landfill
NYSDEC Site #828023

Location:

Former Emerson Street Landfill
1769 Emerson Street
Rochester, New York

Prepared for:

City of Rochester
Division of Environmental Quality
Room 300-B
Rochester, New York 14614

LaBella Project No. 210173

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I. Executive Summary

1769 Emerson Street (“the Site”) is located on the Former Emerson Street Landfill (FESL) which operated as a municipal landfill by the City of Rochester (“the City”) from sometime between the 1940s and 1951 until 1971. Based on an initial assessment of all buildings across the FESL conducted from 2009-2011 by LaBella Associates D.P.C. (“LaBella”) on behalf of the City, one (1) of the buildings on the Site, the Resource Recovery Facility (RRF), was recommended for soil vapor intrusion (SVI) testing. Subsequently, LaBella conducted SVI testing at the Site on behalf of the City to evaluate the presence of SVI due to the FESL. This report documents the SVI testing completed and presents the findings and conclusions of the testing.

Summary of Testing

The SVI testing was completed on January 11, 2017 and consisted of the collection of three (3) sub-slab samples with collocated indoor air samples, and one (1) outdoor air sample to evaluate background conditions. The samples were collected over an approximate 6-hour timeframe and analyzed for a select list of volatile organic compounds (VOCs) known to be associated with the FESL.

The testing was completed in accordance with a New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) approved *Soil Vapor Intrusion Investigation Work Plan: Phase II: Parcel Specific Investigation* dated January 2016 and the *NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006 and subsequent updates dated September 2013 and August 2015 (“NYSDOH Guidance”). It should be noted the NYSDOH Guidance Decision Matrices were updated in May 2017 and the updated values do not change the conclusions and recommendations of this assessment.

Conclusions and Recommendations

The SVI testing results were compared to the NYSDOH Guidance decision matrices. The results indicated no further action is warranted. Based on the assessments completed to date, no further action related to SVI is warranted at the Site.

1.0 Introduction

This Property-Specific Soil Vapor Intrusion Investigation report is for the property located at 1769 Emerson Street, City of Rochester, Monroe County, New York (“the Site”). The Site is located within the Former Emerson Street Landfill (FESL) which operated as a municipal landfill by the City of Rochester (“the City”) from sometime between the 1940s and 1951 until 1971. The City entered into an Order-on-Consent with the New York State Department of Environmental Conservation (NYSDEC) in August 2009 which requires an evaluation of soil vapor intrusion (SVI) due to FESL-related releases. The Order-on-Consent also requires additional remedial investigations, remedial measures, and other mitigation and corrective actions associated with the FESL.

An initial SVI assessment consisting of building inventory and field screening of indoor air was conducted at buildings across the FESL by LaBella Associates, D.P.C. (“LaBella”) on behalf of the City from 2009-2011. This work was completed in accordance with the *Vapor Intrusion Assessment Work Plan, Data Review, Site Screening & Prioritization* dated March 2010, revised June 2010. The results of the initial SVI assessment were summarized in a report titled *Soil Vapor Intrusion Assessment Report: Data Review, Site Screening and Site Prioritization* dated June 2011 (hereinafter referred to as the “SVI Assessment Report”). The initial SVI assessment ranked buildings on the FESL for likelihood for SVI-related issues due to the FESL. The Preliminary Building Assessment and Site Reconnaissance conducted for the Site is included as Appendix 4. The NYSDEC and New York State Department of Health (NYSDOH) provided comments to this report on May 24, 2013.

Based on the initial SVI assessment, a Work Plan titled *Soil Vapor Intrusion Investigation Work Plan: Phase II: Parcel Specific Investigation* (hereinafter referred to as the “SVI Work Plan”) was submitted to the NYSDEC and NYSDOH in April 2013. The SVI Work Plan proposed SVI investigations at properties that were ranked at greatest risk for SVI during the initial assessment. The NYSDEC and NYSDOH provided comments to the SVI Work Plan on April 23, 2015 and the SVI Work Plan was resubmitted in January 2016 to address NYSDEC and NYSDOH comments. SVI investigations were completed beginning in March 2016.

This property-specific SVI report summarizes the investigation completed at the Site. The Site has three (3) buildings (Resource Recovery Facility (RRF), Transfer Station (TS) and Monroe County Recycling Center (MCRC)) with a combined square footage of approximately 267,000 square feet. The building is currently owned by Monroe County and is operated by Metro Waste Paper Recovery (Cascade Recovery) as a subcontractor to Monroe County. The RRF consists of approximately 130,000 square feet (with approximately 15,000 square feet of office space), the MCRC makes up approximately 80,000 square feet, and the TS encompasses the remaining approximately 42,000 square feet. The TS building is an open air facility that is not heated, with the exception of one small attendant office and as such, SVI testing was not included for this building in the SVI Work Plan. The RRF building is an approximately 145,000 square foot building that was recommended for SVI testing (sub-slab/indoor air testing). This report details the testing completed and the results.

2.0 Former Emerson Street Landfill Description and History

The FESL consists of approximately 250-acres of land comprised of 45 individual parcels, seven (7) of which are owned by the City. The remaining 38 parcels are owned by 25 private owners. The FESL is predominantly occupied by industrial and commercial properties (15 and 20, respectively based on use codes). In addition, City use codes indicate 5 parcels as vacant land, one (1) parcel as unknown (McCrackenville Street) and four (4) parcels are listed as community/public service (one of which is a school, Edison Tech). The surrounding area also contains industrial and commercial properties; however, residential properties are also located to the northeast. Figure 1 provides a project locus map that indicates the area of the FESL.

Prior to FESL operation, the area was primarily vacant and relatively flat lying, with a wetland located in the north-central portion of the site. As a result of landfilling activities, the FESL has been elevated approximately 15+ feet above the surrounding area. An industrial park with existing buildings constructed as early as 1971, presently occupies most of the FESL, including larger facilities and various smaller industrial/commercial facilities, as well as several undeveloped parcels and undeveloped land on otherwise developed parcels.

The FESL was operated by the City beginning between sometime in the 1940's and 1951 to 1971 as a landfill. The landfill was used to dispose of ash derived from the incineration of municipal waste at the City's incinerators. Landfilling began south of Emerson Street and gradually expanded northward and eastward to include areas between Emerson Street and Lexington Avenue and east of Colfax Street and south of Emerson Street. Ash fill and construction and demolition debris were the primary waste materials placed in the landfill. Information pertaining to the incinerator operational status and efficiency indicates that the incinerated materials were completely combusted until approximately 1964 when the incinerator efficiency decreased. Open burning of refuse reportedly occurred in the late 1960s and early 1970s due to operational problems with the incinerators. Fill during this time frame was reportedly being placed north of Emerson Street. In May of 1971 the City's incinerators were shut down; however un-incinerated municipal refuse continued to be placed north of Emerson Street until August of 1971. In August 1971, refuse disposal was ceased at FESL and disposal shifted to a different county landfill. In 1971 the landfill was officially closed and a contract for the closure of the eastern half of the landfill specified 2 feet of cover material (preferred to be a sandy loam) to be placed and compacted to 30% in 1 foot lifts. In September 1971 a contract was awarded for the closure of the western portion of the landfill. Since closure, the majority of the Site has been developed for commercial and industrial uses in addition to one high school.

The general types of wastes encountered in investigations at the FESL site include the following:

- Municipal Incinerator Ash - generally consisting of ash, cinders, charred refuse, glass and metal slag. Most ash observed in site investigations appears to be fly ash and bottom ash (clinker) from the municipal solid waste incinerators. This generally consists of soil and rock fill with traces of plastic, metal, wood, concrete, bricks, tiles, and asphalt. Construction and demolition debris observed in past investigations generally fits the definition of construction demolition debris contained in NYSDEC's Part 360. Construction demolition debris fill is common in areas adjacent to current and former roadways on site, and particularly in the lobe of fill south of Emerson Street and east of Colfax Street.

- Soil and Municipal Refuse - This material generally consists of silty sand cover material and disposed, un-incinerated municipal refuse.
- Low-activity Radioactive Waste - This material generally consisted of a sludge-like waste material associated with glass lenses. The sludge was found to contain low levels of radioactive thorium. This material was primarily encountered in the southwest portion of the FESL and was believed to be associated with incinerator ash and refuse fills. This material was removed by Severson Environmental Services on behalf of the City of Rochester (refer to Section 3.0 Previous Investigations).
- The majority of the existing landfill has a soil cover. Cover ranges in thickness from 0 ft. up to approximately 6 ft. Cover materials generally consist of topsoil with grass, gravel, asphalt, or glacial till-derived sandy silt.

A majority of the Site has been delisted; however, three (3) parcels (1660,1740, and 1700 Emerson Street (formerly 1655 Lexington Avenue)) comprising approximately sixteen (16) acres are currently listed as a Class "3" site (No. 828023) on the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites (IHWDS). A "3" classification indicates a site "at which contamination does not presently constitute significant threat to public health or the environment." The most recent delisting occurred when LaBella submitted a Delisting Petition on December 9th, 2014, for the parcel currently addressed as 1655 Lexington Avenue (formerly 1635 Lexington Avenue and a portion of former 1655 Lexington Avenue) to delist approximately 13.3 acres of land from the NYSDEC Registry of IHWDS. NYSDEC approved this delisting on March 19th, 2015, and the newly delisted land was combined into one parcel with address 1655 Lexington Avenue. The remaining portion of former 1655 Lexington Avenue was renamed 1700 Emerson Street.

3.0 Previous Investigations Related to Soil Vapor Intrusion

A significant number of investigations have been previously conducted at the Site. This section presents pertinent and significant findings in relation to SVI from select previous investigations; a more detailed review can be obtained from each individual report.

Former Emerson Street Landfill Sub-Slab Ventilation Guidance (SSVG) Document Update 2013 dated October 2013:

This document was an update of the 2007 version which evaluated and mapped historical information regarding the variable composition of the landfill and analytical data at specific locations. The 2013 document provided an update on SSVG based on additional SVI investigations at the FESL. In 2010, the City of Rochester began a SVI investigation to systematically assess potential vapor intrusion issues at the FESL. This work included detailed assessments of each existing building on the FESL, installation of additional monitoring wells, and sampling of these new wells and several existing wells, catalogue and review of existing historical data regarding the FESL, and review of stereoscopic historic aerial photographs. The results were documented in a report dated June 2010 titled "*Soil Vapor Intrusion Assessment Report: Data Review, Site Screening & Site Prioritization, Former Emerson Street Landfill, NYSDEC Site #828023*". The 2013 SSVG details methodology for selecting an appropriate ventilation system dependent on landfill gas and VOC measurements. In addition, previous reports are summarized providing

pertinent information on types and concentrations of contaminants detected.

Available analytical data types relevant to soil vapor migration include the following:

- ground surface landfill gas flux measurements throughout the landfill;
- soil gas measurements for methane, vinyl chloride (a Chlorinated-VOC), and the VOCs: benzene, toluene, ethylbenzene, and xylenes (BTEX) across a limited area (portions of the state-listed IHWDS portion of the landfill);
- photo-ionization detector (PID) measurements taken in utility vaults and sewers along roadways surrounding the landfill;
- soil samples for select Chlorinated-VOCs from borings across the landfill; and
- groundwater samples for select Chlorinated-VOCs from wells installed across the landfill.

The FESL SSVG 2013 also summarized the existing soil gas contamination information included in “*Former Emerson Street Landfill, Modified Remedial Investigation*”, H&A of New York, January 1994. During this investigation, landfill gas measurements were obtained across the landfill area with specially-designed gas flux chambers. As summarized in the report, landfill gas is typically composed of 58% methane, 42% carbon dioxide, and trace amounts of hydrogen sulfide and other organic compounds. Methane emission rates varied in the FESL samples from a minimum of 7.8 to a maximum of 1200 $\mu\text{g}/\text{m}^2$ -minute. The H&A report also contains analytical information for Chlorinated-VOCs in soil, groundwater, and utility vault water samples, and PID readings for utility vaults and manholes. Analytical results indicated the presence of Chlorinated-VOCs at various locations throughout the landfill, but concentrated in the IHWDS portion.

The report “*Former Emerson Street Landfill Remedial Investigation Report for Parcels 4, 10, and 11*”, LaBella Associates P.C., and Geomatrix Consultants, Inc., March 2001, describes sampling completed in the IHWDS portion of the landfill. Sampling was completed in soil, groundwater, sewers, and extensive soil gas points. Analytical results confirmed and further delineated the presence of CVOCs in the IHWDS portion of the landfill. These parcels are located in Quadrant A, an area likely to contain direct burial municipal waste without significant incineration. The soil gas results for the specific constituents detected in this summary are briefly summarized below:

- Vinyl chloride concentrations ranged from 0.02 milligrams per cubic meter (mg/m^3) to 9 mg/m^3
- Benzene concentrations ranged from 0.02 mg/m^3 to 0.6 mg/m^3
- Total BTEX concentrations ranged from 0.48 mg/m^3 to 499 mg/m^3
- Chlorobenzene concentrations ranged from 0.02 mg/m^3 to 1.6 mg/m^3
- Methane concentrations ranged from 380 parts per million (ppm) (or 0.038%) to 790,000 ppm (or 79%)

The FESL can be separated into four general geographic regions (FESL Quadrants) based on the landfill waste composition and historic analytical data. The Site is located in Quadrant C (refer to Figure 1).

Quadrant C is characterized by thinner fill, lower percentage of potentially putrescible solid waste and more incinerated ash, and intermediate landfill gas flux at the surface relative to other FESL areas sampled. This area is characterized by landfill gas flux measurements below 50 $\mu\text{g}/\text{m}^2$ -

minute. It has been hypothesized that this may be related to the presence of organic rich marsh-derived soils at depth in this area, as opposed to landfill related gas. There is also an area of Chlorinated-VOC contamination in this quadrant.

Soil Vapor Intrusion Assessment Report (SVI Assessment Report) dated June 2011:

LaBella was retained by the City of Rochester in January 2010 to complete a Soil Vapor Intrusion Assessment Report: Data Review, Site Screening and Site Prioritization and submitted a SVI Assessment report (June 2011) to NYSDEC. This SVI Assessment by LaBella included a detailed review of historic information available for the Site. The historic information included not only previous subsurface environmental investigations but also a detailed review of aerial photography, subsurface data from redevelopment projects (i.e., geotechnical borings and test pits), available newspaper articles from the time the landfill was operating, and reports/papers relating to City of Rochester and Monroe County waste handling and disposal practices both historically and in particular in the 1960s/1970s. In addition, groundwater sampling of existing wells was completed, additional groundwater monitoring wells were installed, developed and sampled and a site reconnaissance was conducted at every parcel where access was granted by the property owner.

The results of the cumulative work were utilized in a ranking system that use weighted numerous criteria for each building. The criteria can be separated in to two major categories, Non-FESL related factors (e.g., how many people occupy the building, building use/ potential receptor population, building construction and condition, type of heating, ventilation system, etc.) and FESL related factors (e.g., building location in relation to the P-1 plume, location in relation to filling, readings detected during Site walkthrough, etc.). The overall scores were separated into three “Tiers” of sites. Tier 1 sites were determined to be of the highest concern for SVI due to the FESL, Tier 2 sites were determined to be of moderate to low concern for SVI due to the FESL and Tier 3 sites were determined to be of low to no concern for SVI due to FESL.

The Site is located in Quadrant C of the FESL and is approximately 1,100 feet southwest of the P-1 Plume. The RRF and TS buildings were ranked Tier 1 during the SVI Assessment. The TS building is an open air facility that is not heated with the exception of one small attendant office; as such, SVI testing was recommended at the RRF only in the SVI Work Plan. The MCRC building was ranked a Tier 2; as such, SVI testing was not included at this building in the SVI Work Plan. The RRF is the closest Site Building to the P-1 plume (i.e., northernmost).

4.0 Objectives

The objective of this assessment was to evaluate the potential for SVI at the Site via sub-slab and indoor air testing. Work was completed in accordance with the NYSDEC and NYSDOH-approved 2016 SVI Work Plan and the *NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006 and subsequent updates dated September 2013 and August 2015 (NYSDOH Guidance).

There was one deviation from the SVI Work Plan. The sampling location farthest to the southeast was moved approximately 30 feet north to the location shown on Figure 2 because the originally proposed

location was within a maintenance shop with high traffic. This maintenance area was also not well heated or sealed. The sampling location was moved to a storage room. The NYSDOH approved this change via email on January 5, 2017 prior to sampling.

5.0 Standards, Criteria and Guidelines

This section identifies the applicable Standards, Criteria and Guidelines (SCGs) for the Site related to SVI.

Sub-Slab Soil Vapor and Indoor Air SCGs: The NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006 and subsequent updates for PCE and TCE in 2013 and 2015, respectively (including the USEPA Building Assessment and Survey Evaluation (BASE) Database (90th Percentile), in Appendix C of the NYSDOH document) is utilized for the SCG for soil vapor and indoor air. It should be noted the NYSDOH Guidance decision matrices were updated in May 2017 after the testing was completed. The results were also compared to the May 2017 updates.

6.0 Sampling Procedures

Sub-Slab Vapor Point Installations

SVI sampling and analysis consisted of the collection of three (3) collocated sub-slab and indoor air samples, in addition to one (1) outdoor air sample collected on January 11, 2017 over an approximate 6-hour timeframe (refer to Figure 2 for locations). The sub-slab vapor sampling points consisted of the Vapor Pin® sampling system. Points were installed by coring a 1.5-inch diameter hole approximately 2-inches into the floor slab. Subsequently, a 5/8-inch diameter hole was drilled through the center of the 1.5-inch diameter hole using a guide through the floor slab. A 5/8-inch diameter silicone sleeve fitted over a metal barbed fitting was installed within the 5/8-inch diameter core hole in order to create an air tight seal. Sub-slab soil vapor points were fitted with a threaded cap flush to the finished floor. Figure 3 illustrates the typical construction of a sub-slab vapor sampling point.

Purging Procedures

Sub-slab monitoring points were first evaluated for differential pressure between the sub-slab and indoor air using a Test Products International Digital Manometer 621. Sub-slab pressures at the SVI monitoring points were measured at a uniform 0.00 inches of water column (“wc”).

After installation of the sub-slab vapor probes, one (1) to three (3) volumes (i.e., the volume of the sample probe and tube) was purged prior to collecting the samples to ensure samples collected are representative. Flow rates for purging did not exceed 0.2 liters per minute to minimize the ambient air infiltration during sampling.

A tracer gas evaluation was conducted to verify the integrity of the sub-slab soil vapor probe seal using helium. Tubing was connected to the metal barbed fitting and an enclosure was placed over the sampling point. The enclosure was fitted with backer rod where it came in contact with the floor to create a temporary seal between the enclosure and the floor. Subsequently, the enclosure was enriched with the

tracer gas. The sub-slab and the enclosure were then tested for the tracer gas using a MDG-2002 Helium Gas Leak Detector. The tracer gas was measured at 0% of the enclosure at all three sampling points.

Sampling and Handling Procedures

On January 11, 2017, sub-slab soil vapor, indoor air, and outdoor air samples were collected using 1-liter Summa Canisters® equipped with pre-calibrated laboratory supplied flow regulators set for a sampling time of six (6) hours. Sub-slab samples were designated “1769-SVI-1”, “1769-SVI-2”, and “1769-SVI-3”. At each sub-slab vapor sample location an indoor air sample was also collected. The collocated indoor air samples were collected from approximately 3 to 5 feet above the floor slab and were collected in the same manner and general time period as the sub-slab sample. Indoor air samples were designated “1769-IAQ-1”, “1769-IAQ-2”, and “1769-IAQ-3”. In addition, an outdoor air sample was collected to evaluate the ambient air conditions. The outdoor ambient air sample was collected from the general upwind direction determine at the time of sampling. The outdoor air sample was designated “1769-Outdoor Air”. Sampling logs are included in Appendix 3.

All samples were submitted under standard chain of custody procedures to Centek Laboratory in Syracuse, New York for analysis of a select list of VOCs using USEPA Method TO-15. Based on the historic data, the detailed evaluation completed as part of the SVI Report and the current heavy manufacturing setting of the FESL, the analytical testing work was limited to compounds suspected to be due to FESL, including the following:

Compound
Tetrachloroethene
Trichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
Vinyl Chloride
1,1,1-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
Chloroethane
Chloromethane

The minimum detection limit requested for TCE was 0.25 ug/m³ and for remaining compounds was 1.0 ug/m³.

Quality Assurance/Quality Control

The Summa® Canisters were certified clean by the laboratory. Blind duplicates were collected at a rate of one (1) per ten (10) samples, or one (1) per shipment to the laboratory. Matrix spike/ matrix spike duplicate (MS/MSD) samples were collected using a 1.4-liter Summa® canister at a rate of one (1) per twenty (20) samples or one per shipment to the laboratory. The blind duplicate sample was collected from 1769-IAQ-1 and the MS/MSD sample was collected from 1769-Outdoor. The laboratory provided ASP Category B-like reports and NYSDEC EQUIS Electronic Data Deliverables (EDDs). A data usability summary report (DUSR) was prepared by Dataval, Inc.

7.0 Results

SVI sampling and analysis consisted of the collection of three (3) collocated sub-slab and indoor air samples in addition to one (1) outdoor air sample on January 11, 2017 over an approximate 6-hour timeframe.

Sub-Slab/ Indoor/ Outdoor Air Sampling

SVI sampling results were compared to the decision matrices in *NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York* Guidance Document dated October 2006 and subsequent updates for PCE and TCE in 2013 and 2015, respectively (NYSDOH Guidance Document). One (1) compound, chloromethane, was detected in all three (3) indoor air samples (note that there is no air guideline for chloromethane in Table 3.1 of the NYSDOH Guidance Document and chloromethane does not fall under one of the NYSDOH decision matrices). The concentration of chloromethane detected does not exceed the USEPA 90th Percentile Base Database of 3.7 ug/m³. Chloromethane was also detected in the Outdoor Air sample utilized to measure background conditions which indicates the concentrations of chloromethane are not due to SVI. The NYSDOH matrices indicated no further action is warranted regarding SVI at this Site. It should be noted the NYSDOH Guidance Decision Matrices were updated in May 2017 and the updated values do not change the conclusions and recommendations of this assessment. Refer to Figure 2 for sample locations and Table 1 for concentrations detected.

A DUSR was completed by a third party validator. As indicated in the DUSR included as Appendix 2, compounds that were not detected in 1769-IAQ-1 and 1769-Blind Dupe (collected from the same location as 1769-IAQ-1) were rejected and detected compounds in these samples were qualified as estimations. After approximately one (1) hour of sample collection, these two (2) canisters had lost vacuum indicating a malfunction of the connection between the indoor air sample and corresponding duplicate. As such, these samples were not collected over an approximate six (6) hour period as planned. The validated data is reflected in Table 1. Based on discussion with the validator, the results of these samples would be biased high. Due to the lack of detections of compounds other than chloromethane in these samples and in the sub-slab sample collected from this location, the changes made to not appear to significantly affect the dataset.

8.0 Conclusions

The Site is located southwest of the P-1 Plume in Quadrant C of the FESL. Based on known history of the FESL, there was limited to no filling at the Site. The Site is currently utilized industrially as a transfer station and recycling facility with 15,000 of the 267,000 square feet utilized as office space.

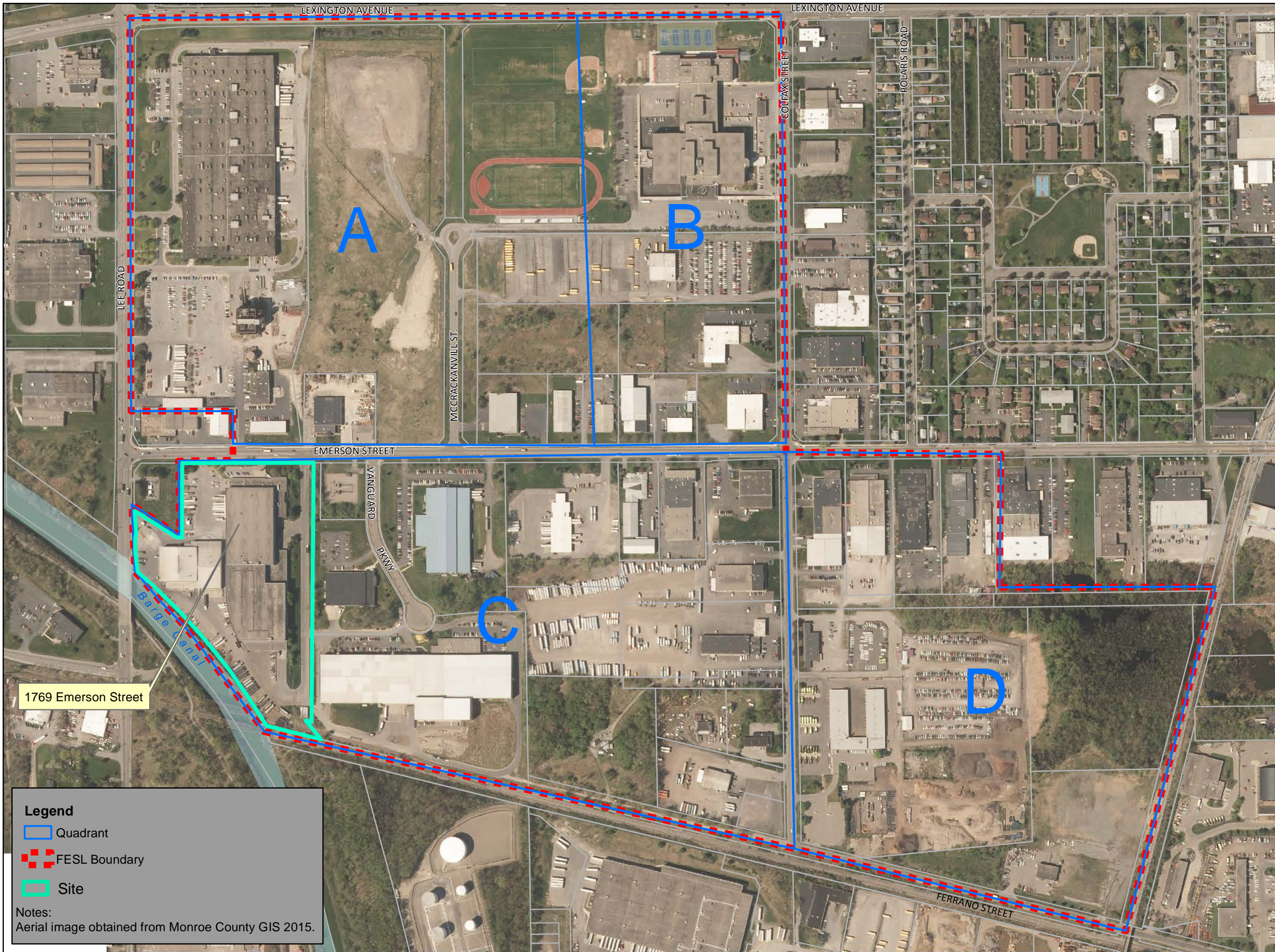
Three (3) collocated sub-slab and indoor air samples, in addition to one (1) outdoor air sample, were collected on January 11, 2017 to evaluate SVI in the Site building. The work was conducted in accordance with the NYSDEC and NYSDOH-approved work plan dated January 2016. Based on the lack of detected compounds in the indoor air with the exception of chloromethane which was also detected in the outdoor air sample utilized to establish background conditions, there is no SVI concern due to the FESL. Based on the assessments completed to date, no further action related to SVI is warranted at the Site.

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Figures



CITY OF ROCHESTER
 FORMER EMERSON STREET
 LANDFILL
 ROCHESTER, NEW YORK
 SOIL VAPOR INTRUSION
 INVESTIGATION

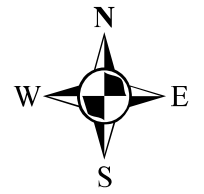
FORMER EMERSON STREET
 LANDFILL PROJECT MAP

1769 Emerson Street

Legend

- Quadrant
- FESL Boundary
- Site

Notes:
 Aerial image obtained from Monroe County GIS 2015.



0 400 Feet
 1 inch = 400 feet

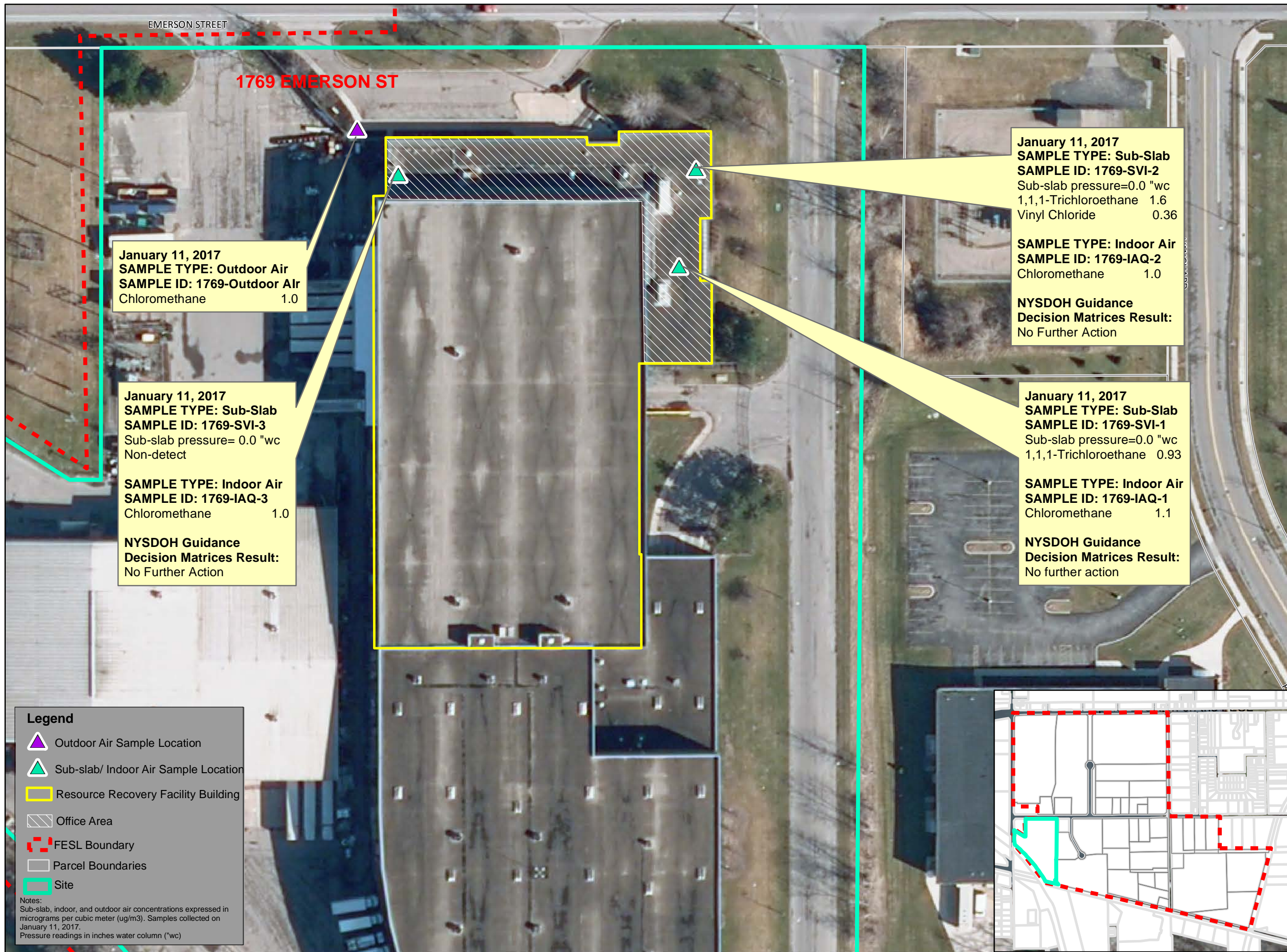
[210173]
 [FIGURE 1]

**CITY OF ROCHESTER
 FORMER EMERSON STREET
 LANDFILL
 ROCHESTER, NEW YORK**

**SOIL VAPOR INTRUSION
 INVESTIGATION**

**SOIL VAPOR
 INTRUSION
 SAMPLING RESULTS**

1769 EMERSON ST



January 11, 2017
SAMPLE TYPE: Outdoor Air
SAMPLE ID: 1769-Outdoor Air
 Chloromethane 1.0

January 11, 2017
SAMPLE TYPE: Sub-Slab
SAMPLE ID: 1769-SVI-3
 Sub-slab pressure= 0.0 "wc
 Non-detect

SAMPLE TYPE: Indoor Air
SAMPLE ID: 1769-IAQ-3
 Chloromethane 1.0

**NYSDOH Guidance
 Decision Matrices Result:**
 No Further Action

January 11, 2017
SAMPLE TYPE: Sub-Slab
SAMPLE ID: 1769-SVI-2
 Sub-slab pressure=0.0 "wc
 1,1,1-Trichloroethane 1.6
 Vinyl Chloride 0.36

SAMPLE TYPE: Indoor Air
SAMPLE ID: 1769-IAQ-2
 Chloromethane 1.0

**NYSDOH Guidance
 Decision Matrices Result:**
 No Further Action

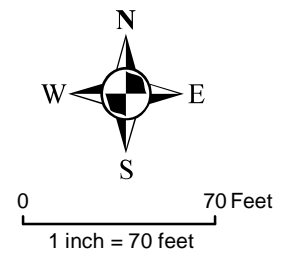
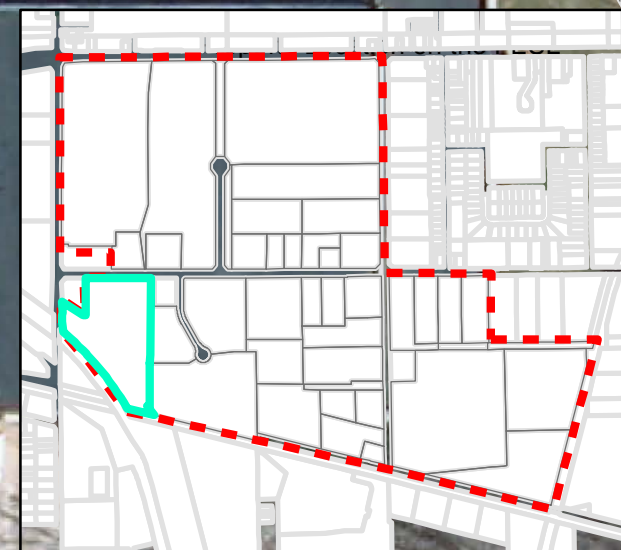
January 11, 2017
SAMPLE TYPE: Sub-Slab
SAMPLE ID: 1769-SVI-1
 Sub-slab pressure=0.0 "wc
 1,1,1-Trichloroethane 0.93

SAMPLE TYPE: Indoor Air
SAMPLE ID: 1769-IAQ-1
 Chloromethane 1.1

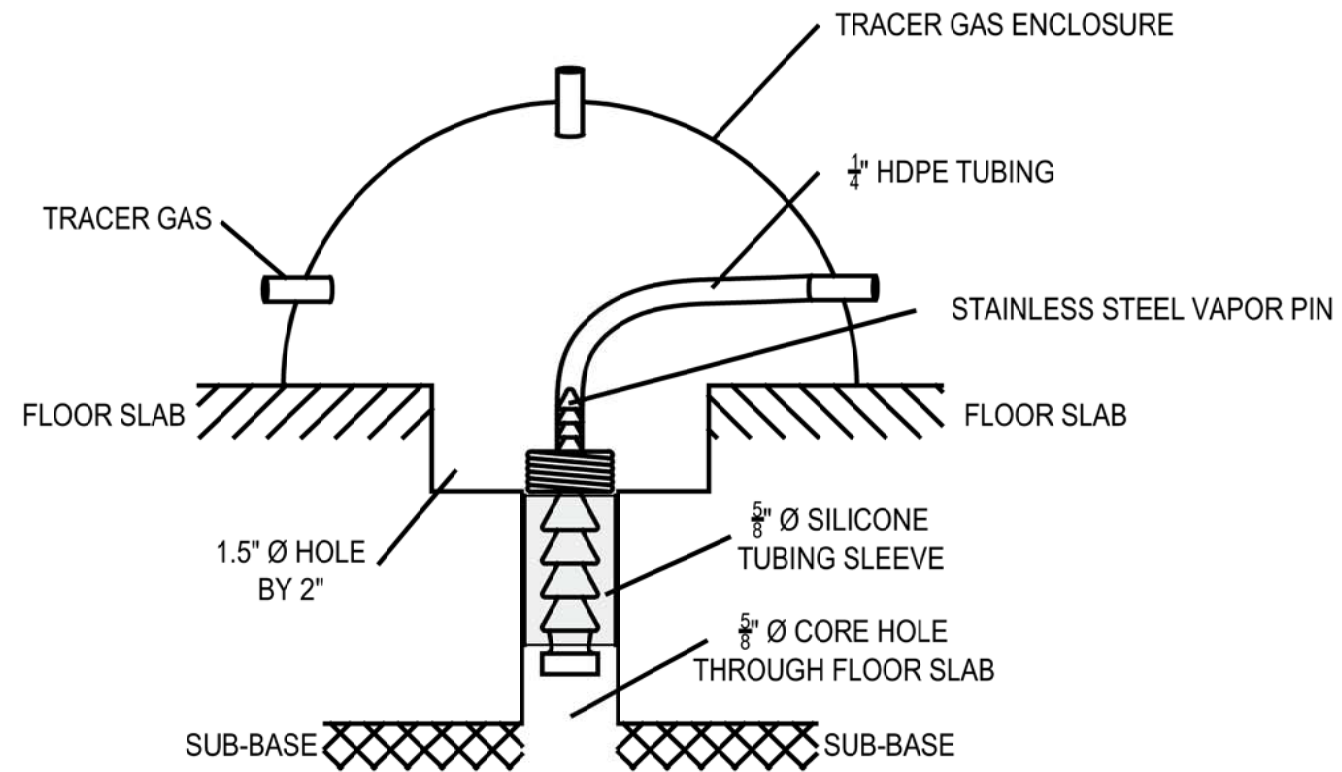
**NYSDOH Guidance
 Decision Matrices Result:**
 No further action

- Legend**
- Outdoor Air Sample Location
 - Sub-slab/ Indoor Air Sample Location
 - Resource Recovery Facility Building
 - Office Area
 - FESL Boundary
 - Parcel Boundaries
 - Site

Notes:
 Sub-slab, indoor, and outdoor air concentrations expressed in micrograms per cubic meter (ug/m3). Samples collected on January 11, 2017.
 Pressure readings in inches water column ("wc)



[210173]
 [FIGURE 2]



DETAIL 1
SUB-SLAB SOIL VAPOR SAMPLING POINT DETAIL

It is a violation of New York Education Law Article 145 Sec. 7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

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PROJECT/CLIENT
FORMER EMERSON
STREET LANDFILL
CITY OF ROCHESTER
ROCHESTER, NEW YORK

DRAWING TITLE
SUB-SLAB SOIL VAPOR
POINT DETAILS

ISSUED FOR:	DESIGNED BY:
FINAL	DPN
DATE:	DRAWN BY:
MARCH, 2017	DPN
	REVIEWED BY:
	DPN

PROJECT/DRAWING NUMBER
210173
FIGURE 3

LABELLA

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Tables

Former Emerson Street Landfill
1769 Emerson Street
Table 1
Soil Vapor Intrusion Testing Results
January 2017

Sample ID	1769-SVI-1	1769-SVI-2	1769-SVI-3	1769-IAQ-1	1769- Dupe (1769-IAQ-1)	1769-IAQ-2	1769-IAQ-3	1769-Outdoor	NYSDOH Sub-Slab Vapor Concentration Decision Matrix (minimum action level) ⁽¹⁾	NYSDOH Indoor Air Concentration (minimum action level) ⁽¹⁾	USEPA (2001) (BASE) Database - 90th Percentile ⁽²⁾
Sample Location	Sub-Slab	Sub-Slab	Sub-Slab	Indoor Air	Indoor Air	Indoor Air	Indoor Air	Outdoor Air			
Sample Date	1/11/2017	1/11/2017	1/11/2017	1/11/2017	1/11/2017	1/11/2017	1/11/2017	1/11/2017			
1,1,1-Trichloroethane	0.93	1.6	<0.82	R	R	<0.82	<0.82	<0.82	<100***	<3***	20.6
1,1-Dichloroethane	<0.61	<0.61	<0.61	R	R	<0.61	<0.61	<0.61	NL	NL	<0.7
1,1-Dichloroethene	<0.59	<0.59	<0.59	R	R	<0.59	<0.59	<0.59	<100***	<3***	<1.4
Chloroethane	<0.40	<0.40	<0.40	R	R	<0.40	<0.40	<0.40	NL	NL	<1.1
Chloromethane	<0.31	<0.31	0.35	1.1 J	1.1 J	1.0	1.0	1.0	NL	NL	3.7
cis-1,2-Dichloroethene	<0.59	<0.59	<0.59	R	R	<0.59	<0.59	<0.59	<100***	<3***	<1.9
Tetrachloroethylene	<1.0	<1.0	<1.0	R	R	<1.0	<1.0	<1.0	<100***	<3*** / 30*	15.9
trans-1,2-Dichloroethene	<0.59	<0.59	<0.59	R	R	<0.59	<0.59	<0.59	NL	NL	NL
Trichloroethene	<0.81	<0.81	<0.81	R	R	<0.21	<0.21	<0.21	<5 **	<0.25** / 2*	4.2
Vinyl Chloride	<0.38	0.36 J	<0.38	R	R	<0.10	<0.10	<0.10	<5**	<0.25**	<1.9

Notes:

Concentrations in micrograms per cubic meter (ug/m³)

Samples analyzed by USEPA Method TO-15

< indicates the concentration was not detected above the reporting limit

(1) New York State Department of Health (NYSDOH), Guidance for Evaluating Soil Vapor Intrusion in the State of New York. [Note: This Guidance uses a combination of indoor air and sub-slab soil vapor when comparing to the matrices. In addition, for compounds not listed in the matrices an overall site approach is employed which utilizes the USEPA BASE Database (see 2. below) as typical background for commercial buildings and also uses the outdoor air sample, refer to Guidance document for details.]

(2) USEPA Building Assessment and Survey Evaluation (BASE) Database (90th Percentile). As recommended in Section 3.2.4 of the NYSDOH Guidance (Refer to Footnote "1") this database is referenced for the indoor air sampling results. This database is also referenced to provide initial benchmarks for comparison to the air sampling data and does not represent regulatory standards or compliance values.

* = Air Guideline Values obtained from Table 3.1, NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York as updated by a September 2013 Fact Sheet for PCE and an August 2015 Fact Sheet for TCE.

** = Guideline Value obtained from Soil Vapor/Indoor Air Matrix 1 (minimum action level), NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

*** = Guidance Value obtained from Soil Vapor/Indoor Air Matrix 2 (minimum action level), NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

Bold type denotes that the compound was detected at a concentration that was found to exceed the NYSDOH Sub-Slab Vapor Concentration Decision Matrix (minimum action level).

Underlined type denotes that the compound was detected at a concentration that was found to exceed the NYSDOH Indoor Air Concentration (minimum action level).

Red values are above Air Guideline Derived by NYSDOH in Table 3.1 of NYSDOH Guidance titled "Evaluating Soil Vapor Intrusion in the State of New York", October 2006 (and subsequent updates).

J indicates an estimated value

Blue font represents changes made in the Data Usability Summary Report (DUSR)

R indicates the DUSR rejected the result

U indicates the DUSR deemed the concentration undetected

Former Emerson Street Landfill
1769 Emerson Street
Table 1
Soil Vapor Intrusion Testing Results
January 2017

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

MATRIX 2- 1,1,1-TRICHLOROETHANE INDOOR AIR CONCENTRATION (ug/m ³)						
SUB-SLAB VAPOR CONCENTRATION (ug/m ³)	Sample IDs	IAQ-2 (<0.82)				
			<3	3 to <30	30 to <100	100 and above
	SVI-1 (0.93) SVI-2 (1.6)	<100	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposure	3. Take reasonable and practical actions to identify source(s) and reduce exposure	4. Take reasonable and practical actions to identify source(s) and reduce exposure
	100 to <1,000	5. MONITOR	6. MONITOR/ MITIGATE	7. MITIGATE	8. MITIGATE	
	1,000 and above	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE	

MATRIX 1- VINYL CHLORIDE INDOOR AIR CONCENTRATION (ug/m ³)						
SUB-SLAB VAPOR CONCENTRATION (ug/m ³)	Sample IDs	IAQ-2 (<0.10)				
			<0.25	0.25 to <1	1 to <5.0	5.0 and above
	SVI-2 (0.36)	<5	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposure	3. Take reasonable and practical actions to identify source(s) and reduce exposure	4. Take reasonable and practical actions to identify source(s) and reduce exposure
	5 to <50	5. No further action	6. MONITOR	7. MONITOR	8. MITIGATE	
	50 to <250	9. MONITOR	10. MONITOR/ MITIGATE	11. MITIGATE	12. MITIGATE	
	250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE	

No further action: Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take steps to identify source(s) and reduce exposures: The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed).

Monitor: Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Mitigate: Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is an interim measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

LABELLA

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Appendix 1

Laboratory Report

TO-15 Package Review Checklist

Client: LaBella Project: Emerson Landfill SDG: C1701027

		YES	NO	NA
Analytical Results	Present and Complete	/	—	—
TIC's present	Present and Complete	/	—	—
	Holding Times Met	/	—	—

Comments: _____

Chain-of-Custody	Present and Complete	/	—	—
Surrogate Recovery	Present and Complete	/	—	—
	Recoveries within limits	/	—	—
	Sample(s) reanalyzed	—	—	/
Internal Standards Recovery	Present and Complete	/	—	—
	Recoveries within limits	/	—	—
	Sample(s) reanalyzed	—	—	/

Comments: _____

Lab Control Sample (LCS)	Present and Complete	/	—	—
	Recoveries within limits	/	—	—
Lab Control Sample Dupe (LCSD)	Present and Complete	/	—	—
	Recoveries within limits	/	—	—
MS/MSD	Present and Complete	/	—	—
	Recoveries within limits	/	—	—

Comments: _____

Sample Raw Data	Present and Complete	/	—	—
	Spectra present for all samples	/	—	—

Comments: _____

TO-15 Package Review Checklist

Client: LaBella Project: Emerson Landfill SDG: C1701027

		YES	NO	NA
Standards Data				
Initial Calibration Summary	Present and Complete	/	—	—
	Calibration(s) met criteria	/	—	—
Continuing Calibration Summary	Present and Complete	/	—	—
	Calibration(s) met criteria	/	—	—
Standards Raw Data	Present and Complete	/	—	—

Comments: _____

		YES	NO	NA
Raw Quality Control Data				
Tune Criteria Report	Present and Complete	/	—	—
Method Blank Data	MB Results <PQL	/	—	—
	Associated results flagged "B"	—	—	/
LCS sample data	Present and Complete	/	—	—
LCSD sample data	Present and Complete	/	—	—
MS/MSD sample data	Present and Complete	/	—	—

Comments: _____

Logbooks				
Injection Log	Present and Complete	/	—	—
Standards Log	Present and Complete	/	—	—
Can Cleaning Log	Present and Complete	/	—	—
	Raw Data Present	/	—	—
Calculation sheet	Present and Complete	/	—	—
IDL's	Present and Complete	/	—	—
Bottle Order Form	Present and Complete	/	—	—
Sample Tracking Form	Present and Complete	/	—	—

Additional Comments: _____

Section Supervisor: W.H. Dall Date: 2/8/17
 QC Supervisor: Nicholas Date: 2/8/2017



CENTEK LABORATORIES, LLC

143 Midler Park Drive * Syracuse, NY 13206

Phone (315) 431-9730 * Emergency 24/7 (315) 416-2752

NYSDOH ELAP Certificate No. 11830

Analytical Report

Ann Aquilina
LaBella Associates, P.C.
300 State Street, Suite 201
Rochester, NY 14614

Tuesday, January 24, 2017
Order No.: C1701027

TEL: (585) 454-6110

FAX (585) 454-3066

RE: Former Emerson St Landfill

Dear Ann Aquilina:

Centek Laboratories, LLC received 8 sample(s) on 1/16/2017 for the analyses presented in the following report.

I certify that this data package is in compliance with the terms and conditions of the Contract, both technically and for completeness. Release of the data contained in this hardcopy data package and/or in the computer readable data submitted has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the case narrative. All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination.

Centek Laboratories is distinctively qualified to meet your needs for precise and timely volatile organic compound analysis. We perform all analyses according to EPA, NIOSH or OSHA-approved analytical methods. Centek Laboratories is dedicated to providing quality analyses and exceptional customer service. Samples were analyzed using the methods outlined in the following references:

Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999.

Centek Laboratories SOP TS-80

Analytical results relate to samples as received at laboratory. We do our best to make our reporting format clear and understandable and hope you are thoroughly satisfied with our services.

Please contact your client service representative at (315) 431-9730 or myself, if you would like any additional information regarding this report.

This report cannot be reproduced except in its entirety, without prior written authorization.

Sincerely,



William Dobbin
Lead Technical Director

Disclaimer: The test results and procedures utilized, and laboratory interpretations of the data obtained by Centek as contained in this report are believed by Centek to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of Centek for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages. ELAP does not offer certification for the following parameters by this method at present time, they are: 4-ethyltoluene, ethyl acetate, propylene, tetrahydrofuran, 4-PCH, sulfur derived and silicon series compounds.

Centek Laboratories, LLC Terms and Conditions

Sample Submission

All samples sent to Centek Laboratories should be accompanied by our Request for Analysis Form or Chain of Custody Form. A Chain of Custody will be provided with each order shipped for all sampling events, or if needed, one is available at our website www.CentekLabs.com. Samples received after 3:00pm are considered to be a part of the next day's business.

Sample Media

Samples can be collected in an canister or a Tedlar bag. Depending on your analytical needs, Centek Laboratories may receive a bulk, liquid, soil or other matrix sample for headspace analysis.

Blanks

Every sample is run with a surrogate or tracer compound at a pre-established concentration. The surrogate compound run with each sample is used as a standard to measure the performance of each run of the instrument. If required, a Minican can be provided containing nitrogen to be run as a trip blank with your samples.

Sampling Equipment

Centek Laboratories will be happy to provide the canisters to carry-out your sampling event at no charge. The necessary accessories, such as regulators, tubing or personal sampling belts, are also provided to meet your sampling needs. The customer is responsible for all shipping charges to the client's destination and return shipping to the laboratory. Client assumes all responsibility for lost, stolen and any damages of equipment.

Turn Around time (TAT)

Centek Laboratories will provide results to its clients in one business-week by 6:00pm EST after receipt of samples. For example, if samples are received on a Monday they are due on the following Monday by 6:00pm EST. Results are faxed or emailed to the requested location indicated on the Chain of Custody. Non-routine analysis may require more than the one business-week turnaround time. Please confirm non-routine sample turnaround times.

Reporting

Results are emailed or faxed at no additional charge. A hard copy of the result report is mailed within 24 hours of the faxing or emailing of your results. Cat "B" like packages are within 3-4 weeks from time of analysis. Standard Electronic Disk Deliverables (EDD) is also available at no additional charge.

Payment Terms

Payment for all purchases shall be due within 30 days from date of invoice. The client agrees to pay a finance charge of 1.5% per month on the overdue balance and cost of collection, including attorney fees, if collection proceedings are necessary. You must have a completed credit application on file to extend credit. Purchase orders or checks information must be submitted for us to release results

Rush Turnaround Samples

Expedited turn around times is available. Please confirm rush turnaround times with Client Services before submitting samples.

Applicable Surcharges for Rush Turnaround Samples:

Same day TAT = 200%

Next business day TAT by Noon = 150%

Next business day TAT by 6:00pm = 100%

Second business day TAT by 6:00pm = 75%

Third business day TAT by 6:00pm = 50%

Fourth business day TAT by 6:00pm = 35%

Fifth business day = Standard

Statement of Confidentiality

Centek Laboratories, LLC is aware of the importance of the confidentiality of results to many of our clients. Your name and data will be held in the strictest of confidence. We will not accept business that may constitute a conflict of interest. We commonly sign Confidential Nondisclosure Agreements with clients prior to beginning work. All research, results and reports will be kept strictly confidential. Secrecy Agreements and Disclosure Statements will be signed for the client if so specified. Results will be provided only to the addressee specified on the Chain of Custody Form submitted with the samples unless law requires release. Written permission is required from the addressee to release results to any other party.

Limitation on Liability

Centek Laboratories, LLC warrants the test results to be accurate to the methodology and sample type for each sample submitted to Centek Laboratories, LLC. In no event shall Centek Laboratories, LLC be liable for direct, indirect, special, punitive, incidental, exemplary or consequential damages, or any damages whatsoever, even if Centek Laboratories, LLC has been previously advised of the possibility of such damages whether in an action under contract, negligence, or any other theory, arising out of or in connection with the use, inability to use or performance of the information, services, products and materials available from the laboratory or this site. These limitations shall apply notwithstanding any failure of essential purpose of any limited remedy. Because some jurisdictions do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of liability for consequential or incidental damages, the above limitations may not apply to you. This is a comprehensive limitation of

liability that applies to all damages of any kind, including (without limitation) compensatory, direct, indirect or consequential damages, loss of data, income or profit and or loss of or damage to property and claims of third parties.

ASP CAT B DELIVERABLE PACKAGE Table of Contents

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CENTEK LABORATORIES, LLC

Date: 08-Feb-17

CLIENT: LaBella Associates, P.C.
Project: Former Emerson St Landfill
Lab Order: C1701027

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Centek Laboratories, LLC SOP TS-80
Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the corrective action report(s). All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination.

NYSDEC ASP samples:

Canisters should be evacuated to a reading of less than or equal to 50 millitorr prior to shipment to sampling personnel. The vacuum in the canister will be field checked prior to sampling, and must read 28" of Hg (± 2 ", vacuum, absolute) before a sample can be collected. After the sample has been collected, the pressure of the canister will be read and recorded again, and must be 5" of Hg (± 1 ", vacuum, absolute) for the sample to be valid. Once received at the laboratory, the canister vacuum should be confirmed to be 5" of Hg, ± 1 ". Please record and report the pressure/vacuum of received canisters on the sample receipt paperwork. A pressure/vacuum reading should also be taken just prior to the withdrawal of sample from the canister, and recorded on the sample preparation log sheet. All regulators are calibrated to meet these requirements before they leave the laboratory. However, due to environmental conditions and use of the equipment Centek can not guarantee that this criteria can always be achieved.

Centek Labs - Chain of Custody

143 Midler Park Drive
Syracuse, NY 13206
315-431-9730
www.CentekLabs.com

Site Name: For mer Emerson Sheet
Project: 1709 Emerson
PO#: 210173
Quote # Q- SA/Bo 6261
Canister Order #: SA/Bo 6261

Vapor Intrusion & IAQ
Company: LABELLA - ROCHESTER
Report to: Labella Associates
Address: 300 State Street
City, State, Zip: ROCHESTER, NY 14617
Email: aequilina@labella.com
Phone: 585-295-6289

Detection Limit: Sppbv Level I
 1ug/M3 Level II
 1ug/M3 +TCE.25 Cat "B" Like

Company: Check Here if Same:
Invoice to: Same
Address: Same
City, State, Zip: Same
Email: ap@labella.com
Phone:

Sample ID	Date Sampled	Canister Number	Regulator Number	Analysis Request	Field Vacuum Start/Stop	Labs Vacuum** Recv/Analysis	Comments
1709-SVI-1	11/17	290	276	TO-15	30 17.5	-8 1-8	
1709-IAQ-1		316	1162	select	28 10	0 1-2	
1709-Dupe		83	1162	1.5T	28 15	0 1-2	
1709-SVI-2		163	1152	VOCs	30 18	-5 1-6	
1709-IAQ-2		1323	446		28 17	-8 1-8	
1709-SVI-3		242	1170		30 18	-8 1-8	
1709-IAQ-3		1188	345		30 17	-7 1-7	
1709-Outdoor		360	265				

Chain of Custody

Sampled by: Ann Aquilina
Relinquished by: Nick Mandarino
Received at Lab by: Nick Mandarino

Print Name: Ann Aquilina
Signature: [Signature]

Date/Time: 11/17/14 3:00
Date/Time: 1-16-17

Courier: CIRCLE ONE
Pickup/Dropoff: UPS

**For LAB USE ONLY
Work Order # C1701027

*** By signing Centek Labs Chain of Custody, you are accepting Centek Labs Terms and Conditions listed on the reverse side.

Date: 08-Feb-17

**CENTEK LABORATORIES, LLC**

CLIENT: LaBella Associates, P.C.
Project: Former Emerson St Landfill
Lab Order: C1701027

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1701027-001A	1769-SVI-1	290.276	1/11/2017	1/16/2017
C1701027-002A	1769-IAQ-1	316.1162	1/11/2017	1/16/2017
C1701027-003A	1769-Dupe	83.1162	1/11/2017	1/16/2017
C1701027-004A	1769-SVI-2	163.1152	1/11/2017	1/16/2017
C1701027-005A	1769-IAQ-2	1323.446	1/11/2017	1/16/2017
C1701027-006A	1769-SVI-3	242.1170	1/11/2017	1/16/2017
C1701027-007A	1769-IAQ-3	1188.345	1/11/2017	1/16/2017

CLIENT: LaBella Associates, P.C.
Project: Former Emerson St Landfill
Lab Order: C1701027

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1701027-008A	1769-Outdoor	360.265	1/11/2017	1/16/2017



CENTEK LABORATORIES, LLC

Sample Receipt Checklist

Client Name LABELLA - ROCHESTER

Date and Time Receive

1/16/2017

Work Order Number C1701027

Received by NM

Checklist completed by

[Signature]

1-16-17

Reviewed by

WD

1/16/17

Signature

Date

Initials

Date

Matrix:

Carrier name: FedEx Ground

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Water - VOA vials have zero headspace? Yes No
- No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____

Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Lab Order: C1701027
 Client: LaBella Associates, P.C.
 Project: Former Emerson St Landfill

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C1701027-001A	1769-SV1-1	1/11/2017	Air	1ug/M3 by Method TO15			1/20/2017
C1701027-002A	1769-1AQ-1			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			1/20/2017
C1701027-003A	1769-Dupe			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			1/20/2017
C1701027-004A	1769-SV1-2			1ug/M3 by Method TO15			1/21/2017
C1701027-005A	1769-1AQ-2			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			1/20/2017
C1701027-006A	1769-SV1-3			1ug/M3 by Method TO15			1/21/2017
C1701027-007A	1769-1AQ-3			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			1/20/2017
C1701027-008A	1769-Outdoor			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			1/20/2017

CANISTER ORDER



CEN TEK LABORATORIES, LLC

Air Quality Testing...It's a Gas

143 Midler Park Drive * Syracuse, NY 13206
 TEL: 315-431-9730 * FAX: 315-431-9731

6261

08-Feb-17

SHIPPED TO:

Company: LaBella Associates, P.C.
 Contact: Ann Aquilina
 Address: 300 State Street, Suite 201
 Rochester, NY 14614
 Phone: (585) 454-6110
 Quote ID: 0
 Project:
 PO:

Submitted By:
 MadeBy: NM
 Ship Date: 1/6/2017
 VIA: FedEx Ground
 Due Date: 1/10/2017

Bottle Code	Bottle Type	TEST(s)	QTY
MC1400CC	1.4L Mini-Can	1ug/M3 by Method TO15	1
MC1000CC	1L Mini-Can	1ug/M3 by Method TO15	7

Can / Reg ID	Description
83	1L Mini-Can - 1085 VI
163	1L Mini-Can - 1133 VI
242	1L Mini-Can - 1174 VI
265	Time-Set Reg - 703 VI
276	Time-Set Reg - 632 VI
290	1L Mini-Can - 1266 VI
316	1L Mini-Can - 1279 VI
345	Time-Set Reg - 742 VI
446	Time-Set Reg - 825 VI
1152	Time-Set Reg-0744 VI
1182	Time-Set Reg-0675 VI
1170	Time-Set Reg-0795 VI
1188	1L Mini-Can - 1256 VI
1323	1.4L Mini-Can - 1206 VI

Comments: (7) 1L @ 6hrs, (1) 1.4L MS/MSD @ 6hrs + T for dupe (Select List see email) wac 110316 c-d, 120916 a-f

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	1769-SV1-1
Lab Order:	C1701027	Tag Number:	290.276
Project:	Former Emerson St Landfill	Collection Date:	1/11/2017
Lab ID:	C1701027-001A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-8			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 BY METHOD TO15						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.17	0.15		ppbV	1	1/20/2017 11:46:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Trichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Surr: Bromofluorobenzene	103	70-130		%REC	1	1/20/2017 11:46:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.

Client Sample ID: 1769-SVI-1

Lab Order: C1701027

Tag Number: 290.276

Project: Former Emerson St Landfill

Collection Date: 1/11/2017

Lab ID: C1701027-001A

Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	0.93	0.82		ug/m3	1	1/20/2017 11:46:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 11:46:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:46:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 11:46:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	1/20/2017 11:46:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:46:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 11:46:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:46:00 PM
Trichloroethene	< 0.81	0.81		ug/m3	1	1/20/2017 11:46:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	1/20/2017 11:46:00 PM

Qualifiers:	**	Quantitation Limit	,	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-002A

Client Sample ID: 1769-IAQ-1
 Tag Number: 316.1162
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	0			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
Chloromethane	0.54	0.15		ppbV	1	1/20/2017 9:02:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
Trichloroethene	< 0.040	0.040		ppbV	1	1/20/2017 9:02:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	1/20/2017 9:02:00 PM
Surr: Bromofluorobenzene	101	70-130		%REC	1	1/20/2017 9:02:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
Lab Order: C1701027
Project: Former Emerson St Landfill
Lab ID: C1701027-002A

Client Sample ID: 1769-IAQ-1
Tag Number: 316.1162
Collection Date: 1/11/2017
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						Analyst: RJP
		TO-15				
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 9:02:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 9:02:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 9:02:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 9:02:00 PM
Chloromethane	1.1	0.31		ug/m3	1	1/20/2017 9:02:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:02:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 9:02:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:02:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 9:02:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 9:02:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-003A

Client Sample ID: 1769-Dupe
 Tag Number: 83.1162
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	0			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
Chloromethane	0.54	0.15		ppbV	1	1/20/2017 9:42:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
Trichloroethene	< 0.040	0.040		ppbV	1	1/20/2017 9:42:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	1/20/2017 9:42:00 PM
Surr: Bromofluorobenzene	106	70-130		%REC	1	1/20/2017 9:42:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-003A

Client Sample ID: 1769-Dupe
 Tag Number: 83.1162
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.62	0.62		ug/m3	1	1/20/2017 9:42:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 9:42:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:42:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 9:42:00 PM
Chloromethane	1.1	0.31		ug/m3	1	1/20/2017 9:42:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:42:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 9:42:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:42:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 9:42:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 9:42:00 PM

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits
 . Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-004A

Client Sample ID: 1769-SV1-2
 Tag Number: 163.1152
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
Lab Vacuum In	-5			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 BY METHOD TO15						
						Analyst: RJP
						Analyst: RJP
1,1,1-Trichloroethane	0.29	0.15		ppbV	1	1/21/2017 12:28:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
Trichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
Vinyl chloride	0.14	0.15	J	ppbV	1	1/21/2017 12:28:00 AM
Surr: Bromofluorobenzene	107	70-130		%REC	1	1/21/2017 12:28:00 AM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-004A

Client Sample ID: 1769-SV1-2
 Tag Number: 163.1152
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15						Analyst: RJP
1,1,1-Trichloroethane	1.6	0.82		ug/m3	1	1/21/2017 12:28:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/21/2017 12:28:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 12:28:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	1/21/2017 12:28:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	1/21/2017 12:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 12:28:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/21/2017 12:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 12:28:00 AM
Trichloroethene	< 0.81	0.81		ug/m3	1	1/21/2017 12:28:00 AM
Vinyl chloride	0.36	0.38	J	ug/m3	1	1/21/2017 12:28:00 AM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-005A

Client Sample ID: 1769-IAQ-2
 Tag Number: 1323.446
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-8			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
Chloromethane	0.50	0.15		ppbV	1	1/20/2017 6:50:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
Trichloroethene	< 0.040	0.040		ppbV	1	1/20/2017 6:50:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	1/20/2017 6:50:00 PM
Surr: Bromofluorobenzene	102	70-130		%REC	1	1/20/2017 6:50:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
Lab Order: C1701027
Project: Former Emerson St Landfill
Lab ID: C1701027-005A

Client Sample ID: 1769-1AQ-2
Tag Number: 1323.446
Collection Date: 1/11/2017
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						Analyst: RJP
		TQ-15				
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 6:50:00 PM
1,1-Dichloroethane	< 0.81	0.81		ug/m3	1	1/20/2017 6:50:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 6:50:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 6:50:00 PM
Chloromethane	1.0	0.31		ug/m3	1	1/20/2017 6:50:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 6:50:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 6:50:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 6:50:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 6:50:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 6:50:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-006A

Client Sample ID: 1769-SV1-3
 Tag Number: 242.1170
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-8			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Chloromethane	0.17	0.15		ppbV	1	1/21/2017 1:10:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Trichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Surr: Bromofluorobenzene	101	70-130		%REC	1	1/21/2017 1:10:00 AM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
Lab Order: C1701027
Project: Former Emerson St Landfill
Lab ID: C1701027-006A

Client Sample ID: 1769-SVI-3
Tag Number: 242.1170
Collection Date: 1/11/2017
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/21/2017 1:10:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/21/2017 1:10:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 1:10:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	1/21/2017 1:10:00 AM
Chloromethane	0.35	0.31		ug/m3	1	1/21/2017 1:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 1:10:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/21/2017 1:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 1:10:00 AM
Trichloroethene	< 0.81	0.81		ug/m3	1	1/21/2017 1:10:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	1/21/2017 1:10:00 AM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte, Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
Lab Order: C1701027
Project: Former Emerson St Landfill
Lab ID: C1701027-007A

Client Sample ID: 1769-IAQ-3
Tag Number: 1188.345
Collection Date: 1/11/2017
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-8			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
Chloromethane	0.49	0.15		ppbV	1	1/20/2017 10:24:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
Trichloroethene	< 0.040	0.040		ppbV	1	1/20/2017 10:24:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	1/20/2017 10:24:00 PM
Surr: Bromofluorobenzene	99.0	70-130		%REC	1	1/20/2017 10:24:00 PM

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 IN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits
 . Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-007A

Client Sample ID: 1769-IAQ-3
 Tag Number: 1188.345
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 10:24:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 10:24:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 10:24:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 10:24:00 PM
Chloromethane	1.0	0.31		ug/m3	1	1/20/2017 10:24:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 10:24:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 10:24:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 10:24:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 10:24:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 10:24:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-008A

Client Sample ID: 1769-Outdoor
 Tag Number: 360.265
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-7			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
Chloromethane	0.49	0.15		ppbV	1	1/20/2017 11:05:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
Trichloroethene	< 0.040	0.040		ppbV	1	1/20/2017 11:05:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	1/20/2017 11:05:00 PM
Surr: Bromofluorobenzene	89.0	70-130		%REC	1	1/20/2017 11:05:00 PM

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits
 . Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
Lab Order: C1701027
Project: Former Emerson St Landfill
Lab ID: C1701027-008A

Client Sample ID: 1769-Outdoor
Tag Number: 360.265
Collection Date: 1/11/2017
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						Analyst: RJP
		TO-15				
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 11:05:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 11:05:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:05:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 11:05:00 PM
Chloromethane	1.0	0.31		ug/m3	1	1/20/2017 11:05:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:05:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 11:05:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:05:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 11:05:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 11:05:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

QUALITY CONTROL SUMMARY

Date: 30-Jan-17



CEN TEK LABORATORIES, LLC

**QC SUMMARY REPORT
SURROGATE RECOVERIES**

CLIENT: LaBella Associates, P.C.
Work Order: C1701027
Project: Former Emerson St Landfill
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ							
ALCSIUG-012017	101							
ALCSIUGD-012017	99.0							
AMBIUG-012017	90.0							
C1701027-001A	103							
C1701027-002A	101							
C1701027-003A	106							
C1701027-004A	107							
C1701027-005A	102							
C1701027-005A MS	104							
C1701027-005A MSD	108							
C1701027-006A	101							
C1701027-007A	99.0							
C1701027-008A	89.0							

Acronym	Surrogate	QC Limits
BR4FBZ	= Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

Centek Laboratories, LLC

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AO012007.D
 Tune Time : 20 Jan 2017 12:56 pm

Daily Calibration File : C:\HPCHEM\1\DATA\AO012007.D

File	Sample	DL	(BFB)	Surrogate Recovery ‡	(IS1)	(IS2)	(IS3)
					96123	420084	357789
AO012014.D	ALCS1UG-012017		101		88460	381338	326151
AO012015.D	AMB1UG-012017		90		83013	359736	305609
AO012016.D	C1701027-005A		102		85010	376366	308710
AO012017.D	C1701027-005A MS		104		93302	402813	342867
AO012018.D	C1701027-005A MSD		108		93063	398669	334355
AO012019.D	C1701027-002A		101		89796	391377	329186
AO012020.D	C1701027-003A		106		90066	398161	328653
AO012021.D	C1701027-007A		99		90276	399341	327152
AO012022.D	C1701027-008A		89		90585	381638	320976
AO012023.D	C1701027-001A		103		90180	386413	323239
AO012024.D	C1701027-004A		107		91352	396586	323205
AO012025.D	C1701027-006A		101		93724	394127	329284
AO012033.D	ALCS1UGD-012017		99		90823	392706	325482

t - fails 24hr time check * - fails criteria

Created: Mon Jan 30 16:11:50 2017 MSD #1/



CENTEK LABORATORIES, LLC

Date: 30-Jan-17

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1701027

Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-012017	Sample Type	LCS	TestCode	0.25CT-TCE-	Units	ppbv	Prep Date:		RunNo:	11891
Client ID:	ZZZZ	Batch ID:	R11891	TestNo:	TO-15			Analysis Date:	1/20/2017	SeqNo:	139038

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8900	0.15	1	0	89.0	70	130				
1,1,2-Trichloroethane	0.9200	0.15	1	0	92.0	70	130				
1,1-Dichloroethane	0.8900	0.15	1	0	89.0	70	130				
1,1-Dichloroethene	0.8800	0.15	1	0	88.0	70	130				
Chloroethane	0.9100	0.15	1	0	91.0	70	130				
Chloromethane	0.9000	0.15	1	0	90.0	70	130				
cis-1,2-Dichloroethene	0.9100	0.15	1	0	91.0	70	130				
Tetrachloroethylene	0.9100	0.15	1	0	91.0	70	130				
trans-1,2-Dichloroethene	0.8700	0.15	1	0	87.0	70	130				
Trichloroethene	0.9000	0.040	1	0	90.0	70	130				
Vinyl chloride	0.8800	0.040	1	0	88.0	70	130				

Sample ID	ALCS1UGD-012017	Sample Type	LCS	TestCode	0.25CT-TCE-	Units	ppbv	Prep Date:		RunNo:	11891
Client ID:	ZZZZ	Batch ID:	R11891	TestNo:	TO-15			Analysis Date:	1/21/2017	SeqNo:	139039

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8800	0.15	1	0	88.0	70	130	0.89	1.13	30	
1,1,2-Trichloroethane	0.8900	0.15	1	0	89.0	70	130	0.92	3.31	30	
1,1-Dichloroethane	0.9100	0.15	1	0	91.0	70	130	0.89	2.22	30	
1,1-Dichloroethene	0.9500	0.15	1	0	95.0	70	130	0.88	7.65	30	
Chloroethane	0.9800	0.15	1	0	98.0	70	130	0.91	7.41	30	
Chloromethane	0.9100	0.15	1	0	91.0	70	130	0.9	1.10	30	
cis-1,2-Dichloroethene	0.9200	0.15	1	0	92.0	70	130	0.91	1.09	30	
Tetrachloroethylene	0.9500	0.15	1	0	95.0	70	130	0.91	4.30	30	

Qualifiers:

- J Results reported are not blank corrected
- S Analyte detected below quantitation limit
- S Spike Recovery outside accepted recovery limits
- E Estimated Value above quantitation range
- NID Not Detected at the Limit of Detection
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

CLIENT: LaBella Associates, P.C.

Work Order: C1701027

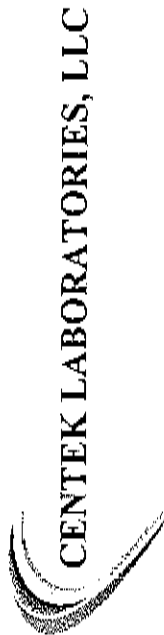
Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID: ALCS1UGD-012017 SampType: LCSD TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 11891
 Client ID: ZZZZ Batch ID: R11891 TestNo: TO-15 Analysis Date: 1/21/2017 SeqNo: 139039

Analyte	Result	POE	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	0.9100	0.15	1	0	91.0	70	130	0.87	4.49	30	
Trichloroethene	0.8900	0.040	1	0	89.0	70	130	0.9	1.12	30	
Vinyl chloride	0.8900	0.040	1	0	89.0	70	130	0.88	1.13	30	

Qualifiers: . Results reported are not blank corrected E Estimated Value above quantitation range H Holding times for preparation or analysis exceeded
 J Analyte detected below quantitation limit ND Not Detected at the Limit of Detection R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits



Date: 30-Jan-17

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1701027
Project: Former Emerson St Landfill
TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-012017	Sample Type	MBLK	TestCode	0.25CT-TCE-	Units	ppbv	Prep Date	RunNo	11891	
Client ID	ZZZZZ	Batch ID	R11891	TestNo	TO-15	Analysis Date	1/20/2017	SeqNo	139037		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
Trichloroethene	< 0.040	0.040									
Vinyl chloride	< 0.040	0.040									

Qualifiers: . Results reported are not blank corrected
 J Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits
 E Estimated Value above quantitation range
 ND Not Detected at the Limit of Detection
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits



CENTEK LABORATORIES, LLC

Date: 08-Feb-17

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1701027

Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	C1701027-005A MS	MS	SampType:	MS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 11891			
Client ID:	1769-IAQ-2	Batch ID: R11891	TestNo: TO-15	Analysis Date: 1/20/2017	SeqNo: 139058						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8400	0.15	1	0	84.0	70	130				
1,1,2-Trichloroethane	0.8500	0.15	1	0	85.0	70	130				
1,1-Dichloroethane	0.8500	0.15	1	0	85.0	70	130				
1,1-Dichloroethene	0.9000	0.15	1	0	90.0	70	130				
Chloroethane	0.8900	0.15	1	0	89.0	70	130				
Chloromethane	1.180	0.15	1	0.5	68.0	70	130				S
cis-1,2-Dichloroethene	0.9100	0.15	1	0	91.0	70	130				
Tetrachloroethylene	0.9300	0.15	1	0	93.0	70	130				
trans-1,2-Dichloroethene	0.8600	0.15	1	0	86.0	70	130				
Trichloroethene	0.9000	0.040	1	0	90.0	70	130				
Vinyl chloride	0.8500	0.040	1	0	86.0	70	130				
Surr: Bromofluorobenzene	1.040	0	1	0	104	70	130				

Sample ID	C1701027-005A MS	MS	SampType:	MS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 11891			
Client ID:	1769-IAQ-2	Batch ID: R11891	TestNo: TO-15	Analysis Date: 1/20/2017	SeqNo: 139059						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8700	0.15	1	0	87.0	70	130	0.84	3.51	30	
1,1,2-Trichloroethane	0.8500	0.15	1	0	85.0	70	130	0.85	0	30	
1,1-Dichloroethane	0.8900	0.15	1	0	89.0	70	130	0.85	4.60	30	
1,1-Dichloroethene	0.8800	0.15	1	0	88.0	70	130	0.9	2.25	30	
Chloroethane	0.8700	0.15	1	0	87.0	70	130	0.89	2.27	30	
Chloromethane	1.230	0.15	1	0.5	73.0	70	130	1.18	4.15	30	
cis-1,2-Dichloroethene	0.9200	0.15	1	0	92.0	70	130	0.91	1.09	30	

Qualifiers: J Results reported are not blank corrected E Estimated Value above quantitation range H Holding times for preparation or analysis exceeded
 S Analyte detected below quantitation limit ND Not Detected at the Limit of Detection R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

CLIENT: LaBella Associates, P.C.
 Work Order: C1701027
 Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	C1701027-005A MS	Sample Type: MSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 11891					
Client ID:	1769-IAQ-2	Batch ID: R11891	TestNo: TO-15		Analysis Date: 1/20/2017	SeqNo: 139059					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethylene	0.9600	0.15	1	0	96.0	70	130	0.93	3.17	30	
trans-1,2-Dichloroethene	0.8900	0.15	1	0	89.0	70	130	0.86	3.43	30	
Trichloroethene	0.9300	0.040	1	0	93.0	70	130	0.9	3.28	30	
Vinyl chloride	0.8700	0.040	1	0	87.0	70	130	0.86	1.16	30	
Surr: Bromofluorobenzene	1.060	0	1	0	108	70	130	0	0	30	

Qualifiers: . Results reported are not blank corrected
 J Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits
 E Estimated Value above quantitation range
 ND Not Detected at the Limit of Detection
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

Centek Laboratories
IDL Study

1ug/M3 Detection Limit
January 2016

Method TO-15A
Units=ppb

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDL#6	IDL#7	Average	StdDev	%Rec	IDL
Propylene	0.15	0.16	0.15	0.16	0.14	0.16	0.14	0.16	0.153	0.010	98.1	0.030
Freon 12	0.15	0.18	0.17	0.17	0.17	0.18	0.17	0.17	0.173	0.005	86.8	0.015
Chloromethane	0.15	0.19	0.18	0.16	0.18	0.18	0.2	0.17	0.180	0.013	83.3	0.041
Freon 114	0.15	0.18	0.17	0.17	0.17	0.18	0.17	0.18	0.174	0.005	86.1	0.017
Vinyl Chloride	0.15	0.17	0.16	0.16	0.15	0.16	0.15	0.15	0.157	0.008	95.5	0.024
Butane	0.15	0.18	0.16	0.17	0.18	0.18	0.19	0.19	0.179	0.011	84.0	0.034
1,3-butadiene	0.15	0.21	0.2	0.2	0.22	0.17	0.18	0.23	0.201	0.021	74.5	0.065
Bromomethane	0.15	0.18	0.2	0.21	0.18	0.22	0.16	0.21	0.194	0.021	77.2	0.068
Chloroethane	0.15	0.19	0.19	0.16	0.19	0.19	0.18	0.19	0.184	0.011	81.4	0.036
Ethanol	0.15	0.16	0.16	0.18	0.17	0.19	0.18	0.19	0.176	0.013	85.4	0.040
Acrolein	0.15	0.22	0.17	0.19	0.16	0.18	0.21	0.17	0.166	0.022	60.8	0.070
Vinyl Bromide	0.15	0.17	0.15	0.16	0.16	0.17	0.17	0.17	0.164	0.008	91.3	0.025
Freon 11	0.15	0.18	0.17	0.17	0.18	0.19	0.17	0.18	0.177	0.008	84.7	0.024
Acetone	0.15	0.2	0.17	0.18	0.15	0.15	0.18	0.14	0.167	0.021	99.7	0.067
Pentane	0.15	0.18	0.17	0.18	0.16	0.17	0.2	0.16	0.174	0.014	86.1	0.044
Isopropyl alcohol	0.15	0.22	0.2	0.19	0.2	0.19	0.21	0.19	0.200	0.012	75.0	0.036
1,1-dichloroethene	0.15	0.2	0.17	0.19	0.19	0.19	0.18	0.18	0.186	0.010	80.8	0.031
Freon 113	0.15	0.17	0.16	0.18	0.18	0.18	0.17	0.17	0.173	0.008	85.8	0.024
t-Butyl alcohol	0.15	0.21	0.2	0.2	0.21	0.2	0.2	0.18	0.200	0.010	75.0	0.031
Methylene chloride	0.15	0.2	0.18	0.19	0.18	0.2	0.19	0.17	0.187	0.011	80.2	0.035
Allyl chloride	0.15	0.18	0.17	0.16	0.18	0.18	0.2	0.18	0.179	0.012	84.0	0.038
Carbon disulfide	0.15	0.2	0.17	0.19	0.19	0.2	0.18	0.19	0.189	0.011	79.5	0.034
trans-1,2-dichloroethene	0.15	0.15	0.14	0.14	0.14	0.16	0.14	0.15	0.146	0.008	102.9	0.025
methyl tert-butyl ether	0.15	0.14	0.14	0.14	0.13	0.15	0.14	0.13	0.139	0.007	108.2	0.022
1,1-dichloroethane	0.15	0.17	0.15	0.16	0.15	0.17	0.16	0.16	0.160	0.008	93.8	0.026
Vinyl acetate	0.15	0.14	0.13	0.14	0.13	0.13	0.13	0.12	0.131	0.007	114.1	0.022
Methyl Ethyl Ketone	0.15	0.17	0.17	0.16	0.16	0.15	0.13	0.12	0.151	0.020	99.1	0.061
cis-1,2-dichloroethene	0.15	0.15	0.14	0.16	0.15	0.16	0.15	0.14	0.150	0.008	100.0	0.026
Hexane	0.15	0.12	0.14	0.13	0.13	0.13	0.12	0.12	0.127	0.008	118.0	0.024
Ethyl acetate	0.15	0.16	0.17	0.14	0.15	0.14	0.16	0.13	0.150	0.014	100.0	0.044
Chloroform	0.15	0.16	0.16	0.16	0.16	0.17	0.16	0.17	0.163	0.005	92.1	0.015
Tetrahydrofuran	0.15	0.15	0.13	0.15	0.15	0.15	0.15	0.14	0.146	0.008	102.9	0.025
1,2-dichloroethane	0.15	0.16	0.15	0.16	0.16	0.17	0.16	0.17	0.161	0.007	92.9	0.022
1,1,1-trichloroethane	0.15	0.17	0.16	0.17	0.17	0.16	0.17	0.17	0.167	0.005	89.7	0.015
Cyclohexane	0.15	0.14	0.14	0.14	0.15	0.15	0.14	0.14	0.143	0.005	105.0	0.015
Carbon tetrachloride	0.15	0.13	0.15	0.15	0.15	0.15	0.15	0.16	0.149	0.009	101.0	0.028
Benzene	0.15	0.15	0.16	0.16	0.15	0.16	0.16	0.16	0.157	0.005	95.5	0.015
Methyl methacrylate	0.15	0.15	0.15	0.14	0.14	0.14	0.15	0.11	0.140	0.014	107.1	0.044
1,4-dioxane	0.15	0.18	0.18	0.19	0.18	0.15	0.17	0.12	0.167	0.024	99.7	0.076

Confidential

1/8/2016

Centek Laboratories
IDL Study

1ug/M3 Detection Limit
January 2016

Method TO-15A

Units=ppb

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDL#6	IDL#7	Average	StdDev	%Rec	IDL
2,2,4-trimethylpentane	0.15	0.15	0.15	0.15	0.16	0.14	0.16	0.15	0.151	0.007	99.1	0.022
Heptane	0.15	0.12	0.13	0.13	0.12	0.13	0.13	0.13	0.127	0.005	118.0	0.015
Trichloroethene	0.15	0.14	0.15	0.14	0.15	0.15	0.14	0.15	0.146	0.005	102.9	0.017
1,2-dichloropropane	0.15	0.16	0.17	0.17	0.16	0.17	0.16	0.16	0.164	0.005	91.3	0.017
Bromedichloromethane	0.15	0.16	0.16	0.16	0.15	0.16	0.17	0.16	0.160	0.006	93.8	0.018
cis-1,3-dichloropropene	0.15	0.13	0.13	0.14	0.14	0.13	0.13	0.13	0.133	0.005	112.9	0.015
trans-1,3-dichloropropene	0.15	0.16	0.13	0.13	0.14	0.14	0.14	0.16	0.143	0.013	105.0	0.039
1,1,2-trichloroethane	0.15	0.16	0.15	0.16	0.15	0.16	0.18	0.17	0.161	0.011	92.9	0.034
Toluene	0.15	0.14	0.14	0.14	0.13	0.16	0.14	0.15	0.143	0.010	105.0	0.030
Methyl Isobutyl Ketone	0.15	0.18	0.18	0.18	0.18	0.16	0.18	0.15	0.173	0.013	86.8	0.039
Dibromochloromethane	0.15	0.16	0.16	0.17	0.18	0.16	0.17	0.18	0.169	0.009	89.0	0.028
Methyl Butyl Ketone	0.15	0.17	0.16	0.18	0.17	0.16	0.17	0.14	0.164	0.013	91.3	0.040
1,2-dibromoethane	0.15	0.16	0.17	0.16	0.16	0.16	0.15	0.17	0.163	0.005	92.1	0.015
Tetrachloroethylene	0.15	0.16	0.17	0.16	0.16	0.16	0.17	0.17	0.163	0.005	91.3	0.017
Chlorobenzene	0.15	0.16	0.16	0.16	0.17	0.15	0.17	0.17	0.163	0.008	92.1	0.024
1,1,1,2-tetrachloroethane	0.15	0.17	0.17	0.17	0.18	0.16	0.18	0.17	0.171	0.007	87.5	0.022
Ethylbenzene	0.15	0.13	0.14	0.14	0.14	0.12	0.14	0.13	0.134	0.008	111.7	0.025
m&p-xylene	0.3	0.25	0.25	0.25	0.23	0.25	0.25	0.25	0.247	0.008	121.4	0.024
Nonane	0.15	0.11	0.11	0.11	0.11	0.1	0.1	0.11	0.107	0.005	140.0	0.015
Styrene	0.15	0.12	0.13	0.13	0.11	0.12	0.13	0.12	0.123	0.006	122.1	0.024
Bromoforn	0.15	0.15	0.15	0.16	0.15	0.15	0.17	0.16	0.156	0.008	96.3	0.025
o-xylene	0.15	0.11	0.12	0.12	0.14	0.14	0.12	0.11	0.123	0.013	122.1	0.039
Cumene	0.15	0.12	0.13	0.13	0.12	0.13	0.13	0.13	0.127	0.005	118.0	0.015
Bromofluorobenzene	1	0.88	0.9	0.9	0.87	0.89	0.89	0.9	0.890	0.012	112.4	0.036
1,1,2,2-tetrachloroethane	0.15	0.16	0.16	0.17	0.16	0.17	0.17	0.16	0.164	0.005	91.3	0.017
Propylbenzene	0.15	0.13	0.12	0.13	0.13	0.11	0.13	0.11	0.123	0.010	122.1	0.030
2-Chlorotoluene	0.15	0.13	0.13	0.13	0.14	0.13	0.12	0.13	0.130	0.006	115.4	0.018
4-ethyltoluene	0.15	0.11	0.12	0.12	0.12	0.13	0.13	0.11	0.120	0.008	125.0	0.025
1,3,5-trimethylbenzene	0.15	0.12	0.13	0.14	0.12	0.13	0.13	0.13	0.129	0.007	116.7	0.022
1,2,4-trimethylbenzene	0.15	0.12	0.13	0.12	0.12	0.13	0.12	0.12	0.123	0.005	122.1	0.015
1,3-dichlorobenzene	0.15	0.14	0.14	0.14	0.13	0.14	0.13	0.14	0.137	0.005	109.4	0.015
benzyl chloride	0.15	0.13	0.16	0.13	0.15	0.13	0.15	0.16	0.144	0.014	104.0	0.044
1,4-dichlorobenzene	0.15	0.13	0.11	0.12	0.12	0.12	0.12	0.13	0.121	0.007	123.5	0.022
1,2,3-trimethylbenzene	0.15	0.12	0.11	0.12	0.12	0.12	0.11	0.11	0.116	0.005	128.6	0.017
1,2-dichlorobenzene	0.15	0.13	0.14	0.14	0.14	0.14	0.14	0.13	0.137	0.005	109.4	0.015
1,2,4-trichlorobenzene	0.15	0.1	0.11	0.1	0.11	0.11	0.12	0.1	0.107	0.008	140.0	0.024
Naphthalene	0.15	0.13	0.13	0.14	0.11	0.12	0.14	0.12	0.127	0.011	118.0	0.035
Hexachloro-1,3-butadiene	0.15	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.164	0.005	91.3	0.017

Centek Laboratories
IDL Study

0.25ug/M3 Detection Limit
January 2016

Method TO-15A
Units=ppb

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDL#6	IDL#7	Average	StdDev	%Rec	IDL
Vinyl Chloride	0.1	0.11	0.11	0.09	0.08	0.1	0.09	0.1	0.099	0.009	101.4	0.028
Carbon tetrachloride	0.1	0.1	0.11	0.08	0.09	0.09	0.09	0.09	0.093	0.010	107.7	0.030
Trichloroethene	0.1	0.1	0.1	0.07	0.08	0.08	0.08	0.08	0.084	0.011	118.6	0.036
Tetrachloroethylene	0.1	0.11	0.12	0.09	0.09	0.1	0.09	0.09	0.099	0.012	101.4	0.038
Naphthalene	0.1	0.09	0.08	0.07	0.06	0.06	0.07	0.06	0.070	0.012	142.9	0.036

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

$$\text{RRF} = \frac{A_x * C_{is}}{A_{is} * C_x}$$

where: A_x = area of the characteristic ion for the compound being measured
 A_{is} = area of the characteristic ion for the specific internal standard of the compound being measured
 C_x = concentration of the compound being measured (ppbv)
 C_{is} = concentration of the internal standard (ppbv)

Percent Relative Standard Deviation (%RSD)

$$\% \text{ RSD} = \frac{\text{Standard deviation of RRF values} * 100}{\text{mean RRF}}$$

Percent Difference (%D)

$$\% D = \frac{(\text{RRF}_c - \text{mean RRF}_i) * 100}{\text{mean RRF}_i}$$

where: RRF_c = relative response factor from the continuing calibration
 mean RRF_i = mean relative response factor from the initial calibration

Sample Calculations

$$\text{ppbv} = \frac{A_x * I_s * D_f}{A_{is} * \text{RRF}}$$

where: A_x = area of the characteristic ion for the compound being measured
 A_{is} = area of the characteristic ion for the specific internal standard of the compound being measured
 I_s = Concentration of the internal standard injected (ppbv)
 RRF = relative response factor for the compound being measured
 D_f = Dilution factor

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

SAMPLE DATA

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	1769-SV1-1
Lab Order:	C1701027	Tag Number:	290.276
Project:	Former Emerson St Landfill	Collection Date:	1/11/2017
Lab ID:	C1701027-001A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-8			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 BY METHOD TO15						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.17	0.15		ppbV	1	1/20/2017 11:46:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Trichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	1/20/2017 11:46:00 PM
Surr: Bromofluorobenzene	103	70-130		%REC	1	1/20/2017 11:46:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-001A

Client Sample ID: 1769-SVI-1
 Tag Number: 290.276
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	0.93	0.62		ug/m3	1	1/20/2017 11:46:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 11:46:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:46:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 11:46:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	1/20/2017 11:46:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:46:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 11:46:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:46:00 PM
Trichloroethene	< 0.81	0.81		ug/m3	1	1/20/2017 11:46:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	1/20/2017 11:46:00 PM

Qualifiers:	**	Quantitation Limit	,	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Data File : C:\HPCHEM\1\DATA\AO012023.D
 Acq On : 20 Jan 2017 11:46 pm
 Sample : C1701027-001A
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:12 2017

Vial: 26
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	90180	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	386413	1.00	ppb	0.01
50) Chlorobenzene-d5	16.91	117	323239	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	212093	1.03	ppb	0.01
Spiked Amount	1.000	Range 70 - 130	Recovery	=	103.00%	

Target Compounds

36) 1,1,1-trichloroethane	11.05	97	52974	0.17	ppb	Qvalue 97
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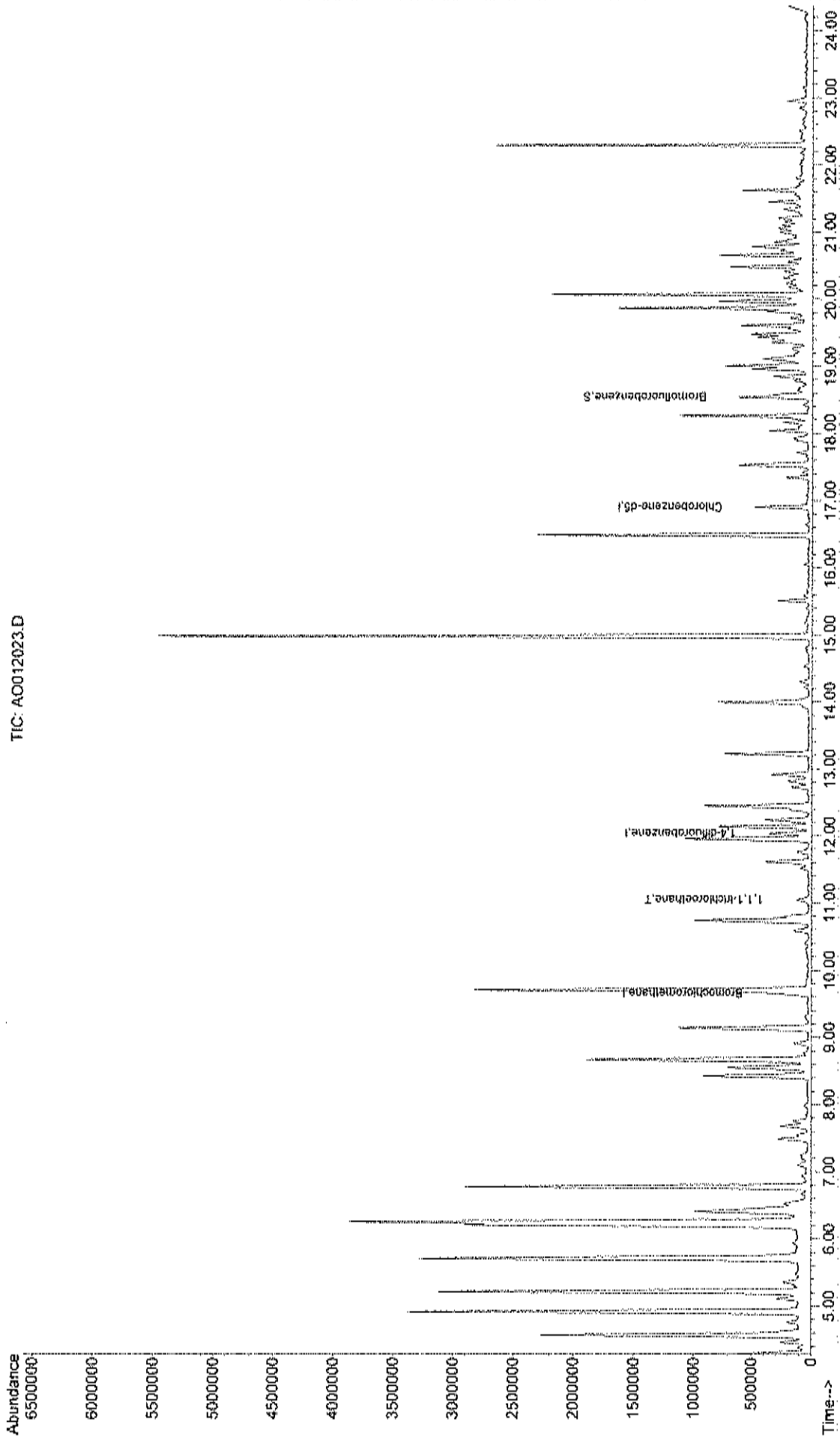
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Acq On : 20 Jan 2017 11:46 pm
Sample : C1701027-001A
Misc : A120_IUG
MS Integration Params: RTEINT.P
Quant Time: Jan 24 8:46 2017

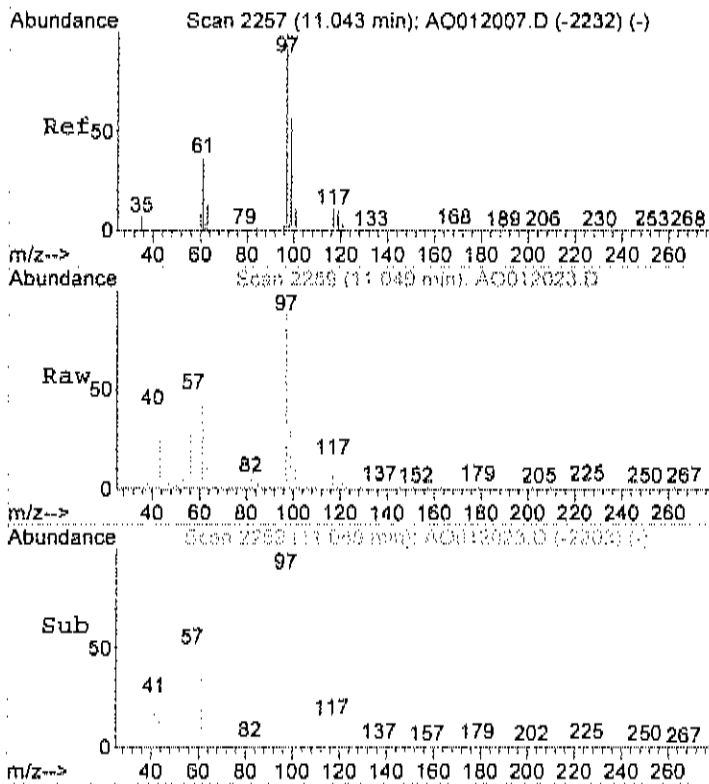
Vial: 26
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_IUG.RES

Method : C:\HPCHEM\1\METHODS\A120_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

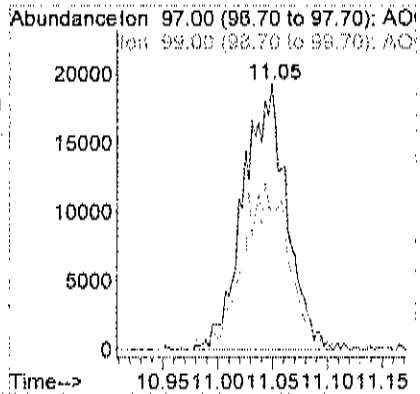
Abundance TIC: A0012023.D





#36
 1,1,1-trichloroethane
 Concen: 0.17 ppb
 RT: 11.05 min Scan# 2259
 Delta R.T. 0.02 min
 Lab File: AO012023.D
 Acq: 20 Jan 2017 11:46 pm

Tgt Ion	Resp	Ion Ratio	Lower	Upper
97	52974	100		
99		64.2	47.0	87.0



Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
Lab Order: C1701027
Project: Former Emerson St Landfill
Lab ID: C1701027-002A

Client Sample ID: 1769-IAQ-1
Tag Number: 316.1162
Collection Date: 1/11/2017
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	0			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
Chloromethane	0.54	0.15		ppbV	1	1/20/2017 9:02:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 9:02:00 PM
Trichloroethene	< 0.040	0.040		ppbV	1	1/20/2017 9:02:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	1/20/2017 9:02:00 PM
Surr: Bromofluorobenzene	101	70-130		%REC	1	1/20/2017 9:02:00 PM

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits
 . Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-002A

Client Sample ID: 1769-1AQ-1
 Tag Number: 316.1162
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 9:02:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 9:02:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 9:02:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 9:02:00 PM
Chloromethane	1.1	0.31		ug/m3	1	1/20/2017 9:02:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:02:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 9:02:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:02:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 9:02:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 9:02:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Data File : C:\HPCHEM\1\DATA\AO012019.D
 Acq On : 20 Jan 2017 9:02 pm
 Sample : C1701027-002A
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:08 2017

Vial: 22
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

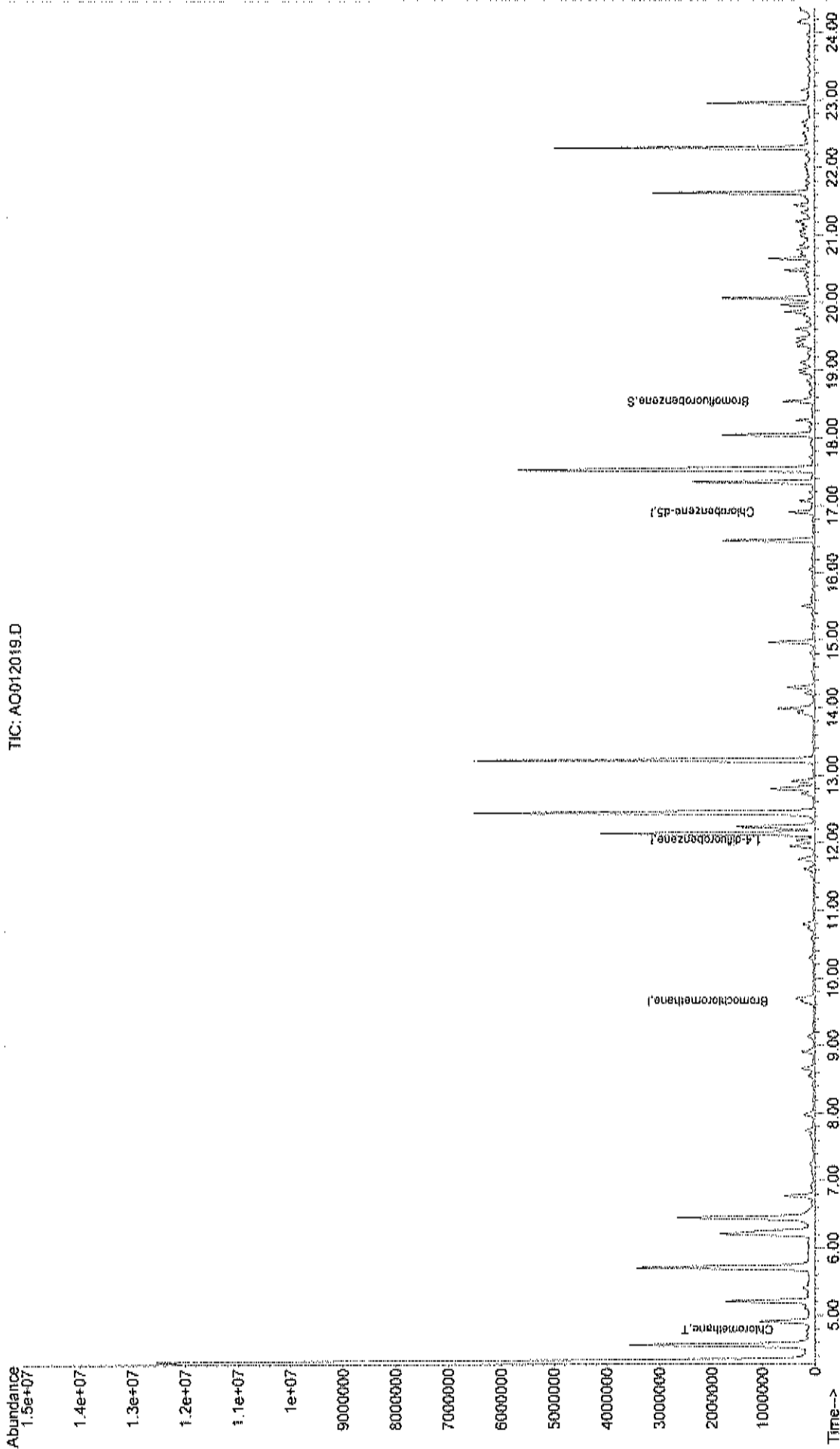
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	89796	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.04	114	391377	1.00	ppb	0.02
50) Chlorobenzene-d5	16.90	117	329186	1.00	ppb	0.00
System Monitoring Compounds						
65) Bromofluorobenzene	18.54	95	211812	1.01	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	101.00%	
Target Compounds						
4) Chloromethane	4.79	50	49783m	0.54	ppb	Qvalue

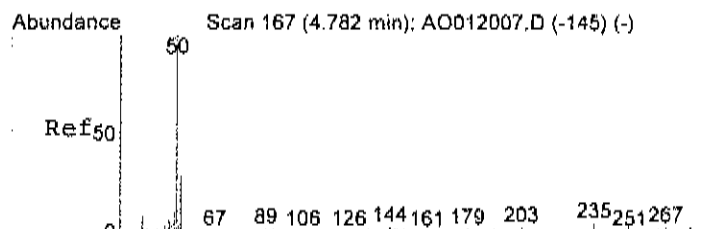
Quantitation Report (QF Reviewed)

Data File : C:\HPCHEM\1\DATA\AO012019.D
Acq On : 20 Jan 2017 9:02 pm
Sample : C1701027-002A
Misc : A120_1UG
MS Integration Params: RTEINT.P
Quant Time: Jan 24 8:43 2017

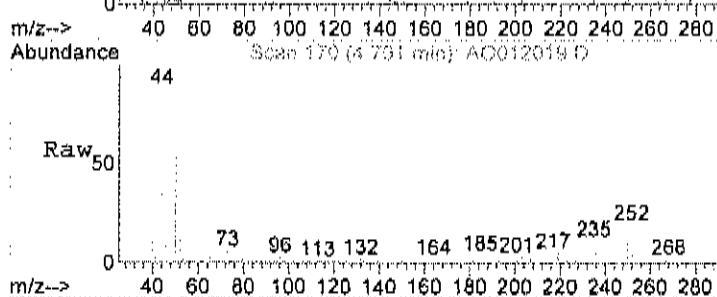
Vial: 22
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A120_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

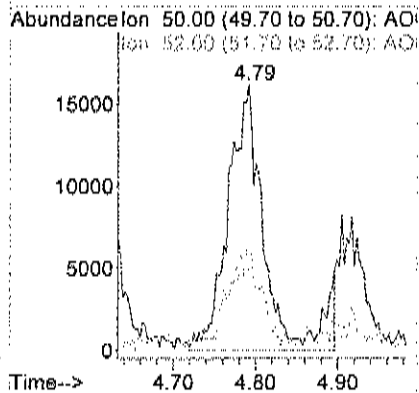
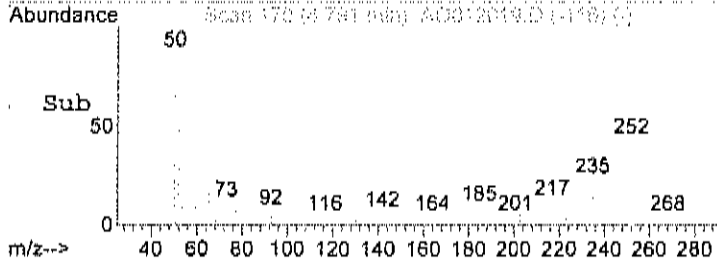




#4
 Chloromethane
 Concen: 0.54 ppb m
 RT: 4.79 min Scan# 170
 Delta R.T. 0.01 min
 Lab File: AO012019.D
 Acq: 20 Jan 2017 9:02 pm



Tgt Ion: 50 Resp: 49783
 Ion Ratio Lower Upper
 50 100
 52 29.1 11.8 51.8



Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-003A

Client Sample ID: 1769-Dupe
 Tag Number: 83.1162
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
Lab Vacuum In	0			"Hg		Analyst: 1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
				FLD		Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
Chloromethane	0.54	0.15		ppbV	1	1/20/2017 9:42:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 9:42:00 PM
Trichloroethene	< 0.040	0.040		ppbV	1	1/20/2017 9:42:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	1/20/2017 9:42:00 PM
Surr: Bromofluorobenzene	106	70-130		%REC	1	1/20/2017 9:42:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
Lab Order: C1701027
Project: Former Emerson St Landfill
Lab ID: C1701027-003A

Client Sample ID: 1769-Dupe
Tag Number: 83.1162
Collection Date: 1/11/2017
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 9:42:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 9:42:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:42:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 9:42:00 PM
Chloromethane	1.1	0.31		ug/m3	1	1/20/2017 9:42:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:42:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 9:42:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:42:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 9:42:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 9:42:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Data File : C:\HPCHEM\1\DATA\AO012020.D
 Acq On : 20 Jan 2017 9:42 pm
 Sample : C1701027-003A
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:09 2017

Vial: 23
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

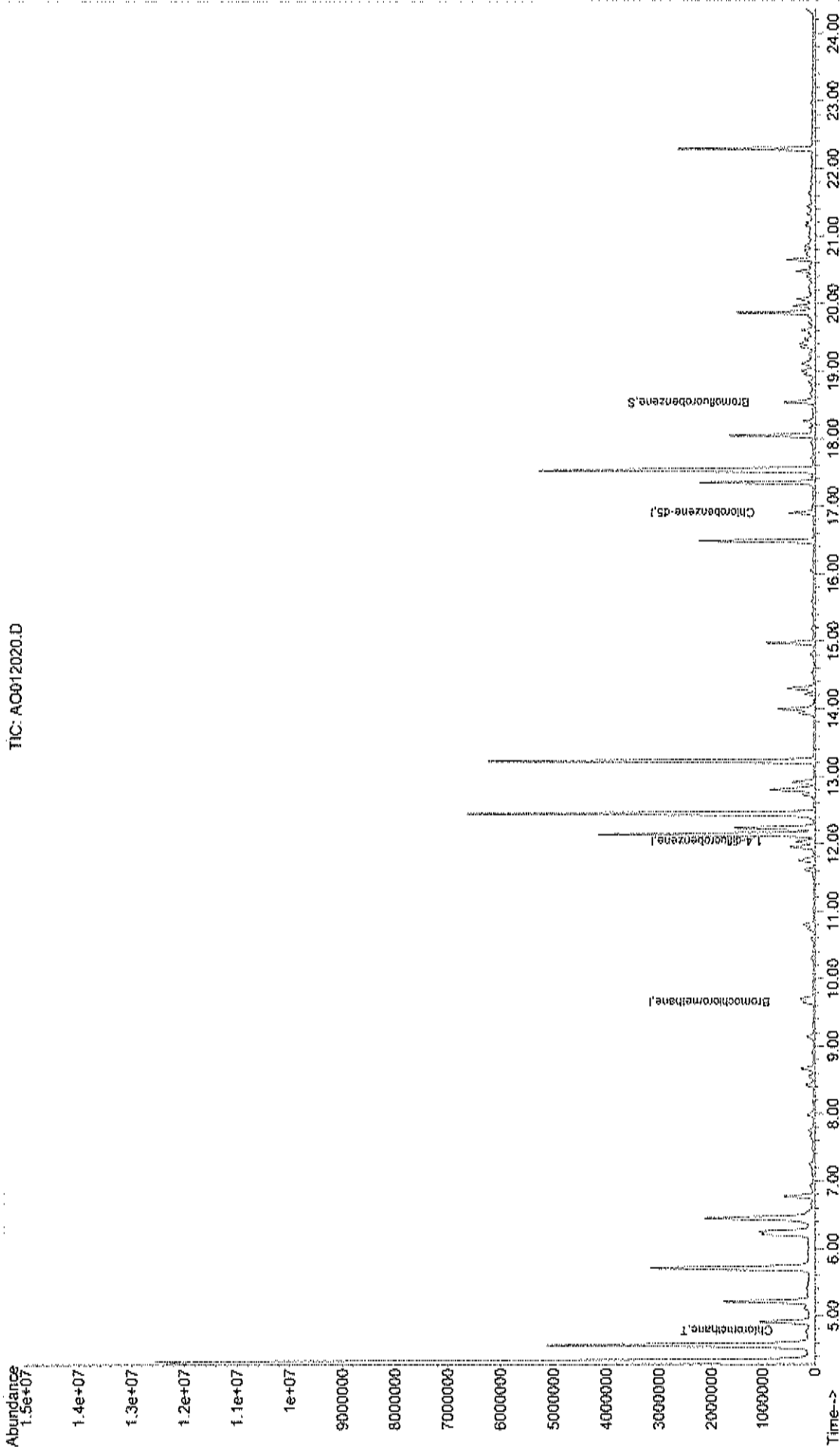
Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	90066	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	398161	1.00	ppb	0.00
50) Chlorobenzene-d5	16.91	117	328653	1.00	ppb	0.00
System Monitoring Compounds						
65) Bromofluorobenzene	18.54	95	222651	1.06	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	106.00%
Target Compounds						
4) Chloromethane	4.79	50	49776	0.54	ppb	Qvalue 87

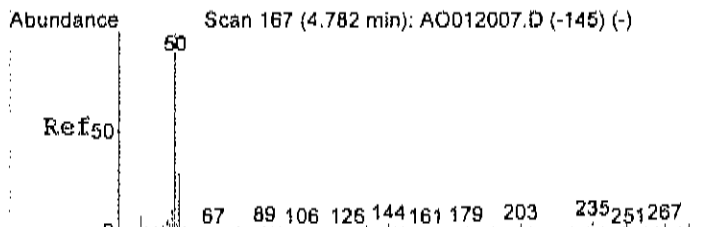
Data File : C:\HPCHEM\1\DATA\AO012020.D
Acq On : 20 Jan 2017 9:42 pm
Sample : C1701027-003A
Misc : A120_1UG
MS Integration Params: RTEINT.P
Quant Time: Jan 24 8:44 2017

Vial: 23
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A120_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

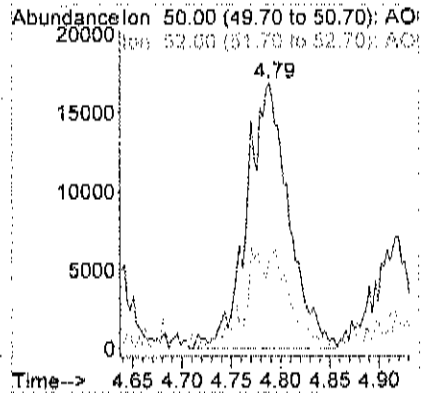
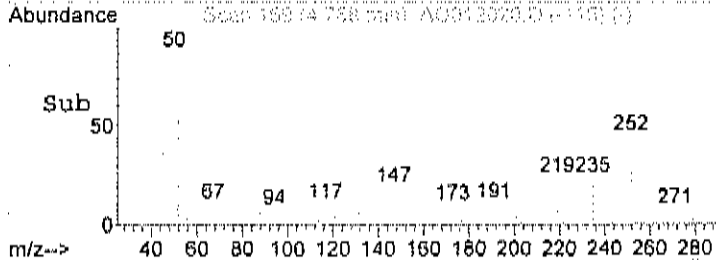
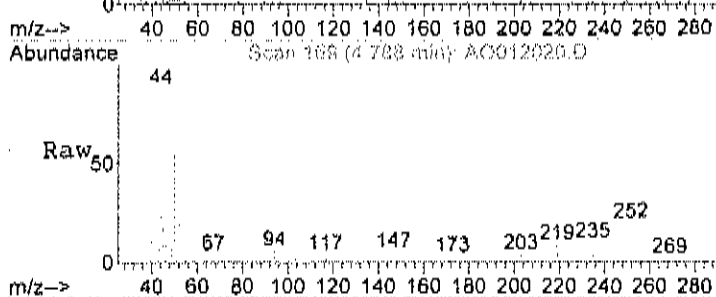


HC:AO012020.D



#4
 Chloromethane
 Concen: 0.54 ppb
 RT: 4.79 min Scan# 169
 Delta R.T. 0.01 min
 Lab File: AO012020.D
 Acq: 20 Jan 2017 9:42 pm

Tgt Ion: 50 Resp: 49776
 Ion Ratio Lower Upper
 50 100
 52 38.9 11.8 51.8



Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	1769-SVI-2
Lab Order:	C1701027	Tag Number:	163.1152
Project:	Former Emerson St Landfill	Collection Date:	1/11/2017
Lab ID:	C1701027-004A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-5			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 BY METHOD TO15						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.29	0.15		ppbV	1	1/21/2017 12:28:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
Trichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 12:28:00 AM
Vinyl chloride	0.14	0.15	J	ppbV	1	1/21/2017 12:28:00 AM
Surr: Bromofluorobenzene	107	70-130		%REC	1	1/21/2017 12:28:00 AM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-004A

Client Sample ID: 1769-SV1-2
 Tag Number: 163.1152
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15						Analyst: RJP
		TO-15				
1,1,1-Trichloroethane	1.6	0.82		ug/m3	1	1/21/2017 12:28:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/21/2017 12:28:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 12:28:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	1/21/2017 12:28:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	1/21/2017 12:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 12:28:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/21/2017 12:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 12:28:00 AM
Trichloroethene	< 0.81	0.81		ug/m3	1	1/21/2017 12:28:00 AM
Vinyl chloride	0.36	0.38	J	ug/m3	1	1/21/2017 12:28:00 AM

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits
 . Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Data File : C:\HPCHEM\1\DATA\AO012024.D Vial: 27
 Acq On : 21 Jan 2017 12:28 am Operator: RJP
 Sample : C1701027-004A Inst : MSD #1
 Misc : A120_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:13 2017 Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	91352	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.03	114	396586	1.00	ppb	0.01
50) Chlorobenzene-d5	16.91	117	323205	1.00	ppb	0.00

System Monitoring Compounds						
65) Bromofluorobenzene	18.54	95	220357	1.07	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	107.00%

Target Compounds						Qvalue
6) Vinyl Chloride	5.01	62	18960	0.14	ppb	91
36) 1,1,1-trichloroethane	11.05	97	91310	0.29	ppb	99

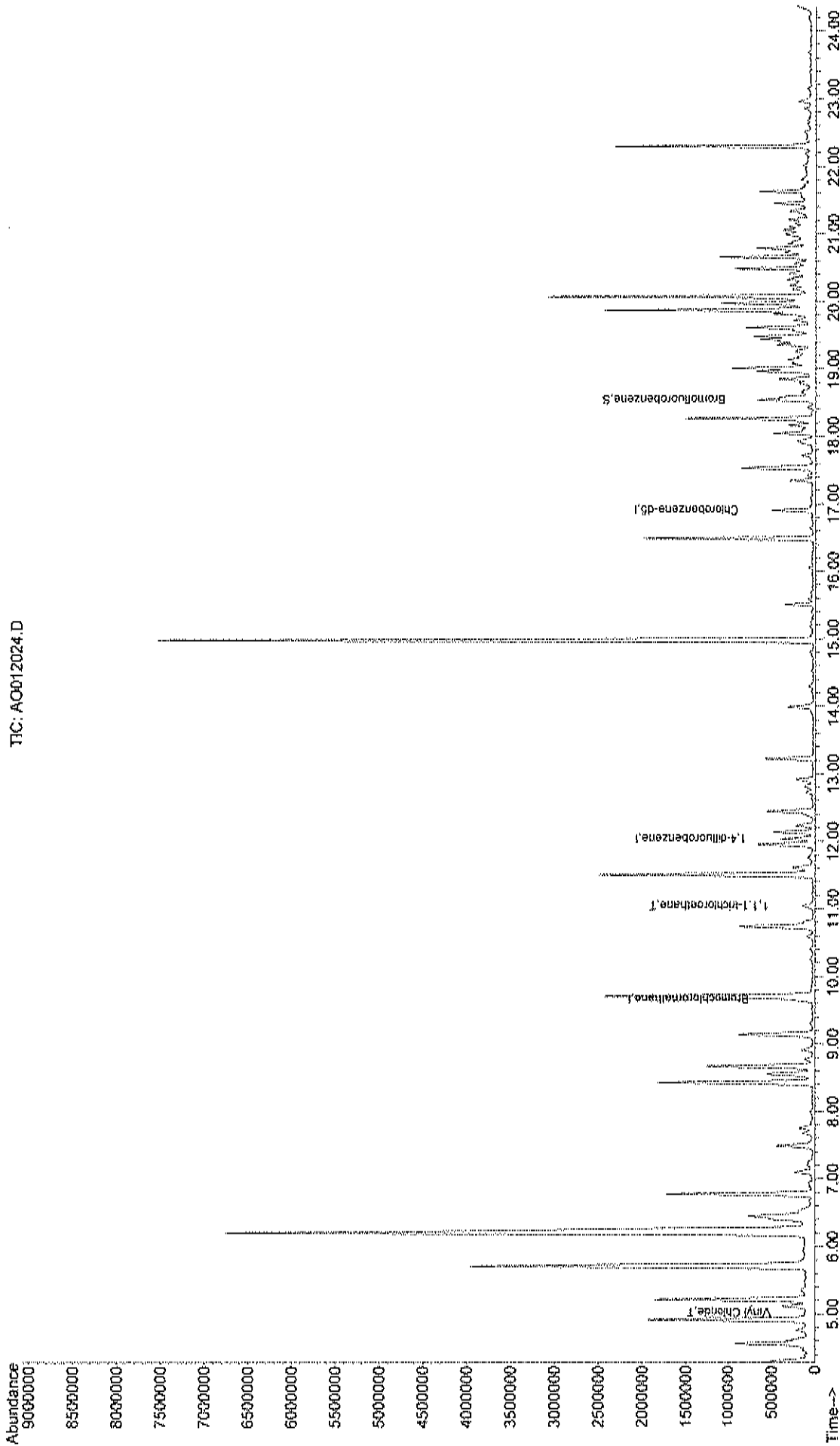
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A0012024.D
Acq On : 21 Jan 2017 12:28 am
Sample : C1701027-004A
Misc : A120_1UG
MS Integration Params: RFEINT.P
Quant Time: Jan 24 8:47 2017

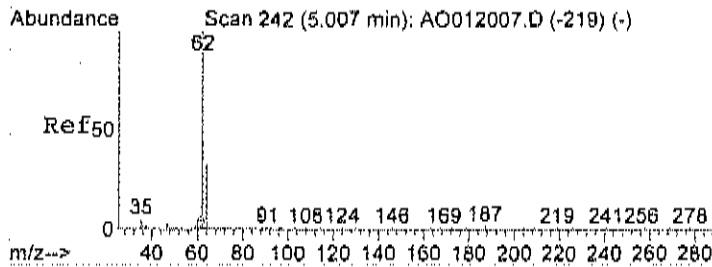
Vial: 27
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

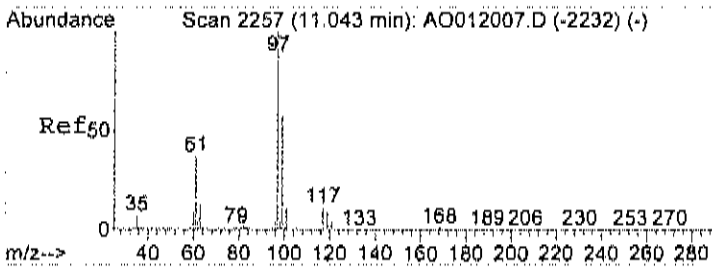
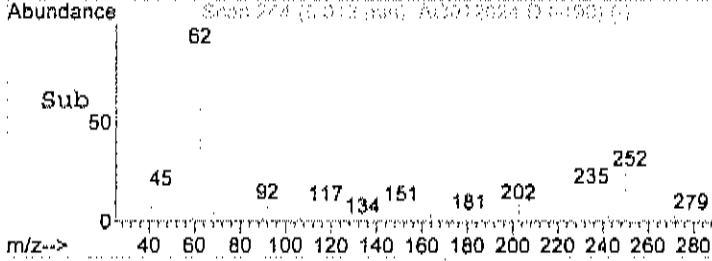
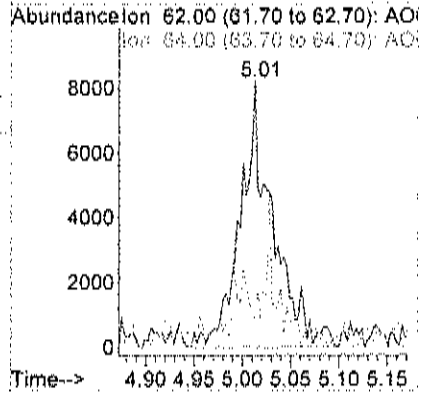
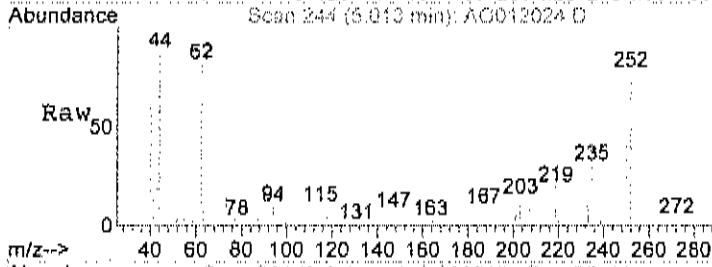


TC: A0012024.D



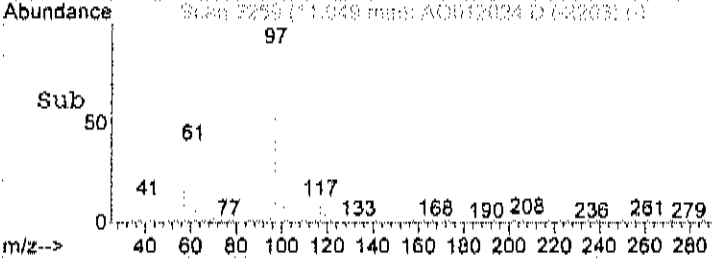
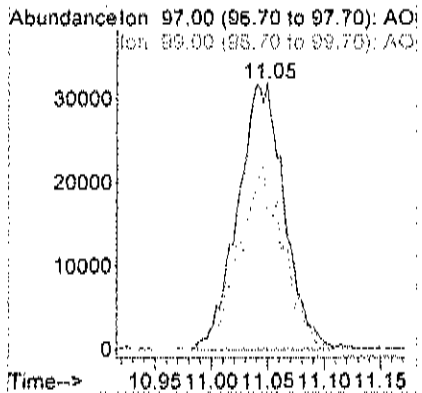
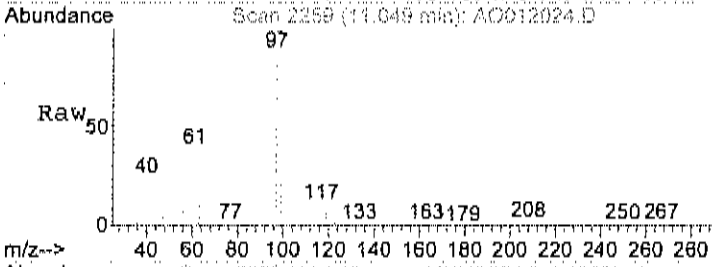
#6
 Vinyl Chloride
 Concen: 0.14 ppb
 RT: 5.01 min Scan# 244
 Delta R.T. 0.01 min
 Lab File: AO012024.D
 Acq: 21 Jan 2017 12:28 am

Tgt Ion: 62 Resp: 18960
 Ion Ratio Lower Upper
 62 100
 64 33.4 0.0 58.6



#36
 1,1,1-trichloroethane
 Concen: 0.29 ppb
 RT: 11.05 min Scan# 2259
 Delta R.T. 0.02 min
 Lab File: AO012024.D
 Acq: 21 Jan 2017 12:28 am

Tgt Ion: 97 Resp: 91310
 Ion Ratio Lower Upper
 97 100
 99 66.0 47.0 87.0



Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-005A

Client Sample ID: 1769-IAQ-2
 Tag Number: 1323.446
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-8			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
Chloromethane	0.50	0.15		ppbV	1	1/20/2017 6:50:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 6:50:00 PM
Trichloroethene	< 0.040	0.040		ppbV	1	1/20/2017 6:50:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	1/20/2017 6:50:00 PM
Surr: Bromofluorobenzene	102	70-130		%REC	1	1/20/2017 6:50:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
B		Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
H		Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
JN		Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
S		Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-005A

Client Sample ID: 1769-IAQ-2
 Tag Number: 1323.446
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						Analyst: RJP
		TO-15				
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 6:50:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 6:50:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 6:50:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 6:50:00 PM
Chloromethane	1.0	0.31		ug/m3	1	1/20/2017 6:50:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 6:50:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 6:50:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 6:50:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 6:50:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 6:50:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	IN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Data File : C:\HPCHEM\1\DATA\AO012016.D Vial: 21
 Acq On : 20 Jan 2017 6:50 pm Operator: RJP
 Sample : C1701027-005A Inst : MSD #1
 Misc : A120_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:05 2017 Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.66	128	85010	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.04	114	376366	1.00	ppb	0.01
50) Chlorobenzene-d5	16.91	117	308710	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 18.54 95 199552 1.02 ppb 0.01
 Spiked Amount 1.000 Range 70 - 130 Recovery = 102.00%

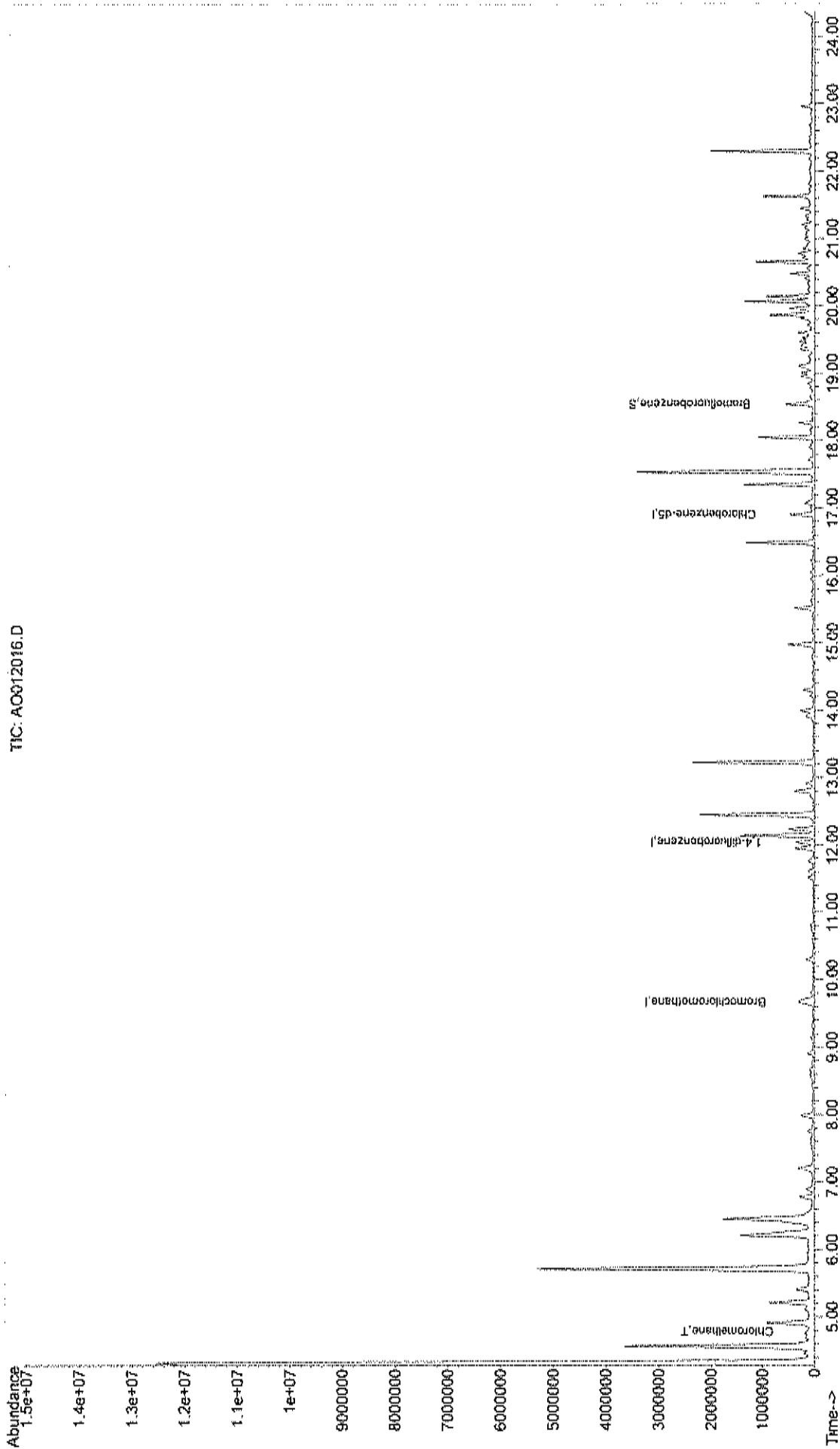
Target Compounds Qvalue
 4) Chloromethane 4.79 50 43073m *N* 0.50 ppb

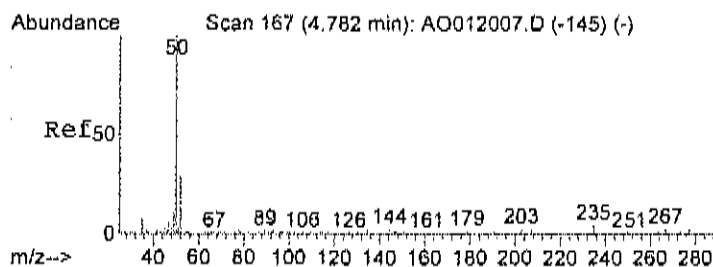
Data File : C:\HPCHEM\1\DATA\A0012016.D
Acq On : 20 Jan 2017 6:50 pm
Sample : C1701027-005A
Misc : A120 IUG
MS Integration Params: RTEINT.P
Quant Time: Jan 24 8:39 2017

Vial: 21
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_IUG.RES

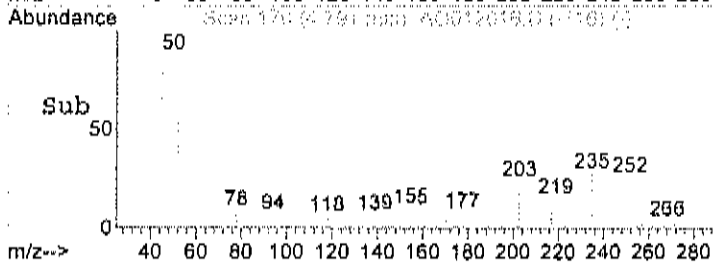
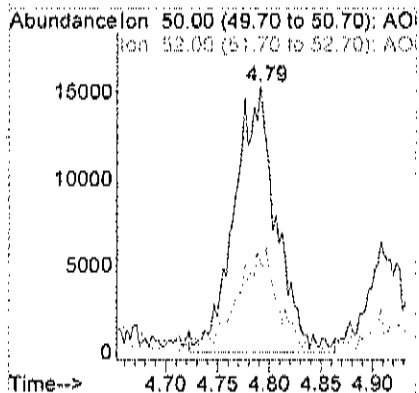
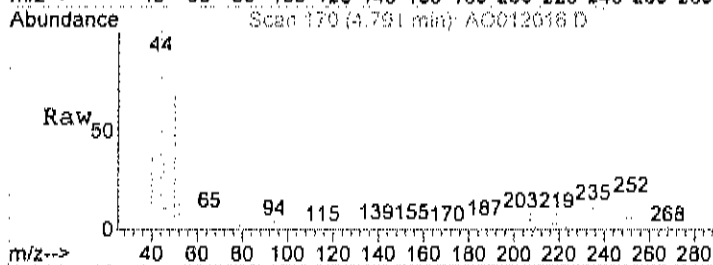
Method : C:\HPCHEM\1\METHODS\A120_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration





#4
 Chloromethane
 Concen: 0.50 ppb m
 RT: 4.79 min Scan# 170
 Delta R.T. 0.01 min
 Lab File: AO012016.D
 Acq: 20 Jan 2017 6:50 pm

Tgt Ion	Resp	Lower	Upper
50	43073		
52	36.4	11.8	51.8



Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	1769-SVI-3
Lab Order:	C1701027	Tag Number:	242.1170
Project:	Former Emerson St Landfill	Collection Date:	1/11/2017
Lab ID:	C1701027-006A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-8			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 BY METHOD TO15						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Chloromethane	0.17	0.15		ppbV	1	1/21/2017 1:10:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Trichloroethene	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	1/21/2017 1:10:00 AM
Surr: Bromofluorobenzene	101	70-130		%REC	1	1/21/2017 1:10:00 AM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
Lab Order: C1701027
Project: Former Emerson St Landfill
Lab ID: C1701027-006A

Client Sample ID: 1769-SV1-3
Tag Number: 242.1170
Collection Date: 1/11/2017
Matrix: AIR

Analyses	Result	**Limit	Qual Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	1/21/2017 1:10:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	1/21/2017 1:10:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	1/21/2017 1:10:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	1/21/2017 1:10:00 AM
Chloromethane	0.35	0.31	ug/m3	1	1/21/2017 1:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	1/21/2017 1:10:00 AM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	1/21/2017 1:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	1/21/2017 1:10:00 AM
Trichloroethene	< 0.81	0.81	ug/m3	1	1/21/2017 1:10:00 AM
Vinyl chloride	< 0.38	0.38	ug/m3	1	1/21/2017 1:10:00 AM

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 F Holding times for preparation or analysis exceeded
 JN Non-routine analyte, Quantitation estimated,
 S Spike Recovery outside accepted recovery limits
 , Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Data File : C:\HPCHEM\1\DATA\AO012025.D Vial: 28
 Acq On : 21 Jan 2017 1:10 am Operator: RJP
 Sample : C1701027-006A Inst : MSD #1
 Misc : A120_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:14 2017 Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

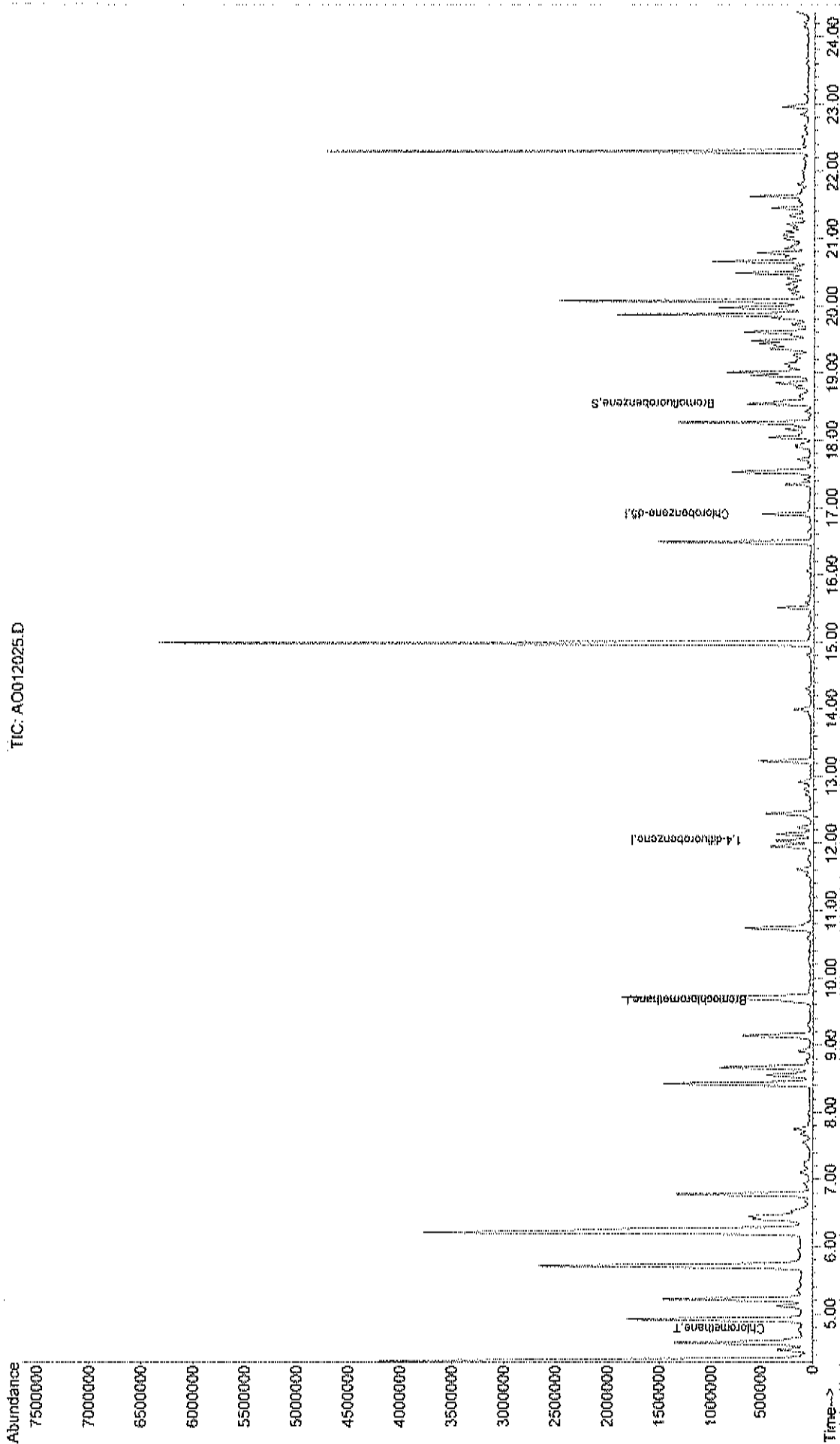
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	93724	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.03	114	394127	1.00	ppb	0.01
50) Chlorobenzene-d5	16.90	117	329284	1.00	ppb	0.00
System Monitoring Compounds						
65) Bromofluorobenzene	18.54	95	211577	1.01	ppb	0.01
Spiked Amount	1.000	Range	70 - 130	Recovery	=	101.00%
Target Compounds						Qvalue
4) Chloromethane	4.79	50	16234	0.17	ppb	65

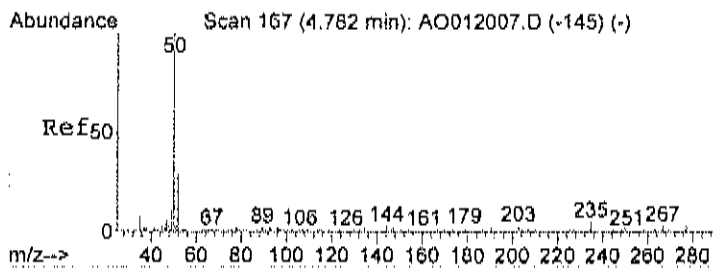
Data File : C:\HPCHEM\1\DATA\A0012025.D
Acq On : 21 Jan 2017 1:10 am
Sample : C1701027-006A
Misc : A120 IUG
MS Integration Params: RTEINT.P
Quant Time: Jan 24 8:48 2017

Vial: 28
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_IUG.RES

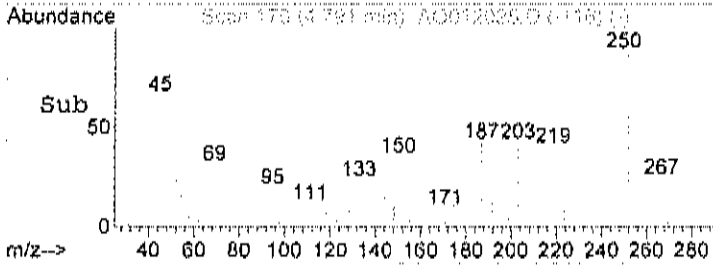
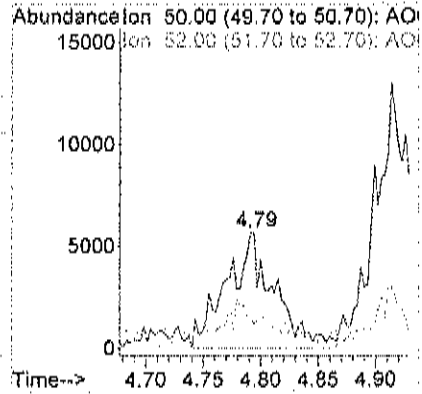
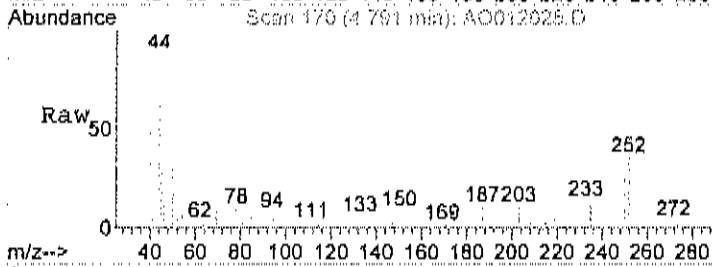
Method : C:\HPCHEM\1\METHODS\A120_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration





#4
 Chloromethane
 Concen: 0.17 ppb
 RT: 4.79 min Scan# 170
 Delta R.T. 0.01 min
 Lab File: AO012025.D
 Acq: 21 Jan 2017 1:10 am

Tgt Ion: 50 Resp: 16234
 Ion Ratio Lower Upper
 50 100
 52 51.4 11.8 51.8



Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-007A

Client Sample ID: 1769-IAQ-3
 Tag Number: 1188.345
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-8			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
Chloromethane	0.49	0.15		ppbV	1	1/20/2017 10:24:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 10:24:00 PM
Trichloroethene	< 0.040	0.040		ppbV	1	1/20/2017 10:24:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	1/20/2017 10:24:00 PM
Surr: Bromofluorobenzene	99.0	70-130		%REC	1	1/20/2017 10:24:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range	
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit	
JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection	
S	Spike Recovery outside accepted recovery limits			

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-007A

Client Sample ID: 1769-1AQ-3
 Tag Number: 1188.345
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 10:24:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 10:24:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 10:24:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 10:24:00 PM
Chloromethane	1.0	0.31		ug/m3	1	1/20/2017 10:24:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 10:24:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 10:24:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 10:24:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 10:24:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 10:24:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Data File : C:\HPCHEM\1\DATA\AO012021.D Vial: 24
 Acq On : 20 Jan 2017 10:24 pm Operator: RJP
 Sample : C1701027-007A Inst : MSD #1
 Misc : A120_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:10 2017 Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	90276	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.03	114	399341	1.00	ppb	0.01
50) Chlorobenzene-d5	16.91	117	327152	1.00	ppb	0.00

System Monitoring Compounds						
65) Bromofluorobenzene	18.54	95	206895	0.99	ppb	0.01
Spiked Amount	1.000	Range 70 - 130	Recovery	=	99.00%	

Target Compounds						Qvalue
4) Chloromethane	4.79	50	45432m ^m	0.49	ppb	

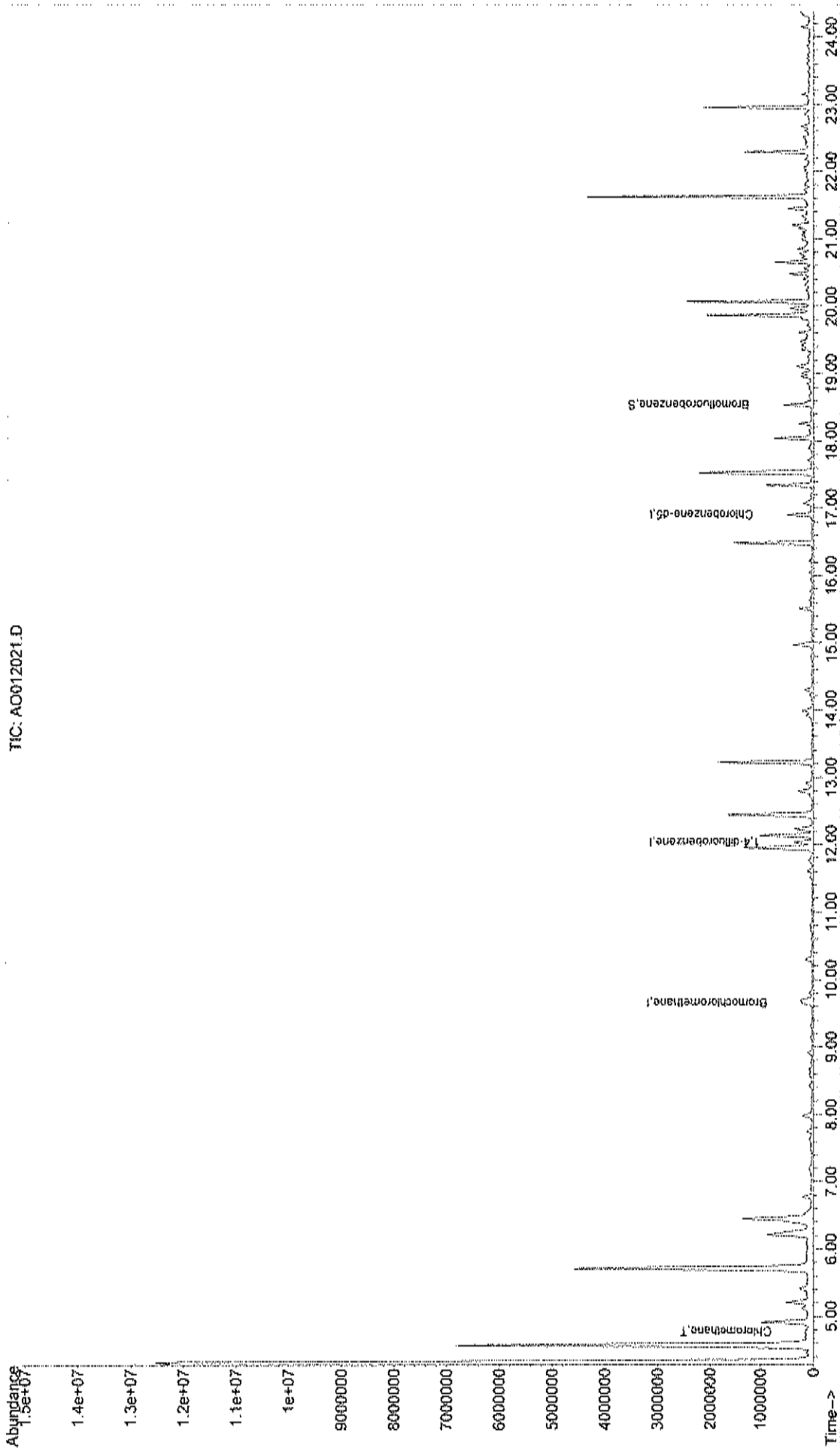
Quantitation Report {QT Reviewed}

Data File : C:\HPCHEM\1\DATA\A0012021.D
Acq On : 20 Jan 2017 10:24 pm
Sample : C1701027-007A
Misc : A120 IUG
MS Integration Params: RTEINT.P
Quant Time: Jan 24 8:44 2017

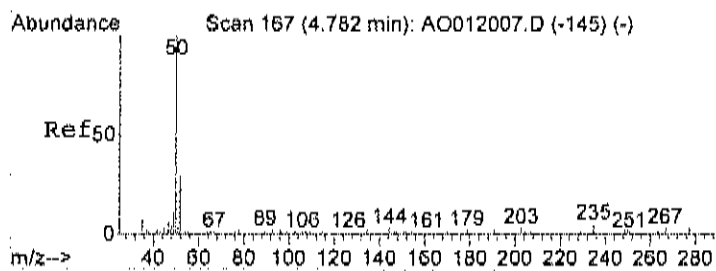
Vial: 24
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_IUG.RES

Method : C:\HPCHEM\1\METHODS\A120_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

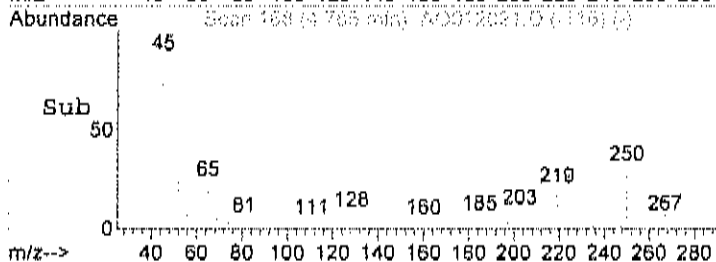
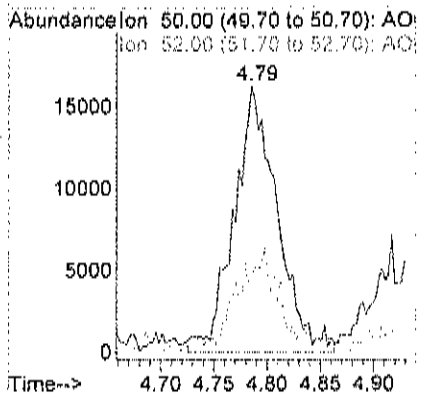
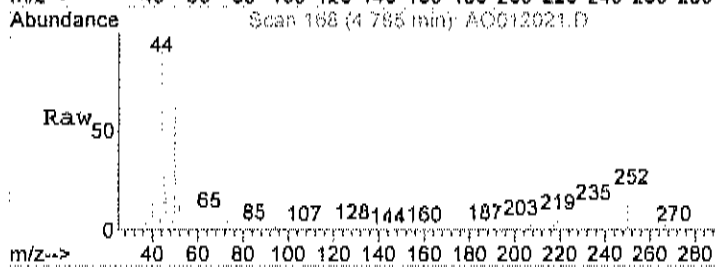


INC: A0012021.D



#4
 Chloromethane
 Concen: 0.49 ppb m
 RT: 4.79 min Scan# 168
 Delta R.T. 0.01 min
 Lab File: AO012021.D
 Acq: 20 Jan 2017 10:24 pm

Tgt Ion	Resp	Lower	Upper
50	45432		
52	38.3	11.8	51.8



Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-008A

Client Sample ID: 1769-Outdoor
 Tag Number: 360.265
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-7			"Hg		1/16/2017
Lab Vacuum Out	-30			"Hg		1/16/2017
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
Chloromethane	0.49	0.15		ppbV	1	1/20/2017 11:05:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	1/20/2017 11:05:00 PM
Trichloroethene	< 0.040	0.040		ppbV	1	1/20/2017 11:05:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	1/20/2017 11:05:00 PM
Surr: Bromofluorobenzene	89.0	70-130		%REC	1	1/20/2017 11:05:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-008A

Client Sample ID: 1769-Outdoor
 Tag Number: 360.265
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 11:05:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 11:05:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:05:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 11:05:00 PM
Chloromethane	1.0	0.31		ug/m3	1	1/20/2017 11:05:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:05:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 11:05:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:05:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 11:05:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 11:05:00 PM

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Data File : C:\HPCHEM\1\DATA\AO012022.D
 Acq On : 20 Jan 2017 11:05 pm
 Sample : C1701027-008A
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:11 2017

Vial: 25
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	90585	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	381638	1.00	ppb	0.00
50) Chlorobenzene-d5	16.90	117	320976	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	182184	0.89	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	89.00%

Target Compounds

4) Chloromethane	4.80	50	45205	0.49	ppb	Qvalue 72
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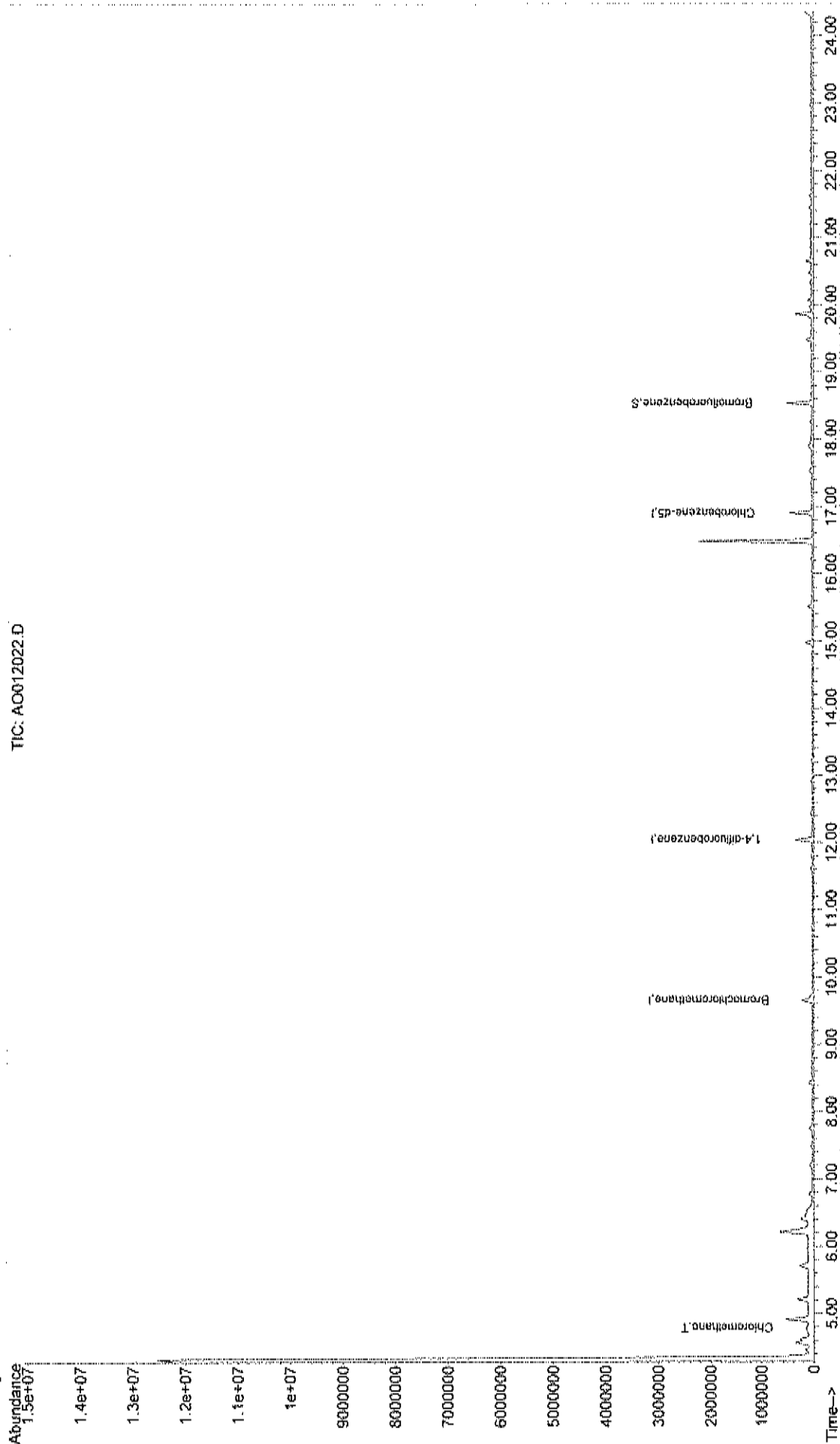
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AO012022.D
Acq On : 20 Jan 2017 11:05 pm
Sample : C1701027-008A
Misc : A120 1UG
MS Integration Params: RTEINT.P
Quant Time: Jan 24 8:45 2017

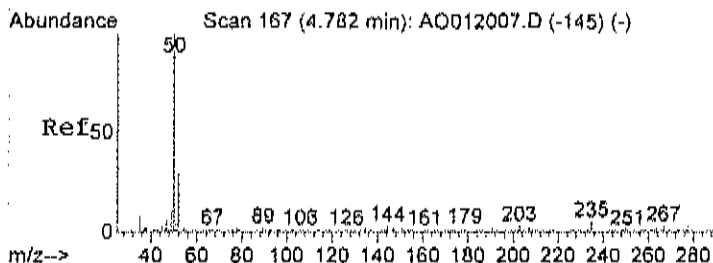
Vial: 25
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

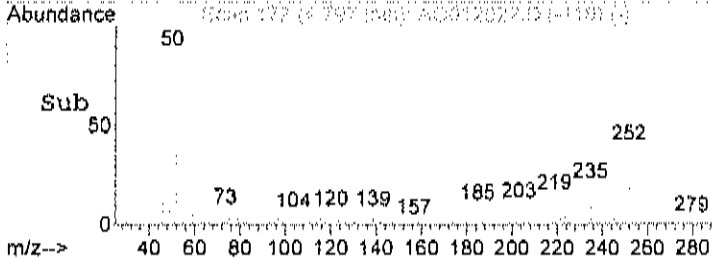
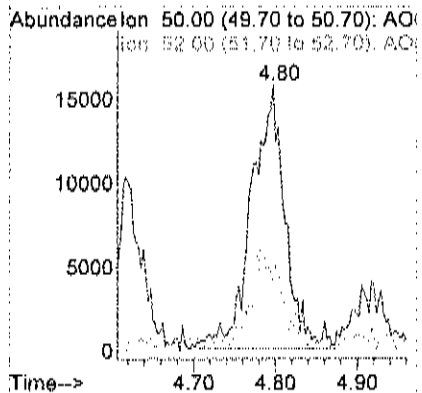
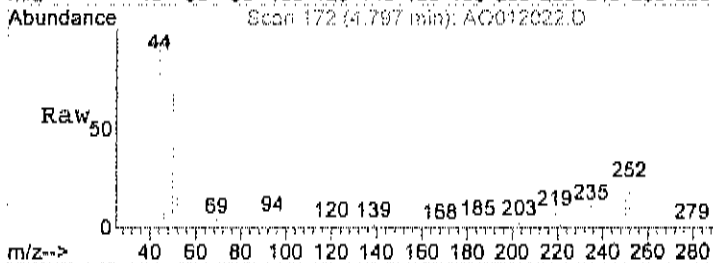


TIC: AO012022.D



#4
 Chloromethane
 Concen: 0.49 ppb
 RT: 4.80 min Scan# 172
 Delta R.T. 0.02 min
 Lab File: AO012022.D
 Acq: 20 Jan 2017 11:05 pm

Tgt Ion: 50 Resp: 45205
 Ion Ratio Lower Upper
 50 100
 52 47.1 11.8 51.8



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS DATA

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INITIAL CALIBRATION

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Jan 30 16:04:21 2017
 Response via : Initial Calibration

Calibration Files

0.04 =AO012013.D 0.10 =AO012012.D 0.15 =AO012011.D
 0.30 =AO012010.D 0.50 =AO012009.D 0.75 =AO012008.D

Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
1) I Bromochloromethane	-----ISTD-----							
2) T Propylene			1.107	0.970	0.901	0.988	0.972	6.33
3) T Freon 12			7.034	5.990	6.563	6.449	6.335	5.48
4) T Chloromethane			1.012	1.189	1.042	1.048	1.021	7.51
5) T Freon 114			6.477	5.417	5.808	5.671	5.666	6.29
6) T Vinyl Chloride	1.613	1.583	1.618	1.559	1.446	1.376	1.471	7.43
7) T Butane			1.879	1.653	1.666	1.514	1.570	9.78
8) T 1,3-butadiene			1.116	1.095	1.011	0.998	0.988	8.44
9) T Bromomethane			2.554	2.010	2.206	2.041	2.095	9.58
10) T Chloroethane			0.719	0.669	0.613	0.619	0.623	7.75
11) T Ethanol			0.375	0.559	0.527	0.471	0.455	13.71
12) T Acrolein			0.560	0.521	0.542	0.496	0.495	8.49
13) T Vinyl Bromide			2.576	1.952	2.221	2.240	2.189	8.33
14) T Freon 11			8.679	7.391	8.095	7.896	7.762	5.84
15) T Acetone			0.600	0.577	0.597	0.568	0.563	4.91
16) T Pentane			1.146	0.992	0.880	0.902	0.950	9.03
17) T Isopropyl alcoh			2.166	2.218	1.989	1.991	1.898	11.73
18) T 1,1-dichloroeth			1.159	1.174	1.111	1.043	1.090	4.73
19) T Freon 113			2.909	2.787	2.598	2.639	2.656	4.79
20) t t-Butyl alcohol			2.469	2.377	2.087	2.362	2.270	5.50
21) T Methylene chlor			1.300	1.151	1.065	1.053	1.073	9.81
22) T Allyl chloride			1.220	1.220	1.186	1.141	1.168	4.03
23) T Carbon disulfid			3.785	3.399	3.208	3.174	3.270	6.88
24) T trans-1,2-dichl			1.743	1.635	1.619	1.678	1.630	3.71
25) T methyl tert-but			3.451	3.065	2.970	3.029	3.077	5.05
26) T 1,1-dichloroeth			2.250	2.137	2.108	2.080	2.086	3.83
27) T Vinyl acetate			2.624	3.017	2.432	2.487	2.651	9.30
28) T Methyl Ethyl Ke			0.557	0.533	0.496	0.509	0.512	4.30
29) T cis-1,2-dichlor			1.478	1.566	1.602	1.511	1.527	2.82
30) T Hexane			1.462	1.413	1.365	1.387	1.403	2.10
31) T Ethyl acetate			3.330	3.218	3.039	3.092	3.119	3.39
32) T Chloroform			3.399	3.062	3.139	3.026	3.073	4.70
33) T Tetrahydrofuran			1.128	1.097	0.983	1.010	1.034	4.96
34) T 1,2-dichloroeth			2.250	2.054	2.013	2.037	2.042	4.38
35) I 1,4-difluorobenzene	-----ISTD-----							
36) T 1,1,1-trichloro			0.883	0.833	0.790	0.782	0.786	6.36
37) T Cyclohexane			0.353	0.333	0.338	0.343	0.341	2.16
38) T Carbon tetrachl	0.841	1.098	1.023	0.937	0.942	0.890	0.926	8.50
39) T Benzene			0.916	0.797	0.795	0.750	0.792	6.72
40) T Methyl methacry			0.373	0.321	0.329	0.312	0.331	5.87
41) T 1,4-dioxane			0.179	0.169	0.160	0.147	0.152	10.53
42) T 2,2,4-trimethyl			1.197	1.113	1.127	1.134	1.129	2.65
43) T Heptane			0.414	0.367	0.384	0.363	0.377	4.58
44) T Trichloroethene	0.464	0.520	0.489	0.444	0.432	0.446	0.450	7.07
45) T 1,2-dichloropro			0.351	0.303	0.308	0.293	0.296	8.74
46) T Bromodichlorome			0.883	0.784	0.834	0.780	0.799	4.90
47) T cis-1,3-dichlor			0.500	0.462	0.495	0.459	0.477	3.44
48) T trans-1,3-dichl			0.500	0.426	0.445	0.435	0.449	5.16
49) T 1,1,2-trichloro			0.438	0.392	0.406	0.370	0.387	6.53
50) I Chlorobenzene-d5	-----ISTD-----							
51) T Toluene			0.715	0.667	0.651	0.652	0.657	3.74

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Jan 30 16:04:21 2017
 Response via : Initial Calibration

Calibration Files

0.04 =AO012013.D 0.10 =AO012012.D 0.15 =AO012011.D
 0.30 =AO012010.D 0.50 =AO012009.D 0.75 =AO012008.D

Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
52) T Methyl Isobutyl			0.680	0.685	0.671	0.669	0.672	1.35
53) T Dibromochlorome			1.109	1.060	1.058	1.004	1.025	4.47
54) T Methyl Butyl Ke			0.655	0.634	0.592	0.623	0.633	3.30
55) T 1,2-dibromoetha			0.811	0.760	0.742	0.729	0.739	4.57
56) T Tetrachloroethy			0.628	0.553	0.575	0.558	0.555	6.15
57) T Chlorobenzene			1.131	0.986	1.002	0.971	0.991	5.97
58) T Ethylbenzene			1.610	1.530	1.552	1.541	1.543	2.13
59) T m&p-xylene			1.373	1.328	1.257	1.223	1.307	3.54
60) T Nonane			0.686	0.669	0.662	0.667	0.671	2.07
61) T Styrene			0.798	0.757	0.818	0.812	0.814	4.11
62) T Bromoform			1.078	0.967	1.007	0.970	0.985	4.11
63) T o-xylene			1.320	1.244	1.295	1.265	1.271	2.17
64) T Cumene			1.879	1.711	1.736	1.731	1.748	3.24
65) S Bromofluorobenz	0.613	0.608	0.602	0.630	0.629	0.639	0.637	4.06
66) T 1,1,2,2-tetrach			1.023	0.943	0.982	0.947	0.950	3.71
67) T Propylbenzene			0.488	0.468	0.468	0.443	0.467	2.86
68) T 2-Chlorotoluene			0.471	0.414	0.433	0.421	0.430	4.09
69) T 4-ethyltoluene			1.601	1.587	1.612	1.575	1.615	2.02
70) T 1,3,5-trimethyl			1.500	1.378	1.488	1.434	1.455	2.65
71) T 1,2,4-trimethyl			1.422	1.322	1.315	1.344	1.354	2.75
72) T 1,3-dichloroben			0.986	0.910	0.958	0.944	0.943	2.86
73) T benzyl chloride			0.747	0.640	0.675	0.697	0.708	5.71
74) T 1,4-dichloroben			0.878	0.836	0.818	0.863	0.854	2.67
75) T 1,2,3-trimethyl			1.338	1.326	1.325	1.310	1.333	1.81
76) T 1,2-dichloroben			0.987	0.945	0.919	0.923	0.919	3.67
77) T 1,2,4-trichloro			0.419	0.349	0.386	0.407	0.427	11.69
78) T Naphthalene			0.979	0.961	0.951	1.045	1.073	10.57
79) T Hexachloro-1,3-			1.080	1.018	0.956	0.954	0.981	4.75

Data File : C:\HPCHEM\1\DATA\AO012004.D
 Acq On : 20 Jan 2017 10:56 am
 Sample : A1UG_2.0
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 13:46:53 2017

Vial: 4
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	103390	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.03	114	449078	1.00	ppb	0.01
50) Chlorobenzene-d5	16.90	117	390938	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.53	95	267981	1.05	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	105.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.56	41	193941	1.95	ppb	93
3) Freon 12	4.63	85	1235039	1.91	ppb	97
4) Chloromethane	4.80	50	202971m	1.99	ppb	
5) Freon 114	4.90	85	1110485	1.92	ppb	90
6) Vinyl Chloride	5.02	62	279851	1.99	ppb	92
7) Butane	5.22	43	294357	1.89	ppb	94
8) 1,3-butadiene	5.16	39	184342m	2.03	ppb	
9) Bromomethane	5.45	94	401304	1.94	ppb	94
10) Chloroethane	5.62	64	118376	1.95	ppb	# 89
11) Ethanol	5.71	45	86259m	1.85	ppb	
12) Acrolein	6.08	56	95998	2.07	ppb	96
13) Vinyl Bromide	5.98	106	425526	1.88	ppb	95
14) Freon 11	6.41	101	1511529	1.90	ppb	100
15) Acetone	6.21	58	109210	1.93	ppb	# 73
16) Pentane	6.78	42	190002	2.04	ppb	# 42
17) Isopropyl alcohol	6.46	45	339635	1.93	ppb	# 100
18) 1,1-dichloroethene	7.08	96	218710	1.98	ppb	98
19) Freon 113	7.49	101	541247	2.04	ppb	97
20) t-Butyl alcohol	7.09	59	468143	2.08	ppb	97
21) Methylene chloride	7.21	84	206417	1.95	ppb	90
22) Allyl chloride	7.34	41	247838	2.20	ppb	92
23) Carbon disulfide	7.55	76	646444	1.99	ppb	85
24) trans-1,2-dichloroethene	8.24	61	335500	2.11	ppb	96
25) methyl tert-butyl ether	8.53	73	632461	2.05	ppb	94
26) 1,1-dichloroethane	8.47	63	414556	1.98	ppb	94
27) Vinyl acetate	8.62	43	528658m	2.03	ppb	
28) Methyl Ethyl Ketone	8.91	72	104985	2.03	ppb	96
29) cis-1,2-dichloroethene	9.45	61	321936	2.06	ppb	99
30) Hexane	9.70	57	292620	2.04	ppb	89
31) Ethyl acetate	9.70	43	644769	2.06	ppb	97
32) Chloroform	9.80	83	606570	1.95	ppb	96
33) Tetrahydrofuran	10.30	42	213252	2.07	ppb	88
34) 1,2-dichloroethane	10.71	62	404591	1.96	ppb	94
36) 1,1,1-trichloroethane	11.04	97	676453	2.02	ppb	98
37) Cyclohexane	11.95	56	311627	2.04	ppb	97
38) Carbon tetrachloride	11.79	117	793763	2.01	ppb	99
39) Benzene	11.61	78	696910	2.05	ppb	94
40) Methyl methacrylate	13.09	41	306567	2.13	ppb	94
41) 1,4-dioxane	12.88	58	117575	1.86	ppb	# 42
42) 2,2,4-trimethylpentane	12.92	57	1001997	2.01	ppb	92
43) Heptane	13.22	43	337864	2.01	ppb	93
44) Trichloroethene	12.88	130	383273	2.00	ppb	94
45) 1,2-dichloropropane	12.59	63	252355	2.07	ppb	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012004.D
 Acq On : 20 Jan 2017 10:56 am
 Sample : A1UG_2.0
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 13:46:53 2017

Vial: 4
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.82	83	698374	2.00	ppb	98
47) cis-1,3-dichloropropene	13.86	75	441031	2.12	ppb	98
48) trans-1,3-dichloropropene	14.46	75	401670	2.03	ppb	94
49) 1,1,2-trichloroethane	14.65	97	334158	1.99	ppb	99
51) Toluene	14.97	92	502261	2.00	ppb #	82
52) Methyl Isobutyl Ketone	13.90	43	530591	2.07	ppb	96
53) Dibromochloromethane	15.44	129	777989	1.99	ppb	92
54) Methyl Butyl Ketone	15.24	43	513949	2.10	ppb	98
55) 1,2-dibromoethane	15.71	107	561433	1.97	ppb	99
56) Tetrachloroethylene	16.22	164	417302	2.06	ppb	96
57) Chlorobenzene	16.95	112	751530	2.00	ppb	97
58) Ethylbenzene	17.34	91	1217174	2.08	ppb	99
59) m&p-xylene	17.53	91	2068246	4.01	ppb	98
60) Nonane	18.26	43	525815	2.08	ppb	99
61) Styrene	17.92	104	681775	2.20	ppb	91
62) Bromoform	17.63	173	761826	2.05	ppb	98
63) o-xylene	18.04	91	1002316	2.07	ppb	96
64) Cumene	18.67	105	1357396	2.04	ppb	99
66) 1,1,2,2-tetrachloroethane	18.03	83	724667	2.02	ppb	96
67) Propylbenzene	19.24	120	374201	2.09	ppb #	1
68) 2-Chlorotoluene	19.21	126	334078	2.03	ppb #	1
69) 4-ethyltoluene	19.40	105	1306321	2.10	ppb	99
70) 1,3,5-trimethylbenzene	19.49	105	1156182	2.04	ppb	98
71) 1,2,4-trimethylbenzene	19.97	105	1094262	2.09	ppb	94
72) 1,3-dichlorobenzene	20.16	146	759837	2.13	ppb #	39
73) benzyl chloride	20.14	91	600547	2.20	ppb	92
74) 1,4-dichlorobenzene	20.24	146	681257	2.11	ppb #	25
75) 1,2,3-trimethylbenzene	20.48	105	1078228	2.12	ppb	92
76) 1,2-dichlorobenzene	20.66	146	710828	2.05	ppb	96
77) 1,2,4-trichlorobenzene	22.83	180	402373	2.37	ppb	93
78) Naphthalene	22.97	128	994179	2.38	ppb	96
79) Hexachloro-1,3-butadiene	23.41	225	772234	2.09	ppb	93

Quantitation Report (QF Reviewed)

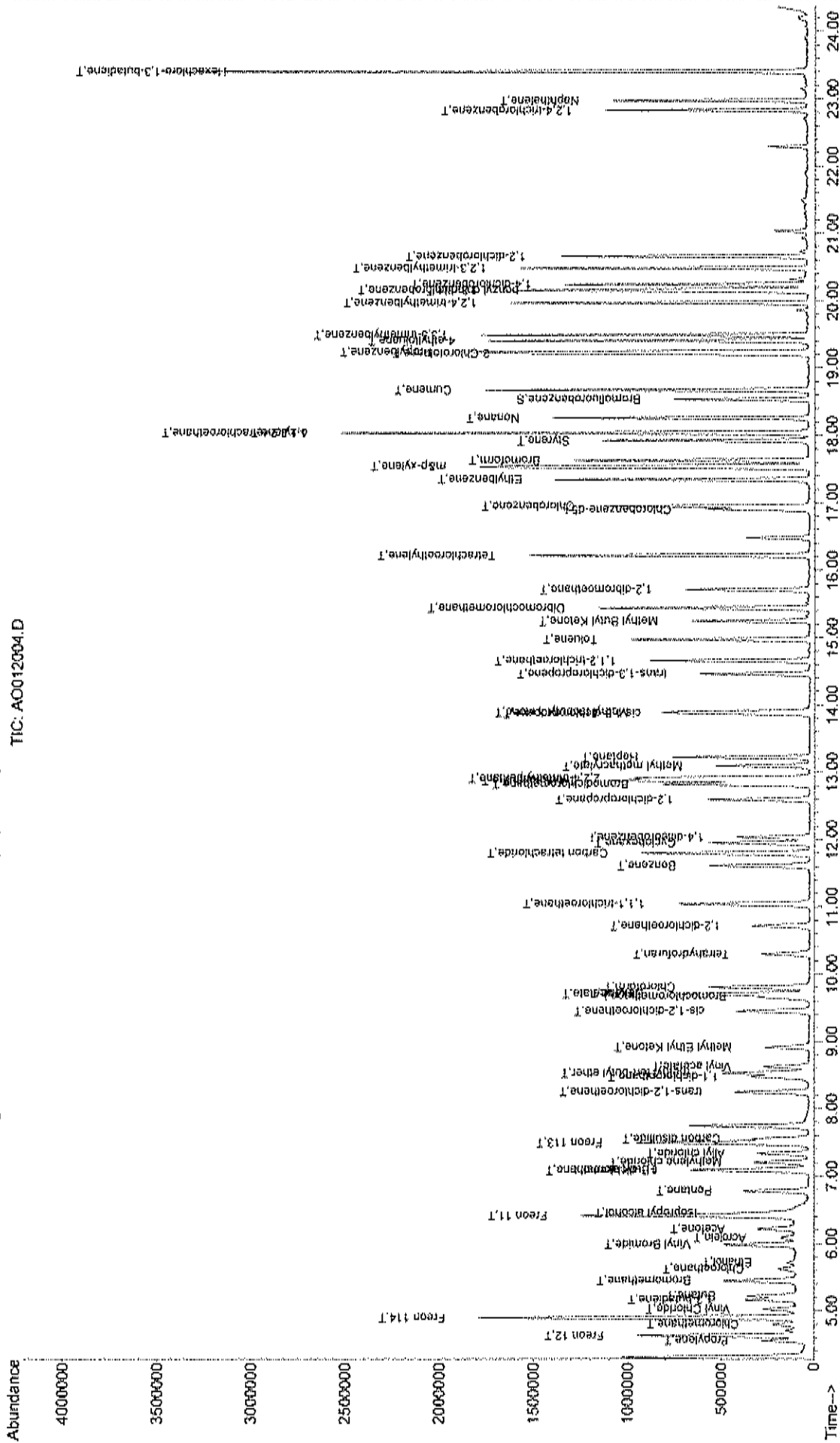
Data File : C:\HPCHEM\1\DATA\AO012004.D
 Acq On : 20 Jan 2017 10:56 am
 Sample : A120_2.0
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 15:10 2017

Vial: 4
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RBS

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Jan 30 16:04:21 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D

TIC: AO012004.D



Data File : C:\HPCHEM\1\DATA\AO012005.D
 Acq On : 20 Jan 2017 11:37 am
 Sample : A1UG_1.5
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 13:46:40 2017

Vial: 5
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.64	128	99989	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	429558	1.00	ppb	0.00
50) Chlorobenzene-d5	16.90	117	380242	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	250929	1.01	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	101.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.54	41	146441	1.52	ppb	92
3) Freon 12	4.61	85	931436	1.49	ppb	97
4) Chloromethane	4.78	50	146797m <i>f</i>	1.49	ppb	
5) Freon 114	4.88	85	822443	1.47	ppb	86
6) Vinyl Chloride	5.01	62	209593	1.54	ppb	90
7) Butane	5.21	43	216397	1.44	ppb	94
8) 1,3-butadiene	5.15	39	135363m <i>f</i>	1.54	ppb	
9) Bromomethane	5.44	94	301776	1.51	ppb	96
10) Chloroethane	5.60	64	91900	1.56	ppb	# 78
11) Ethanol	5.70	45	60569m <i>f</i>	1.34	ppb	
12) Acrolein	6.07	56	68779	1.53	ppb	91
13) Vinyl Bromide	5.97	106	322004	1.47	ppb	92
14) Freon 11	6.40	101	1131322	1.47	ppb	100
15) Acetone	6.21	58	79894	1.46	ppb	# 78
16) Pentane	6.77	42	139717	1.55	ppb	# 43
17) Isopropyl alcohol	6.45	45	262465	1.54	ppb	# 100
18) 1,1-dichloroethene	7.07	96	157722	1.47	ppb	98
19) Freon 113	7.48	101	379131	1.48	ppb	97
20) t-Butyl alcohol	7.09	59	330388	1.52	ppb	94
21) Methylene chloride	7.20	84	148464	1.45	ppb	85
22) Allyl chloride	7.33	41	174932	1.60	ppb	93
23) Carbon disulfide	7.54	76	475758	1.51	ppb	85
24) trans-1,2-dichloroethene	8.24	61	241487	1.57	ppb	95
25) methyl tert-butyl ether	8.52	73	458249	1.54	ppb	93
26) 1,1-dichloroethane	8.46	63	304607	1.51	ppb	93
27) Vinyl acetate	8.62	43	383133m <i>f</i>	1.52	ppb	
28) Methyl Ethyl Ketone	8.91	72	74190	1.48	ppb	99
29) cis-1,2-dichloroethene	9.44	61	223268	1.48	ppb	96
30) Hexane	9.70	57	211230	1.52	ppb	91
31) Ethyl acetate	9.69	43	463847	1.53	ppb	97
32) Chloroform	9.80	83	455272	1.51	ppb	99
33) Tetrahydrofuran	10.30	42	151652	1.52	ppb	89
34) 1,2-dichloroethane	10.71	62	305482	1.53	ppb	100
36) 1,1,1-trichloroethane	11.03	97	494461	1.54	ppb	98
37) Cyclohexane	11.94	56	222473	1.52	ppb	95
38) Carbon tetrachloride	11.80	117	579905	1.53	ppb	98
39) Benzene	11.60	78	508735	1.57	ppb	94
40) Methyl methacrylate	13.09	41	212282	1.54	ppb	93
41) 1,4-dioxane	12.87	58	94411	1.56	ppb	# 51
42) 2,2,4-trimethylpentane	12.91	57	731961	1.54	ppb	92
43) Heptane	13.22	43	242708	1.51	ppb	93
44) Trichloroethene	12.87	130	277168	1.51	ppb	94
45) 1,2-dichloropropane	12.59	63	183928	1.58	ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012005.D

Vial: 5

Acq On : 20 Jan 2017 11:37 am

Operator: RJP

Sample : A1UG_1.5

Inst : MSD #1

Misc : A120_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jan 20 13:46:40 2017

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri Jan 20 13:46:02 2017

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.82	83	506378	1.52	ppb	99
47) cis-1,3-dichloropropene	13.87	75	309323	1.56	ppb	97
48) trans-1,3-dichloropropene	14.46	75	297371	1.57	ppb	93
49) 1,1,2-trichloroethane	14.66	97	244493	1.52	ppb	97
51) Toluene	14.97	92	367444	1.50	ppb	86
52) Methyl Isobutyl Ketone	13.90	43	379515	1.52	ppb	96
53) Dibromochloromethane	15.44	129	554726	1.46	ppb	93
54) Methyl Butyl Ketone	15.25	43	364340	1.53	ppb	97
55) 1,2-dibromoethane	15.71	107	406291	1.46	ppb	99
56) Tetrachloroethylene	16.22	164	303958	1.54	ppb	97
57) Chlorobenzene	16.95	112	542919	1.49	ppb	98
58) Ethylbenzene	17.34	91	867639	1.52	ppb	100
59) m&p-xylene	17.53	91	1496577	2.99	ppb	98
60) Nonane	18.26	43	384518	1.57	ppb	96
61) Styrene	17.92	104	475418	1.57	ppb	93
62) Bromoform	17.63	173	549718	1.52	ppb	98
63) o-xylene	18.04	91	713708	1.52	ppb	97
64) Cumene	18.67	105	980954	1.52	ppb	98
66) 1,1,2,2-tetrachloroethane	18.03	83	527327	1.51	ppb	97
67) Propylbenzene	19.24	120	267446	1.54	ppb	# 1
68) 2-Chlorotoluene	19.21	126	243666	1.52	ppb	# 1
69) 4-ethyltoluene	19.40	105	936847	1.55	ppb	100
70) 1,3,5-trimethylbenzene	19.49	105	823937	1.50	ppb	98
71) 1,2,4-trimethylbenzene	19.97	105	767066	1.51	ppb	92
72) 1,3-dichlorobenzene	20.16	146	528570m	1.52	ppb	
73) benzyl chloride	20.13	91	413170	1.56	ppb	92
74) 1,4-dichlorobenzene	20.24	146	495560m	1.58	ppb	
75) 1,2,3-trimethylbenzene	20.48	105	769617	1.56	ppb	92
76) 1,2-dichlorobenzene	20.66	146	505338	1.50	ppb	97
77) 1,2,4-trichlorobenzene	22.83	180	260800	1.58	ppb	92
78) Naphthalene	22.97	128	666668	1.64	ppb	94
79) Hexachloro-1,3-butadiene	23.41	225	543528	1.51	ppb	93

Quantitation Report (QT Reviewed)

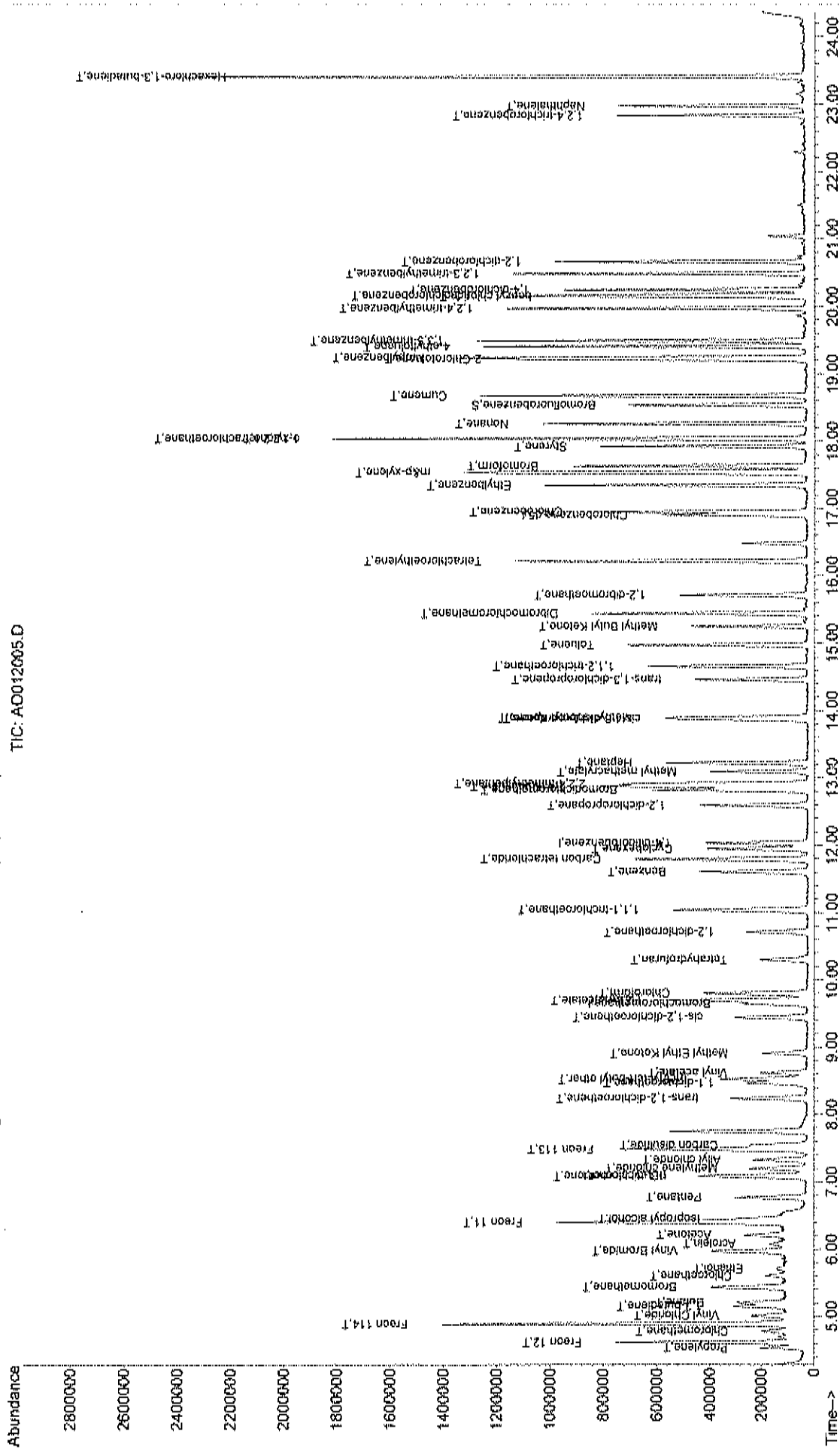
Data File : C:\HPCHEM\1\DATA\AO012005.D
 Acq On : 20 Jan 2017 11:37 am
 Sample : A120_1UG
 Misc : A120_1UG
 MS Integration Params: RTBINT.P
 Quant Time: Jan 20 17:18 2017

Vial: 5
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Jan 30 16:04:21 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D

TIC: AO012005.D



Data File : C:\HPCHEM\1\DATA\AO012006.D
 Acq On : 20 Jan 2017 12:17 pm
 Sample : A1UG_1.25
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 13:46:29 2017

Vial: 6
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.64	128	98241	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	434307	1.00	ppb	0.00
50) Chlorobenzene-d5	16.90	117	364519	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
65) Bromofluorobenzene	18.54	95	235491	0.99	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	99.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.55	41	114380	1.21	ppb	93
3) Freon 12	4.62	85	760384	1.23	ppb	97
4) Chloromethane	4.79	50	115737	1.20	ppb	91
5) Freon 114	4.89	85	677025	1.23	ppb	90
6) Vinyl Chloride	5.02	62	173257	1.30	ppb	90
7) Butane	5.21	43	181606	1.23	ppb	95
8) 1,3-butadiene	5.16	39	117170m Δ	1.36	ppb	
9) Bromomethane	5.44	94	245851	1.25	ppb	94
10) Chloroethane	5.62	64	72736	1.26	ppb #	80
11) Ethanol	5.71	45	53677m Δ	1.21	ppb	
12) Acrolein	6.08	56	57375	1.30	ppb	93
13) Vinyl Bromide	5.97	106	260793	1.21	ppb	92
14) Freon 11	6.40	101	920688	1.22	ppb	100
15) Acetone	6.22	58	67646	1.26	ppb #	77
16) Pentane	6.77	42	113753	1.28	ppb #	46
17) Isopropyl alcohol	6.45	45	211129	1.26	ppb #	100
18) 1,1-dichloroethene	7.08	96	129652	1.23	ppb	97
19) Freon 113	7.48	101	319097	1.26	ppb	96
20) t-Butyl alcohol	7.09	59	273444	1.28	ppb	96
21) Methylene chloride	7.20	84	123513	1.23	ppb	89
22) Allyl chloride	7.33	41	137534	1.28	ppb	96
23) Carbon disulfide	7.54	76	387351	1.25	ppb	85
24) trans-1,2-dichloroethene	8.24	61	196006	1.30	ppb	94
25) methyl tert-butyl ether	8.52	73	369839	1.26	ppb	92
26) 1,1-dichloroethane	8.47	63	251704	1.27	ppb	96
27) Vinyl acetate	8.62	43	303986m Δ	1.23	ppb	
28) Methyl Ethyl Ketone	8.91	72	61174	1.25	ppb	99
29) cis-1,2-dichloroethene	9.44	61	184454	1.24	ppb	99
30) Hexane	9.71	57	169805	1.24	ppb	91
31) Ethyl acetate	9.70	43	371726	1.25	ppb	97
32) Chloroform	9.80	83	366372	1.24	ppb	99
33) Tetrahydrofuran	10.29	42	124373	1.27	ppb	88
34) 1,2-dichloroethane	10.71	62	245151	1.25	ppb	94
36) 1,1,1-trichloroethane	11.04	97	397980	1.23	ppb	97
37) Cyclohexane	11.95	56	179238	1.21	ppb	94
38) Carbon tetrachloride	11.80	117	470895	1.23	ppb	99
39) Benzene	11.60	78	410957	1.25	ppb	94
40) Methyl methacrylate	13.09	41	173529	1.25	ppb	91
41) 1,4-dioxane	12.88	58	76862	1.26	ppb #	45
42) 2,2,4-trimethylpentane	12.92	57	597736	1.24	ppb	93
43) Heptane	13.22	43	194990	1.20	ppb	92
44) Trichloroethene	12.88	130	229806	1.24	ppb	96
45) 1,2-dichloropropane	12.59	63	148626	1.26	ppb	96

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012006.D
 Acq On : 20 Jan 2017 12:17 pm
 Sample : A1UG_1.25
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 13:46:29 2017

Vial: 6
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.81	83	418619	1.24	ppb	99
47) cis-1,3-dichloropropene	13.87	75	253453	1.26	ppb	97
48) trans-1,3-dichloropropene	14.46	75	235532	1.23	ppb	96
49) 1,1,2-trichloroethane	14.66	97	195993	1.21	ppb	99
51) Toluene	14.97	92	293648	1.25	ppb #	83
52) Methyl Isobutyl Ketone	13.89	43	304339	1.27	ppb	97
53) Dibromochloromethane	15.43	129	457405	1.26	ppb	94
54) Methyl Butyl Ketone	15.25	43	292271	1.28	ppb	98
55) 1,2-dibromoethane	15.71	107	322032	1.21	ppb	96
56) Tetrachloroethylene	16.22	164	246974	1.31	ppb	96
57) Chlorobenzene	16.95	112	438513	1.25	ppb	99
58) Ethylbenzene	17.35	91	697785	1.28	ppb	97
59) m&p-xylene	17.53	91	1203344	2.51	ppb	99
60) Nonane	18.26	43	314052	1.34	ppb	97
61) Styrene	17.92	104	377266	1.30	ppb	92
62) Bromoform	17.63	173	443082	1.28	ppb	98
63) o-xylene	18.04	91	578482	1.28	ppb	97
64) Cumene	18.67	105	804591	1.30	ppb	99
66) 1,1,2,2-tetrachloroethane	18.03	83	427363	1.28	ppb	96
67) Propylbenzene	19.24	120	212204	1.27	ppb #	1
68) 2-Chlorotoluene	19.21	126	193099	1.26	ppb #	1
69) 4-ethyltoluene	19.40	105	746425	1.28	ppb	99
70) 1,3,5-trimethylbenzene	19.49	105	670153	1.27	ppb	97
71) 1,2,4-trimethylbenzene	19.96	105	614541	1.26	ppb	94
72) 1,3-dichlorobenzene	20.16	146	426540m	1.28	ppb	
73) benzyl chloride	20.14	91	327655	1.29	ppb	92
74) 1,4-dichlorobenzene	20.24	146	394799m	1.31	ppb	
75) 1,2,3-trimethylbenzene	20.48	105	608555	1.28	ppb	91
76) 1,2-dichlorobenzene	20.66	146	408468	1.26	ppb	97
77) 1,2,4-trichlorobenzene	22.83	180	206115	1.30	ppb	92
78) Naphthalene	22.97	128	518357	1.33	ppb	95
79) Hexachloro-1,3-butadiene	23.41	225	436222	1.27	ppb	93

Quantitation Report (QT Reviewed)

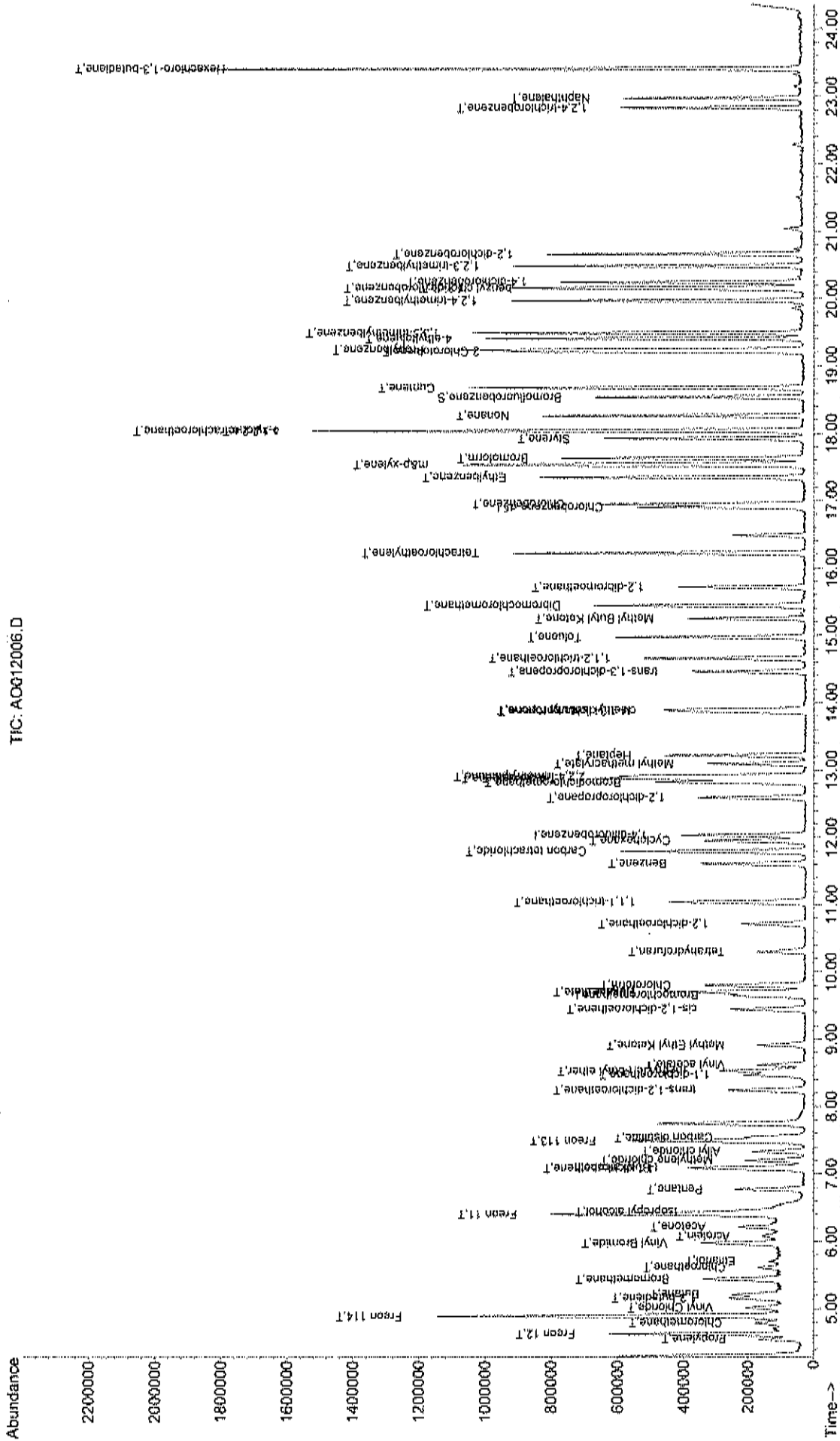
Data File : C:\HPCHEM\1\DATA\AO012006.D
Acq On : 20 Jan 2017 12:17 pm
Sample : AIUG 1.25
Misc : AI20_IUG
MS Integration Params: RTEINT.P
Quant Time: Jan 20 15:16 2017

Vial: 6
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AI20_IUG.RES

Method : C:\HPCHEM\1\METHODS\AI20_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D

TIC: AO012006.D



Data File : C:\HPCHEM\1\DATA\AO012007.D

Vial: 7

Acq On : 20 Jan 2017 12:56 pm

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A120_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jan 20 13:46:19 2017

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri Jan 20 13:46:02 2017

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.64	128	96123	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	420084	1.00	ppb	0.00
50) Chlorobenzene-d5	16.90	117	357789	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	234298	1.00	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	100.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.54	41	92333	1.00	ppb	93
3) Freon 12	4.61	85	602490	1.00	ppb	97
4) Chloromethane	4.78	50	93693m ^A	0.99	ppb	
5) Freon 114	4.88	85	536994	1.00	ppb	89
6) Vinyl Chloride	5.01	62	130440	1.00	ppb	90
7) Butane	5.20	43	144503	1.00	ppb	97
8) 1,3-butadiene	5.15	39	90050m ^D	1.07	ppb	
9) Bromomethane	5.43	94	191901	1.00	ppb	96
10) Chloroethane	5.61	64	56502	1.00	ppb	# 75
11) Ethanol	5.71	45	43050m ^B	0.99	ppb	
12) Acrolein	6.07	56	43154	1.00	ppb	95
13) Vinyl Bromide	5.96	106	210642	1.00	ppb	94
14) Freon 11	6.40	101	738267	1.00	ppb	99
15) Acetone	6.21	58	52520	1.00	ppb	# 73
16) Pentane	6.77	42	86634	1.00	ppb	# 42
17) Isopropyl alcohol	6.45	45	163946	1.00	ppb	# 100
18) 1,1-dichloroethene	7.08	96	102817	1.00	ppb	97
19) Freon 113	7.48	101	247086	1.00	ppb	98
20) t-Butyl alcohol	7.09	59	208943	1.00	ppb	# 92
21) Methylene chloride	7.19	84	98187	1.00	ppb	94
22) Allyl chloride	7.32	41	104968	1.00	ppb	95
23) Carbon disulfide	7.55	76	302172	1.00	ppb	84
24) trans-1,2-dichloroethene	8.23	61	147661	1.00	ppb	95
25) methyl tert-butyl ether	8.53	73	286287	1.00	ppb	91
26) 1,1-dichloroethane	8.46	63	194552	1.00	ppb	94
27) Vinyl acetate	8.63	43	294086	1.22	ppb	95
28) Methyl Ethyl Ketone	8.91	72	48062	1.00	ppb	97
29) cis-1,2-dichloroethene	9.44	61	145221	1.00	ppb	99
30) Hexane	9.70	57	133452	1.00	ppb	91
31) Ethyl acetate	9.70	43	291457	1.00	ppb	99
32) Chloroform	9.79	83	289291	1.00	ppb	98
33) Tetrahydrofuran	10.30	42	95689	1.00	ppb	85
34) 1,2-dichloroethane	10.71	62	191518	1.00	ppb	96
36) 1,1,1-trichloroethane	11.04	97	313292	1.00	ppb	97
37) Cyclohexane	11.95	56	143243	1.00	ppb	97
38) Carbon tetrachloride	11.79	117	369773	1.00	ppb	100
39) Benzene	11.61	78	317714	1.00	ppb	93
40) Methyl methacrylate	13.09	41	134387	1.00	ppb	93
41) 1,4-dioxane	12.87	58	59236	1.00	ppb	# 45
42) 2,2,4-trimethylpentane	12.92	57	465998	1.00	ppb	94
43) Heptane	13.22	43	156875	1.00	ppb	96
44) Trichloroethene	12.87	130	179114	1.00	ppb	96
45) 1,2-dichloropropane	12.59	63	113922	1.00	ppb	97

(#)= qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012007.D
 Acq On : 20 Jan 2017 12:56 pm
 Sample : ALUG_1.0
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 13:46:19 2017

Vial: 7
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.82	83	326447	1.00	ppb	99
47) cis-1,3-dichloropropene	13.87	75	194705	1.00	ppb	98
48) trans-1,3-dichloropropene	14.46	75	185387	1.00	ppb	96
49) 1,1,2-trichloroethane	14.66	97	156882	1.00	ppb	95
51) Toluene	14.97	92	230178	1.00	ppb	# 85
52) Methyl Isobutyl Ketone	13.90	43	235066	1.00	ppb	96
53) Dibromochloromethane	15.44	129	357230	1.00	ppb	94
54) Methyl Butyl Ketone	15.25	43	223580	1.00	ppb	95
55) 1,2-dibromoethane	15.72	107	260963	1.00	ppb	98
56) Tetrachloroethylene	16.22	164	185648	1.00	ppb	91
57) Chlorobenzene	16.95	112	343238	1.00	ppb	99
58) Ethylbenzene	17.34	91	536387	1.00	ppb	99
59) m&p-xylene	17.54	91	942942	2.00	ppb	98
60) Nonane	18.26	43	230806	1.00	ppb	98
61) Styrene	17.93	104	284071	1.00	ppb	94
62) Bromoform	17.63	173	340599	1.00	ppb	99
63) o-xylene	18.04	91	443224	1.00	ppb	97
64) Cumene	18.68	105	608998	1.00	ppb	98
66) 1,1,2,2-tetrachloroethane	18.03	83	328922	1.00	ppb	95
67) Propylbenzene	19.24	120	163825	1.00	ppb	# 1
68) 2-Chlorotoluene	19.21	126	150815	1.00	ppb	# 1
69) 4-ethyltoluene	19.40	105	570448	1.00	ppb	100
70) 1,3,5-trimethylbenzene	19.49	105	517553	1.00	ppb	98
71) 1,2,4-trimethylbenzene	19.97	105	478678	1.00	ppb	94
72) 1,3-dichlorobenzene	20.16	146	327047	1.00	ppb	97
73) benzyl chloride	20.14	91	249390	1.00	ppb	92
74) 1,4-dichlorobenzene	20.24	146	295970	1.00	ppb	95
75) 1,2,3-trimethylbenzene	20.49	105	465421	1.00	ppb	94
76) 1,2-dichlorobenzene	20.66	146	318002	1.00	ppb	95
77) 1,2,4-trichlorobenzene	22.84	180	155389	1.00	ppb	94
78) Naphthalene	22.97	128	381910	1.00	ppb	94
79) Hexachloro-1,3-butadiene	23.41	225	337670	1.00	ppb	93

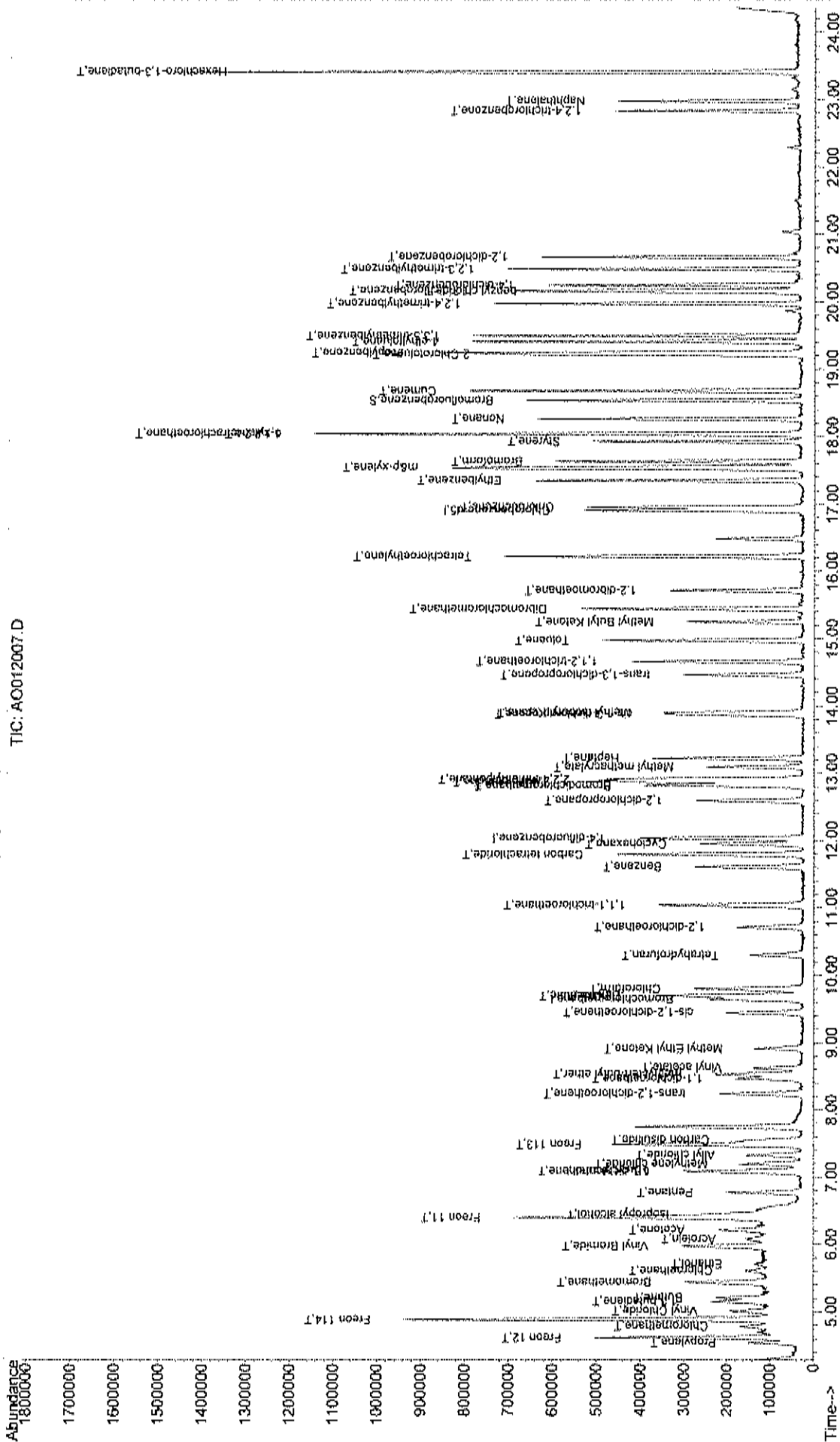
Data File : C:\HPCHEM\1\DATA\AO012007.D
Acq On : 20 Jan 2017 12:56 pm
Sample : A1UG 1.0
Misc : A120_1UG
MS Integration Params: RTEINT.P
Quant Time: Jan 20 15:16 2017

Vial: 7
Operator: RJP
Inst : MSD #1
Multiplier: 1.00

Quant Results File: A120_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D

TIC: AO012007.D



Data File : C:\HPCHEM\1\DATA\AO012008.D
 Acq On : 20 Jan 2017 1:35 pm
 Sample : A1UG_0.75
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 15:09:19 2017

Vial: 8
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	92496	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.04	114	408111	1.00	ppb	0.02
50) Chlorobenzene-d5	16.90	117	342720	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	219012	0.98	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	98.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.55	41	68525	0.77	ppb	86
3) Freon 12	4.63	85	447395	0.77	ppb	98
4) Chloromethane	4.79	50	72697m	0.80	ppb	
5) Freon 114	4.89	85	393408	0.76	ppb	90
6) Vinyl Chloride	5.02	62	95432	0.76	ppb	88
7) Butane	5.22	43	105050	0.76	ppb	94
8) 1,3-butadiene	5.16	39	69264m	0.85	ppb	
9) Bromomethane	5.44	94	141590	0.77	ppb	99
10) Chloroethane	5.62	64	42911	0.79	ppb	# 86
11) Ethanol	5.71	45	32646	0.78	ppb	# 78
12) Acrolein	6.09	56	34395	0.83	ppb	94
13) Vinyl Bromide	5.97	106	155409	0.77	ppb	95
14) Freon 11	6.41	101	547734	0.77	ppb	99
15) Acetone	6.21	58	39389	0.78	ppb	# 73
16) Pentane	6.78	42	62580	0.75	ppb	# 41
17) Isopropyl alcohol	6.46	45	138129	0.88	ppb	# 100
18) 1,1-dichloroethene	7.08	96	72344	0.73	ppb	99
19) Freon 113	7.49	101	183041	0.77	ppb	96
20) t-Butyl alcohol	7.10	59	163891	0.82	ppb	98
21) Methylene chloride	7.20	84	73073	0.77	ppb	88
22) Allyl chloride	7.34	41	79135	0.78	ppb	95
23) Carbon disulfide	7.55	76	220188	0.76	ppb	81
24) trans-1,2-dichloroethene	8.25	61	116376	0.82	ppb	96
25) methyl tert-butyl ether	8.53	73	210115	0.76	ppb	87
26) 1,1-dichloroethane	8.47	63	144308	0.77	ppb	97
27) Vinyl acetate	8.62	43	172517m	0.74	ppb	
28) Methyl Ethyl Ketone	8.91	72	35322	0.76	ppb	97
29) cis-1,2-dichloroethene	9.44	61	104843	0.75	ppb	98
30) Hexane	9.71	57	96221	0.75	ppb	90
31) Ethyl acetate	9.70	43	214528	0.76	ppb	98
32) Chloroform	9.81	83	209935	0.75	ppb	96
33) Tetrahydrofuran	10.31	42	70048	0.76	ppb	86
34) 1,2-dichloroethane	10.72	62	141283	0.77	ppb	96
36) 1,1,1-trichloroethane	11.04	97	239361	0.79	ppb	97
37) Cyclohexane	11.95	56	104873	0.75	ppb	95
38) Carbon tetrachloride	11.80	117	272431	0.76	ppb	98
39) Benzene	11.62	78	229534	0.74	ppb	92
40) Methyl methacrylate	13.10	41	95460	0.73	ppb	91
41) 1,4-dioxane	12.88	58	45012	0.78	ppb	# 39
42) 2,2,4-trimethylpentane	12.92	57	347233	0.77	ppb	93
43) Heptane	13.22	43	111002	0.73	ppb	95
44) Trichloroethene	12.88	130	136598	0.79	ppb	98
45) 1,2-dichloropropane	12.59	63	89780	0.81	ppb	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012008.D
 Acq On : 20 Jan 2017 1:35 pm
 Sample : A1UG_0.75
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 15:09:19 2017

Vial: 8
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.82	83	238843	0.75	ppb	98
47) cis-1,3-dichloropropene	13.87	75	140399	0.74	ppb	97
48) trans-1,3-dichloropropene	14.46	75	133135	0.74	ppb	97
49) 1,1,2-trichloroethane	14.66	97	113334	0.74	ppb	97
51) Toluene	14.98	92	167675	0.76	ppb #	82
52) Methyl Isobutyl Ketone	13.90	43	171859	0.76	ppb	95
53) Dibromochloromethane	15.44	129	258019	0.75	ppb	90
54) Methyl Butyl Ketone	15.25	43	160177	0.75	ppb	99
55) 1,2-dibromoethane	15.71	107	187286	0.75	ppb	95
56) Tetrachloroethylene	16.22	164	143400	0.81	ppb	96
57) Chlorobenzene	16.94	112	249461	0.76	ppb	100
58) Ethylbenzene	17.35	91	396126	0.77	ppb	99
59) m&p-xylene	17.53	91	628520	1.39	ppb	94
60) Nonane	18.26	43	171465	0.78	ppb	100
61) Styrene	17.93	104	208637	0.77	ppb	92
62) Bromoform	17.63	173	249217	0.76	ppb	99
63) o-xylene	18.04	91	325042	0.77	ppb	94
64) Cumene	18.68	105	444978	0.76	ppb	98
66) 1,1,2,2-tetrachloroethane	18.03	83	243467	0.77	ppb	95
67) Propylbenzene	19.25	120	113777	0.73	ppb #	1
68) 2-Chlorotoluene	19.22	126	108242	0.75	ppb #	1
69) 4-ethyltoluene	19.40	105	404768	0.74	ppb	99
70) 1,3,5-trimethylbenzene	19.49	105	368561	0.74	ppb	98
71) 1,2,4-trimethylbenzene	19.97	105	345548	0.75	ppb	96
72) 1,3-dichlorobenzene	20.16	146	242619m	0.77	ppb	
73) benzyl chloride	20.13	91	179248	0.75	ppb	95
74) 1,4-dichlorobenzene	20.24	146	221944m	0.78	ppb	
75) 1,2,3-trimethylbenzene	20.49	105	336660	0.76	ppb	90
76) 1,2-dichlorobenzene	20.66	146	237274	0.78	ppb	96
77) 1,2,4-trichlorobenzene	22.83	180	104516	0.70	ppb	92
78) Naphthalene	22.97	128	268690	0.73	ppb	94
79) Hexachloro-1,3-butadiene	23.41	225	245278	0.76	ppb	95

Quantitation Report (QT Reviewed)

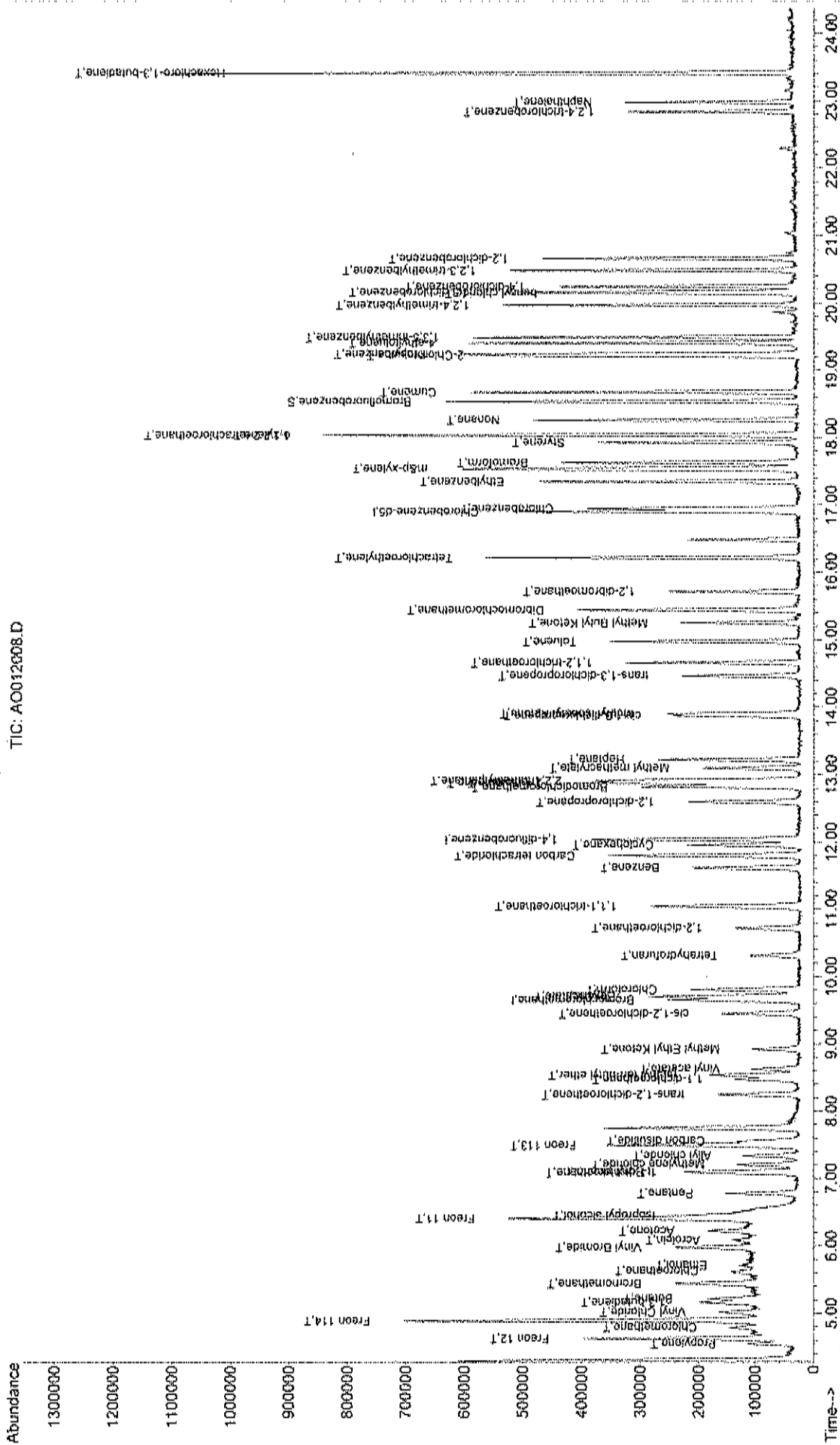
Data File : C:\HPCHEM\1\DATA\AO012008.D
 Acq On : 20 Jan 2017 1:35 pm
 Sample : A1UG 0.75
 Misc : A120_LUG
 MS Integration Params: RTBINT.P
 Quant Time: Jan 20 15:18 2017

Vial: 8
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_LUG.RES

Method : C:\HPCHEM\1\METHODS\A120_LUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Jan 30 16:04:21 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D

TIC: AO012008.D



Data File : C:\HPCHEM\1\DATA\AO012009.D Vial: 9
 Acq On : 20 Jan 2017 2:13 pm Operator: RJP
 Sample : A1UG_0.50 Inst : MSD #1
 Misc : A120_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 15:09:41 2017 Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	91859	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	388132	1.00	ppb	0.01
50) Chlorobenzene-d5	16.90	117	328222	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 18.53 95 206367 0.96 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 96.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.54	41	41390	0.47	ppb	85
3) Freon 12	4.62	85	301420	0.52	ppb	98
4) Chloromethane	4.78	50	47875m <i>f</i>	0.53	ppb	
5) Freon 114	4.89	85	266736	0.52	ppb	88
6) Vinyl Chloride	5.01	62	66404	0.53	ppb	85
7) Butane	5.21	43	76536	0.55	ppb	97
8) 1,3-butadiene	5.15	39	46429m <i>f</i>	0.58	ppb	
9) Bromomethane	5.43	94	101311	0.55	ppb	89
10) Chloroethane	5.61	64	28140	0.52	ppb	# 63
11) Ethanol	5.72	45	24220m <i>k</i>	0.59	ppb	
12) Acrolein	6.07	56	24916	0.60	ppb	100
13) Vinyl Bromide	5.97	106	102005	0.51	ppb	86
14) Freon 11	6.40	101	371810	0.53	ppb	99
15) Acetone	6.21	58	27440	0.55	ppb	# 75
16) Pentane	6.77	42	40421	0.49	ppb	# 35
17) Isopropyl alcohol	6.46	45	91346	0.58	ppb	# 100
18) 1,1-dichloroethene	7.07	96	51035	0.52	ppb	94
19) Freon 113	7.49	101	119343	0.51	ppb	98
20) t-Butyl alcohol	7.10	59	95849	0.48	ppb	93
21) Methylene chloride	7.20	84	48929	0.52	ppb	90
22) Allyl chloride	7.33	41	54475	0.54	ppb	90
23) Carbon disulfide	7.54	76	147355	0.51	ppb	82
24) trans-1,2-dichloroethene	8.24	61	74371	0.53	ppb	97
25) methyl tert-butyl ether	8.54	73	136430	0.50	ppb	94
26) 1,1-dichloroethane	8.46	63	96833	0.52	ppb	93
27) Vinyl acetate	8.62	43	111723m <i>o</i>	0.48	ppb	
28) Methyl Ethyl Ketone	8.92	72	22781	0.50	ppb	98
29) cis-1,2-dichloroethene	9.45	61	73561	0.53	ppb	97
30) Hexane	9.70	57	62688	0.49	ppb	89
31) Ethyl acetate	9.70	43	139600	0.50	ppb	98
32) Chloroform	9.80	83	144158	0.52	ppb	98
33) Tetrahydrofuran	10.31	42	45157	0.49	ppb	86
34) 1,2-dichloroethane	10.71	62	92447	0.51	ppb	95
36) 1,1,1-trichloroethane	11.04	97	153339	0.53	ppb	97
37) Cyclohexane	11.95	56	65614m <i>f</i>	0.50	ppb	
38) Carbon tetrachloride	11.79	117	182779	0.53	ppb	99
39) Benzene	11.61	78	154225	0.53	ppb	92
40) Methyl methacrylate	13.09	41	63863	0.51	ppb	92
41) 1,4-dioxane	12.89	58	31051	0.57	ppb	# 52
42) 2,2,4-trimethylpentane	12.92	57	218732	0.51	ppb	90
43) Heptane	13.22	43	74544	0.51	ppb	92
44) Trichloroethene	12.87	130	83861	0.51	ppb	92
45) 1,2-dichloropropane	12.59	63	59680	0.57	ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012009.D
 Acq On : 20 Jan 2017 2:13 pm
 Sample : A1UG_0.50
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 15:09:41 2017

Vial: 9
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.82	83	161813	0.54	ppb	97
47) cis-1,3-dichloropropene	13.86	75	95984	0.53	ppb	95
48) trans-1,3-dichloropropene	14.46	75	86439	0.50	ppb	94
49) 1,1,2-trichloroethane	14.66	97	78846	0.54	ppb	96
51) Toluene	14.97	92	106827	0.51	ppb #	84
52) Methyl Isobutyl Ketone	13.90	43	110138	0.51	ppb	94
53) Dibromochloromethane	15.44	129	173614	0.53	ppb	94
54) Methyl Butyl Ketone	15.25	43	97107	0.47	ppb	99
55) 1,2-dibromoethane	15.71	107	121768	0.51	ppb	96
56) Tetrachloroethylene	16.22	164	94360	0.55	ppb	98
57) Chlorobenzene	16.95	112	164380	0.52	ppb	97
58) Ethylbenzene	17.35	91	254690	0.52	ppb	99
59) m&p-xylene	17.53	91	412692	0.95	ppb	93
60) Nonane	18.26	43	108646	0.51	ppb	95
61) Styrene	17.93	104	134217	0.52	ppb	92
62) Bromoform	17.63	173	165221	0.53	ppb	99
63) o-xylene	18.04	91	212481	0.52	ppb	97
64) Cumene	18.68	105	284933	0.51	ppb	98
66) 1,1,2,2-tetrachloroethane	18.03	83	161216	0.53	ppb	99
67) Propylbenzene	19.24	120	76760	0.51	ppb #	1
68) 2-Chlorotoluene	19.21	126	70992	0.51	ppb #	1
69) 4-ethyltoluene	19.40	105	264535	0.51	ppb	100
70) 1,3,5-trimethylbenzene	19.49	105	244262	0.51	ppb	99
71) 1,2,4-trimethylbenzene	19.97	105	215780	0.49	ppb	90
72) 1,3-dichlorobenzene	20.16	146	157200	0.52	ppb #	57
73) benzyl chloride	20.14	91	110840	0.48	ppb	89
74) 1,4-dichlorobenzene	20.25	146	134274	0.49	ppb #	49
75) 1,2,3-trimethylbenzene	20.49	105	217523	0.51	ppb	93
76) 1,2-dichlorobenzene	20.66	146	150752	0.52	ppb	96
77) 1,2,4-trichlorobenzene	22.83	180	63425	0.44	ppb	92
78) Naphthalene	22.97	128	156007	0.45	ppb	94
79) Hexachloro-1,3-butadiene	23.41	225	156961	0.51	ppb	95

Quantitation Report (QT Reviewed)

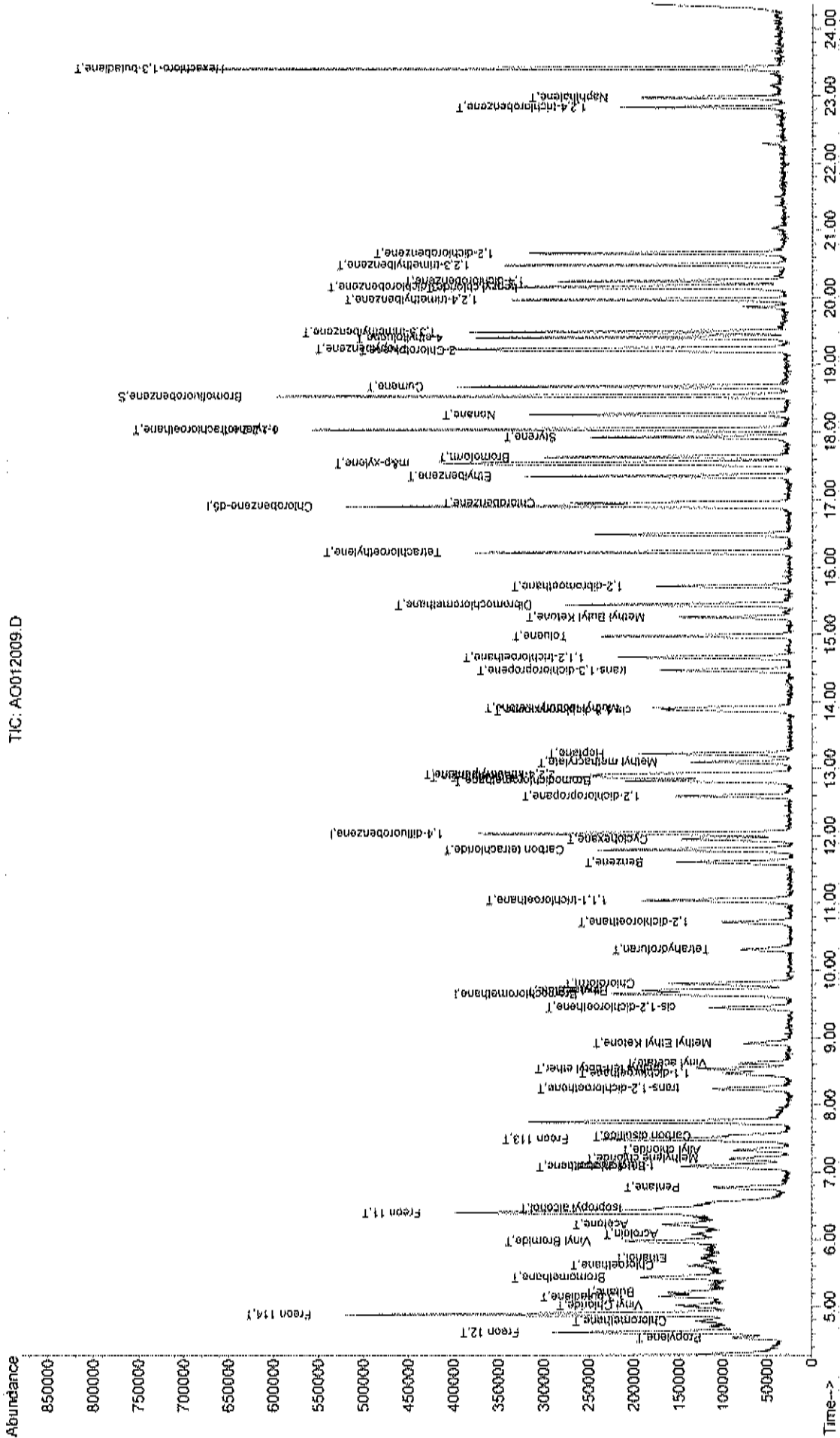
Data File : C:\HPCHEM\1\DATA\AO012009.D
Acq On : 20 Jan 2017 2:13 pm
Sample : A120_UG 0.50
Misc : A120_UG
MS Integration Params: RTEINT.P
Quant Time: Jan 20 15:20 2017

Vial: 9
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_UG.RES

Method : C:\HPCHEM\1\METHODS\A120_UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D

TIC: AO012009.D



Data File : C:\HPCHEM\1\DATA\AO012010.D
 Acq On : 20 Jan 2017 2:50 pm
 Sample : A1UG_0.30
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 15:20:54 2017

Vial: 10
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	89733	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.04	114	392807	1.00	ppb	0.02
50) Chlorobenzene-d5	16.91	117	333272	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	209895	0.96	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	96.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.55	41	26107	0.30	ppb	85
3) Freon 12	4.62	85	161243	0.29	ppb	96
4) Chloromethane	4.79	50	32013m	0.36	ppb	
5) Freon 114	4.89	85	145829	0.29	ppb	99
6) Vinyl Chloride	5.02	62	41979	0.34	ppb	88
7) Butane	5.21	43	44500	0.33	ppb	91
8) 1,3-butadiene	5.16	39	29464m	0.37	ppb	
9) Bromomethane	5.44	94	54112	0.30	ppb	93
10) Chloroethane	5.60	64	18006	0.34	ppb	# 67
11) Ethanol	5.72	45	15055	0.37	ppb	96
12) Acrolein	6.09	56	14014	0.35	ppb	89
13) Vinyl Bromide	5.97	106	52554	0.27	ppb	90
14) Freon 11	6.41	101	198970	0.29	ppb	100
15) Acetone	6.22	58	15537	0.32	ppb	# 54
16) Pentane	6.77	42	26707	0.33	ppb	# 44
17) Isopropyl alcohol	6.47	45	59708	0.39	ppb	# 100
18) 1,1-dichloroethene	7.08	96	31614	0.33	ppb	88
19) Freon 113	7.49	101	75035	0.33	ppb	99
20) t-Butyl alcohol	7.12	59	63990	0.33	ppb	# 90
21) Methylene chloride	7.19	84	30972	0.34	ppb	88
22) Allyl chloride	7.33	41	32836	0.34	ppb	92
23) Carbon disulfide	7.55	76	91498	0.32	ppb	92
24) trans-1,2-dichloroethene	8.25	61	44003	0.32	ppb	97
25) methyl tert-butyl ether	8.54	73	82505	0.31	ppb	94
26) 1,1-dichloroethane	8.47	63	57541	0.32	ppb	92
27) Vinyl acetate	8.63	43	81215	0.36	ppb	94
28) Methyl Ethyl Ketone	8.93	72	14347	0.32	ppb	93
29) cis-1,2-dichloroethene	9.45	61	42148	0.31	ppb	97
30) Hexane	9.70	57	38037	0.31	ppb	87
31) Ethyl acetate	9.71	43	86626	0.32	ppb	97
32) Chloroform	9.81	83	82428	0.31	ppb	95
33) Tetrahydrofuran	10.31	42	29536	0.33	ppb	86
34) 1,2-dichloroethane	10.72	62	55287	0.31	ppb	92
36) 1,1,1-trichloroethane	11.04	97	98138	0.34	ppb	92
37) Cyclohexane	11.96	56	39236m	0.29	ppb	
38) Carbon tetrachloride	11.80	117	110367	0.32	ppb	97
39) Benzene	11.62	78	93907	0.32	ppb	95
40) Methyl methacrylate	13.10	41	37810	0.30	ppb	88
41) 1,4-dioxane	12.91	58	19857	0.36	ppb	# 48
42) 2,2,4-trimethylpentane	12.91	57	131213	0.30	ppb	89
43) Heptane	13.22	43	43258	0.29	ppb	91
44) Trichloroethene	12.88	130	52267	0.31	ppb	94
45) 1,2-dichloropropane	12.59	63	35651	0.33	ppb	94

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012010.D
 Acq On : 20 Jan 2017 2:50 pm
 Sample : A1UG_0.30
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 15:20:54 2017

Vial: 10
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.82	83	92426	0.30	ppb	97
47) cis-1,3-dichloropropene	13.86	75	54449	0.30	ppb	92
48) trans-1,3-dichloropropene	14.46	75	50229	0.29	ppb	94
49) 1,1,2-trichloroethane	14.66	97	46217	0.32	ppb	98
51) Toluene	14.98	92	66727	0.31	ppb	89
52) Methyl Isobutyl Ketone	13.91	43	68526	0.31	ppb	94
53) Dibromochloromethane	15.44	129	106030	0.32	ppb	96
54) Methyl Butyl Ketone	15.25	43	63350	0.30	ppb	95
55) 1,2-dibromoethane	15.71	107	76034	0.31	ppb	95
56) Tetrachloroethylene	16.23	164	55322	0.32	ppb	90
57) Chlorobenzene	16.96	112	98590	0.31	ppb	96
58) Ethylbenzene	17.35	91	152928	0.31	ppb	99
59) m&p-xylene	17.54	91	265592	0.60	ppb	99
60) Nonane	18.26	43	66925	0.31	ppb	94
61) Styrene	17.92	104	75710	0.29	ppb	96
62) Bromoform	17.62	173	96646	0.30	ppb	98
63) o-xylene	18.04	91	124359	0.30	ppb	96
64) Cumene	18.67	105	171039	0.30	ppb	98
66) 1,1,2,2-tetrachloroethane	18.04	83	94238	0.31	ppb	94
67) Propylbenzene	19.24	120	46753	0.31	ppb	# 1
68) 2-Chlorotoluene	19.22	126	41382	0.29	ppb	# 1
69) 4-ethyltoluene	19.41	105	158621	0.30	ppb	97
70) 1,3,5-trimethylbenzene	19.49	105	137811	0.29	ppb	96
71) 1,2,4-trimethylbenzene	19.97	105	132156	0.30	ppb	94
72) 1,3-dichlorobenzene	20.16	146	91030m	0.30	ppb	
73) benzyl chloride	20.14	91	63961	0.28	ppb	92
74) 1,4-dichlorobenzene	20.25	146	83564m	0.30	ppb	
75) 1,2,3-trimethylbenzene	20.49	105	132625	0.31	ppb	91
76) 1,2-dichlorobenzene	20.66	146	94489	0.32	ppb	95
77) 1,2,4-trichlorobenzene	22.83	180	34899	0.24	ppb	90
78) Naphthalene	22.98	128	96087	0.27	ppb	94
79) Hexachloro-1,3-butadiene	23.41	225	101745	0.32	ppb	93

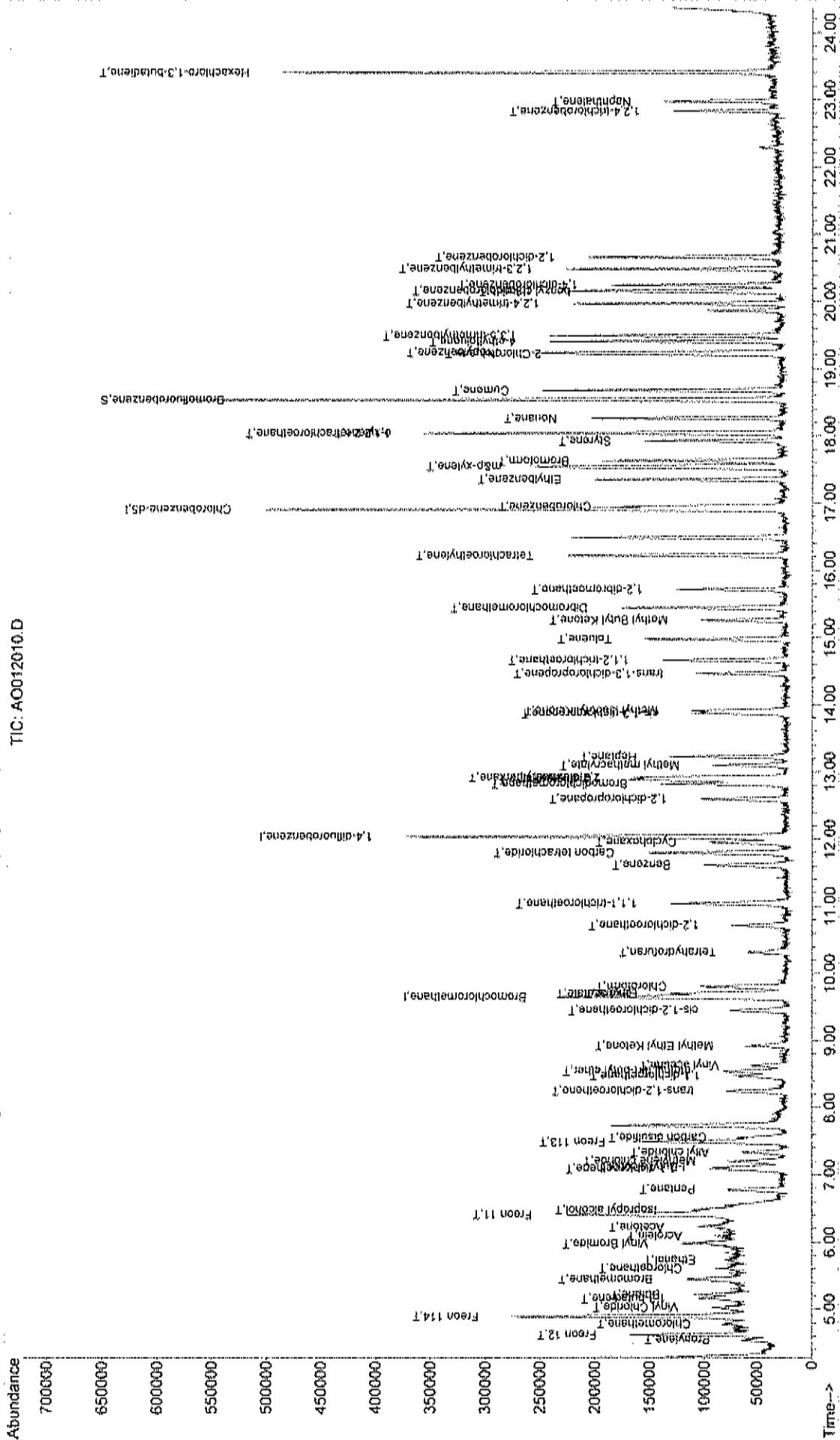
Data File : C:\HPCHEM\1\DATA\A0012010.D
Acq On : 20 Jan 2017 2:50 pm
Sample : A1UG 0.30
Misc : A120_1UG
MS Integration Params: RTEINT.P
Quant Time: Jan 20 15:22 2017

Vial: 10
Operator: RJP
Inst : MSD #1
Multiplier: 1.00

Quant Results File: A120_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\A0012007.D

TIC: A0012010.D



Data File : C:\HPCHEM\1\DATA\AO012011.D
 Acq On : 20 Jan 2017 3:28 pm
 Sample : A1UG_0.15
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 16:06:07 2017

Vial: 11
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	93299	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	384730	1.00	ppb	0.00
50) Chlorobenzene-d5	16.90	117	329922	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.53	95	198722	0.92	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	92.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.55	41	15492	0.17	ppb	92
3) Freon 12	4.62	85	98443	0.17	ppb	95
4) Chloromethane	4.79	50	14167m	0.15	ppb	
5) Freon 114	4.89	85	90640	0.17	ppb	88
6) Vinyl Chloride	5.01	62	22638	0.18	ppb	83
7) Butane	5.21	43	26297	0.19	ppb	# 58
8) 1,3-butadiene	5.15	39	15614m	0.19	ppb	
9) Bromomethane	5.44	94	35737	0.19	ppb	81
10) Chloroethane	5.61	64	10065m	0.18	ppb	
11) Ethanol	5.71	45	5245m	0.12	ppb	
12) Acrolein	6.08	56	7842m	0.19	ppb	
13) Vinyl Bromide	5.97	106	36049	0.18	ppb	88
14) Freon 11	6.40	101	121467	0.17	ppb	98
15) Acetone	6.23	58	8400m	0.16	ppb	
16) Pentane	6.77	42	16035	0.19	ppb	# 55
17) Isopropyl alcohol	6.46	45	30308m	0.19	ppb	
18) 1,1-dichloroethene	7.08	96	16215	0.16	ppb	95
19) Freon 113	7.49	101	40706	0.17	ppb	96
20) t-Butyl alcohol	7.11	59	34560	0.17	ppb	# 90
21) Methylene chloride	7.19	84	18192	0.19	ppb	92
22) Allyl chloride	7.33	41	17080	0.17	ppb	93
23) Carbon disulfide	7.55	76	52968	0.18	ppb	91
24) trans-1,2-dichloroethene	8.25	61	24396	0.17	ppb	94
25) methyl tert-butyl ether	8.54	73	48302	0.17	ppb	95
26) 1,1-dichloroethane	8.47	63	31484	0.17	ppb	91
27) Vinyl acetate	8.63	43	36723m	0.16	ppb	
28) Methyl Ethyl Ketone	8.92	72	7797	0.17	ppb	# 1
29) cis-1,2-dichloroethene	9.44	61	20681	0.15	ppb	83
30) Hexane	9.70	57	20460	0.16	ppb	92
31) Ethyl acetate	9.70	43	46606	0.16	ppb	97
32) Chloroform	9.79	83	47567	0.17	ppb	97
33) Tetrahydrofuran	10.31	42	15780	0.17	ppb	85
34) 1,2-dichloroethane	10.72	62	31485	0.17	ppb	94
36) 1,1,1-trichloroethane	11.03	97	50957	0.18	ppb	95
37) Cyclohexane	11.94	56	20344	0.16	ppb	87
38) Carbon tetrachloride	11.79	117	59026	0.17	ppb	97
39) Benzene	11.62	78	52841	0.18	ppb	91
40) Methyl methacrylate	13.09	41	21552	0.18	ppb	97
41) 1,4-dioxane	12.88	58	10323	0.19	ppb	# 42
42) 2,2,4-trimethylpentane	12.92	57	69067	0.16	ppb	84
43) Heptane	13.22	43	23916	0.17	ppb	96
44) Trichloroethene	12.87	130	28194	0.17	ppb	95
45) 1,2-dichloropropane	12.59	63	20266	0.19	ppb	89

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012011.D
 Acq On : 20 Jan 2017 3:28 pm
 Sample : A1UG_0.15
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 16:06:07 2017

Vial: 11
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.82	83	50967	0.17	ppb	98
47) cis-1,3-dichloropropene	13.87	75	28848	0.16	ppb	89
48) trans-1,3-dichloropropene	14.46	75	28842	0.17	ppb	89
49) 1,1,2-trichloroethane	14.66	97	25298	0.18	ppb	95
51) Toluene	14.97	92	35373	0.17	ppb	# 82
52) Methyl Isobutyl Ketone	13.91	43	33634	0.16	ppb	97
53) Dibromochloromethane	15.45	129	54889	0.17	ppb	91
54) Methyl Butyl Ketone	15.25	43	32416	0.16	ppb	96
55) 1,2-dibromoethane	15.71	107	40111	0.17	ppb	91
56) Tetrachloroethylene	16.22	164	31078	0.18	ppb	99
57) Chlorobenzene	16.95	112	55979	0.18	ppb	93
58) Ethylbenzene	17.34	91	79700	0.16	ppb	99
59) m&p-xylene	17.53	91	135931	0.31	ppb	99
60) Nonane	18.26	43	33967	0.16	ppb	96
61) Styrene	17.93	104	39513	0.15	ppb	97
62) Bromoform	17.63	173	53336	0.17	ppb	99
63) o-xylene	18.04	91	65329	0.16	ppb	96
64) Cumene	18.68	105	93010	0.17	ppb	100
66) 1,1,2,2-tetrachloroethane	18.03	83	50623	0.17	ppb	94
67) Propylbenzene	19.24	120	24142	0.16	ppb	# 1
68) 2-Chlorotoluene	19.22	126	23313	0.17	ppb	# 1
69) 4-ethyltoluene	19.41	105	79234	0.15	ppb	96
70) 1,3,5-trimethylbenzene	19.49	105	74212	0.16	ppb	99
71) 1,2,4-trimethylbenzene	19.97	105	70354	0.16	ppb	93
72) 1,3-dichlorobenzene	20.16	146	48784	0.16	ppb	96
73) benzyl chloride	20.14	91	36946	0.16	ppb	95
74) 1,4-dichlorobenzene	20.24	146	43427	0.16	ppb	94
75) 1,2,3-trimethylbenzene	20.48	105	66216	0.15	ppb	88
76) 1,2-dichlorobenzene	20.66	146	48866	0.17	ppb	96
77) 1,2,4-trichlorobenzene	22.83	180	20749	0.14	ppb	99
78) Naphthalene	22.97	128	48429	0.14	ppb	93
79) Hexachloro-1,3-butadiene	23.41	225	53443	0.17	ppb	92

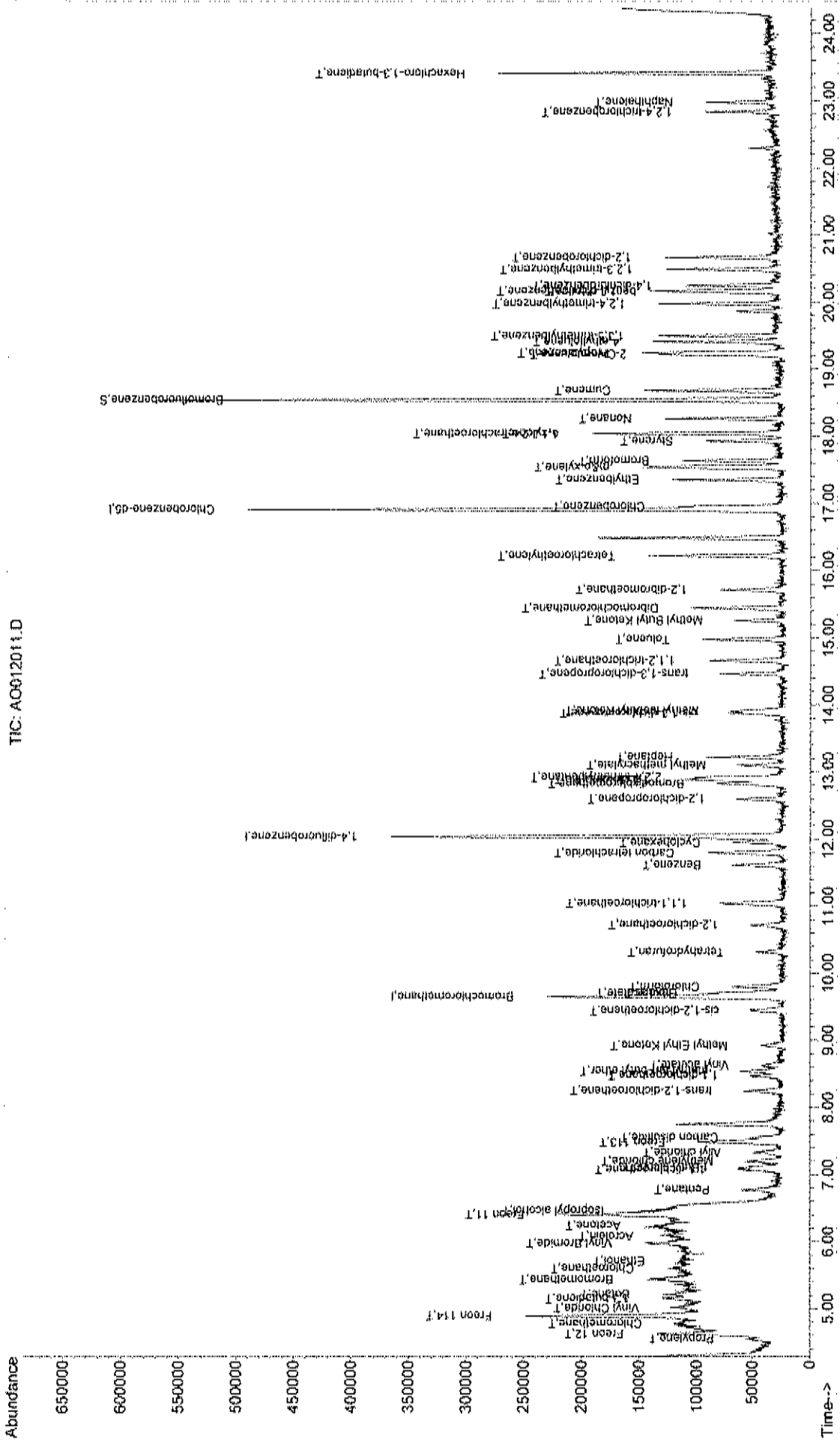
Data File : C:\HPCHEM\1\DATA\AO012011.D
 Acq On : 20 Jan 2017 3:28 pm
 Sample : A1UG 0.15
 Misc : A120_IUG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 16:07 2017

Vial: 11
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_IUG.RES

Method : C:\HPCHEM\1\METHODS\A120_IUG.M (RTE Integrator)
 Title : FO-15 VOA Standards for 5 point calibration
 Last Update : Mon Jan 30 16:04:21 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D

TIC: AO012011.D



Data File : C:\HPCHEM\1\DATA\AO012012.D Vial: 12
 Acq On : 20 Jan 2017 4:06 pm Operator: RJP
 Sample : A1UG_0.10 Inst : MSD #1
 Misc : A120_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 17:08:34 2017 Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	86811	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.04	114	376600	1.00	ppb	0.01
50) Chlorobenzene-d5	16.90	117	321293	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	195338	0.93	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	93.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	5.01	62	13745m ⁿ	0.12	ppb	
38) Carbon tetrachloride	11.79	117	41340	0.12	ppb	100
44) Trichloroethene	12.88	130	19573	0.12	ppb	91

Quantitation Report (QF Reviewed)

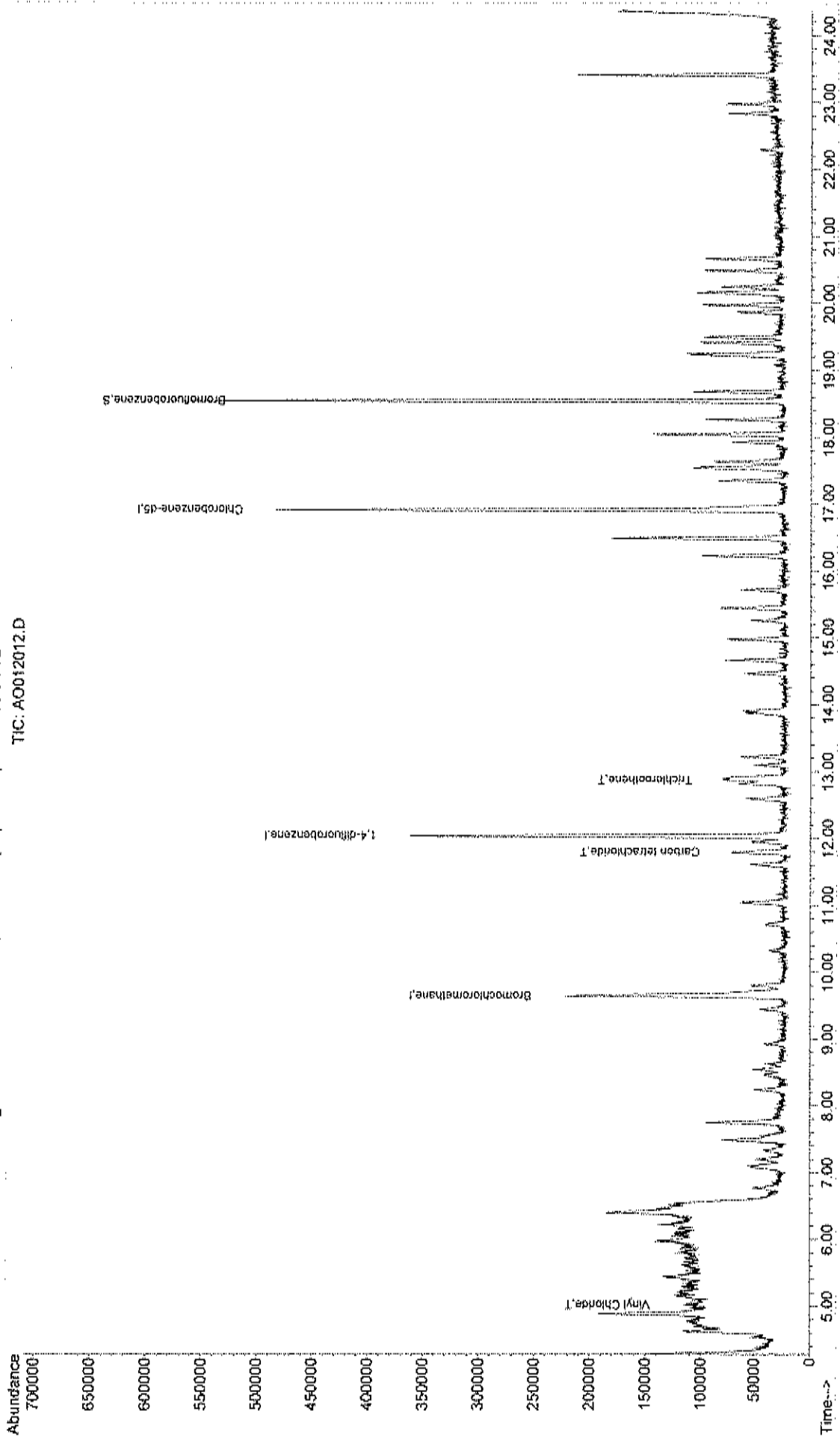
Data File : C:\HPCHEM\1\DATA\A0012012.D
Acq On : 20 Jan 2017 4:06 pm
Sample : A1UG 0.10
Misc : A120_1UG
MS Integration Params: RTEINT.P
Quant Time: Jan 20 17:11 2017

Vial: 12
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\A0012007.D

Abundance
700000
650000
600000
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0



Data File : C:\HPCHEM\1\DATA\AO012013.D Vial: 13
 Acq On : 20 Jan 2017 4:43 pm Operator: RJP
 Sample : A1UG_0.04 Inst : MSD #1
 Misc : A120_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 17:08:54 2017 Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	88078	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	375453	1.00	ppb	0.00
50) Chlorobenzene-d5	16.90	117	315749	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	193573	0.94	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	94.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	5.01	62	5682	0.05	ppb	89
38) Carbon tetrachloride	11.80	117	12630	0.04	ppb	90
44) Trichloroethene	12.88	130	6968	0.04	ppb	95

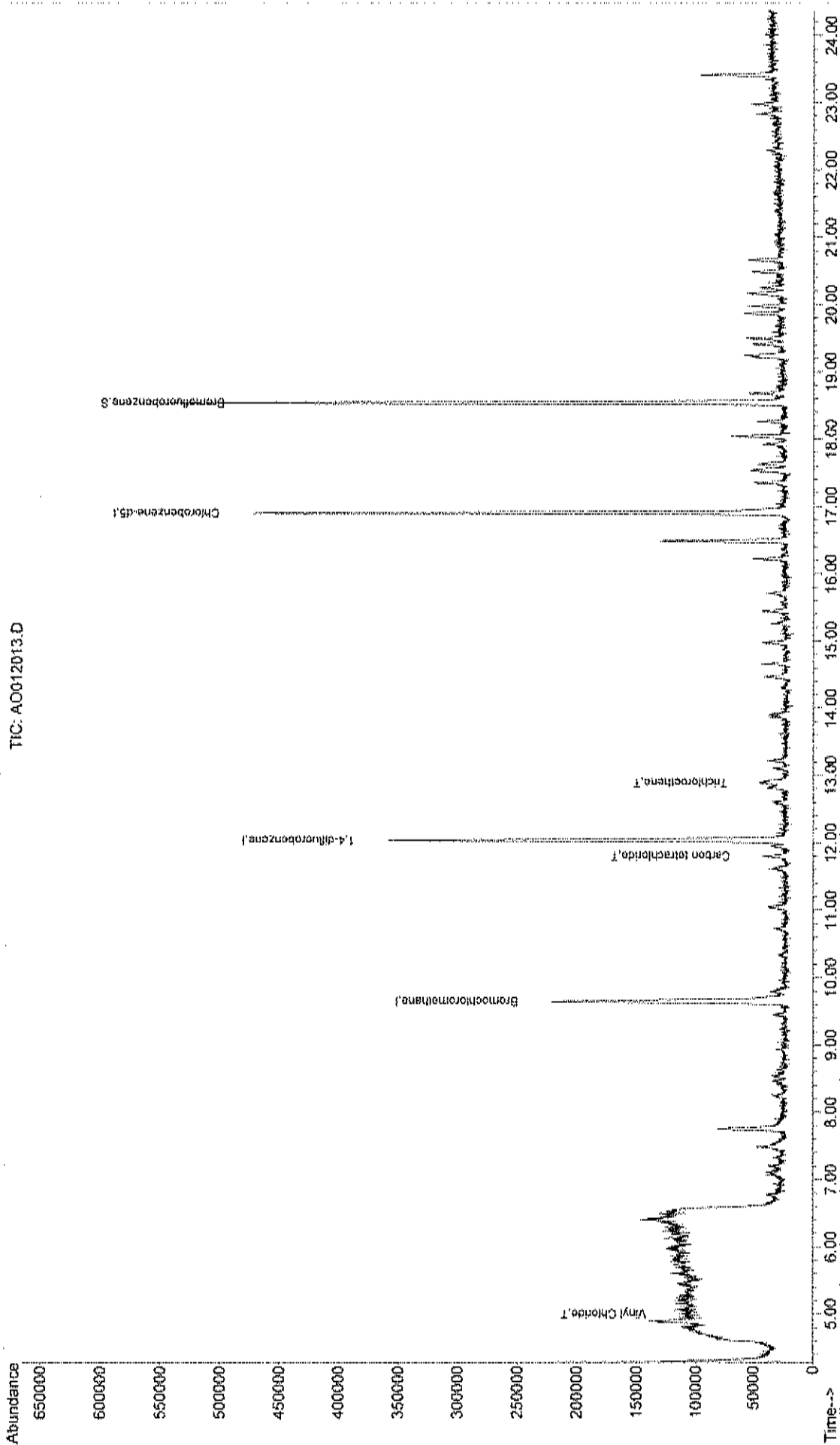
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AO012013.D
Acq On : 20 Jan 2017 4:43 pm
Sample : A1UG 0.04
Misc : A120_1UG
MS Integration Params: RTEINT.P
Quant Time: Jan 20 17:10 2017

Vial: 13
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_1UG.REB

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AO012007.D

Vial: 7

Acq On : 20 Jan 2017 12:56 pm

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A120_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Mon Jan 30 16:04:21 2017

Response via : Single Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min

Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	Propylene	0.972	0.961	1.1	100	0.00
3 T	Freon 12	6.335	6.268	1.1	100	0.00
4 T	Chloromethane	1.021	0.975	4.5	100	0.00
5 T	Freon 114	5.666	5.587	1.4	100	0.00
6 T	Vinyl Chloride	1.471	1.357	7.7	100	0.00
7 T	Butane	1.570	1.503	4.3	100	0.00
8 T	1,3-butadiene	0.988	0.937	5.2	100	0.00
9 T	Bromomethane	2.095	1.996	4.7	100	0.00
10 T	Chloroethane	0.623	0.588	5.6	100	0.00
11 T	Ethanol	0.455	0.448	1.5	100	0.00
12 T	Acrolein	0.495	0.449	9.3	100	0.00
13 T	Vinyl Bromide	2.189	2.191	-0.1	100	0.00
14 T	Freon 11	7.762	7.680	1.1	100	0.00
15 T	Acetone	0.563	0.546	3.0	100	0.00
16 T	Pentane	0.950	0.901	5.2	100	0.00
17 T	Isopropyl alcohol	1.898	1.706	10.1	100	0.00
18 T	1,1-dichloroethene	1.090	1.070	1.8	100	0.00
19 T	Freon 113	2.656	2.571	3.2	100	0.00
20 t	t-Butyl alcohol	2.270	2.174	4.2	100	0.00
21 T	Methylene chloride	1.073	1.021	4.8	100	0.00
22 T	Allyl chloride	1.168	1.092	6.5	100	0.00
23 T	Carbon disulfide	3.270	3.144	3.9	100	0.00
24 T	trans-1,2-dichloroethene	1.630	1.536	5.8	100	0.00
25 T	methyl tert-butyl ether	3.077	2.978	3.2	100	0.00
26 T	1,1-dichloroethane	2.086	2.024	3.0	100	0.00
27 T	Vinyl acetate	2.651	3.059	-15.4	100	0.00
28 T	Methyl Ethyl Ketone	0.512	0.500	2.3	100	0.00
29 T	cis-1,2-dichloroethene	1.527	1.511	1.0	100	0.00
30 T	Hexane	1.403	1.388	1.1	100	0.00
31 T	Ethyl acetate	3.119	3.032	2.8	100	0.00
32 T	Chloroform	3.073	3.010	2.1	100	0.00
33 T	Tetrahydrofuran	1.034	0.995	3.8	100	0.00
34 T	1,2-dichloroethane	2.042	1.992	2.4	100	0.00
35 I	1,4-difluorobenzene	1.000	1.000	0.0	100	0.00
36 T	1,1,1-trichloroethane	0.786	0.746	5.1	100	0.00
37 T	Cyclohexane	0.341	0.341	0.0	100	0.00
38 T	Carbon tetrachloride	0.926	0.880	5.0	100	0.00
39 T	Benzene	0.792	0.756	4.5	100	0.00
40 T	Methyl methacrylate	0.331	0.320	3.3	100	0.00
41 T	1,4-dioxane	0.152	0.141	7.2	100	0.00
42 T	2,2,4-trimethylpentane	1.129	1.109	1.8	100	0.00
43 T	Heptane	0.377	0.373	1.1	100	0.00
44 T	Trichloroethene	0.450	0.426	5.3	100	0.00
45 T	1,2-dichloropropane	0.296	0.271	8.4	100	0.00
46 T	Bromodichloromethane	0.799	0.777	2.8	100	0.00
47 T	cis-1,3-dichloropropene	0.477	0.463	2.9	100	0.00
48 T	trans-1,3-dichloropropene	0.449	0.441	1.8	100	0.00
49 T	1,1,2-trichloroethane	0.387	0.373	3.6	100	0.00

(#) = Out of Range

AO012007.D A120_1UG.M

Mon Jan 30 16:10:57 2017

MSD1

Page 1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AO012007.D Vial: 7
 Acq On : 20 Jan 2017 12:56 pm Operator: RJP
 Sample : A1UG_1.0 Inst : MSD #1
 Misc : A120_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Jan 30 16:04:21 2017
 Response via : Single Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51 T	Toluene	0.657	0.643	2.1	100	0.00
52 T	Methyl Isobutyl Ketone	0.672	0.657	2.2	100	0.00
53 T	Dibromochloromethane	1.025	0.998	2.6	100	0.00
54 T	Methyl Butyl Ketone	0.633	0.625	1.3	100	0.00
55 T	1,2-dibromoethane	0.739	0.729	1.4	100	0.00
56 T	Tetrachloroethylene	0.555	0.519	6.5	100	0.00
57 T	Chlorobenzene	0.991	0.959	3.2	100	0.00
58 T	Ethylbenzene	1.543	1.499	2.9	100	0.00
59 T	m&p-xylene	1.307	1.318	-0.8	100	0.00
60 T	Nonane	0.671	0.645	3.9	100	0.00
61 T	Styrene	0.814	0.794	2.5	100	0.00
62 T	Bromoform	0.985	0.952	3.4	100	0.00
63 T	o-xylene	1.271	1.239	2.5	100	0.00
64 T	Cumene	1.748	1.702	2.6	100	0.00
65 S	Bromofluorobenzene	0.637	0.655	-2.8	100	0.00
66 T	1,1,2,2-tetrachloroethane	0.950	0.919	3.3	100	0.00
67 T	Propylbenzene	0.467	0.458	1.9	100	0.00
68 T	2-Chlorotoluene	0.430	0.422	1.9	100	0.00
69 T	4-ethyltoluene	1.615	1.594	1.3	100	0.00
70 T	1,3,5-trimethylbenzene	1.455	1.447	0.5	100	0.00
71 T	1,2,4-trimethylbenzene	1.354	1.338	1.2	100	0.00
72 T	1,3-dichlorobenzene	0.943	0.914	3.1	100	0.00
73 T	benzyl chloride	0.708	0.697	1.6	100	0.00
74 T	1,4-dichlorobenzene	0.854	0.827	3.2	100	0.00
75 T	1,2,3-trimethylbenzene	1.333	1.301	2.4	100	0.00
76 T	1,2-dichlorobenzene	0.919	0.889	3.3	100	0.00
77 T	1,2,4-trichlorobenzene	0.427	0.434	-1.6	100	0.00
78 T	Naphthalene	1.073	1.067	0.6	100	0.00
79 T	Hexachloro-1,3-butadiene	0.981	0.944	3.8	100	0.00

Data File : C:\HPCHEM\1\DATA\AO012007.D
 Acq On : 20 Jan 2017 12:56 pm
 Sample : A1UG_1.0
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 13:46:19 2017

Vial: 7
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.64	128	96123	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	420084	1.00	ppb	0.00
50) Chlorobenzene-d5	16.90	117	357789	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	234298	1.00	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	100.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.54	41	92333	1.00	ppb	93
3) Freon 12	4.61	85	602490	1.00	ppb	97
4) Chloromethane	4.78	50	93693m	0.99	ppb	
5) Freon 114	4.88	85	536994	1.00	ppb	89
6) Vinyl Chloride	5.01	62	130440	1.00	ppb	90
7) Butane	5.20	43	144503	1.00	ppb	97
8) 1,3-butadiene	5.15	39	90050m	1.07	ppb	
9) Bromomethane	5.43	94	191901	1.00	ppb	96
10) Chloroethane	5.61	64	56502	1.00	ppb	# 75
11) Ethanol	5.71	45	43050m	0.99	ppb	
12) Acrolein	6.07	56	43154	1.00	ppb	95
13) Vinyl Bromide	5.96	106	210642	1.00	ppb	94
14) Freon 11	6.40	101	738267	1.00	ppb	99
15) Acetone	6.21	58	52520	1.00	ppb	# 73
16) Pentane	6.77	42	86634	1.00	ppb	# 42
17) Isopropyl alcohol	6.45	45	163946	1.00	ppb	# 100
18) 1,1-dichloroethene	7.08	96	102817	1.00	ppb	97
19) Freon 113	7.48	101	247086	1.00	ppb	98
20) t-Butyl alcohol	7.09	59	208943	1.00	ppb	# 92
21) Methylene chloride	7.19	84	98187	1.00	ppb	94
22) Allyl chloride	7.32	41	104968	1.00	ppb	95
23) Carbon disulfide	7.55	76	302172	1.00	ppb	84
24) trans-1,2-dichloroethene	8.23	61	147661	1.00	ppb	95
25) methyl tert-butyl ether	8.53	73	286287	1.00	ppb	91
26) 1,1-dichloroethane	8.46	63	194552	1.00	ppb	94
27) Vinyl acetate	8.63	43	294086	1.22	ppb	95
28) Methyl Ethyl Ketone	8.91	72	48062	1.00	ppb	97
29) cis-1,2-dichloroethene	9.44	61	145221	1.00	ppb	99
30) Hexane	9.70	57	133452	1.00	ppb	91
31) Ethyl acetate	9.70	43	291457	1.00	ppb	99
32) Chloroform	9.79	83	289291	1.00	ppb	98
33) Tetrahydrofuran	10.30	42	95689	1.00	ppb	85
34) 1,2-dichloroethane	10.71	62	191518	1.00	ppb	96
36) 1,1,1-trichloroethane	11.04	97	313292	1.00	ppb	97
37) Cyclohexane	11.95	56	143243	1.00	ppb	97
38) Carbon tetrachloride	11.79	117	369773	1.00	ppb	100
39) Benzene	11.61	78	317714	1.00	ppb	93
40) Methyl methacrylate	13.09	41	134387	1.00	ppb	93
41) 1,4-dioxane	12.87	58	59236	1.00	ppb	# 45
42) 2,2,4-trimethylpentane	12.92	57	465998	1.00	ppb	94
43) Heptane	13.22	43	156875	1.00	ppb	96
44) Trichloroethene	12.87	130	179114	1.00	ppb	96
45) 1,2-dichloropropane	12.59	63	113922	1.00	ppb	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012007.D
 Acq On : 20 Jan 2017 12:56 pm
 Sample : A1UG_1.0
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 20 13:46:19 2017

Vial: 7
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 13:46:02 2017
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AO012007.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.82	83	326447	1.00	ppb	99
47) cis-1,3-dichloropropene	13.87	75	194705	1.00	ppb	98
48) trans-1,3-dichloropropene	14.46	75	185387	1.00	ppb	96
49) 1,1,2-trichloroethane	14.66	97	156882	1.00	ppb	95
51) Toluene	14.97	92	230178	1.00	ppb	# 85
52) Methyl Isobutyl Ketone	13.90	43	235066	1.00	ppb	96
53) Dibromochloromethane	15.44	129	357230	1.00	ppb	94
54) Methyl Butyl Ketone	15.25	43	223580	1.00	ppb	95
55) 1,2-dibromoethane	15.72	107	260963	1.00	ppb	98
56) Tetrachloroethylene	16.22	164	185648	1.00	ppb	91
57) Chlorobenzene	16.95	112	343238	1.00	ppb	99
58) Ethylbenzene	17.34	91	536387	1.00	ppb	99
59) m&p-xylene	17.54	91	942942	2.00	ppb	98
60) Nonane	18.26	43	230806	1.00	ppb	98
61) Styrene	17.93	104	284071	1.00	ppb	94
62) Bromoform	17.63	173	340599	1.00	ppb	99
63) o-xylene	18.04	91	443224	1.00	ppb	97
64) Cumene	18.68	105	608998	1.00	ppb	98
66) 1,1,2,2-tetrachloroethane	18.03	83	328922	1.00	ppb	95
67) Propylbenzene	19.24	120	163825	1.00	ppb	# 1
68) 2-Chlorotoluene	19.21	126	150815	1.00	ppb	# 1
69) 4-ethyltoluene	19.40	105	570448	1.00	ppb	100
70) 1,3,5-trimethylbenzene	19.49	105	517553	1.00	ppb	98
71) 1,2,4-trimethylbenzene	19.97	105	478678	1.00	ppb	94
72) 1,3-dichlorobenzene	20.16	146	327047	1.00	ppb	97
73) benzyl chloride	20.14	91	249390	1.00	ppb	92
74) 1,4-dichlorobenzene	20.24	146	295970	1.00	ppb	95
75) 1,2,3-trimethylbenzene	20.49	105	465421	1.00	ppb	94
76) 1,2-dichlorobenzene	20.66	146	318002	1.00	ppb	95
77) 1,2,4-trichlorobenzene	22.84	180	155389	1.00	ppb	94
78) Naphthalene	22.97	128	381910	1.00	ppb	94
79) Hexachloro-1,3-butadiene	23.41	225	337670	1.00	ppb	93

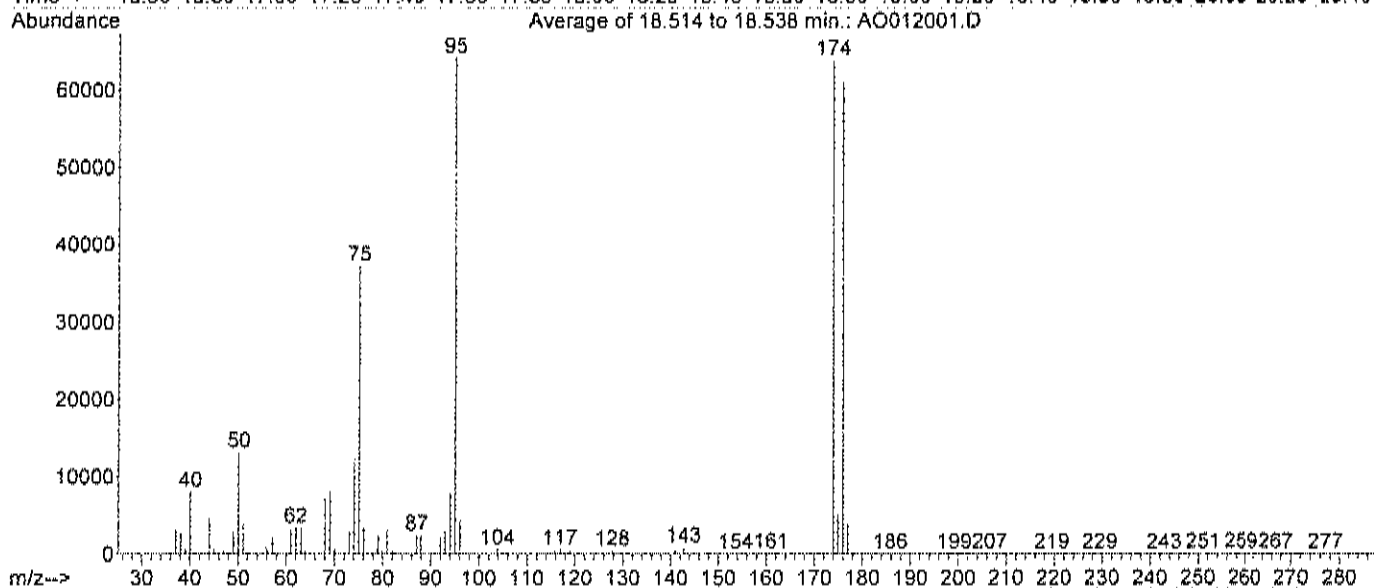
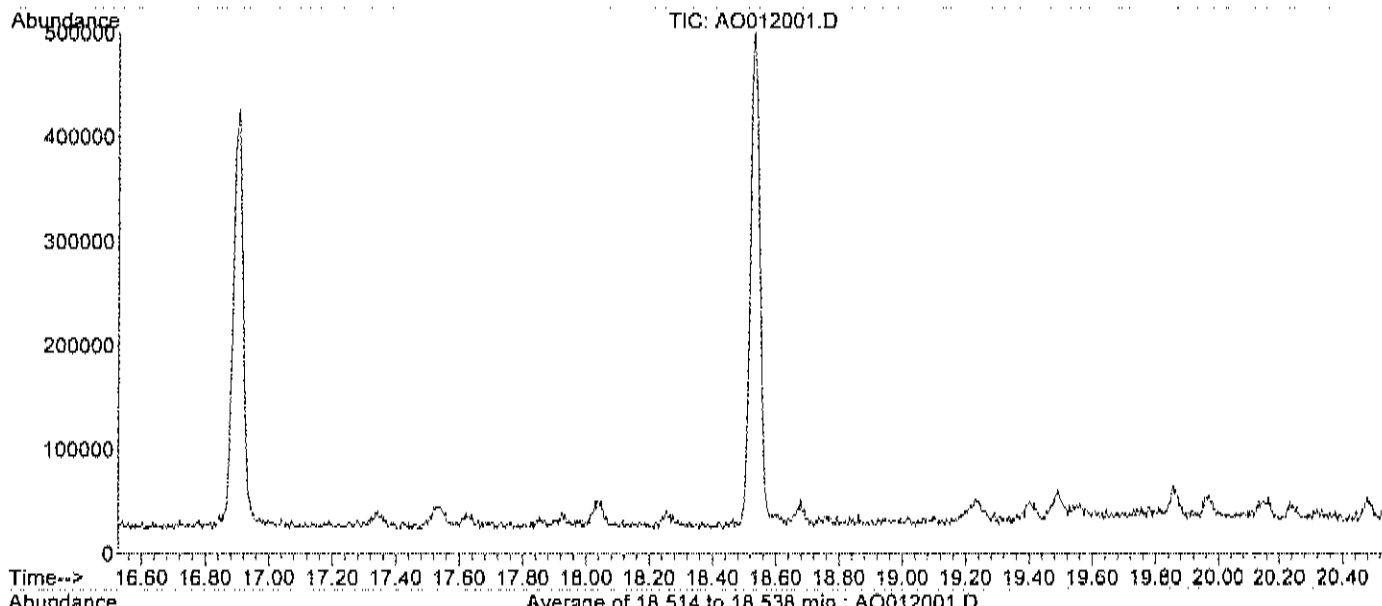
GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW DATA

BFB

Data File : C:\HPCHEM\1\DATA\AO012001.D Vial: 1
 Acq On : 20 Jan 2017 7:30 am Operator: RJP
 Sample : BFB1UG Inst : MSD #1
 Misc : A117_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 18.514 to 18.538 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.6	13223	PASS
75	95	30	66	57.9	37217	PASS
95	95	100	100	100.0	64253	PASS
96	95	5	9	6.8	4400	PASS
173	174	0.00	2	0.5	320	PASS
174	95	50	120	99.5	63915	PASS
175	174	4	9	8.0	5095	PASS
176	174	95	101	95.4	61000	PASS
177	176	5	9	6.6	4019	PASS

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW QC DATA

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1701027
Project: Former Emerson St Landfill
TestCode: 0.25CT-TCE-VC

Sample ID: AMB1UG-012017 **TestCode:** 0.25CT-TCE- **Units:** ppbV **Prep Date:** **RunNo:** 11891
Client ID: ZZZZZ **Batch ID:** R11891 **TestNo:** TO-15 **Analysis Date:** 1/20/2017 **SeqNo:** 139037

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
Trichloroethene	< 0.040	0.040									
Vinyl chloride	< 0.040	0.040									

Qualifiers: J Results reported are not blank corrected E Estimated Value above quantitation range H Holding times for preparation or analysis exceeded
 S Analyte detected below quantitation limit ND Not Detected at the Limit of Detection R RPD outside accepted recovery limits
 Spike Recovery outside accepted recovery limits

Data File : C:\HPCHEM\1\DATA\AO012015.D Vial: 15
 Acq On : 20 Jan 2017 6:09 pm Operator: RJP
 Sample : AMB1UG-012017 Inst : MSD #1
 Misc : A120_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:04 2017 Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	83013	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	359736	1.00	ppb	0.01
50) Chlorobenzene-d5	16.90	117	305609	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	174603	0.90	ppb	0.01
Spiked Amount	1.000	Range	70 - 130	Recovery	=	90.00%

Target Compounds

Qvalue

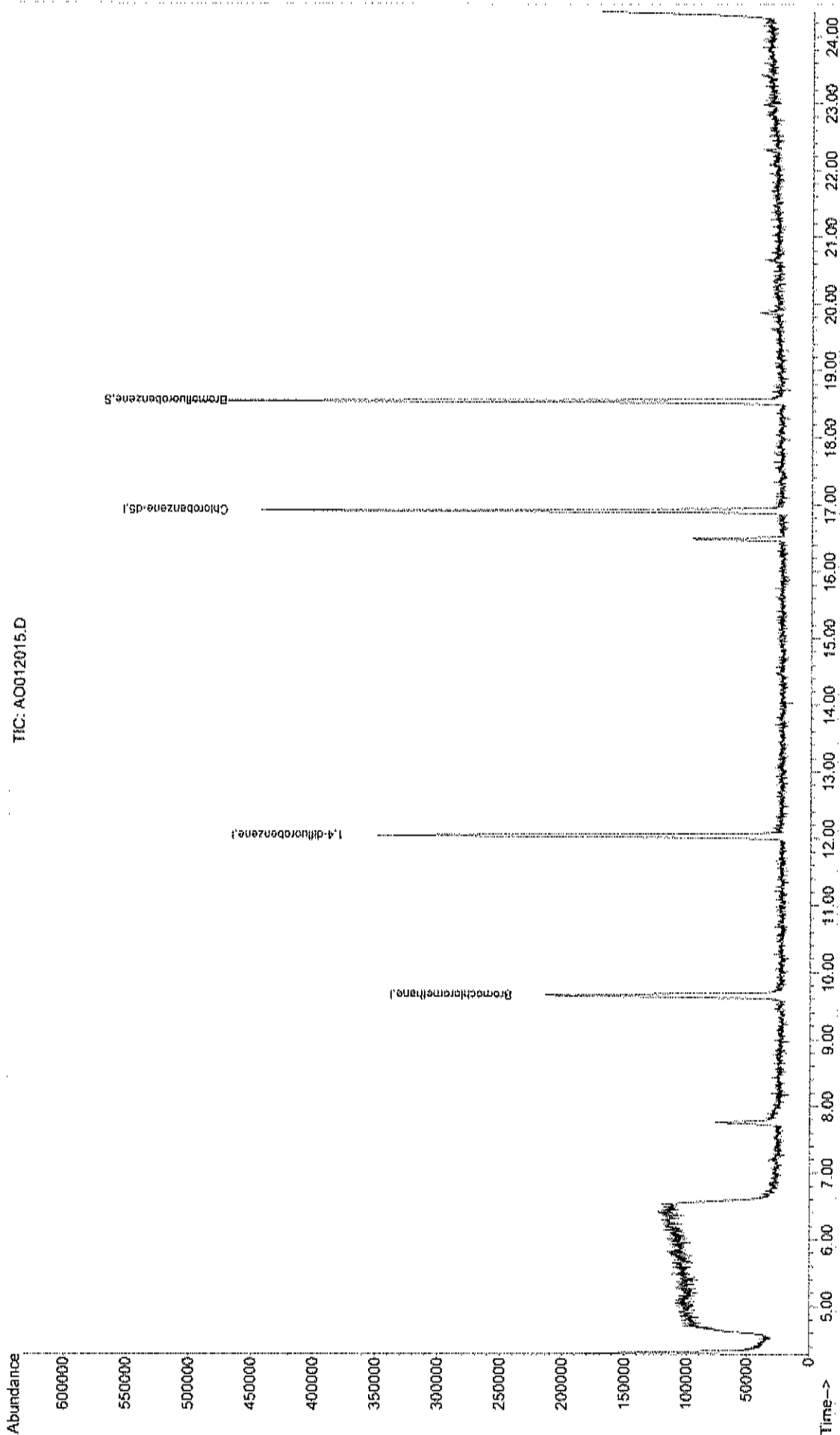
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A0012015.D
Acq On : 20 Jan 2017 6:09 pm
Sample : AMB1UG-012017
Misc : A120 LUG
MS Integration Params: RTEINT.P
Quant Time: Jan 21 9:50 2017

Vial: 15
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_LUG.RES

Method : C:\HPCHEM\1\METHODS\A120_LUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration



TIC: A0012015.D



Date: 08-Feb-17

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1701027
Project: Former Emerson St Landfill
TestCode: 0.25CT-TCE-VC

Sample ID	C1701027-005A MS	MS	MS	Units: ppbV	Prep Date:	RunNo: 11891					
Client ID:	1769-IAQ-2	Batch ID: R11891	TestCode: 0.25CT-TCE-	Units: ppbV	Analysis Date: 1/20/2017	SeqNo: 139058					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8400	0.15	1	0	84.0	70	130				
1,1,2-Trichloroethane	0.8500	0.15	1	0	85.0	70	130				
1,1-Dichloroethane	0.8500	0.15	1	0	85.0	70	130				
1,1-Dichloroethene	0.9000	0.15	1	0	90.0	70	130				
Chloroethane	0.8900	0.15	1	0	89.0	70	130				
Chloromethane	1.180	0.15	1	0.5	68.0	70	130				S
cis-1,2-Dichloroethene	0.9100	0.15	1	0	91.0	70	130				
Tetrachloroethylene	0.9300	0.15	1	0	93.0	70	130				
trans-1,2-Dichloroethene	0.8600	0.15	1	0	86.0	70	130				
Trichloroethene	0.9000	0.040	1	0	90.0	70	130				
Vinyl chloride	0.8600	0.040	1	0	86.0	70	130				
Surr: Bromofluorobenzene	1.040	0	1	0	104	70	130				

Sample ID	C1701027-005A MS	MSD	MSD	Units: ppbV	Prep Date:	RunNo: 11891					
Client ID:	1769-IAQ-2	Batch ID: R11891	TestCode: 0.25CT-TCE-	Units: ppbV	Analysis Date: 1/20/2017	SeqNo: 139059					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8700	0.15	1	0	87.0	70	130	0.84	3.51	30	
1,1,2-Trichloroethane	0.8500	0.15	1	0	85.0	70	130	0.85	0	30	
1,1-Dichloroethane	0.8900	0.15	1	0	89.0	70	130	0.85	4.60	30	
1,1-Dichloroethene	0.8800	0.15	1	0	88.0	70	130	0.9	2.25	30	
Chloroethane	0.8700	0.15	1	0	87.0	70	130	0.89	2.27	30	
Chloromethane	1.230	0.15	1	0.5	73.0	70	130	1.18	4.15	30	
cis-1,2-Dichloroethene	0.9200	0.15	1	0	92.0	70	130	0.91	1.09	30	

Qualifiers:
 J Results reported are not blank corrected
 S Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits
 E Estimated Value above quantitation range
 ND Not Detected at the Limit of Detection
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

CLIENT: LaBella Associates, P.C.
 Work Order: C1701027
 Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	C1701027-005A MS	SampType: MSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 11891				
Client ID:	1769-IAQ-2	Batch ID: R11891	TestNo: TO-15		Analysis Date: 1/20/2017	SeqNo: 139059				
Analyte	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethylene	0.15	1	0	96.0	70	130	0.93	3.17	30	
trans-1,2-Dichloroethene	0.15	1	0	89.0	70	130	0.86	3.43	30	
Trichloroethene	0.040	1	0	93.0	70	130	0.9	3.28	30	
Vinyl chloride	0.040	1	0	87.0	70	130	0.86	1.16	30	
Surr: Bromofluorobenzene	0	1	0	108	70	130	0	0	30	

Qualifiers: J Results reported are not blank corrected
 S Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits
 E Estimated Value above quantitation range
 MD Not Detected at the Limit of Detection
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

Data File : C:\HPCHEM\1\DATA\AO012017.D
 Acq On : 20 Jan 2017 7:36 pm
 Sample : C1701027-005A MS
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:06 2017

Vial: 21
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	9.65	128	93302	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.03	114	402813	1.00	ppb	0.01
50) Chlorobenzene-d5	16.91	117	342867	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	227257	1.04	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	104.00%

Target Compounds

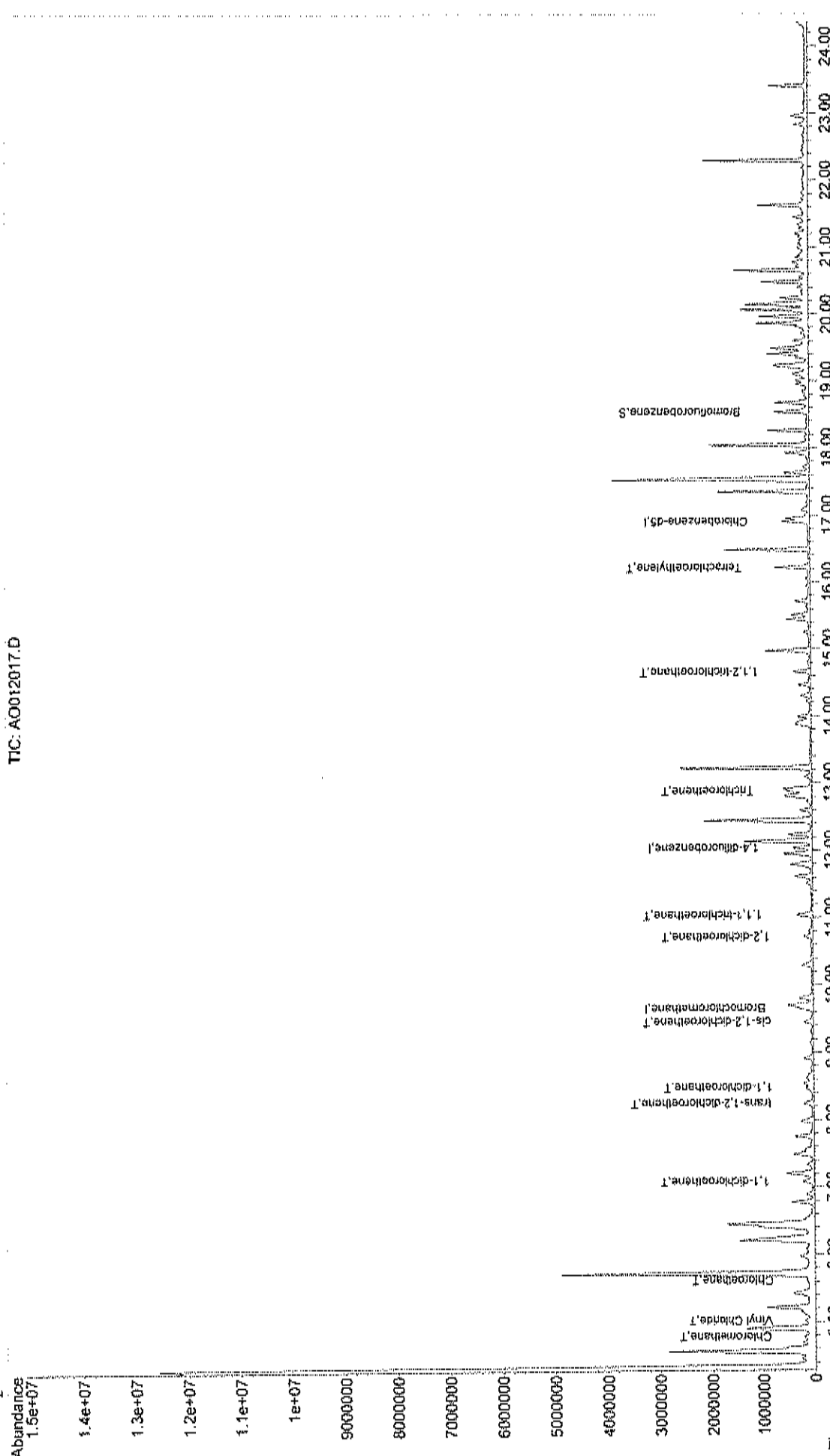
	R.T.	QIon	Response	Conc	Units	Qvalue
4) Chloromethane	4.79	50	112638m	1.18	ppb	
6) Vinyl Chloride	5.02	62	118203	0.86	ppb	92
10) Chloroethane	5.62	64	51595	0.89	ppb	# 80
18) 1,1-dichloroethene	7.08	96	91131	0.90	ppb	95
24) trans-1,2-dichloroethene	8.24	61	131516	0.86	ppb	95
26) 1,1-dichloroethane	8.48	63	166096m	0.85	ppb	
29) cis-1,2-dichloroethene	9.46	61	128965	0.91	ppb	99
34) 1,2-dichloroethane	10.72	62	161826	0.85	ppb	94
36) 1,1,1-trichloroethane	11.04	97	265179	0.84	ppb	98
44) Trichloroethene	12.88	130	163809	0.90	ppb	97
49) 1,1,2-trichloroethane	14.66	97	132138m	0.85	ppb	
56) Tetrachloroethylene	16.22	164	177582	0.93	ppb	95

Data File : C:\HPCHEM\1\DATA\A0012017.D
Acq On : 20 Jan 2017 7:36 pm
Sample : C1701027-005A MS
Misc : A120_1UG
MS Integration Params: RTEINT.P
Quant Time: Feb 8 8:17 2017

Vial: 21
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A120_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

TIC: A0012017.D



Data File : C:\HPCHEM\1\DATA\AO012018.D
 Acq On : 20 Jan 2017 8:22 pm
 Sample : C1701027-005A MSD
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:07 2017

Vial: 21
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.66	128	93063	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.03	114	398669	1.00	ppb	0.01
50) Chlorobenzene-d5	16.90	117	334355	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	230695	1.08	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	108.00%

Target Compounds

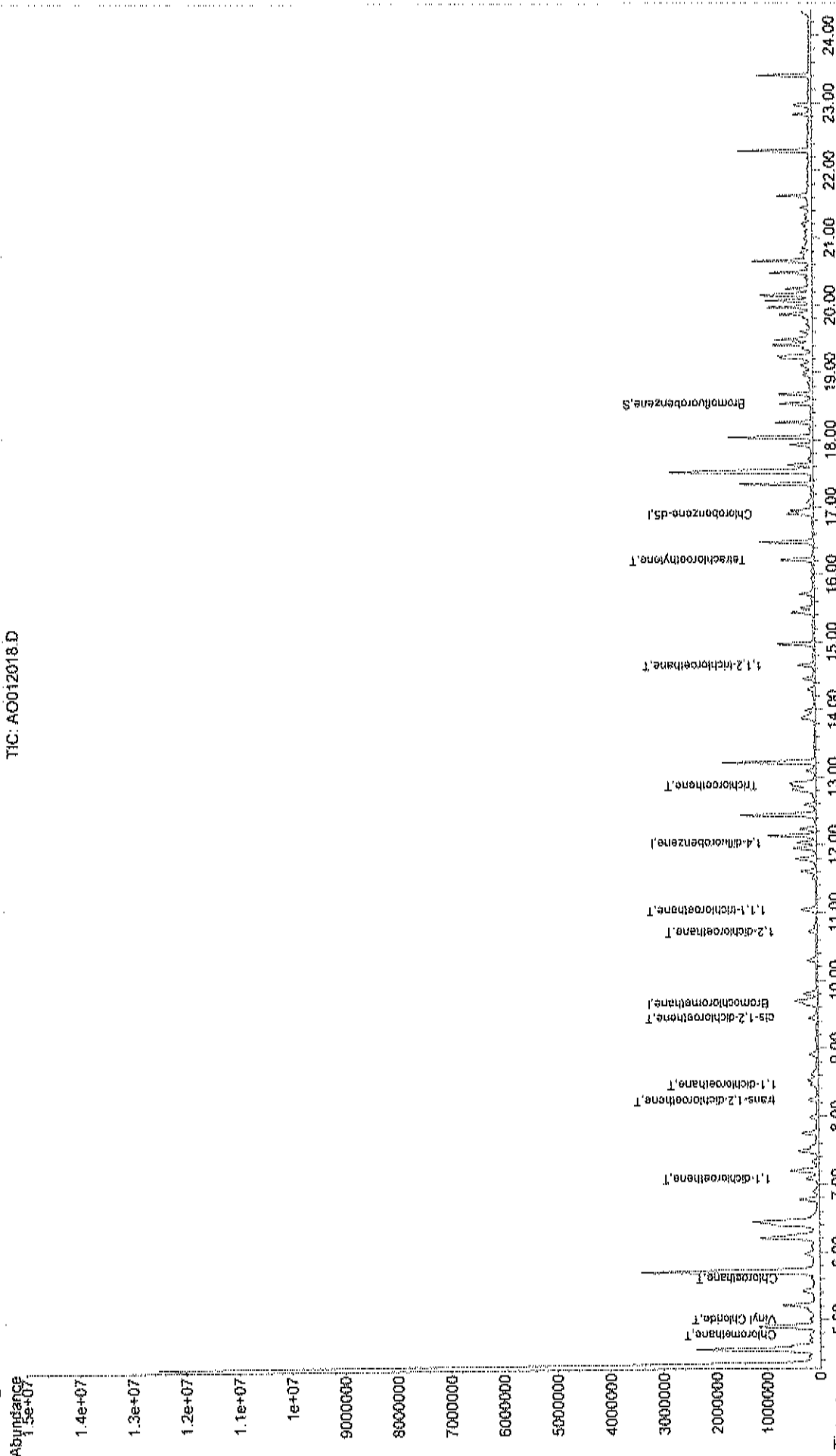
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
4) Chloromethane	4.79	50	116585m ^f	1.23	ppb	
6) Vinyl Chloride	5.01	62	118856	0.87	ppb	88
10) Chloroethane	5.61	64	50445	0.87	ppb	# 82
18) 1,1-dichloroethene	7.08	96	88834	0.88	ppb	97
24) trans-1,2-dichloroethene	8.25	61	134911	0.89	ppb	95
26) 1,1-dichloroethane	8.48	63	172216m ^f	0.89	ppb	
29) cis-1,2-dichloroethene	9.45	61	130044	0.92	ppb	97
34) 1,2-dichloroethane	10.72	62	164700	0.87	ppb	94
36) 1,1,1-trichloroethane	11.04	97	272817	0.87	ppb	96
44) Trichloroethene	12.88	130	166011	0.93	ppb	95
49) 1,1,2-trichloroethane	14.66	97	128968m ^f	0.84	ppb	
56) Tetrachloroethylene	16.22	164	178644	0.96	ppb	99

Data File : C:\HPCHEM\1\DATA\AO012018.D
Acq On : 20 Jan 2017 8:22 pm
Sample : C1701027-005A MSD
Misc : A120_1UG
MS Integration Params: RTEINT.P
Quant Time: Feb 8 8:17 2017

Vial: 21
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A120_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : 70-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

TIC: AO012018.D





Date: 30-Jan-17

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1701027
Project: Former Emerson St Landfill
TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-012017	SampType:	LCS	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	11891	
Client ID:	ZZZZ	Batch ID:	R11891	TestNo:	TO-15	Analysis Date:	1/20/2017	SeqNo:	139038		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8900	0.15	1	0	89.0	70	130				
1,1,2-Trichloroethane	0.9200	0.15	1	0	92.0	70	130				
1,1-Dichloroethane	0.8900	0.15	1	0	89.0	70	130				
1,1-Dichloroethene	0.8800	0.15	1	0	88.0	70	130				
Chloroethane	0.9100	0.15	1	0	91.0	70	130				
Chloromethane	0.9000	0.15	1	0	90.0	70	130				
cis-1,2-Dichloroethene	0.9100	0.15	1	0	91.0	70	130				
Tetrachloroethylene	0.9100	0.15	1	0	91.0	70	130				
trans-1,2-Dichloroethene	0.8700	0.15	1	0	87.0	70	130				
Trichloroethene	0.9000	0.040	1	0	90.0	70	130				
Vinyl chloride	0.8800	0.040	1	0	88.0	70	130				

Sample ID	ALCS1UGD-012017	SampType:	LCSD	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	11891	
Client ID:	ZZZZ	Batch ID:	R11891	TestNo:	TO-15	Analysis Date:	1/21/2017	SeqNo:	139039		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8800	0.15	1	0	88.0	70	130	0.89	1.13	30	
1,1,2-Trichloroethane	0.8900	0.15	1	0	89.0	70	130	0.92	3.31	30	
1,1-Dichloroethane	0.9100	0.15	1	0	91.0	70	130	0.89	2.22	30	
1,1-Dichloroethene	0.9500	0.15	1	0	95.0	70	130	0.88	7.65	30	
Chloroethane	0.9800	0.15	1	0	98.0	70	130	0.91	7.41	30	
Chloromethane	0.9100	0.15	1	0	91.0	70	130	0.9	1.10	30	
cis-1,2-Dichloroethene	0.9200	0.15	1	0	92.0	70	130	0.91	1.09	30	
Tetrachloroethylene	0.9500	0.15	1	0	95.0	70	130	0.91	4.30	30	

Qualifiers: J Results reported are not blank corrected
 S Analyte detected below quantitation limit
 E Spike Recovery outside accepted recovery limits
 ND Estimated Value above quantitation range
 Not Detected at the Limit of Detection
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

CLIENT: LaBella Associates, P.C.
Work Order: C1701027
Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID: ALC51UGD-012017 SampType: LCSD TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 11891
 Client ID: ZZZZ Batch ID: R11891 TestNo: TO-15 Analysis Date: 1/21/2017 SeqNo: 139039

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Quat
trans-1,2-Dichloroethene	0.9100	0.15	1	0	91.0	70	130	0.87	4.49	30	
Trichloroethene	0.8900	0.040	1	0	89.0	70	130	0.9	1.12	30	
Vinyl chloride	0.8900	0.040	1	0	89.0	70	130	0.88	1.13	30	

Qualifiers:

- J Results reported are not blank corrected
- S Analyte detected below quantitation limit
- S Spike Recovery outside accepted recovery limits
- E Estimated Value above quantitation range
- ND Not Detected at the Limit of Detection
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

Data File : C:\HPCHEM\1\DATA\AO012014.D
 Acq On : 20 Jan 2017 5:31 pm
 Sample : ALCS1UG-012017
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:03 2017

Vial: 14
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.66	128	88460	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.03	114	381338	1.00	ppb	0.01
50) Chlorobenzene-d5	16.90	117	326151	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	210519	1.01	ppb	0.01
Spiked Amount	1.000	Range	70 - 130	Recovery	=	101.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.54	41	76540	0.89	ppb	92
3) Freon 12	4.62	85	513454	0.92	ppb	97
4) Chloromethane	4.78	50	81603m	0.90	ppb	
5) Freon 114	4.89	85	456754	0.91	ppb	85
6) Vinyl Chloride	5.02	62	113932	0.88	ppb	92
7) Butane	5.21	43	116545	0.84	ppb	89
8) 1,3-butadiene	5.16	39	103985	1.19	ppb	80
9) Bromomethane	5.44	94	178039	0.96	ppb	93
10) Chloroethane	5.62	64	50431	0.91	ppb	# 70
11) Ethanol	5.71	45	28991	0.72	ppb	# 78
12) Acrolein	6.07	56	37083	0.85	ppb	90
13) Vinyl Bromide	5.97	106	189079	0.98	ppb	95
14) Freon 11	6.40	101	650584	0.95	ppb	100
15) Acetone	6.22	58	42730	0.86	ppb	# 74
16) Pentane	6.77	42	75276	0.90	ppb	# 48
17) Isopropyl alcohol	6.46	45	128386	0.76	ppb	# 100
18) 1,1-dichloroethene	7.08	96	85091	0.88	ppb	98
19) Freon 113	7.49	101	210122	0.89	ppb	98
20) t-Butyl alcohol	7.10	59	133760m	0.67	ppb	
21) Methylene chloride	7.20	84	82288	0.87	ppb	88
22) Allyl chloride	7.34	41	88245	0.85	ppb	96
23) Carbon disulfide	7.54	76	249486	0.86	ppb	85
24) trans-1,2-dichloroethene	8.25	61	124994	0.87	ppb	94
25) methyl tert-butyl ether	8.54	73	227964	0.84	ppb	92
26) 1,1-dichloroethane	8.48	63	164162	0.89	ppb	96
27) Vinyl acetate	8.63	43	237227	1.01	ppb	95
28) Methyl Ethyl Ketone	8.91	72	34501	0.76	ppb	94
29) cis-1,2-dichloroethene	9.45	61	122372	0.91	ppb	97
30) Hexane	9.70	57	109900	0.89	ppb	92
31) Ethyl acetate	9.70	43	227832	0.83	ppb	97
32) Chloroform	9.80	83	244797	0.90	ppb	98
33) Tetrahydrofuran	10.32	42	73229	0.80	ppb	84
34) 1,2-dichloroethane	10.72	62	164035	0.91	ppb	94
36) 1,1,1-trichloroethane	11.04	97	266112	0.89	ppb	96
37) Cyclohexane	11.94	56	118752	0.91	ppb	95
38) Carbon tetrachloride	11.79	117	306272	0.87	ppb	96
39) Benzene	11.61	78	270917	0.90	ppb	92
40) Methyl methacrylate	13.10	41	100601	0.80	ppb	89
41) 1,4-dioxane	12.88	58	44353	0.77	ppb	# 52
42) 2,2,4-trimethylpentane	12.92	57	389757	0.91	ppb	92
43) Heptane	13.22	43	128124	0.89	ppb	92
44) Trichloroethene	12.88	130	155128	0.90	ppb	97
45) 1,2-dichloropropane	12.60	63	101176	0.90	ppb	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012014.D
 Acq On : 20 Jan 2017 5:31 pm
 Sample : ALCS1UG-012017
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:03 2017

Vial: 14
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.82	83	266864	0.88	ppb	97
47) cis-1,3-dichloropropene	13.87	75	167406	0.92	ppb	99
48) trans-1,3-dichloropropene	14.46	75	153424	0.90	ppb	96
49) 1,1,2-trichloroethane	14.66	97	135457	0.92	ppb	96
51) Toluene	14.98	92	192782	0.90	ppb #	84
52) Methyl Isobutyl Ketone	13.91	43	155559m	0.71	ppb	
53) Dibromochloromethane	15.44	129	300167	0.90	ppb	94
54) Methyl Butyl Ketone	15.26	43	145414m	0.70	ppb	
55) 1,2-dibromoethane	15.71	107	215233	0.89	ppb	95
56) Tetrachloroethylene	16.22	164	163944	0.91	ppb	97
57) Chlorobenzene	16.95	112	290210	0.90	ppb	99
58) Ethylbenzene	17.35	91	435975	0.87	ppb	98
59) m&p-xylene	17.54	91	774716	1.82	ppb	98
60) Nonane	18.26	43	196001	0.90	ppb	95
61) Styrene	17.93	104	237545	0.89	ppb	91
62) Bromoform	17.63	173	285021	0.89	ppb	97
63) o-xylene	18.05	91	365822	0.88	ppb	98
64) Cumene	18.68	105	493998	0.87	ppb	98
66) 1,1,2,2-tetrachloroethane	18.04	83	265573	0.86	ppb	94
67) Propylbenzene	19.24	120	133336	0.88	ppb #	1
68) 2-Chlorotoluene	19.22	126	120696	0.86	ppb #	1
69) 4-ethyltoluene	19.41	105	459727	0.87	ppb	99
70) 1,3,5-trimethylbenzene	19.49	105	402075	0.85	ppb	99
71) 1,2,4-trimethylbenzene	19.97	105	370356	0.84	ppb	93
72) 1,3-dichlorobenzene	20.16	146	266040m	0.86	ppb	
73) benzyl chloride	20.13	91	180786	0.78	ppb	95
74) 1,4-dichlorobenzene	20.24	146	243755m	0.88	ppb	
75) 1,2,3-trimethylbenzene	20.49	105	354375	0.82	ppb	91
76) 1,2-dichlorobenzene	20.66	146	249355	0.83	ppb	97
77) 1,2,4-trichlorobenzene	22.83	180	102078	0.73	ppb	96
78) Naphthalene	22.97	128	209341	0.60	ppb	93
79) Hexachloro-1,3-butadiene	23.41	225	234586	0.73	ppb	94

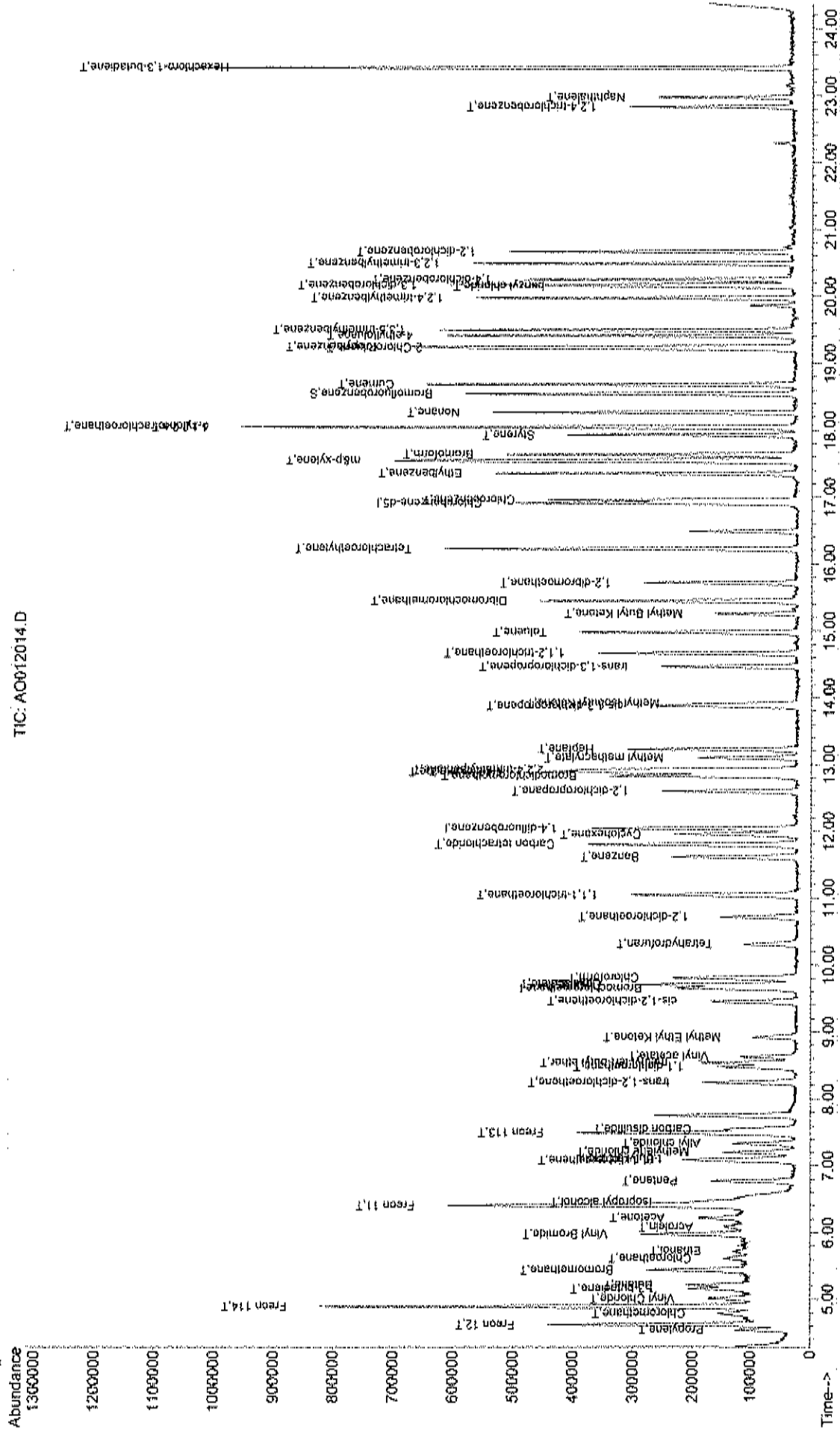
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AO012014.D
Acq On : 20 Jan 2017 5:31 pm
Sample : ALCS1UG-012017
Misc : AL20 1UG
MS Integration Params: RTEINT.F
Quant Time: Jan 23 10:38 2017

Vial: 14
Operator: RJP
Inst : MSD #1
Multipir: 1.00

Quant Results File: AL20_1UG.RES

Method : C:\HPCHEM\1\METHODS\AL20_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\AO012033.D
 Acq On : 21 Jan 2017 6:32 am
 Sample : ALCS1UGD-012017
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:22 2017

Vial: 44
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.65	128	90823	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.04	114	392706	1.00	ppb	0.02
50) Chlorobenzene-d5	16.91	117	325482	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	18.54	95	204294	0.99	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	99.00%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.55	41	80756	0.92	ppb	93
3) Freon 12	4.62	85	529074	0.92	ppb	98
4) Chloromethane	4.79	50	84348	0.91	ppb	97
5) Freon 114	4.89	85	478313	0.93	ppb	88
6) Vinyl Chloride	5.02	62	118567	0.89	ppb	87
7) Butane	5.21	43	124395	0.87	ppb	94
8) 1,3-butadiene	5.16	39	103260	1.15	ppb	85
9) Bromomethane	5.44	94	178430	0.94	ppb	93
10) Chloroethane	5.61	64	55626	0.98	ppb	# 87
11) Ethanol	5.72	45	31852	0.77	ppb	# 77
12) Acrolein	6.09	56	40162	0.89	ppb	80
13) Vinyl Bromide	5.97	106	193376	0.97	ppb	93
14) Freon 11	6.40	101	652205	0.93	ppb	100
15) Acetone	6.22	58	40975	0.80	ppb	# 81
16) Pentane	6.77	42	77166	0.89	ppb	# 42
17) Isopropyl alcohol	6.47	45	124297	0.72	ppb	# 100
18) 1,1-dichloroethene	7.08	96	93802	0.95	ppb	92
19) Freon 113	7.49	101	224058	0.93	ppb	98
20) t-Butyl alcohol	7.10	59	63911	0.31	ppb	96
21) Methylene chloride	7.20	84	91319	0.94	ppb	95
22) Allyl chloride	7.33	41	92132	0.87	ppb	95
23) Carbon disulfide	7.54	76	270966	0.91	ppb	82
24) trans-1,2-dichloroethene	8.24	61	135337	0.91	ppb	93
25) methyl tert-butyl ether	8.53	73	224754	0.80	ppb	93
26) 1,1-dichloroethane	8.47	63	172061	0.91	ppb	92
27) Vinyl acetate	8.63	43	227912	0.95	ppb	96
28) Methyl Ethyl Ketone	8.92	72	40509	0.87	ppb	# 1
29) cis-1,2-dichloroethene	9.45	61	127833	0.92	ppb	93
30) Hexane	9.71	57	119009	0.93	ppb	95
31) Ethyl acetate	9.70	43	242086	0.85	ppb	97
32) Chloroform	9.80	83	248363	0.89	ppb	97
33) Tetrahydrofuran	10.31	42	75070	0.80	ppb	80
34) 1,2-dichloroethane	10.73	62	162288	0.88	ppb	97
36) 1,1,1-trichloroethane	11.04	97	270917	0.88	ppb	97
37) Cyclohexane	11.95	56	133782	1.00	ppb	94
38) Carbon tetrachloride	11.80	117	320033	0.88	ppb	98
39) Benzene	11.60	78	291133	0.94	ppb	95
40) Methyl methacrylate	13.09	41	104476	0.80	ppb	91
41) 1,4-dioxane	12.91	58	37200m #	0.62	ppb	
42) 2,2,4-trimethylpentane	12.92	57	404543	0.91	ppb	92
43) Heptane	13.22	43	133608	0.90	ppb	88
44) Trichloroethene	12.88	130	157862	0.89	ppb	94
45) 1,2-dichloropropane	12.60	63	103608	0.89	ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AO012033.D
 Acq On : 21 Jan 2017 6:32 am
 Sample : ALCS1UGD-012017
 Misc : A120_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Jan 21 09:50:22 2017

Vial: 44
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A120_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri Jan 20 17:18:51 2017
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.82	83	289102	0.92	ppb	99
47) cis-1,3-dichloropropene	13.87	75	169987	0.91	ppb	95
48) trans-1,3-dichloropropene	14.46	75	152796	0.87	ppb	94
49) 1,1,2-trichloroethane	14.66	97	135027	0.89	ppb	98
51) Toluene	14.98	92	197938	0.92	ppb	# 79
52) Methyl Isobutyl Ketone	13.90	43	45691	0.21	ppb	99
53) Dibromochloromethane	15.44	129	314403	0.94	ppb	94
54) Methyl Butyl Ketone	15.25	43	43121m	0.21	ppb	
55) 1,2-dibromoethane	15.71	107	223110	0.93	ppb	96
56) Tetrachloroethylene	16.22	164	172574	0.95	ppb	96
57) Chlorobenzene	16.95	112	304635	0.94	ppb	98
58) Ethylbenzene	17.35	91	449982	0.90	ppb	98
59) m&p-xylene	17.53	91	776455	1.83	ppb	100
60) Nonane	18.26	43	192916	0.88	ppb	99
61) Styrene	17.92	104	240618	0.91	ppb	88
62) Bromoform	17.63	173	289715	0.90	ppb	97
63) o-xylene	18.04	91	361831	0.87	ppb	97
64) Cumene	18.68	105	469496	0.83	ppb	98
66) 1,1,2,2-tetrachloroethane	18.03	83	266105	0.86	ppb	96
67) Propylbenzene	19.24	120	127374	0.84	ppb	# 1
68) 2-Chlorotoluene	19.21	126	120439	0.86	ppb	# 1
69) 4-ethyltoluene	19.41	105	424988	0.81	ppb	99
70) 1,3,5-trimethylbenzene	19.49	105	385582	0.81	ppb	96
71) 1,2,4-trimethylbenzene	19.97	105	353506	0.80	ppb	92
72) 1,3-dichlorobenzene	20.16	146	255939m	0.83	ppb	
73) benzyl chloride	20.13	91	170589	0.74	ppb	90
74) 1,4-dichlorobenzene	20.24	146	248566m	0.89	ppb	
75) 1,2,3-trimethylbenzene	20.48	105	353380	0.81	ppb	93
76) 1,2-dichlorobenzene	20.66	146	246001	0.82	ppb	96
77) 1,2,4-trichlorobenzene	22.83	180	112884	0.81	ppb	96
78) Naphthalene	22.98	128	97690	0.28	ppb	95
79) Hexachloro-1,3-butadiene	23.41	225	242080	0.76	ppb	92

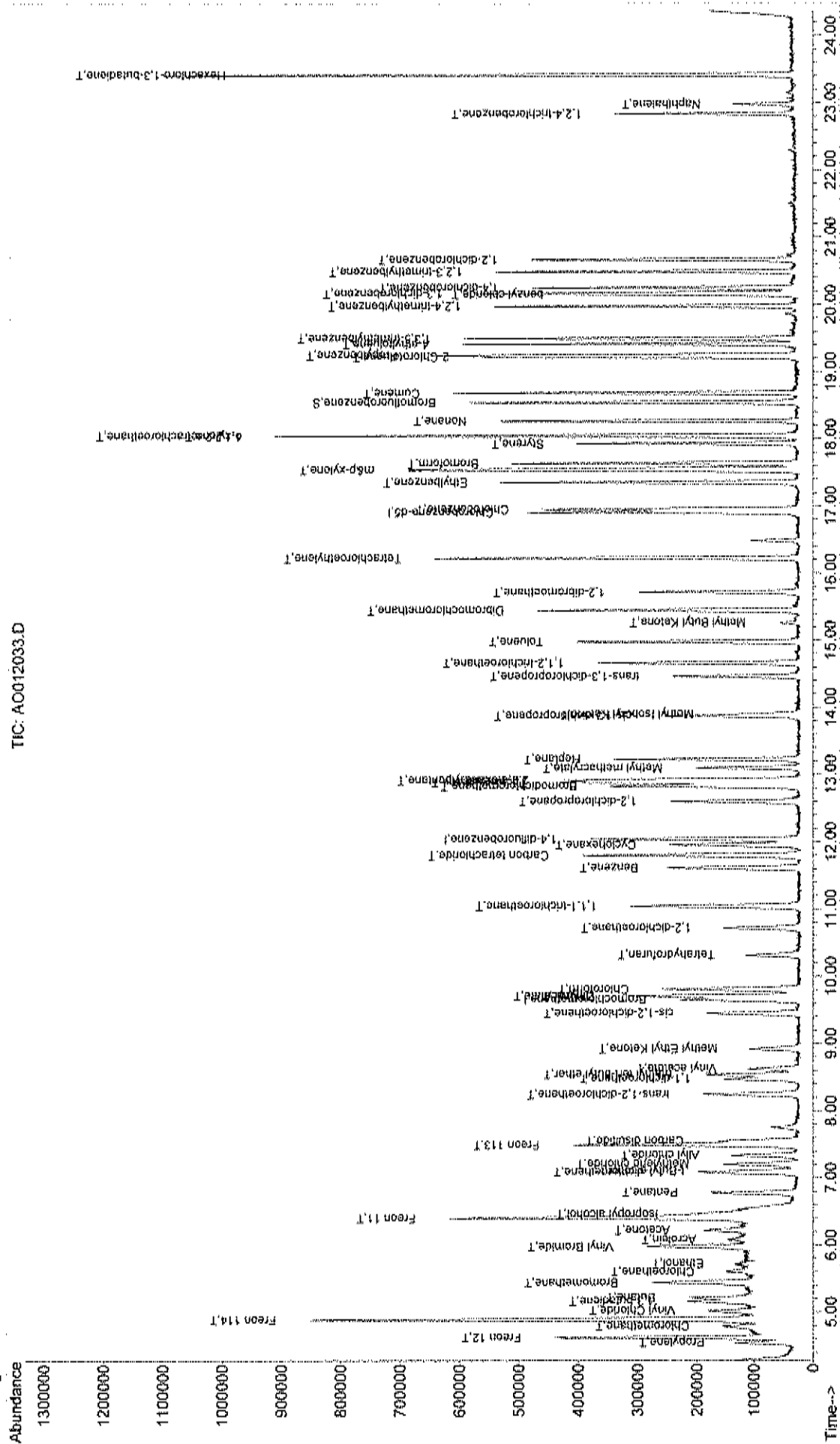
Data File : C:\HPCHEM\1\DATA\A0012033.D
Acq On : 21 Jan 2017 6:32 am
Sample : ALCSIUGD-012017
Misc : AL20_IUG
MS Integration Params: RTEINT.P
Quant Time: Jan 23 11:11 2017

Vial: 44
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A120_IUG.RES

Method : C:\HPCHEM\1\METHODS\A120_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

TIC: A0012033.D



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INJECTION LOG

Injection Log

Directory: C:\HPCHEM\1\DATA2

Injection # 1
 Internal Standard Stock # A1842
 Standard Stock # 1843
 ISTD Stock # 1844

File	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
6	19	Ao011720.d	1.	A1UG_0.15	A117_1UG	18 Jan 2017 07:55
7	20	Ao011721.d	1.	A1UG_0.10	A117_1UG	18 Jan 2017 08:40
8	21	Ao011722.d	1.	A1UG_0.04	A117_1UG	18 Jan 2017 09:17
9	1	Ao011723.d	1.	AMB1UG-011717	A117_1UG	18 Jan 2017 12:13
0	2	Ao011724.d	1.	WAC011717A	A117_1UG	18 Jan 2017 13:10
1	3	Ao011725.d	1.	WAC011717B	A117_1UG	18 Jan 2017 13:48
2	4	Ao011726.d	1.	WAC011717C	A117_1UG	18 Jan 2017 14:26
3	5	Ao011727.d	1.	WAC011717D	A117_1UG	18 Jan 2017 15:04
4	6	Ao011728.d	1.	C1701029-001A	A117_1UG	18 Jan 2017 15:45
5	7	Ao011729.d	1.	C1701029-002A	A117_1UG	18 Jan 2017 16:25
6	8	Ao011730.d	1.	C1701029-001A 10X	A117_1UG	18 Jan 2017 17:02
7	9	Ao011731.d	1.	C1701029-002A 10X	A117_1UG	18 Jan 2017 17:40
8	10	Ao011732.d	1.	WAC011717E N	A117_1UG	18 Jan 2017 18:17
9	11	Ao011733.d	1.		A117_1UG	18 Jan 2017 18:55
0	12	Ao011801.d	1.	BFB1UG	A117_1UG	18 Jan 2017 19:32
1	13	Ao011802.d	1.	A1UG	A117_1UG	18 Jan 2017 20:11
2	14	Ao011803.d	1.	A1UG	A117_1UG	18 Jan 2017 21:02
3	15	Ao011804.d	1.	AMB1UG	A117_1UG	18 Jan 2017 22:12
4	1	Ao011805.d	1.	IDL#	A117_1UG	18 Jan 2017 22:49
5	2	Ao011806.d	1.	IDL#	A117_1UG	18 Jan 2017 23:25
6	3	Ao011807.d	1.	IDL#	A117_1UG	19 Jan 2017 00:02
7	4	Ao011808.d	1.	IDL#	A117_1UG	19 Jan 2017 00:38
8	5	Ao011809.d	1.	IDL#	A117_1UG	19 Jan 2017 01:15
9	6	Ao011810.d	1.	IDL#	A117_1UG	19 Jan 2017 01:51
0	7	Ao011811.d	1.	IDL#	A117_1UG	19 Jan 2017 02:28
1	8	Ao011812.d	1.	IDL#	A117_1UG	19 Jan 2017 03:05
2	9	Ao011813.d	1.	IDL#	A117_1UG	19 Jan 2017 03:41
3	1	Ao011814.d	1.	IDL #	A117_1UG	19 Jan 2017 04:18
4	2	Ao011815.d	1.	IDL #	A117_1UG	19 Jan 2017 04:55
5	3	Ao011816.d	1.	IDL #	A117_1UG	19 Jan 2017 05:32
6	4	Ao011817.d	1.	IDL #	A117_1UG	19 Jan 2017 06:10
7	5	Ao011818.d	1.	IDL #	A117_1UG	19 Jan 2017 06:47
8	6	Ao011819.d	1.	IDL #	A117_1UG	19 Jan 2017 07:24
9	7	Ao011820.d	1.	IDL #	A117_1UG	19 Jan 2017 08:01
0	8	Ao011821.d	1.	IDL #	A117_1UG	19 Jan 2017 08:39
1		Ao011822.d	1.	No MS or GC data present		
2	1	Ao011901.d	1.	BFB1UG	A117_1UG	19 Jan 2017 10:21
3	2	Ao011902.d	1.	A1UG	A117_1UG	19 Jan 2017 11:06
4	3	Ao011903.d	1.	A1UG_1.0	A117_1UG	19 Jan 2017 11:46
5	4	Ao011904.d	1.	ALCS1UG-011917	A117_1UG	19 Jan 2017 12:26
6	5	Ao011905.d	1.	AMB1UG-011917	A117_1UG	19 Jan 2017 13:03
7	6	Ao011906.d	1.	WAC011917A	A117_1UG	19 Jan 2017 13:40
8	7	Ao011907.d	1.	WAC011917B	A117_1UG	19 Jan 2017 14:18
9	8	Ao011908.d	1.	WAC011917C	A117_1UG	19 Jan 2017 15:08
0	9	Ao011909.d	1.	WAC011917D	A117_1UG	19 Jan 2017 15:46
1	10	Ao011910.d	1.	WAC011917E	A117_1UG	19 Jan 2017 16:23
2	11	Ao011911.d	1.	WAC011917F	A117_1UG	19 Jan 2017 17:01
3	12	Ao011912.d	1.	WAC011917G	A117_1UG	19 Jan 2017 17:38
4	13	Ao011913.d	1.	C1701034-001A 2X	A117_1UG	19 Jan 2017 18:16
5	14	Ao011914.d	1.	C1701034-002A 2X	A117_1UG	19 Jan 2017 18:55
6	15	Ao011915.d	1.	WAC011917H n	A117_1UG	19 Jan 2017 22:11
7	16	Ao011916.d	1.		A117_1UG	19 Jan 2017 22:50
8	1	Ao012001.d	1.	BFB1UG	A117_1UG	20 Jan 2017 07:30
9	2	Ao012002.d	1.	A1UG	A117_1UG	20 Jan 2017 08:32
0	3	Ao012003.d	1.	A1UG	A117_1UG	20 Jan 2017 09:46

Injection Log

Instrument # 1
 Standard Stock # A1842
 Standard Stock # 1843
 LCS Stock # 1844
 Date of EPA TO-15 / Jan Injected

Directory: C:\HPCHEM\1\DATA2

e	Vial	FileName	Multiplier	SampleName	Misc Info	Date Injected
1	4	Ao012004.d	1.	A1UG_2.0	A120_1UG	20 Jan 2017 10:56
2	5	Ao012005.d	1.	A1UG_1.5	A120_1UG	20 Jan 2017 11:37
3	6	Ao012006.d	1.	A1UG_1.25	A120_1UG	20 Jan 2017 12:17
4	7	Ao012007.d	1.	A1UG_1.0	A120_1UG	20 Jan 2017 12:56
5	8	Ao012008.d	1.	A1UG_0.75	A120_1UG	20 Jan 2017 13:35
6	9	Ao012009.d	1.	A1UG_0.50	A120_1UG	20 Jan 2017 14:13
7	10	Ao012010.d	1.	A1UG_0.30	A120_1UG	20 Jan 2017 14:50
8	11	Ao012011.d	1.	A1UG_0.15	A120_1UG	20 Jan 2017 15:28
9	12	Ao012012.d	1.	A1UG_0.10	A120_1UG	20 Jan 2017 16:06
0	13	Ao012013.d	1.	A1UG_0.04	A120_1UG	20 Jan 2017 16:43
1	14	Ao012014.d	1.	ALCS1UG-012017	A120_1UG	20 Jan 2017 17:31
2	15	Ao012015.d	1.	AMB1UG-012017	A120_1UG	20 Jan 2017 18:09
3	21	Ao012016.d	1.	C1701027-005A	A120_1UG	20 Jan 2017 18:50
4	21	Ao012017.d	1.	C1701027-005A MS	A120_1UG	20 Jan 2017 19:36
5	21	Ao012018.d	1.	C1701027-005A MSD	A120_1UG	20 Jan 2017 20:22
6	22	Ao012019.d	1.	C1701027-002A	A120_1UG	20 Jan 2017 21:02
7	23	Ao012020.d	1.	C1701027-003A	A120_1UG	20 Jan 2017 21:42
8	24	Ao012021.d	1.	C1701027-007A	A120_1UG	20 Jan 2017 22:24
9	25	Ao012022.d	1.	C1701027-008A	A120_1UG	20 Jan 2017 23:05
0	26	Ao012023.d	1.	C1701027-001A	A120_1UG	20 Jan 2017 23:46
1	27	Ao012024.d	1.	C1701027-004A	A120_1UG	21 Jan 2017 00:28
2	28	Ao012025.d	1.	C1701027-006A	A120_1UG	21 Jan 2017 01:10
3	1	Ao012026.d	1.	C1701024-001A	A120_1UG	21 Jan 2017 01:50
4	2	Ao012027.d	1.	C1701024-002A	A120_1UG	21 Jan 2017 02:30
5	3	Ao012028.d	1.	C1701024-003A	A120_1UG	21 Jan 2017 03:09
6	4	Ao012029.d	1.	C1701026-001A	A120_1UG	21 Jan 2017 03:51
7	5	Ao012030.d	1.	C1701026-002A	A120_1UG	21 Jan 2017 04:32
8	6	Ao012031.d	1.	C1701026-003A	A120_1UG	21 Jan 2017 05:13
9	43	Ao012032.d	1.	ALCS1UGD	A120_1UG	21 Jan 2017 05:52
0	44	Ao012033.d	1.	ALCS1UGD-012017	A120_1UG	21 Jan 2017 06:32
1	45	Ao012034.d	1.	C1701034-001A 10X	A120_1UG	21 Jan 2017 07:09
2	46	Ao012035.d	1.	C1701034-001A 20X	A120_1UG	21 Jan 2017 07:47
3	46	Ao012036.d	1.	C1701034-002A 10X	A120_1UG	21 Jan 2017 08:24
4	47	Ao012037.d	1.	C1701034-002A 20X	A120_1UG	21 Jan 2017 09:02
5		Ao012038.d	1.	No MS or GC data present		
6	1	Ao012101.d	1.	BFB1UG	A120_1UG	21 Jan 2017 10:14
7	2	Ao012102.d	1.	A1UG	A120_1UG	21 Jan 2017 10:53
8	3	Ao012103.d	1.	A1UG_1.0	A120_1UG	21 Jan 2017 11:57
9	1	Ao012104.d	1.	ALCS1UG-012117	A120_1UG	21 Jan 2017 13:28
0	2	Ao012105.d	1.	AMB1UG-012117	A120_1UG	21 Jan 2017 14:05
1	3	Ao012106.d	1.	C1701027-005A 10X	A120_1UG	21 Jan 2017 14:42
2	4	Ao012107.d	1.	C1701027-002A 10X	A120_1UG	21 Jan 2017 15:20
3	5	Ao012108.d	1.	C1701027-003A 10X	A120_1UG	21 Jan 2017 15:57
4	6	Ao012109.d	1.	C1701027-007A 10X	A120_1UG	21 Jan 2017 16:35
5	7	Ao012110.d	1.	C1701027-008A 10X	A120_1UG	21 Jan 2017 17:13
6	8	Ao012111.d	1.	C1701027-001A 10X	A120_1UG	21 Jan 2017 17:51
7	9	Ao012112.d	1.	C1701027-001A 20X	A120_1UG	21 Jan 2017 18:29
8	10	Ao012113.d	1.	C1701027-004A 10X	A120_1UG	21 Jan 2017 19:07
9	11	Ao012114.d	1.	C1701027-004A 40X	A120_1UG	21 Jan 2017 19:45
0	12	Ao012115.d	1.	C1701027-006A 10X	A120_1UG	21 Jan 2017 20:23
1	13	Ao012116.d	1.	C1701027-006A 20X	A120_1UG	21 Jan 2017 21:01
2	14	Ao012117.d	1.	C1701024-001A 10X	A120_1UG	21 Jan 2017 21:39
3	15	Ao012118.d	1.	C1701024	A120_1UG-001A 20X	21 Jan 2017 22:17
4	16	Ao012119.d	1.	C1701024-002A 10X	A120_1UG	21 Jan 2017 22:55
5	17	Ao012120.d	1.	C1701024	A120_1UG-003A 10X	21 Jan 2017 23:33

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd
A-1788	12/22/16	12/29/16	TO15 SILX	A1088 A1089	500ppb	3.0	30	50	ZZ	
A-1789			↓ SULF	A0270	1ppm	1.5	30	50		
A-1790			↓ H2S	A0269	10ppm	1.5	30	500		
A-1791			TO15 IUG IS	A1782	50ppb	0.9	45	1		
A-1792			↓ STD	A1783		↓	↓	↓		
A-1793			↓ LCS	A1784		↓	↓	↓		
A-1794	12/29/16	11/5/17	TO15 IS	A1289	1ppm	1.5	30	50	WD	
A1795			↓ STD	A1203		↓	↓	↓		
A-1796			↓ LCS	A1204		↓	↓	↓		
A-1797			↓ 4PCH	9519		↓	↓	↓		
A-1798			↓ 4PCHS	A1797	50ppb	3.0	30	5		
A-1799			↓ FORM	A0974	11.5ppm	0.20	45	50		
A-1800			↓ SILOX	A1088 A1089	500ppb	3.0	30	50		
A-1801			↓ SULF	A0270	1ppm	1.5	30	50		
A-1802			↓ H2S	A0269	10ppm	1.5	30	500		
A-1803			TO15 IUG IS	A1794	50ppb	0.9	45	1		
A-1804			↓ STD	A1795		↓	↓	↓		
A-1805			↓ LCS	A1796		↓	↓	↓		
A-1806	11/5/17	11/5/18	TO15 IS	FF-47206	LINDE		2000psig	1ppm	WD	
A-1807	11/5/17	11/5/18	STOCK TO15 IS	FF-45347	LINDE		2200psig	1ppm	WD	
A-1808	11/6/17	11/6/18	TO15 LCS	A1796	1ppm	1.5	30	50ppb	M	

FORM 153
A1203
A1203 STD IS NOW LCS

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd
A-1809	1/6/17	1/13/17	TO15 STD	A1807	1 ppm	1.5	30	50	MB	
A-1810			TO15 LCS	A1808						
A-1811			TO15 IS	A1806						
A-1812			4PCH	9519		3.0 1.5		50		
A-1813			4PCH5	A1797	50	3.0	30	5		
A-1814			FORM	A0974	11.5 ppm	0.20	45	50		
A-1815			SILOX	A1088/A1089	500 ppm	3.0	30			
A-1816			SULF	A0270	1 ppm	1.5				
A-1817			Has	A0269	10 ppm			500		
A-1818			TO15 1/2 IS	A1811	50 ppm	0.9	45			
A-1819			STD	A1809						
A-1820			LCS	A1810						
A-1821	1/16/17	1/23/17	TO15 IS	A1806	1 ppm	1.5	30	50	MB	
A-1822			STD	A1807						
A-1823			LCS	A1808						
A-1824			4PCH	9519						
A-1825			4PCH5	A1797	50 ppm	3.0		5		
A-1826			FORM	A0974	11.5 ppm	0.20	45	50		
A-1827			SILOX	A1088/A1089	50 ppm	3.0	30	50		
A-1828			SULF	A0270	1 ppm	1.5				
A-1829			Has	A0269	10 ppm					

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd
A-1830	1/16/17	1/23/17	TO15 1ug IS	A1821	50ppm	0.5	45	1ppb	M	
A-1831	↓	↓	↓ STD	A1822	↓	↓	↓	↓	↓	
A-1832	↓	↓	↓ LCS	A1823	↓	↓	↓	↓	↓	
A-1833	1/24/17	1/31/17	TO15 IS	A1896	1ppm	1.5	30	50	MP	
A-1834	↓	↓	↓ STD	A1807	↓	↓	↓	↓	↓	
A-1835	↓	↓	↓ LCS	A1808	↓	↓	↓	↓	↓	
A-1836	↓	↓	↓ HPCA	9519	↓	↓	↓	↓	↓	
A-1837	↓	↓	↓ HPCA	A1797	50ppb	3.0	↓	5	↓	
A-1838	↓	↓	↓ FORM	A0974	11.5ppm	0.20	45	50	↓	
A-1839	↓	↓	↓ S/LGX	A1005/A095	50ppb	3.0	30	↓	↓	
A-1840	↓	↓	↓ S/LG	A0270	1ppm	1.5	↓	↓	↓	
A-1841	↓	↓	↓ H2S	A0269	10ppm	↓	↓	↓	↓	
A-1842	↓	↓	↓ TO15 1ug IS	A1833	50ppb	0.5	45	1ppb	↓	
A-1843	↓	↓	↓ STD	A1834	↓	↓	↓	↓	↓	
A-1844	↓	↓	↓ LCS	A1835	↓	↓	↓	↓	↓	
A-										
A-										
A-										
A-										
A-										
A-										

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

Centek Laboratories, LLC

Instrument: Entech 3100

QC Canister Cleaning Logbook

Canister Number	Canister Size	QC Can Number	# of Cycles	Int. & Date Cleaned	QC Batch Number	Detection Limits	Leak Test 24hr/Int & Date
1202	14L	218	30	11/02/16 RSP	WAC110316A	1ug/m ³ +0.25	+ 30 11/02/16 RSP
1321		↓					+ 30
1206		↓					+ 30
209		↓					+ 30
218		↓					+ 30
1320		1207			WAC110316B		+ 30
1208		↓					+ 30
1200		↓					+ 30
484		↓					+ 30
1207		↓					+ 30
216		215			WAC110316C		+ 30
1323		↓					+ 30
210		↓					+ 30
487		↓					+ 30
215		↓					+ 30
1319		1203			WAC110316D		+ 30
485		↓					+ 30
483		↓					+ 30
1201		↓					+ 30
1203		↓					+ 30
171	LL	419			WAC110316E		+ 30
193		↓					+ 30
542		↓					+ 30
243		↓					+ 30
419		↓					+ 30

QC Canister Cleaning Logbook

Centek Laboratories, LLC

Instrument: Entech 3100

Canister Number	Canister Size	QC Can Number	# of Cycles	Int & Date Cleaned	QC Batch Number	Detection Limits	Leak Test 24hr Int & Date
138	1L	352	20	12/8/16	Wasc 20516 A	1 ug ± 0.25	+ 30
336							+ 30
541							+ 30
357							+ 30
352							+ 30
1176		85			B		+ 30
237							+ 30
236							+ 30
86							+ 30
85							+ 30
207		556			C		+ 30
322							+ 30
290							+ 30
314							+ 30
556							+ 30
247							+ 30
360		1186			D		+ 30
83							+ 30
320							+ 30
1186							+ 30
163		223			E		+ 30
133							+ 30
188							+ 30
350							+ 30
223							+ 30

Data File : C:\HPCHEM\1\DATA2\AN120905.D
 Acq On : 9 Dec 2016 12:26 pm
 Sample : WAC120916A
 Misc : AD05_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Dec 12 08:33:51 2016

Vial: 1
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: AD05_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Dec 06 09:13:37 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.40	120	40902	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.77	114	178673	1.00	ppb	-0.01
50) Chlorobenzene-d5	16.33	117	156768	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	17.91	95	105729	0.97	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	97.00%

Target Compounds

Qvalue

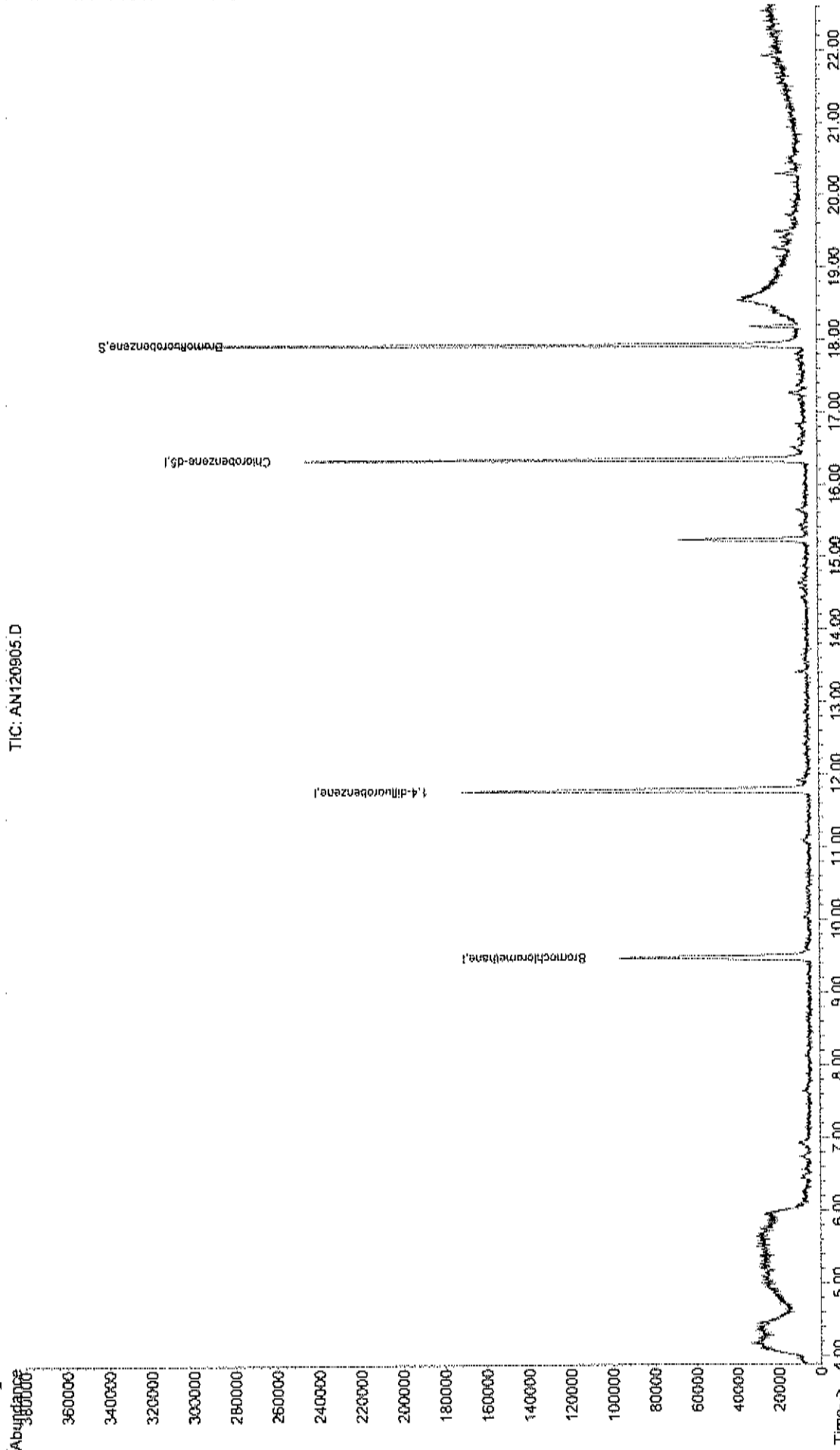
Data File : C:\HPCHEM\1\DATA2\AN120905.D
Acq On : 9 Dec 2016 12:26 pm
Sample : WAC120916A
Misc : AD05_LUG
MS Integration Params: RTEINT.P
Quant Time: Dec 12 11:05 2016

Vial: 1
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AD05_LUG.RES

Method : C:\HPCHEM\1\METHODS\A120_LUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

TIC: AN120905.D



Data File : C:\HPCHEM\1\DATA2\AN120906.D

Vial: 2

Acq On : 9 Dec 2016 1:03 pm

Operator: RJP

Sample : WAC120916B

Inst : MSD #1

Misc : AD05_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 12 08:33:52 2016

Quant Results File: AD05_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Dec 06 09:13:37 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.47	128	41889	1.00	ppb	-0.01
35) 1,4-difluorobenzene	11.78	114	176499	1.00	ppb	0.00
50) Chlorobenzene-d5	16.33	117	159140	1.00	ppb	0.00

System Monitoring Compounds

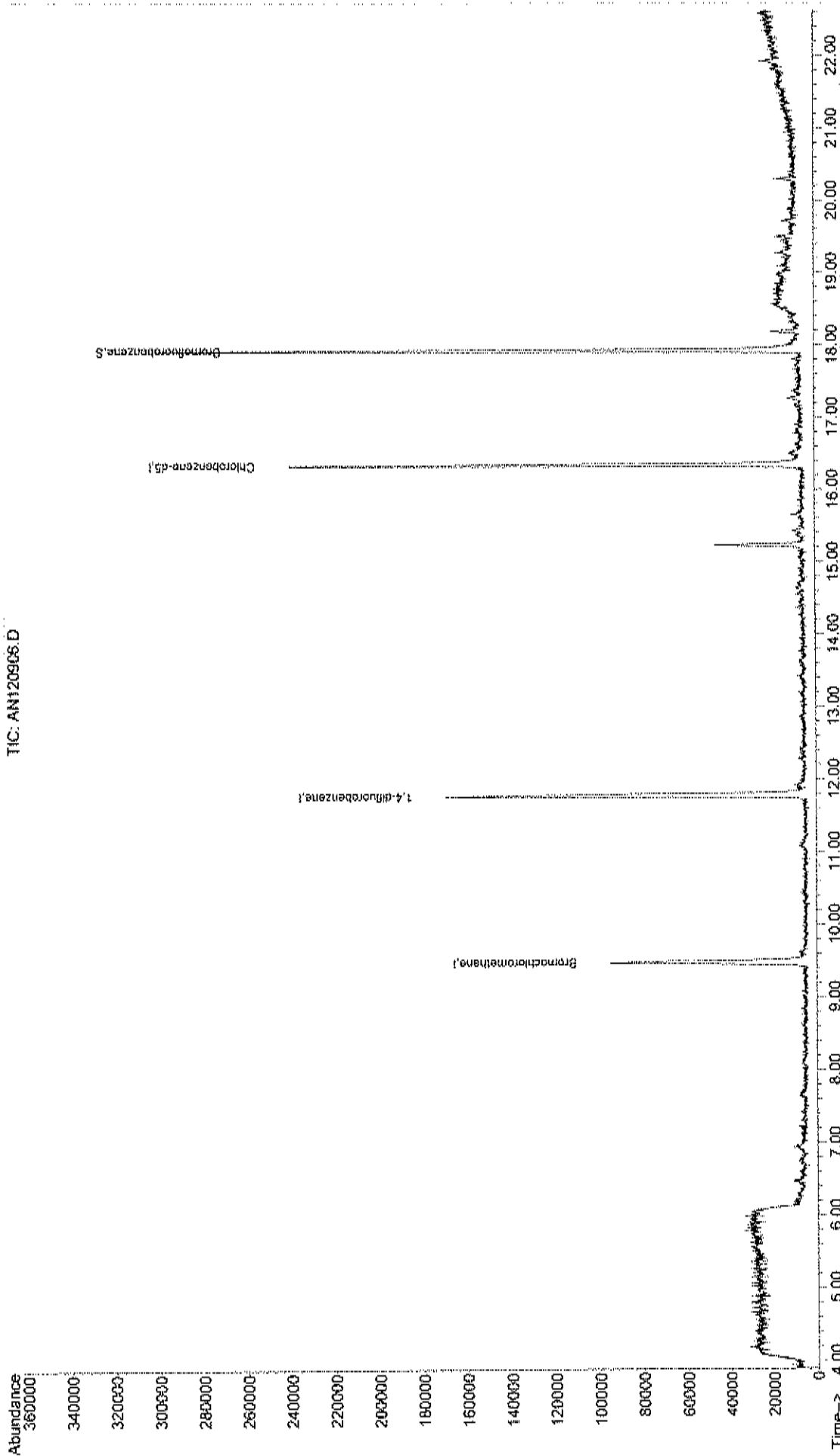
66) Bromofluorobenzene	17.92	95	102642	0.93	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	93.00%

Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA2\AN120906.D Vial: 2
Acq On : 9 Dec 2016 1:03 pm Operator: RJP
Sample : WAC120916B Inst : MSD #1
Misc : AD05_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 12 8:33 2016 Quant Results File: AD05_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration



TIC: AN120906.D

Data File : C:\HPCHEM\1\DATA2\AN120907.D

Vial: 3

Acq On : 9 Dec 2016 1:39 pm

Operator: RJP

Sample : WAC120916C

Inst : MSD #1

Misc : AD05_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 12 08:33:53 2016

Quant Results File: AD05_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Dec 06 09:13:37 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	40792	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.78	114	174899	1.00	ppb	0.00
50) Chlorobenzene-d5	16.33	117	157218	1.00	ppb	0.00

System Monitoring Compounds

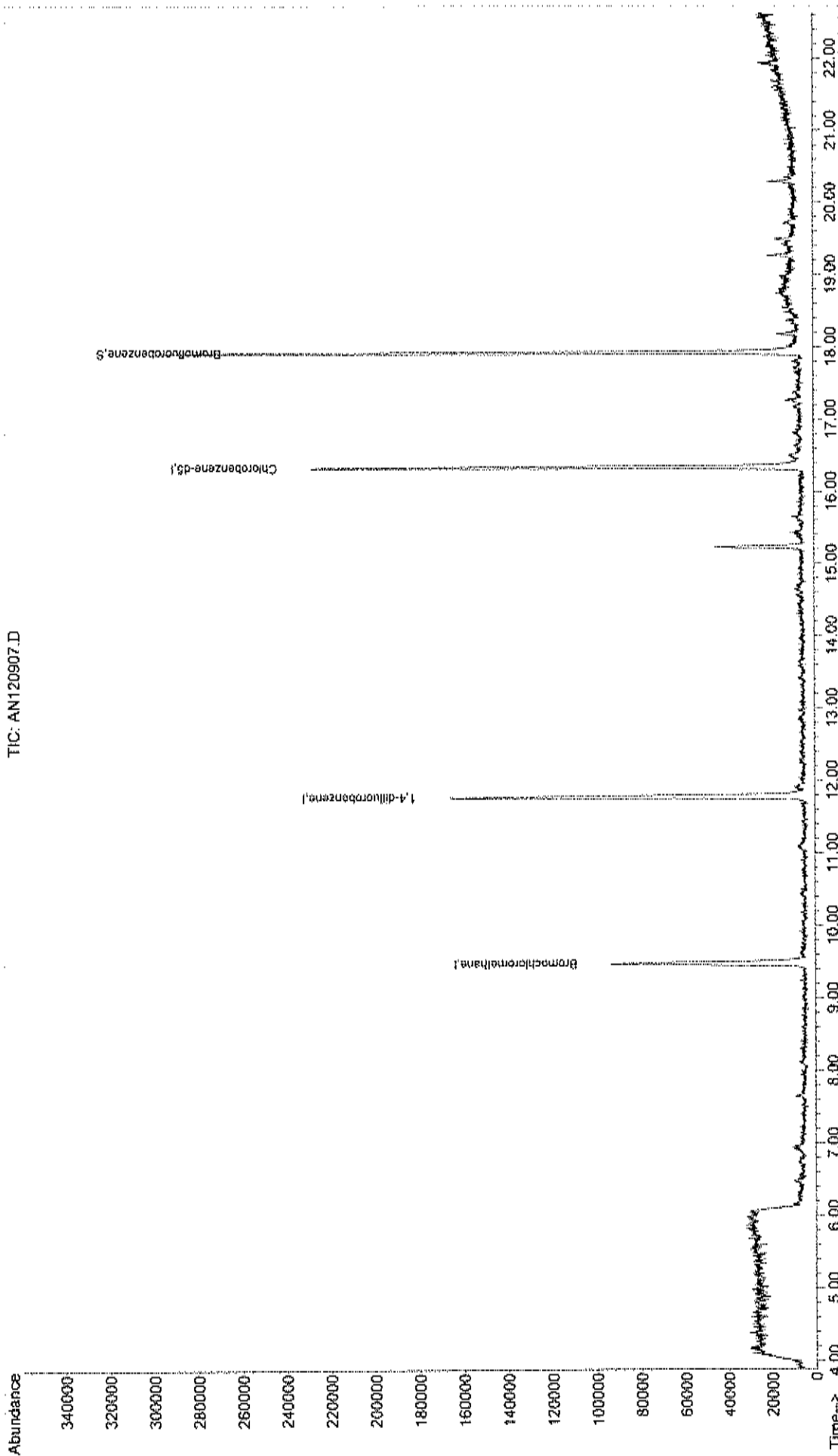
66) Bromofluorobenzene	17.92	95	101940	0.94	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	94.00%

Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA2\AN120907.D Vial: 3
Acq On : 9 Dec 2016 1:39 pm Operator: RJP
Sample : WAC120916C Inst : MSD #1
Misc : AD05_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 12 11:05 2016 Quant Results File: AD05_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA2\AN120908.D Vial: 4
 Acq On : 9 Dec 2016 2:22 pm Operator: RJP
 Sample : WAC120916D Inst : MSD #1
 Misc : AD05_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Dec 12 08:33:54 2016 Quant Results File: AD05_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Dec 06 09:13:37 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.47	128	40893	1.00	ppb	-0.02
35) 1,4-difluorobenzene	11.78	114	171978	1.00	ppb	0.00
50) Chlorobenzene-d5	16.33	117	154822	1.00	ppb	0.00

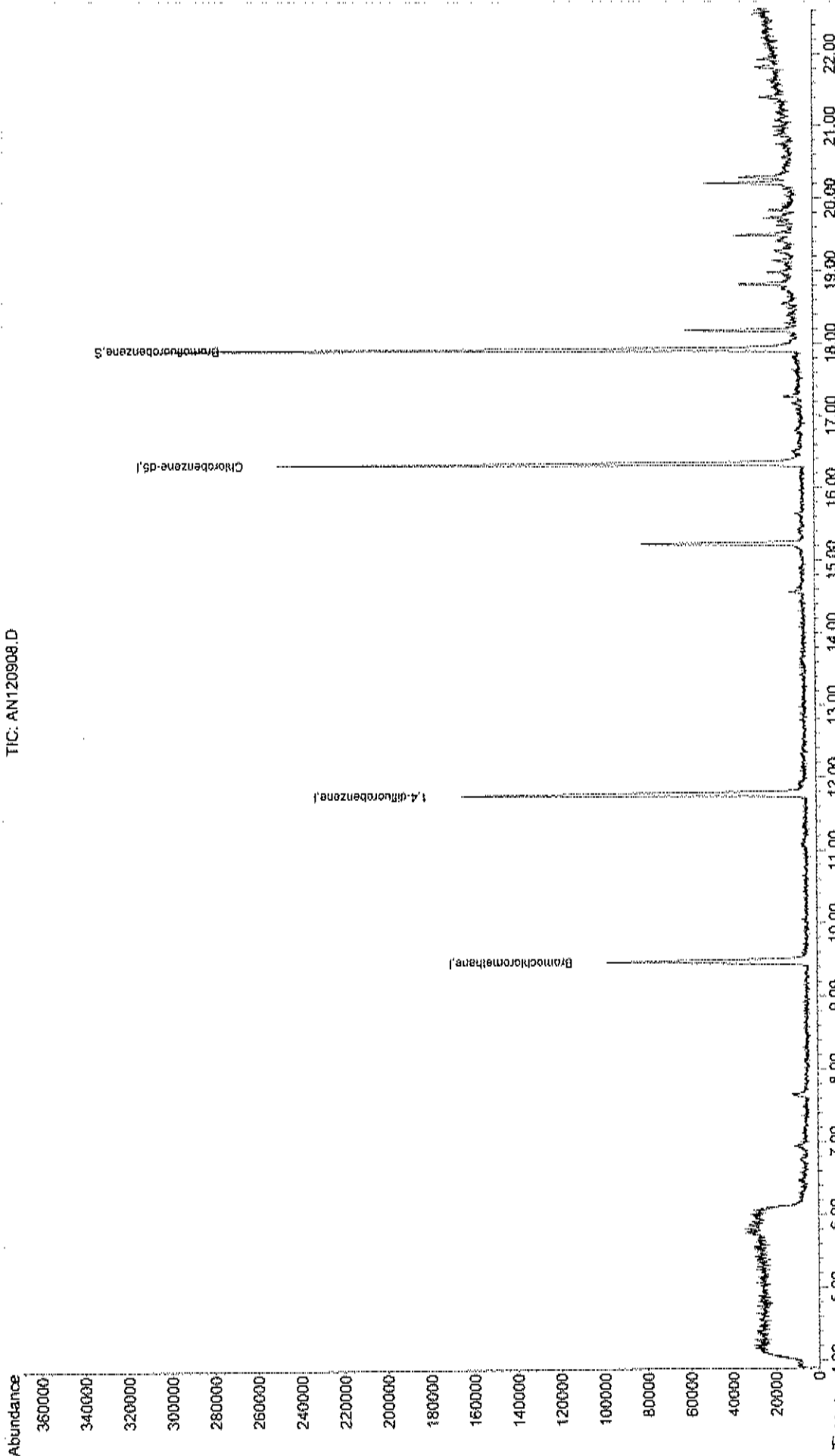
System Monitoring Compounds
 66) Bromofluorobenzene 17.92 95 104333 0.97 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 97.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\AN120908.D Vial: 4
Acq On : 9 Dec 2016 2:22 pm Operator: RJP
Sample : WAC120916D Inst : MSD #1
Misc : AD05_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 12 11:05 2016 Quant Results File: AD05_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration

TIC: AN120908.D



Data File : C:\HPCHEM\1\DATA2\AN120909.D
 Acq On : 9 Dec 2016 2:58 pm
 Sample : WAC120916E
 Misc : AD05_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Dec 12 08:33:55 2016

Vial: 5
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: AD05_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Dec 06 09:13:37 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	39785	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.78	114	167762	1.00	ppb	0.00
50) Chlorobenzene-d5	16.34	117	152008	1.00	ppb	0.00

System Monitoring Compounds

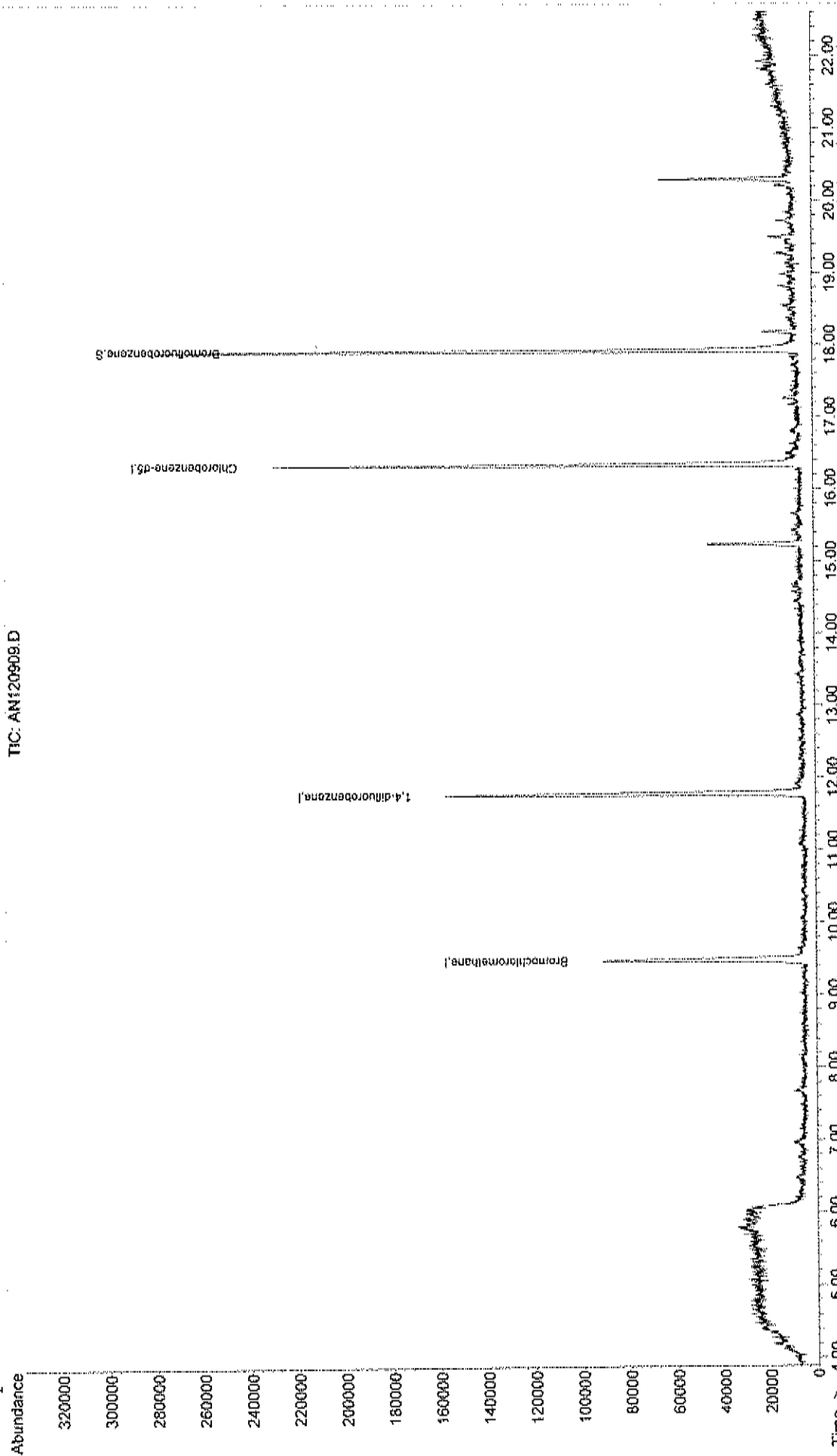
66) Bromofluorobenzene	17.92	95	97780	0.93	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	93.00*

Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA2\AN120909.D Vial: 5
Acq On : 9 Dec 2016 2:58 pm Operator: RJP
Sample : WAC120916E Inst : MSD #1
Misc : AD05_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 12 8:33 2016 Quant Results File: AD05_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration



TIC: AN120909.D

Data File : C:\HPCHEM\1\DATA2\AN120910.D Vial: 6
 Acq On : 9 Dec 2016 3:36 pm Operator: RJP
 Sample : WAC120916F Inst : MSD #1
 Misc : AD05_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Dec 12 08:33:56 2016 Quant Results File: AD05_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Dec 06 09:13:37 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	41108	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.78	114	170895	1.00	ppb	0.00
50) Chlorobenzene-d5	16.33	117	150302	1.00	ppb	0.00

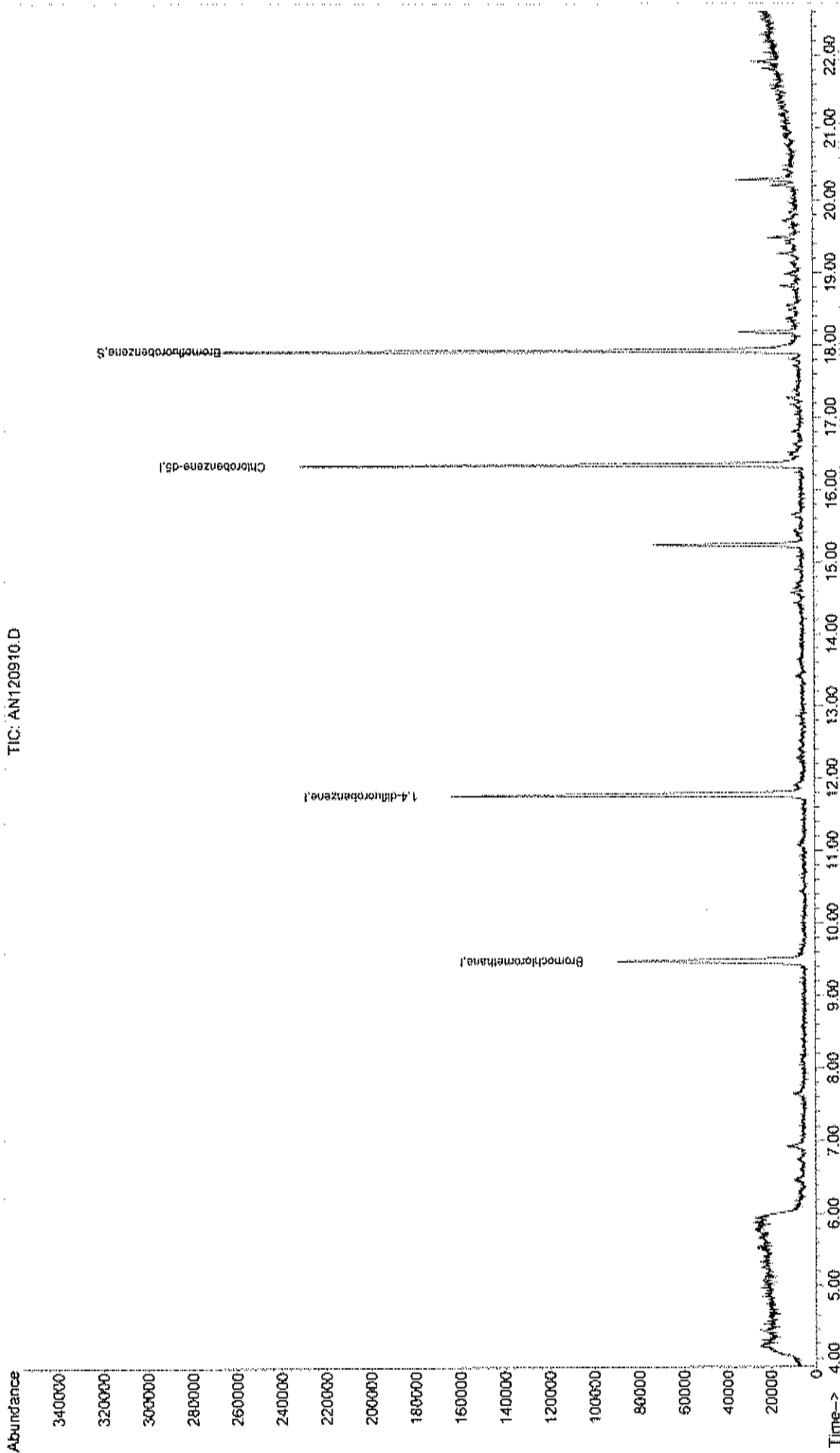
System Monitoring Compounds
 66) Bromofluorobenzene 17.92 95 99519 0.96 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 96.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\AN120910.D
Acq On : 9 Dec 2016 3:36 pm
Sample : WAC120916F
Misc : AD05_1UG
MS Integration Params: RTEINT.P
Quant Time: Dec 12 11:05 2016

Vial: 6
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: AD05_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration



TIC: AN120910.D

Data File : C:\HPCHEM\1\DATA2\2016NOV\AN110308.D Vial: 8
 Acq On : 3 Nov 2016 2:19 pm Operator: RJP
 Sample : WAC110316C Inst : MSD #1
 Misc : AO26_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Nov 08 15:11:34 2016 Quant Results File: AO26_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO26_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Oct 27 07:19:53 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.55	128	47081	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.85	114	204188	1.00	ppb	0.00
50) Chlorobenzene-d5	16.39	117	180803	1.00	ppb	0.00

System Monitoring Compounds

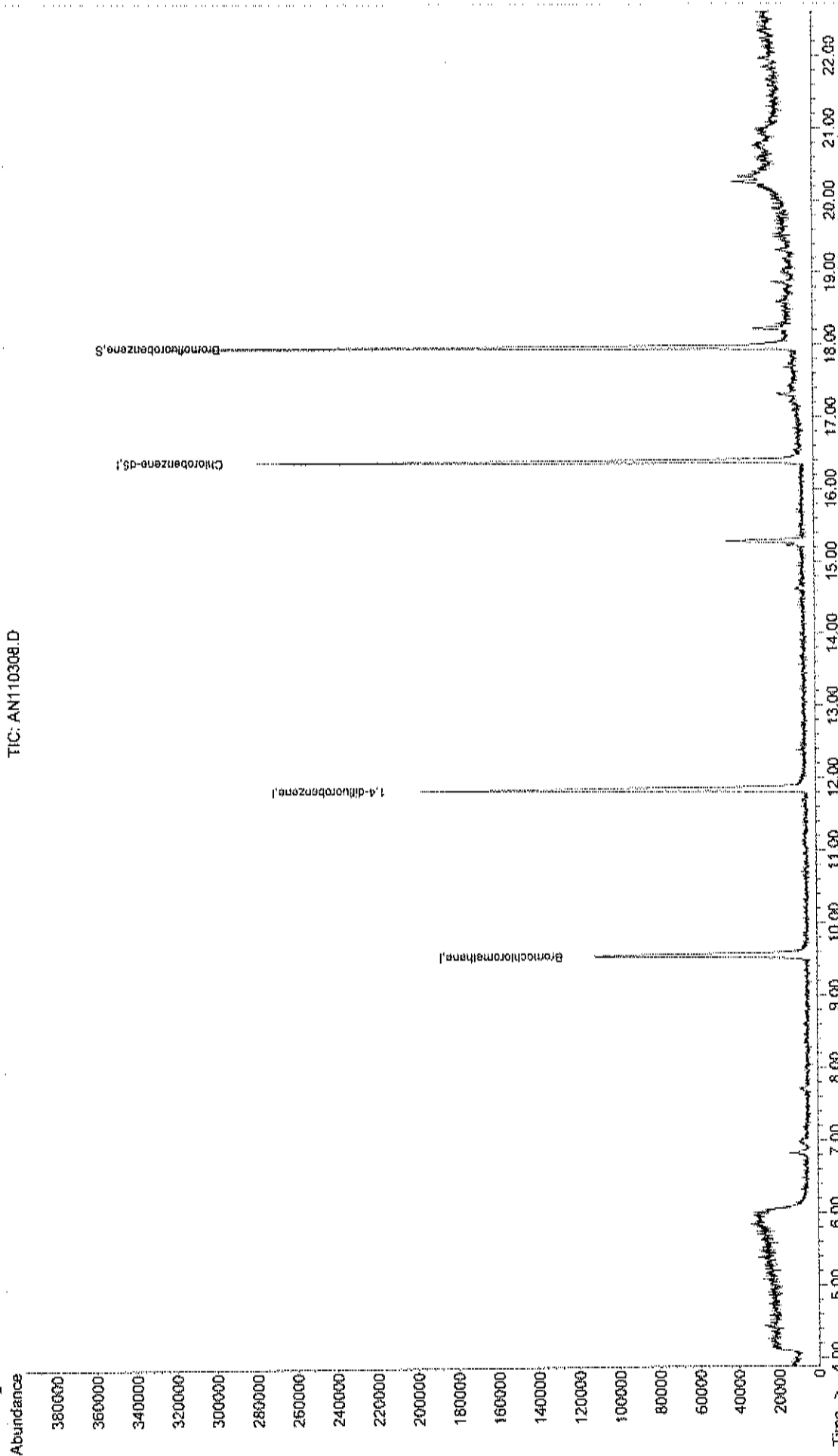
66) Bromofluorobenzene	17.97	95	103401	0.85	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	85.00%

Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA2\2016NOV\AN110308.D Vial: 8
Acq On : 3 Nov 2016 2:19 pm Operator: RJP
Sample : WAC110316C Inst : MSD #1
Misc : AC26_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 15:11 2016 Quant Results File: AC26_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA2\2016NOV\AN110309.D Vial: 9
 Acq On : 3 Nov 2016 2:56 pm Operator: RJP
 Sample : WAC110316D Inst : MSD #1
 Misc : AO26_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Nov 08 15:11:35 2016 Quant Results File: AO26_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO26_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Oct 27 07:19:53 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

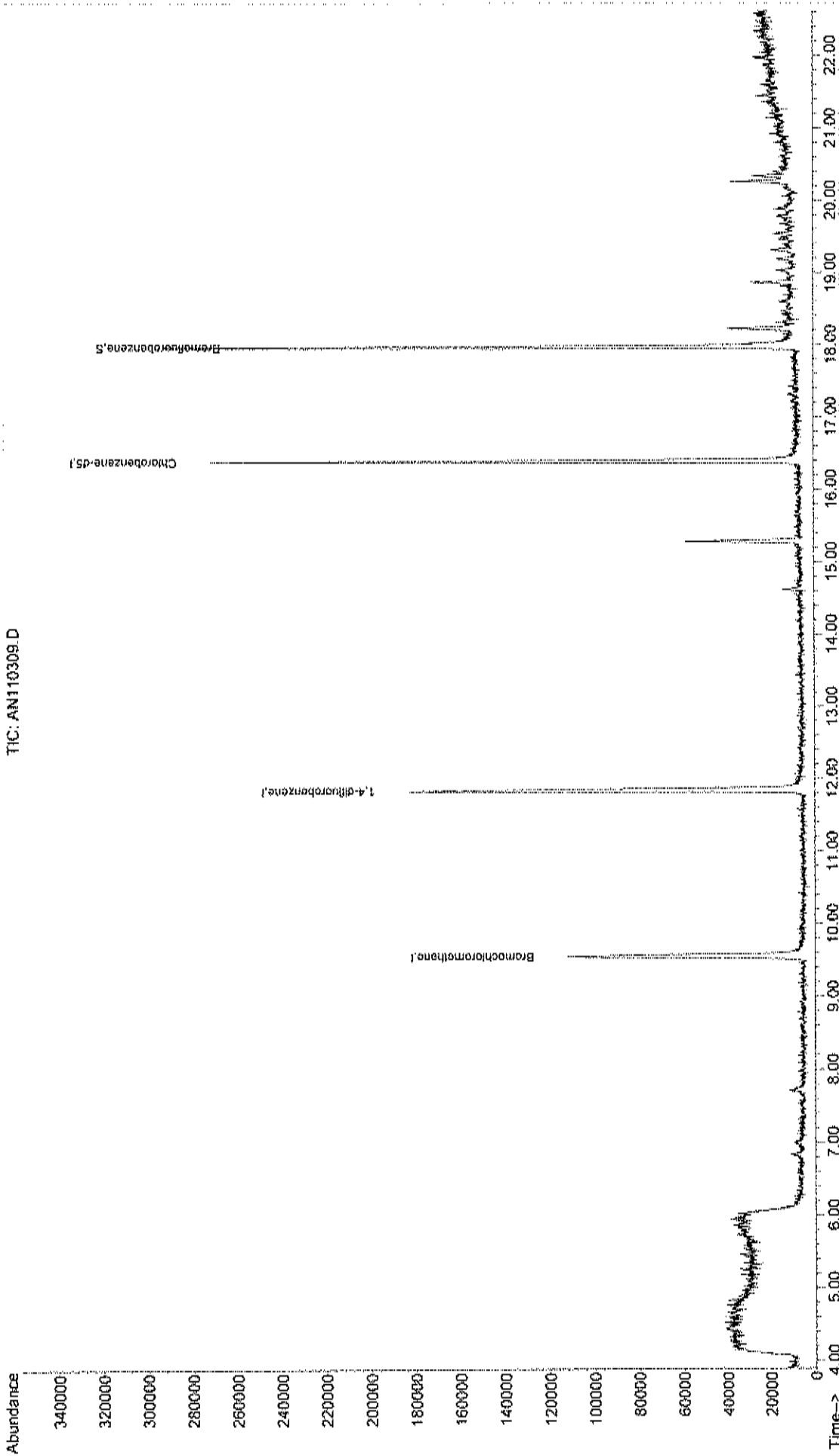
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.56	128	46504	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.85	114	195823	1.00	ppb	0.00
50) Chlorobenzene-d5	16.39	117	178240	1.00	ppb	0.00

System Monitoring Compounds
 66) Bromofluorobenzene 17.97 95 99745 0.83 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 83.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\2016NOV\AN110309.D Vial: 9
Acq On : 3 Nov 2016 2:56 pm Operator: RJP
Sample : WAC110316D Inst : MSD #1
Misc : AO26_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 15:11 2016 Quant Results File: AO26_1UG.RES

Method : C:\HPCHEM\1\METHODS\A120_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Mon Jan 30 16:04:21 2017
Response via : Initial Calibration



LABELLA

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Appendix 2

Data Usability Summary Report

DATA USABILITY SUMMARY REPORT

for

LaBella Associates, P.C.

300 State Street

Rochester, NY 14614

FORMER EMERSON LANDFILL

Project 210173

SDG: C1701027

Sampled 01/11/2017

TO-15 AIR SAMPLES

1769-SVI-1	(C1701027-01)
1769-IAQ-1	(C1701227-02)
1769-DUPE	(C1701027-03)
1769-SVI-2	(C1701027-04)
1769-IAQ-2	(C1701027-05)
1769-SVI-3	(C1701027-06)
1769-IAQ-3	(C1701027-07)
1769-OUTDOOR	(C1701027-08)

DATA ASSESSMENT

One data package containing analytical results for eight TO-15 samples was received from LaBella Associates, P.C. on 08Feb17. The ASP deliverables package included formal reports, raw data, the necessary QC, and supporting information. The samples, taken from the Former Emerson Landfill Site, were identified by Chain of Custody documents and traceable through the work of Centek Laboratories, LLC, the laboratory contracted for analysis. The analyses were performed using US EPA Method TO-15 and addressed measurements of ten volatile organic compounds. Laboratory data was evaluated according to the quality assurance / quality control requirements of the New York State Department of Environmental Conservation's Analytical Services Protocol (ASP), September 1989, Rev. 07/2005. When the required protocol was not followed, the current EPA Region II Functional Guidelines (SOP HW-31, Rev. #4, October 2006, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15) was used as a technical reference.

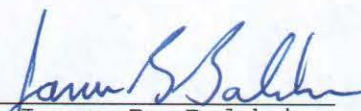
The negative results reported from 1769-IAQ-1 and 1769-Dupe have been rejected because the samples were not collected properly. Positive results have been qualified as estimations.

CORRECTNESS AND USABILITY

Reported data should be considered technically defensible and completely usable in its present form. Reported concentrations that are felt to provide a usable estimation of the conditions at the time of sampling have been flagged "J". Data felt to be unreliable has been identified with a single red line and flagged "R". Rejected data should not be included in data tables. Estimated data should be used with caution. A detailed discussion of the review process follows.

Two facts should be considered by all data users. No compound concentration, even if it has passed all QC testing, can be guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error. Secondly, DATAVAL, Inc. guarantees the quality of this data assessment. However, DATAVAL, Inc. does not warrant any interpretation or utilization of this data by a third party.

Reviewer's signature:


James B. Baldwin
DATAVAL, Inc.

Date: 20 Feb 17

SAMPLE HISTORY

Analyte concentrations can deteriorate with time due to chemical instability, bacterial degradation or volatility. Samples that are not properly preserved or are not analyzed within established holding times may no longer be considered representative. Holding times are calculated from the date of sampling. TO-15 samples must be analyzed within 14 days of collection.

This sample delivery group contained seven TO-15 samples that were collected in 1-liter SUMMA canisters and one sample, 1769-IAQ-2, that was collected in a 1.4-liter canister to facilitate the preparation of MS/MSD samples. Sampling was completed on 11Jan17. The canisters were shipped to the laboratory, via FedEx-Ground, on the day of collection and were received on 16Jan17.

Although the sample canisters were received intact and properly labeled, custody seals were not present on the packaging.

Canister vacuum readings were recorded in the laboratory prior to shipment, in the field prior to and following sampling, and in the laboratory at the time of receipt and at the time of analysis.

SAMPLE	PRIOR TO SHIPMENT ("Hg)	PRIOR TO SAMPLING ("Hg)	POST SAMPLING ("Hg)	LAB ANALYSIS ("Hg)
1769-SVI-1	-30	-30	-7.5	-8
1769-IAQ-1	-30	-28	0	-2
1769-DUPE	-30	-28	0	-2
1769-SVI-2	-30	-28	-5	-6
1769-IAQ-2	-30	-30	-8	-8
1769-SVI-3	-30	-28	-7	-8
1769-IAQ-3	-30	-30	-8	-8
1769-OUTDOOR AIR	-30	-30	-7	-7

The canister regulators were set in the laboratory to collect 6-hour samples. However, the collections of 1769-IAQ-1 and 1769-Dupe were terminated after 1 hour because the canister vacuums were completely depleted. The positive results from 1769-IAQ-1 and 1769-Dupe have been qualified as estimations because these samples were not collected properly. Negative results from these samples have been rejected. The remaining sites were sampled for five and a half hours.

It is noted that the final vacuum reading for every sample except 1769-SVI-2 fell outside of the ASP acceptance criteria of -4 to -6 "Hg. Data has not been qualified due to this performance because the exceedances were minor. It is noted that 1769-IAQ-1 and 1769-Dupe have been previously addressed.

The vacuum readings recorded after sampling and at the time of analysis indicated that the integrity of each sample had been maintained during this period. The analysis of this group of

samples was completed on 20Jan17 and 21Jan17. The ASP holding time limitation was satisfied.

CANISTER CERTIFICATION

The canisters used for this project were pressure tested at 30 psig for 24 hours. Each canister demonstrated a change ≤ 0.5 psig over this period.

The canisters were cleaned in four batches. A blank analysis of a clean canister from each batch was free of targeted analyte contamination above the laboratory's reporting limit.

BLANKS

Blanks are analyzed to evaluate various sources of sample contamination. Trip Blanks monitor sampling activities, sample transport, and storage. Method blanks are analyzed to verify instrument integrity. Samples are considered compromised by conditions causing contamination in any blank.

One method blank was analyzed with this group of samples. This blank demonstrated acceptable chromatography and was free of targeted analyte contamination.

MS TUNING

Mass spectrometer tuning and performance criteria are established to ensure sufficient mass resolution and sensitivity to accurately detect and identify targeted analytes. Verification is accomplished using a certified standard.

BFB ion abundance criteria was reported from a standard that was analyzed prior to the initial instrument calibration and the analysis of program samples. This check satisfied the ASP acceptance criteria.

CALIBRATION

Requirements for instrument calibration are established to ensure that laboratory equipment is capable of producing accurate, quantitative data. Initial calibrations demonstrate a range through which measurements may be made. Continuing calibration standards verify instrument stability.

The initial instrument calibration was performed on 20Jan17. Standards of 0.04, 0.10, 0.15, 0.30, 0.50, 0.75, 1.0, 1.25, 1.50 and 2.0 ppbV were included. Each targeted analyte produced the required levels of instrument response and demonstrated an acceptable degree of linearity during this calibration.

A continuing calibration check standard was not required because the analysis of samples immediately followed the initial calibration. The 2.0 ppbV standard from the initial calibration sequence was reprocessed as a calibration check. This check demonstrated an acceptable level of instrument performance,

SURROGATES

Each sample, blank and standard is spiked with surrogate compounds prior to analysis. The structures of surrogates are similar to analytes of interest, but they are not normally found in environmental samples. Surrogate recoveries are monitored to evaluate overall laboratory performance and the efficiency of laboratory technique.

Although surrogate summary sheets were properly prepared, an incorrect acceptance criteria was applied. When compared to the ASP requirements, however, an acceptable recovery was reported for each surrogate addition to this group of samples,

INTERNAL STANDARDS

Internal standards are added to each sample, blank and standard just prior to injection. Analyte concentrations are calculated relative to the response of a specific internal standard. Internal standard performance criteria ensure that GC/MS sensitivity and response are stable during the analysis of each sample. The area of internal standard peaks may not vary by more than 40%. When compared to the preceding calibration check, retention times may not vary by more than 10 seconds.

The laboratory recorded the response of each internal standard addition to this group of samples and the response obtained from the preceding CCV standard. Although the control limits based on the response of the CCV were not reported, they were calculated by this reviewer. When compared to these limits, acceptable performance was reported for each internal standard addition to this group of samples.

MATRIX SPIKES / MATRIX SPIKE DUPLICATES / MATRIX SPIKED BLANKS

Matrix spiking refers to the addition of known analyte concentrations to a sample, prior to analysis. Analyte recoveries provide an indication of laboratory accuracy. The analysis of a duplicate spiked aliquot provides a measurement of precision.

1769-IAQ-2 was selected for matrix spiking. Each targeted analyte was added to two volumes of this sample. The recoveries reported for these additions demonstrated acceptable levels of measurement precision and accuracy.

A pair of spiked blanks (LCS/LCSD) was also analyzed with this group of samples. This pair of spiked blanks also produced acceptable analyte recoveries.

DUPLICATES

Two aliquots of the same sample are processed separately through all aspects of sample preparation and analysis. Results produced by the analysis of this pair of samples are compared as a measurement of precision. Poor precision may be indicative of sample non-homogeneity, method defects, or poor laboratory technique.

The duplicate sample that was included in this delivery group was not identified. It is noted, however, that the previously

addressed spiked samples and spiked blanks demonstrated acceptable levels of measurement precision.

REPORTED ANALYTES

Formal reports were provided for each sample. The data package also included total ion chromatograms and raw instrument print outs. Reference mass spectra were provided to confirm the identification of each analyte that was detected in this group of samples.

SUMMARY OF QUALIFIED DATA

FORMER EMERSON LANDFILL

SAMPLED JANUARY 2017

	IMPROPER COLLECTION	IMPROPER COLLECTION
1769-SVI-1		
1769-IAQ-1		
1769-DUPE	ALL NEG R	ALL POS J
1769-SVI-2	ALL NEG R	ALL POS J
1769-IAQ-2		
1769-SVI-3		
1769-IAQ-3		
1769-OUTDOOR		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-001A

Client Sample ID: 1769-SVI-1
 Tag Number: 290.276
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	0.93	0.82		ug/m3	1	1/20/2017 11:46:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 11:46:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:46:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 11:46:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	1/20/2017 11:46:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:46:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 11:46:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:46:00 PM
Trichloroethene	< 0.81	0.81		ug/m3	1	1/20/2017 11:46:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	1/20/2017 11:46:00 PM

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated
 S Spike Recovery outside accepted recovery limits
 . Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-002A

Client Sample ID: 1769-1AQ-1
 Tag Number: 316.1162
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 9:02:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 9:02:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 9:02:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 9:02:00 PM
Chloromethane	1.1	0.31		ug/m3	1	1/20/2017 9:02:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:02:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 9:02:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:02:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 9:02:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 9:02:00 PM

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-003A

Client Sample ID: 1769-Dupe
 Tag Number: 83.1162
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 9:42:00 PM
1,1-Dichloroethane	< 0.61	0.61	} R	ug/m3	1	1/20/2017 9:42:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:42:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 9:42:00 PM
Chloromethane	1.1 J	0.31		ug/m3	1	1/20/2017 9:42:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59	} R	ug/m3	1	1/20/2017 9:42:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 9:42:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 9:42:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 9:42:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 9:42:00 PM

MS

Qualifiers:	**	Quantitation Limit	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits	

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-004A

Client Sample ID: 1769-SVI-2
 Tag Number: 163.1152
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	1.6	0.82		ug/m3	1	1/21/2017 12:28:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/21/2017 12:28:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 12:28:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	1/21/2017 12:28:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	1/21/2017 12:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 12:28:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/21/2017 12:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 12:28:00 AM
Trichloroethene	< 0.81	0.81		ug/m3	1	1/21/2017 12:28:00 AM
Vinyl chloride	0.36	0.38	J	ug/m3	1	1/21/2017 12:28:00 AM

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-005A

Client Sample ID: 1769-1AQ-2
 Tag Number: 1323,446
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 6:50:00 PM
1,1-Dichloroethane	< 0.81	0.81		ug/m3	1	1/20/2017 6:50:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 6:50:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 6:50:00 PM
Chloromethane	1.0	0.31		ug/m3	1	1/20/2017 6:50:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 6:50:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 6:50:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 6:50:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 6:50:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 6:50:00 PM

RJP

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-006A

Client Sample ID: 1769-SV1-3
 Tag Number: 242.1170
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/21/2017 1:10:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/21/2017 1:10:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 1:10:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	1/21/2017 1:10:00 AM
Chloromethane	0.35	0.31		ug/m3	1	1/21/2017 1:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 1:10:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/21/2017 1:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/21/2017 1:10:00 AM
Trichloroethene	< 0.81	0.81		ug/m3	1	1/21/2017 1:10:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	1/21/2017 1:10:00 AM

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 J Non-routine analyte. Quantitation estimated
 S Spike Recovery outside accepted recovery limits
 . Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.

Client Sample ID: 1769-1AQ-3

Lab Order: C1701027

Tag Number: 1188.345

Project: Former Emerson St Landfill

Collection Date: 1/11/2017

Lab ID: C1701027-007A

Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 10:24:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 10:24:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 10:24:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 10:24:00 PM
Chloromethane	1.0	0.31		ug/m3	1	1/20/2017 10:24:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 10:24:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 10:24:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 10:24:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 10:24:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 10:24:00 PM

RJP

Qualifiers:	**	Quantitation Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Estimated Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit
	IN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 30-Jan-17

CLIENT: LaBella Associates, P.C.
 Lab Order: C1701027
 Project: Former Emerson St Landfill
 Lab ID: C1701027-008A

Client Sample ID: 1769-Outdoor
 Tag Number: 360.265
 Collection Date: 1/11/2017
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	1/20/2017 11:05:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	1/20/2017 11:05:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:05:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	1/20/2017 11:05:00 PM
Chloromethane	1.0	0.31		ug/m3	1	1/20/2017 11:05:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:05:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	1/20/2017 11:05:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	1/20/2017 11:05:00 PM
Trichloroethene	< 0.21	0.21		ug/m3	1	1/20/2017 11:05:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	1/20/2017 11:05:00 PM

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Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 IN Non-routine analyte, Quantitation estimated.
 S Spike Recovery outside accepted recovery limits
 . Results reported are not blank corrected
 E Estimated Value above quantitation range
 J Analyte detected below quantitation limit
 ND Not Detected at the Limit of Detection

Date: 30-Jan-17



CENTEK LABORATORIES, LLC

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: LaBella Associates, P.C.
 Work Order: C1701027
 Project: Former Emerson St Landfill
 Test No: TO-15 Matrix: A

Sample ID	BR4FBZ						
ALCS1UG-012017	101	✓					
ALCS1UGD-012017	99.0						
AMB1UG-012017	90.0						
C1701027-001A	103						
C1701027-002A	101						
C1701027-003A	106						
C1701027-004A	107						
C1701027-005A	102						
C1701027-005A MS	104						
C1701027-005A MSD	108						
C1701027-006A	101						
C1701027-007A	99.0						
C1701027-008A	89.0						

Acronym	Surrogate	QC Limits
BR4FBZ	= Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

Centek Laboratories, LLC

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\A0012007.D

Tune Time : 20 Jan 2017 12:56 pm

Daily Calibration File : C:\HPCHEM\1\DATA\A0012007.D

(BFB)

1345722 588118 500905
 (IS1) (IS2) (IS3)
 96123 420084 357789
 57634 252050 214673

File	Sample	DL	Surrogate Recovery %	Internal Standard Responses		
A0012014.D	ALCS1UG-012017	101		88460 ✓	381338 ✓	326151 ✓
A0012015.D	AMB1UG-012017	90		83013	359736	305609
A0012016.D	C1701027-005A	102		85010	376366	308710
A0012017.D	C1701027-005A MS	104		93302	402813	342867
A0012018.D	C1701027-005A MSD	108		93063	398669	334355
A0012019.D	C1701027-002A	101		89796	391377	329186
A0012020.D	C1701027-003A	106		90066	398161	328653
A0012021.D	C1701027-007A	99		90276	399341	327152
A0012022.D	C1701027-008A	89		90585	381638	320976
A0012023.D	C1701027-001A	103		90180	386413	323239
A0012024.D	C1701027-004A	107		91352	396586	323205
A0012025.D	C1701027-006A	101		93724	394127	329284
A0012033.D	ALCS1UGD-012017	99		90823	392706	325482

t - fails 24hr time check * - fails criteria

Created: Mon Jan 30 16:11:50 2017 MSD #1/

Date: 30-Jan-17

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1701027

Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UGD-012017	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11891					
Client ID:	ZZZZ	Batch ID: R11891	TestNo: TO-15		Analysis Date: 1/20/2017	SeqNo: 139038					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.8900	0.15	1	0	89.0	70	130				
1,1,2-Trichloroethane	0.9200	0.15	1	0	92.0	70	130				
1,1-Dichloroethane	0.8900	0.15	1	0	89.0	70	130				
1,1-Dichloroethene	0.8800	0.15	1	0	88.0	70	130				
Chloroethane	0.9100	0.15	1	0	91.0	70	130				
Chloromethane	0.9000	0.15	1	0	90.0	70	130				
cis-1,2-Dichloroethene	0.9100	0.15	1	0	91.0	70	130				
Tetrachloroethylene	0.9100	0.15	1	0	91.0	70	130				
trans-1,2-Dichloroethene	0.8700	0.15	1	0	87.0	70	130				
Trichloroethene	0.9000	0.040	1	0	90.0	70	130				
Vinyl chloride	0.8800	0.040	1	0	88.0	70	130				

Sample ID	ALCS1UGD-012017	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11891					
Client ID:	ZZZZ	Batch ID: R11891	TestNo: TO-15		Analysis Date: 1/21/2017	SeqNo: 139039					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.8800	0.15	1	0	88.0	70	130	0.89	1.13	30	
1,1,2-Trichloroethane	0.8900	0.15	1	0	89.0	70	130	0.92	3.31	30	
1,1-Dichloroethane	0.9100	0.15	1	0	91.0	70	130	0.89	2.22	30	
1,1-Dichloroethene	0.9500	0.15	1	0	95.0	70	130	0.88	7.65	30	
Chloroethane	0.9800	0.15	1	0	98.0	70	130	0.91	7.41	30	
Chloromethane	0.9100	0.15	1	0	91.0	70	130	0.9	1.10	30	
cis-1,2-Dichloroethene	0.9200	0.15	1	0	92.0	70	130	0.91	1.09	30	
Tetrachloroethylene	0.9500	0.15	1	0	95.0	70	130	0.91	4.30	30	

Qualifiers: . Results reported are not blank corrected
 J Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits
 E Estimated Value above quantitation range
 ND Not Detected at the Limit of Detection
 H Holding Issues for preparation or analysis exceeded
 R RPD outside accepted recovery limits

CLIENT: LaBella Associates, P.C.

Work Order: C1701027

Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID: ALCS1UGD-012017 SampType: LCSD Batch ID: R11891 TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 11891
 Client ID: ZZZZ TestNo: TO-15 %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trans-1,2-Dichloroethene	0.9100	0.15	1	0	91.0	70	130	0.87	4.49	30	30
Trichloroethene	0.8900	0.040	1	0	89.0	70	130	0.9	1.12	30	30
Vinyl chloride	0.8900	0.040	1	0	89.0	70	130	0.88	1.13	30	30

Qualifiers: R Results reported are not blank corrected E Estimated Value above quantitation range H Holding times for preparation or analysis exceeded
 J Analyte detected below quantitation limit ND Not Detected at the Limit of Detection R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

Date: 30-Jan-17

CEN TEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
 Work Order: C1701027
 Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-012017	SampType: MBLK	TestCode: 0.25CT-TCE	Units: ppbv	Prep Date:	RunNo: 11891					
Client ID	ZZZZZ	Batch ID: R11891	TestNo: 10-15		Analysis Date: 1/20/2017	SeqNo: 139037					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethane	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
Trichloroethene	< 0.040	0.040									
Vinyl chloride	< 0.040	0.040									

Qualifiers: Results reported are not blank corrected
 J Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits
 E Estimated Value above quantitation range
 ND Not Detected at the Limit of Detection
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

Date: 08-Feb-17

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1701027

Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	C1701027-005A MS	MS	SampType:	MS	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	11891
Client ID:	1769-IAQ-2	MS	Batch ID:	R11891	TestNo:	TO-15			Analysis Date:	SeqNo:	139058
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.8400	0.15	1	0	84.0	70	130				
1,1,2-Trichloroethane	0.8500	0.15	1	0	85.0	70	130				
1,1-Dichloroethane	0.8500	0.15	1	0	85.0	70	130				
1,1-Dichloroethene	0.8900	0.15	1	0	90.0	70	130				
Chloroethane	0.8900	0.15	1	0	89.0	70	130				
Chloromethane	1.183	0.15	1	0.5	68.0	65.70	130	135			S
cis-1,2-Dichloroethene	0.9160	0.15	1	0	91.0	70	130				
Tetrachloroethylene	0.9300	0.15	1	0	93.0	70	130				
trans-1,2-Dichloroethene	0.8600	0.15	1	0	86.0	70	130				
Trichloroethene	0.9000	0.040	1	0	90.0	70	130				
Vinyl chloride	0.8600	0.040	1	0	86.0	70	130				
Surr: Bromofluorobenzene	1.040	0	1	0	104	70	130				

Sample ID	C1701027-005A MS	MS	SampType:	MS	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	11891
Client ID:	1769-IAQ-2	MS	Batch ID:	R11891	TestNo:	TO-15			Analysis Date:	SeqNo:	139059
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.8700	0.15	1	0	87.0	70	130	0.84	3.51	30	
1,1,2-Trichloroethane	0.8500	0.15	1	0	85.0	70	130	0.85	0	30	
1,1-Dichloroethane	0.8900	0.15	1	0	89.0	70	130	0.85	4.60	30	
1,1-Dichloroethene	0.8600	0.15	1	0	86.0	70	130	0.9	2.25	30	
Chloroethane	0.8700	0.15	1	0	87.0	70	130	0.89	2.27	30	
Chloromethane	1.230	0.15	1	0.5	73.0	70	130	1.18	4.15	30	
cis-1,2-Dichloroethene	0.9200	0.15	1	0	92.0	70	130	0.91	1.09	30	

Qualifiers: . Results reported are not blank corrected
 J Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits
 E Estimated Value above quantitation range
 ND Not Detected at the Limit of Detection
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

CLIENT: LaBella Associates, P.C.

Work Order: C1701027

Project: Former Emerson St Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	C1701027-005A MS	MSD	SampType: MSD	Batch ID: R11891	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	Analysis Date: 1/20/2017	RunNo: 11891	SeqNo: 139059	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethylene	0.9600	0.15	1	0	96.0	70	130	0.93	3.17	30	
trans-1,2-Dichloroethene	0.8900	0.15	1	0	89.0	70	130	0.86	3.43	30	
Trichloroethene	0.9300	0.040	1	0	93.0	70	130	0.9	3.28	30	
Vinyl chloride	0.8700	0.040	1	0	87.0	70	130	0.86	1.16	30	
Surr: Bromofluorebenzene	1.080	0	1	0	108	70	130	0	0	30	

Qualifiers: . Results reported are not blank corrected
 J Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits
 E Estimated Value above quantitation range
 ND Not Detected at the Limit of Detection
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

LABELLA

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Appendix 3

Field Logs



Soil Gas Testing Log

**Former Emerson Street
Landfill
1769 Emerson Street**

Project Name: Former Emerson Street Landfill- 1769 Emerson St

Project No: 210173

Sampled By: AA

Date: 11-Jan-17

Weather: ~45 degress clear skies

Wind Speed/Direction: from W ~10-15 mph consistent wind

ID: 1769-SVI-1	
Sub-Slab Pressure: 0.00 "wc	
Canister: 290	
Regulator: 276	
Helium Tracer in shroud:	
Helium Tracer at point: 0%	
Sub-Slab	
Time	Vacuum Reading ("Hg)
Start 822	30+
950	24
1120	17
End 1350	7.5

ID: 1769-SVI-2	
Sub-Slab Pressure: 0.00 "wc	
Canister: 163	
Regulator: 1152	
Helium Tracer in shroud:	
Helium Tracer at point: 0%	
Sub-Slab	
Time	Vacuum Reading ("Hg)
Start 828	28
1120	23
1210	17
1350	14
End 1355	5

ID: 1769-SVI-3	
Sub-Slab Pressure: 0.00 "wc	
Canister: 242	
Regulator: 1170	
Helium Tracer in shroud:	
Helium Tracer at point: 0%	
Sub-Slab	
Time	Vacuum Reading ("Hg)
Start 836	28
950	23
1120	17
1210	14
End 1405	7

ID: 1769-Outdoor Air	
Sub-Slab Pressure: NA	
Canister: 360	
Regulator: 265	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Outdoor Air	
Time	Vacuum Reading ("Hg)
Start 840	30
950	25
1120	18
End 1415	

Notes/Activities: _____



Soil Gas Testing Log

**Former Emerson Street
Landfill
1769 Emerson Street**

Project Name: Former Emerson Street Landfill- 1769 Emerson St
Project No: 210173
Sampled By: AA
Date: 11-Jan-17
Weather: ~45 degrees clear skies
Wind Speed/Direction: from W ~10-15 mph consistent wind

ID: 1769-IAQ-1	
Sub-Slab Pressure: NA "wc	
Canister: 316	
Regulator: 1162	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 824	30
End 950	0

ID: 1769-IAQ-2	
Sub-Slab Pressure: NA "wc	
Canister: 1323	
Regulator: 446	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 830	30+
950	25.0
1120	19
1210	15
End 1400	8

ID: 1769-IAQ-3	
Sub-Slab Pressure: NA "wc	
Canister: 1188	
Regulator: 345	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 838	30
950	24.0
1120	18
1210	15
End 1410	8

Notes/Activities: Duplicate sample from IAQ-1 (canister 316 regulator 1162)
 Sample IAQ-1 was at 0 "Hg by 950 (included duplicate sample). Disconnected canister and regulator at 950

LABELLA

LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Appendix 4

Preliminary Building Assessment and Site Reconnaissance

Site: 1769 Emerson Street
Site Recon Dates: December 8th and 9th, 2010
Consultant: O'Brien & Gere

Summary of Available Historic Records:

- Subsurface and Foundation Report for Monroe County Department of Public Works Solid Waste Division dated November 1975, prepared by James P. Collins, P.E. (JPC), indicates a 35-foot by 60-foot mat foundation for oil storage tanks surrounded by a three foot high berm. The site investigation field summary indicates artificial fill (granular, rubbish, cinders), local rubbish, surficial fills and trash along the southerly half of the site. The JPC report states that two boreholes (B-210 and B-212), drilled into bedrock had natural gas seeping into them during drilling (at approximately 30 feet at B-210 and at approximately 15 feet at B-212). JPC cautions that natural gas could ignite during blasting and should be permanently vented to prevent gas from seeping into buildings. During a second drilling event, roots were encountered in Boring No. 2 and black wet asphalt ashes were encountered in Boring No. 4. The location of borings, boreholes, and test pits were not available as report maps were not included in with the report.
- The original structure was built in 1978. This was comprised of the Resource Recovery Facility (RRF) (including the office area) and the Transfer Station (TS) (including the scale house, tipping area, and storage pit). Total structure was approximately 225,000 sq. ft.
- The Monroe County Recycling Center (MCRC) was constructed in 1992 as an addition to the building (approximately 42,000 sq. ft.).
- During the construction of the MCRC it was noted that yard waste debris was removed.
- Rough estimate on the facility total square footage is 267,000 sq. ft.
- The building was constructed and has always operated as a municipal solid waste transfer station.
- A potential above ground storage tank farm was observed in aerials dated from 1951 to 1971.
- There were two underground diesel storage tanks (located at the corner of Lee and Emerson) pulled before 1991.
- The MCRC had sustained a fire in 1999. The RRF/TS sustained multiple fires in the early 1980's.
- A water treatment facility existed on site but was torn down in 1990 to make way for the MCRC.

Current Site Use:

- Currently owned by Monroe County and is operated by Metro Waste Paper Recovery (Cascade Recovery) as a subcontractor to Monroe County.
- The structure is comprised of a Resource Recovery Facility (RRF), Transfer station (which contains a tipping floor for municipal waste transfer and a leaf composting area), and the MCRC. A portion of the Transfer station also serves as leaf processing center; removing leaves from plastic bags prior to transport to High Acres Landfill for composting.
- Approximately 15,000 sq. ft. is office space, 130,00 sq. ft. is the RRF, the MCRC makes up approximately 80,000 sq. ft., and the Transfer station encompasses the remaining approximately 42,000 sq. ft.
- There are nine full time office personnel which occupy the office area from 08:00 to 17:00 Monday through Friday.
- There are 25 full time employees in the sort and bale material department. These employees work from 05:00 to 19:00 in two shifts.
- There are 20 full time employees in the shopping and receiving materials department that work from 05:00 to 19:00 in two shifts.
- There are six full time maintenance employees that work in two shifts from 05:00 to 19:00.

Site Recon Observations:

- Significant cracks in the floor of the MCRC bay area were observed. The slab is approximately 8" thick in that area and was visibly cracked to the point of exposing rebar. The bay doors in the MCRC are open at all times due to high volume traffic.
- Significant cracks and exposed rebar in the floor of the Transfer Station in the storage pit were observed.

- Floor slab condition in the rest of the facility was generally good (only minor cracking and no heaving/settling observed).
- There is a small oil/water separator on site located in the Transfer Station. When tested, there were no elevated readings detected on either the ppb Rae or the Land Tec instruments.
- There was a manhole observed on the ground floor of the office area depicted on the maps as an oil interceptor.
- Pressure and air exchange rates within the buildings were not known by owner.

List of Observed Floor Penetrations (Potential SVI Locations):

- Electrical conduits connected to the slab (both currently used as well as opened and abandoned conduits) throughout the facility
- Floor cracks throughout the facility varying in condition from minor to the significantly damaged slab in the MCRC bay area
- Floor drains (approximate 4" drains at Locations: 9, 44, 62, 83, 91-93 and 100)
- Trench drains (varying size at Locations: 5, 6, 24, 30, 52, 54, 55 and 103)
- Scale Pits in Transfer station (4' square at Locations: 33, 34, 35, 36, 38, 39 and 40)
- Catch basins (both interior and exterior at Locations: 99, 102, 104, 107, 109-114)
- Oil interceptor (Location: 32)
- Pumping Station (Location: 107).

Site Recon Meter Readings (Total Readings Collected – 118):

- Total Background Readings Collected = 20
 - Background of VOCs due to operations ranged from 166 to 1766 ppb
 - Background of Methane due to operations were 0%.
- Total Floor Penetration Readings Collected = 26
 - There were no VOC readings above background observed.
 - Methane readings above background observed at:
 - Location 9 – floor drain in stairwell = 0.1%
 - Location 92 – floor drain in men's room, office area, base floor = 0.1%
 - Location 106 – pumping station = 8.1% (background = 0.0%)
 - VOC readings outside of monitoring well number 7 (Location 105) = 19,000 ppb were above background of 0 ppb.

RRF

**FORMER EMERSON STREET LANDFILL
SOIL VAPOR INTRUSION
PRELIMINARY BUILDING ASSESSMENT AND SITE RECONAISSANCE**

Parcel Information: Monroe County Resource Recovery Facility & Recycling Center

Address: 1769 Emerson Street (1845 Emerson Street and 384 Lee Road)

Owner: Monroe County

Number of Buildings: Three

Building this Sheet Represents (*fill out one for each building*): Resource Recovery Facility (RRF)
(Including Office Area)

Interviewer Information:

Name: Ariadna Cheremeteff Date/Time Prepared: 12/9/10 08:30

Consultant Firm: O'Brien & Gere Phone No.: 585-263-2820

Owner/Interviewee Information:

Last Name: Rutkowski First Name: Russell

Address: 39 West Main Street

Company: Monroe County, New York

Office Phone: 585-753-7515

Tenant Information (if any):

Tenant Contact Person: Jeff Meyers

Address: 1845 Emerson Street, Rochester, NY 14606

Company: Metro Waste Paper Recovery (Cascades Recovery)

Office Phone: 585-295-4135

SECTION I - Building Construction Information

A. Site plans available? (e.g., foundation construction, utility locations/chases, etc.): Yes/ No

If yes, can copies be obtained? Yes

B. Does owner have knowledge that ash or solid waste was removed at time of building construction:
Yes/ No

If yes, are any documents available? _____

C. Building Construction

	Construction Type	Finish Type	Sealed	Square Feet
Basement	None			
Crawl Space	None			
First Floor	Slab on grade	Concrete	None	
Foundation Walls	Concrete			
2nd Floor	Concrete			

D. Any additions to building: Yes/ No

If yes, list dates and locations: Loading docks on RRF

If yes, note variations in construction: _____

E. Utility/Floor Penetrations

	Location(s)	Size/Description
Electric	Municipal	
Gas	Municipal	
Water	Municipal	
Sewer/Wastewater	Municipal	
Sumps	None observed	
Floor/Trench Drains	Many throughout the facility	
Dry Well	None observed	
Oil/Water Separators	None	Small in size
Cracks in Floor	Minor throughout the rest of the facility.	
Expansion Joints	N/A	
Floating Slab	N/A	
Monitoring Points	None observed	
Scales	None	
Utility Vaults	None	
Elevators	One in the office area.	Was out of order during site visit.

Other		

F. Does facility have an on-Site septic system? Yes()No()

If yes, where and size: _____

G. Does facility provide pretreatment of wastewater prior to discharge to sanitary sewer? Yes()No()

If yes, What type of pretreatment is conducted: _____

H. Is there a vapor barrier associated with the foundation system? Yes()No()

If yes, indicate type/material, location, thickness, etc.: _____

I. Is there a radon/sub-slab soil vapor mitigation system on any portion of the building? Yes()No()

If yes, describe system and date installed: _____

If yes, Is the system active or passive? _____

If yes, Is system currently operational? _____

J. Standing water or wet areas in lower levels? Yes()No()

If yes, list location and describe: _____

If yes, how frequent: less than 1/yr; 1-2 times/yr; or, more than 3 times/yr

K. Is the building insulated? Yes()No()

If yes, location(s) and type? In admin areas only

L. Are there any settlement issues with the building? Yes()No()

If yes, describe: _____

M. Are there any cracks in floor slabs (1st floor or basement)?

If yes, location(s), width, etc.? Various sized cracks throughout structure.

N. Are there any elevators in the building? Yes()No()

If yes, describe construction and condition of pit (poured concrete, cinder block, etc.) Poured Concrete.

Comments: Elevator currently not working in RRF office area

SECTION II – Heating, Ventilation and Air Conditioning Information

A. Type of heating system(s) used in this building: *(circle all that apply - note primary)*

- Forced hot air (prime) Heat pump Hot water baseboard
 Space Heaters Stream radiation Radiant floor
 Electric baseboard Other: _____

For each heat system/unit, provide the following:

Unit Type	Unit Location	Areas Heated	Unit Size	Pressurization (neg. vs. positive)	Air Communication with other areas (duct work, doors, etc.)
Trane Splitsys	RRF Roof	RRF Office & Down	TWE120B300AB	Pos	Duct

B. Type of fuel used: *(circle all that apply)*

- Natural Gas Fuel Oil Kerosene
 Electric Propane Solar
 Wood Coal Other: _____

If more than one list locations: _____

C. Domestic hot water tank fueled by: Electric

D. Air conditioning: Central Air (RRF) Window units(MCRC) None

Comments: Owner indicated positive pressure but could not confirm.

SECTION III – Indoor Air Quality Influence Factors

A. Is there a garage, service area, or processing area in building? Yes/ No

If yes, list all that apply: Processing area for bailing paper, maintenance shop

1. Does the garage, service or manufacturing areas have separate heating unit/system? Yes/ No/ NA

2. Are petroleum-powered machines or vehicles used or stored within the garage, service area or manufacturing area of building? (e.g., forklifts, vehicle fleet, lawnmower, etc.) Yes/ No/ NA

If yes, specify: Many forklifts, loaders, and garbage trucks

B. Are there any current or former USTs, **ASTs** or Fueling Facilities on the property? Yes/ No

If yes, specify location: Current above ground oil in maintenance area. Former under ground tanks corner of Lee and Emerson

C. Are there any current or former hydraulic lifts at the property? Yes/ No

If yes, locations and note if underground or above ground: 4 bailers (hydraulic press) all located above ground in the facility.

D. Are there any current or former petroleum or chemical spills at the Site? Yes/ No

If yes, specify location, quantity, material and date: Nothing significant – all reported and cleaned Up

E. Are there any current or former groundwater monitoring wells at the Site? Yes/ No

If yes, specify location and accessibility: State owned

F. Has the building ever had a fire? Yes/ No

If yes, When: MCRC 1999, RRF/TS multiple in early 1980's

G. Is there a maintenance area? Yes/ No

If yes, Where: RRF and MCRC have mechanics shops

H. Are there any parts cleaners used at the site? Yes/ No

If yes, list location(s) and solvent types: Water based solvent in RRF maintenance shop

I. Are there any drum and/or chemical storage areas? Yes/ No

If yes, list location(s) and materials: _____

J. Are cleaning products used routinely? Yes/ No

If yes, When & Where: Mechanics use small amounts daily

K. Has painting/staining been done in the last 6 months? Yes/ No

If yes, When & Where: Outside

L. Is there new carpet, drapes or other textiles within installed within the last year? Yes/ No

If yes, Where & When: _____

M. Are there air fresheners in office spaces or bathrooms? Yes/ No

If yes, Where & Type: Aerosol spray – Champion Spray-On

N. Are there exhaust fans (e.g., break rooms, bathrooms, other locations)? Yes/ No

If yes, where vented and how often do they run: Daily for dust in processing areas

O. Has there been a pesticide application on the grounds? Yes/ No

If yes, When & Type: Annually in the Spring

P. Is smoking allowed on the property? Yes/ No

If yes, is it allowed within buildings and where? In designated area

Q. Are there odors in the building? Yes/ No

If yes, please describe: From types of materials handled

R. Are solvents used within the building? Yes/ No

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, etc.)

If yes, what types of solvents are used: Small amounts in maintenance shops

S. Is groundwater extracted for any purpose (e.g., cooling water, geothermal, etc.)? Yes No

If yes, how many extraction wells, what depths and what is the rate of extraction: _____

T. Are there any air handling units in the building? Yes No

If yes, locations, sizes, intakes & exhaust: _____

U. Are there any doors (overhead/bay or others) that are routinely open? Yes No

If yes, note locations, sizes, and approximate times open: Over 20 opened daily for receiving and shipping

V. Do any of the building occupants regularly use a dry-cleaning service?

Yes, use dry-cleaning regularly (weekly): 60 employees use uniform service by Doritex (for entire facility)

No, use dry-cleaning infrequently (monthly or less): _____

Based on Information obtained list all potential soil gas entry points and there sizes (e.g., cracks in floor, void space, piping, utility ports, sumps, elevator pits, lifts, drains, etc.).

[Note: See page 12 & 13 for additional information to be collected on each potential soil gas entry point (i.e., photographs, PID and landfill gas measurements, etc.)]

Comments:

Section IV – Occupancy/General Use

Location Use	Occupied (list hours/shifts)	Number of Employees (Full/Part-time)	Approx. Sq. Ft.	Level (basement, 1st Floor, 2nd Floor, etc.)	Brief Summary of Business/ Operations in Area (include additional sheets as necessary)
Office	8am - 5pm	9			Sales and Accounting
Manufacturing/ Production	5am – 7pm	25			Sort and Bale Materials
Warehouse/ Storage	5am – 7pm	20			Receive and ship materials
Garage					
Maintenance	5am – 7pm	6			Fix equipment
Conference/ Break Rooms					

Comments:

Section V – Site Layout

A. Building(s)

Draw a plan view sketch of each floor of the building. Indicate all pertinent information (including but not limited to: manufacturing areas, office areas, garage/maintenance areas, HVAC equipment, chemical storage areas, crawl spaces, locations of cracks with length, width and depth, location of settlement areas, floor penetrations, etc. Also include numbered locations of landfill gas readings and PID readings and place readings in table)

Comments:

TS

**FORMER EMERSON STREET LANDFILL
SOIL VAPOR INTRUSION
PRELIMINARY BUILDING ASSESSMENT AND SITE RECONNAISSANCE**

Parcel Information: Monroe County Resource Recovery Facility & Recycling Center

Address: 1769 Emerson Street (1845 Emerson Street and 384 Lee Road)

Owner: Monroe County

Number of Buildings: Three

Building this Sheet Represents (*fill out one for each building*): Transfer Station (Including Scale House, Tipping Area and Storage Pit)

Interviewer Information:

Name: Ariadna Cheremeteff Date/Time Prepared: 12/9/10 08:30

Consultant Firm: O'Brien & Gere Phone No.: 585-263-2820

Owner/Interviewee Information:

Last Name: Rutkowski First Name: Russell

Address: 39 West Main Street

Company: Monroe County, New York

Office Phone: 585-753-7515

Tenant Information (if any):

Tenant Contact Person: Jeff Meyers

Address: 1845 Emerson Street, Rochester, NY 14606

Company: Metro Waste Paper Recovery (Cascades Recovery)

Office Phone: 585-295-4135

SECTION I - Building Construction Information

A. Site plans available? (e.g., foundation construction, utility locations/chases, etc.): Yes/ No

If yes, can copies be obtained? Yes

B. Does owner have knowledge that ash or solid waste was removed at time of building construction:
Yes/ No

If yes, are any documents available? _____

C. Building Construction

	Construction Type	Finish Type	Sealed	Square Feet
Basement	None			
Crawl Space	None			
First Floor	Slab on grade	Concrete	None	
Foundation Walls	Concrete			
2nd Floor	Concrete			

D. Any additions to building: Yes/ No

If yes, list dates and locations: _____

If yes, note variations in construction: _____

E. Utility/Floor Penetrations

	Location(s)	Size/Description
Electric	RGE	
Gas	RGE	
Water	Municipal	
Sewer/Wastewater	Municipal	
Sumps	None observed	
Floor/Trench Drains	Many throughout the facility	
Dry Well	None observed	
Oil/Water Separators	One in the Transfer Station	Small in size
Cracks in Floor	Significant cracks on the tipping floor	
Expansion Joints	N/A	
Floating Slab	N/A	
Monitoring Points	None observed	
Scales	4 scales located in the scale house.	
Utility Vaults	None	
Elevators		

Other		
--------------	--	--

F. Does facility have an on-Site septic system? Yes() No()

If yes, where and size: _____

G. Does facility provide pretreatment of wastewater prior to discharge to sanitary sewer? Yes() No()

If yes, What type of pretreatment is conducted: There is a small oil/water separator in transfer station

H. Is there a vapor barrier associated with the foundation system? Yes() No()

If yes, indicate type/material, location, thickness, etc.: _____

I. Is there a radon/sub-slab soil vapor mitigation system on any portion of the building? Yes() No()

If yes, describe system and date installed: _____

If yes, Is the system active or passive? _____

If yes, Is system currently operational? _____

J. Standing water or wet areas in lower levels? Yes() No()

If yes, list location and describe: _____

If yes, how frequent: less than 1/yr; 1-2 times/yr; or, more than 3 times/yr

K. Is the building insulated? Yes() No()

If yes, location(s) and type? _____

L. Are there any settlement issues with the building? Yes() No()

If yes, describe: _____

M. Are there any cracks in floor slabs (1st floor or basement)?

If yes, location(s), width, etc.? Various sized cracks throughout structure.

N. Are there any elevators in the building? Yes() No()

If yes, describe construction and condition of pit (poured concrete, cinder block, etc.) _____

Comments:

SECTION II – Heating, Ventilation and Air Conditioning Information

A. Type of heating system(s) used in this building: *(circle all that apply - note primary)*

- Forced hot air (prime) Heat pump Hot water baseboard
 Space Heaters Stream radiation Radiant floor
 Electric baseboard Other: _____

For each heat system/unit, provide the following:

Unit Type	Unit Location	Areas Heated	Unit Size	Pressurization (neg. vs. positive)	Air Communication with other areas (duct work, doors, etc.)
Amana PTAC	Scale house	Scale house Office		Pos	Forced air

B. Type of fuel used: *(circle all that apply)*

- Natural Gas Fuel Oil Kerosene
 Electric Propane Solar
 Wood Coal Other: _____

If more than one list locations: _____

C. Domestic hot water tank fueled by: _____

D. Air conditioning: Central Air (RRF) Window units(MCRC) None

Comments: Owner indicated positive pressure but could not confirm.

SECTION III – Indoor Air Quality Influence Factors

A. Is there a garage, service area, or processing area in building? Yes/No No

If yes, list all that apply: _____

1. Does the garage, service or manufacturing areas have separate heating unit/system? Yes/No/NA NA

2. Are petroleum-powered machines or vehicles used or stored within the garage, service area or manufacturing area of building? (e.g., forklifts, vehicle fleet, lawnmower, etc.) Yes/No/NA

If yes, specify: Constant traffic of garbage trucks, haulers, loaders and excavators

B. Are there any current or former USTs, **ASTs** or Fueling Facilities on the property? Yes/No

If yes, specify location: Current above ground oil in maintenance area. Former under ground tanks corner of Lee and Emerson

C. Are there any current or former hydraulic lifts at the property? Yes/No No

If yes, locations and note if underground or above ground: _____

D. Are there any current or former petroleum or chemical spills at the Site? Yes/No

If yes, specify location, quantity, material and date: Nothing significant – all reported and cleaned Up

E. Are there any current or former groundwater monitoring wells at the Site? Yes/No

If yes, specify location and accessibility: State owned

F. Has the building ever had a fire? Yes/No

If yes, When: RRF/TS multiple in early 1980's, MCRC 1999

G. Is there a maintenance area? Yes/No No

If yes, Where: _____

H. Are there any parts cleaners used at the site? Yes/No

If yes, list location(s) and solvent types: _____

I. Are there any drum and/or chemical storage areas? Yes/No

If yes, list location(s) and materials: _____

J. Are cleaning products used routinely? Yes/No

If yes, When & Where: _____

K. Has painting/staining been done in the last 6 months? Yes/No

If yes, When & Where: _____

L. Is there new carpet, drapes or other textiles within installed within the last year? Yes/No

If yes, Where & When: _____

M. Are there air fresheners in office spaces or bathrooms? Yes/No

If yes, Where & Type: _____

N. Are there exhaust fans (e.g., break rooms, bathrooms, other locations)? Yes/No

If yes, where vented and how often do they run: _____

O. Has there been a pesticide application on the grounds? Yes/No

If yes, When & Type: Annually in the Spring

P. Is smoking allowed on the property? Yes/No

If yes, is it allowed within buildings and where? In designated areas

Q. Are there odors in the building? Yes/No

If yes, please describe: From types of materials handled

R. Are solvents used within the building? Yes/No

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, etc.)

If yes, what types of solvents are used: _____

S. Is groundwater extracted for any purpose (e.g., cooling water, geothermal, etc.)? Yes No

If yes, how many extraction wells, what depths and what is the rate of extraction: _____

T. Are there any air handling units in the building? Yes No

If yes, locations, sizes, intakes & exhaust: One to cool/heat a small scale house office

U. Are there any doors (overhead/bay or others) that are routinely open? Yes No

If yes, note locations, sizes, and approximate times open: In the scale house – open most of the day for garbage truck weigh in prior to tipping

V. Do any of the building occupants regularly use a dry-cleaning service?

Yes, use dry-cleaning regularly (weekly): 60 employees use uniform service by Doritex (for entire facility)

No, use dry-cleaning infrequently (monthly or less): _____

Based on Information obtained list all potential soil gas entry points and there sizes (e.g., cracks in floor, void space, piping, utility ports, sumps, elevator pits, lifts, drains, etc.).

[Note: See page 12 & 13 for additional information to be collected on each potential soil gas entry point (i.e., photographs, PID and landfill gas measurements, etc.)]

Comments:

Section IV – Occupancy/General Use

Location Use	Occupied (list hours/shifts)	Number of Employees (Full/Part-time)	Approx. Sq. Ft.	Level (basement, 1st Floor, 2nd Floor, etc.)	Brief Summary of Business/ Operations in Area (include additional sheets as necessary)
Office					
Manufacturing/ Production					
Warehouse/ Storage	5am – 7pm	20			Receive and ship materials
Garage					
Maintenance					
Conference/ Break Rooms					

Comments:

MCRC

**FORMER EMERSON STREET LANDFILL
SOIL VAPOR INTRUSION
PRELIMINARY BUILDING ASSESSMENT AND SITE RECONAISSANCE**

Parcel Information: Monroe County Resource Recovery Facility & Recycling Center

Address: 1769 Emerson Street (1845 Emerson Street and 384 Lee Road)

Owner: Monroe County

Number of Buildings: Three

Building this Sheet Represents (*fill out one for each building*): Monroe County Recycling Center (MCRC)

Interviewer Information:

Name: Ariadna Cheremeteff Date/Time Prepared: 12/9/10 08:30

Consultant Firm: O'Brien & Gere Phone No.: 585-263-2820

Owner/Interviewee Information:

Last Name: Rutkowski First Name: Russell

Address: 39 West Main Street

Company: Monroe County, New York

Office Phone: 585-753-7515

Tenant Information (if any):

Tenant Contact Person: Jeff Meyers

Address: 1845 Emerson Street, Rochester, NY 14606

Company: Metro Waste Paper Recovery (Cascades Recovery)

Office Phone: 585-295-4135

SECTION I - Building Construction Information

A. Site plans available? (e.g., foundation construction, utility locations/chases, etc.): Yes/ No

If yes, can copies be obtained? Yes

B. Does owner have knowledge that ash or solid waste was removed at time of building construction: Yes/ No

If yes, are any documents available? Yard waste debris

C. Building Construction

	Construction Type	Finish Type	Sealed	Square Feet
Basement	None			
Crawl Space	None			
First Floor	Slab on grade	Concrete/rebar	None	
Foundation Walls	Concrete			
2nd Floor	Concrete			

D. Any additions to building: Yes/ No

If yes, list dates and locations: MCRC – 40,000 sq. ft. building.

If yes, note variations in construction: MCRC – concrete and steel, slab on grade construction.

E. Utility/Floor Penetrations

	Location(s)	Size/Description
Electric	Municipal	
Gas	Municipal	
Water	Municipal	
Sewer/Wastewater	Municipal	
Sumps	None observed	
Floor/Trench Drains	Many throughout the facility	
Dry Well	None observed	
Oil/Water Separators	None	
Cracks in Floor	Significant in the MCRC bay area.	
Expansion Joints	N/A	
Floating Slab	N/A	
Monitoring Points	None observed	
Scales	None	
Utility Vaults	None	
Elevators	None	
Other		

--	--	--

F. Does facility have an on-Site septic system? Yes/No

If yes, where and size: _____

G. Does facility provide pretreatment of wastewater prior to discharge to sanitary sewer? Yes/No

If yes, What type of pretreatment is conducted: _____

H. Is there a vapor barrier associated with the foundation system? Yes/No

If yes, indicate type/material, location, thickness, etc.: _____

I. Is there a radon/sub-slab soil vapor mitigation system on any portion of the building? Yes/No

If yes, describe system and date installed: _____

If yes, Is the system active or passive? _____

If yes, Is system currently operational? _____

J. Standing water or wet areas in lower levels? Yes/No

If yes, list location and describe: _____

If yes, how frequent: less than 1/yr; 1-2 times/yr; or, more than 3 times/yr

K. Is the building insulated? Yes/No

If yes, location(s) and type? _____

L. Are there any settlement issues with the building? Yes/No

If yes, describe: _____

M. Are there any cracks in floor slabs (1st floor or basement)?

If yes, location(s), width, etc.? Various sized cracks throughout structure.

N. Are there any elevators in the building? Yes/No

If yes, describe construction and condition of pit (poured concrete, cinder block, etc.) _____

Comments:

SECTION II – Heating, Ventilation and Air Conditioning Information

A. Type of heating system(s) used in this building: *(circle all that apply - note primary)*

- Forced hot air (prime) Heat pump Hot water baseboard
 Space Heaters Stream radiation Radiant floor
 Electric baseboard Other: _____

For each heat system/unit, provide the following:

Unit Type	Unit Location	Areas Heated	Unit Size	Pressurization (neg. vs. positive)	Air Communication with other areas (duct work, doors, etc.)
Hastings	MCRC 2 nd Floor	MCRC Roof	SBD227-29-1972	Pos	Forced air
Trane Condenser	MCRC Parking	MCRC Office Up	TTA120B400AB	Pos	Forced air
Core Vac	Window (2)	MCRC Office down		Pos	Duct

B. Type of fuel used: *(circle all that apply)*

- Natural Gas Fuel Oil Kerosene
 Electric Propane Solar
 Wood Coal Other: _____

If more than one list locations: _____

C. Domestic hot water tank fueled by: Electric

D. Air conditioning: Central Air (RRF) Window units(MCRC) None

Comments: Owner indicated positive pressure, but could not confirm.

SECTION III – Indoor Air Quality Influence Factors

A. Is there a garage, service area, or processing area in building? Yes/No

If yes, list all that apply: Maintenance shop

1. Does the garage, service or manufacturing areas have separate heating unit/system? Yes/ No/NA

2. Are petroleum-powered machines or vehicles used or stored within the garage, service area or manufacturing area of building? (e.g., forklifts, vehicle fleet, lawnmower, etc.) Yes/No/NA

If yes, specify: Many forklifts, loaders and excavators

B. Are there any current or former USTs, **ASTs** or Fueling Facilities on the property? Yes/No

If yes, specify location: Current above ground oil in maintenance area. Former under ground tanks corner of Lee and Emerson

C. Are there any current or former hydraulic lifts at the property? Yes/No

If yes, locations and note if underground or above ground: _____

D. Are there any current or former petroleum or chemical spills at the Site? Yes/No

If yes, specify location, quantity, material and date: Nothing significant – all reported and cleaned Up

E. Are there any current or former groundwater monitoring wells at the Site? Yes/No

If yes, specify location and accessibility: State owned

F. Has the building ever had a fire? Yes/No

If yes, When: MCRC 1999

G. Is there a maintenance area? Yes/No

If yes, Where: MCRC have mechanics shops

H. Are there any parts cleaners used at the site? Yes/No

If yes, list location(s) and solvent types: _____

I. Are there any drum and/or chemical storage areas? Yes/No

If yes, list location(s) and materials: _____

J. Are cleaning products used routinely? Yes/No

If yes, When & Where: Mechanics use small amounts daily

K. Has painting/staining been done in the last 6 months? Yes/No

If yes, When & Where: Outside

L. Is there new carpet, drapes or other textiles within installed within the last year? Yes/No

If yes, Where & When: _____

M. Are there air fresheners in office spaces or bathrooms? Yes/No

If yes, Where & Type: Aerosol spray – Champion Spray-On

N. Are there exhaust fans (e.g., break rooms, bathrooms, other locations)? Yes/No

If yes, where vented and how often do they run: Daily for dust in processing areas

O. Has there been a pesticide application on the grounds? Yes/No

If yes, When & Type: Annually in the Spring

P. Is smoking allowed on the property? Yes/No

If yes, is it allowed within buildings and where? In designated area

Q. Are there odors in the building? Yes/No

If yes, please describe: From types of materials handled

R. Are solvents used within the building? Yes/No

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, etc.)

If yes, what types of solvents are used: Small amounts in maintenance shops

S. Is groundwater extracted for any purpose (e.g., cooling water, geothermal, etc.)? Yes No

If yes, how many extraction wells, what depths and what is the rate of extraction: _____

T. Are there any air handling units in the building? Yes No

If yes, locations, sizes, intakes & exhaust: MCRC has large Hastings unit to keep sprinkler pipe warm

U. Are there any doors (overhead/bay or others) that are routinely open? Yes No

If yes, note locations, sizes, and approximate times open: Over 20 opened daily for receiving and shipping

V. Do any of the building occupants regularly use a dry-cleaning service?

Yes, use dry-cleaning regularly (weekly): 60 employees use uniform service by Doritex (for entire facility)

No, use dry-cleaning infrequently (monthly or less): _____

Based on Information obtained list all potential soil gas entry points and there sizes (e.g., cracks in floor, void space, piping, utility ports, sumps, elevator pits, lifts, drains, etc.).

[Note: See page 12 & 13 for additional information to be collected on each potential soil gas entry point (i.e., photographs, PID and landfill gas measurements, etc.)]

Comments:

Section IV – Occupancy/General Use

Location Use	Occupied (list hours/shifts)	Number of Employees (Full/Part-time)	Approx. Sq. Ft.	Level (basement, 1st Floor, 2nd Floor, etc.)	Brief Summary of Business/ Operations in Area (include additional sheets as necessary)
Office					
Manufacturing/ Production					
Warehouse/ Storage	5am – 7pm	20			Receive and ship materials
Garage					
Maintenance	5am – 7pm	6			Fix equipment
Conference/ Break Rooms					

Comments:

Section V – Site Layout

A. Building(s)

Draw a plan view sketch of each floor of the building. Indicate all pertinent information (including but not limited to: manufacturing areas, office areas, garage/maintenance areas, HVAC equipment, chemical storage areas, crawl spaces, locations of cracks with length, width and depth, location of settlement areas, floor penetrations, etc. Also include numbered locations of landfill gas readings and PID readings and place readings in table)

Comments:

Instrument Readings:

Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

Location	VOCs	CH4	CO2	O2	CO	H2S	Description & Comments
Units	ppb	%	%	%	ppm	ppm	
1	77	0	0.0	21	3	0	Crack in floor
2	166	0	0.0	21.1	2	0	Indoor Air
3	131	0	0.0	21.1	0	0	Boiler indoor air
4	212	0	0.0	21.1	0	0	Conduit from floor in boiler room
5	151	0	0.0	21.2	0	0	Trench drain in boiler room
6	236	0	0.0	21.2	0	0	Trench drain in boiler room
7	136	0	0.0	21.2	1	0	Floor drain - boiler room
8	132	0	0.0	21.2	1	0	Trench drain
9	121	0.1	0.0	21.6	0	0	Floor drain in stairwell
10	132	0	0.1	21.6	0	0	Bottom of elevator - not operational
11	134	0	0.0	21.7	0	0	Floor cracking
12	190	0	0.0	21.6	0	0	Indoor Air
13	255	0	0.0	21.6	0	0	Indoor Air
14	2231	-	-	-	-	-	Xylene - 5 gallon
15	198	0	0.0	21.6	0	0	Wall/floor gap
16	204	0	0.0	21.5	0	0	Conduit along wall
17	216	0	0.0	21.4	0	0	Dirty rag bin
18	278	0	0.0	21.5	0	0	Transmission fluid/wiper fluid/antifreeze 55 gallons
19	864/1778	-	-	-	-	-	Flammable cabinet
20	232	0	0.0	21.1	1	0	Indoor Air

Instrument Readings (Continued):

Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

Location	VOCs	CH4	CO2	O2	CO	H2S	Description & Comments
Units	ppb	%	%	%	ppm	ppm	
21	184	0	0.0	21.1	3	0	Hydraulic fluid/engine oil
22	160	0	0.0	21.2	6	0	Open conduit to floor
23	204	0	0.0	21.3	0	0	Indoor Air
24	111	0	0.0	21.3	0	0	Trench Drain
25	135	0	0.0	21.3	0	0	Large floor cracks
26	128	0	0.0	21.3	0	0	Large floor cracks
27	166	0	0.0	21.4	0	0	Open conduit to floor near column
28	173	0	0.0	21.3	1	0	Floor cracks near column
29	218	0	0.0	21.4	2	0	Floor drain
30	226	0	0.0	21.4	11	0	Trench drain
31	300	0	0.0	21.3	5	0	Open conduit
32	138	0	0.0	21.4	0	0	Manhole - oil interceptor
33	60	0	0.1	21.4	0	0	Scale pit
34	75	0	0.1	21.4	0	0	Scale pit
35	85	0	0.1	21.4	0	0	Scale pit
36	98	0	0.1	21.3	0	0	Scale pit
37	467	0	0.1	21.3	0	0	Indoor Air
38	101	0	0.1	21.3	0	0	Scale pit
39	123	0	0.1	21.3	0	0	Scale pit
40	141	0	0.1	21.4	0	0	Scale pit

Instrument Readings (Continued):

Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

Location	VOCs	CH4	CO2	O2	CO	H2S	Description & Comments
Units	ppb	%	%	%	ppm	ppm	
41	43	0	0.0	21.4	0	0	Large floor crack
42	347	0	0.1	21.4	0	0	Indoor Air
43	227	0	0.1	21.5	0	0	Large crack in floor
44	395	0	0.1	21.4	0	0	Floor drain
45	393	0	0.1	21.5	0	0	Indoor Air
46	313	0	0.1	21.4	0	0	Indoor - Fire pump room
47	293	0	0.1	21.5	0	0	Floor drain - Fire pump room
48	291	0	0.1	21.5	0	0	Large open floor space
49	1657	0	0.1	21.5	0	0	Pit under conveyor
50	1866	0	0.1	21.5	0	0	Large floor cracks
51	1215	0	0.1	21.5	0	0	Indoor Air
52	201	0	0.1	21.5	0	0	Floor trench
53	505	0	0.1	21.6	0	0	Indoor Air
54	295	0	0.1	21.6	0	0	Floor Trench
55	461	0	0.1	21.6	0	0	Floor Trench
56	698	0	0.0	21.6	0	0	Indoor Air
57	429	0	0.1	21.6	0	0	Floor joint
58	706	0	0.1	21.6	0	0	Floor cracks
59	931	0	0.1	21.6	0	0	Broken floor
60	3902	0	0.1	21.6	0	0	Broken floor

Instrument Readings (Continued):

Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

Location	VOCs	CH4	CO2	O2	CO	H2S	Description & Comments
Units	ppb	%	%	%	ppm	ppm	
61	1766	0	0.1	21.7	0	0	Indoor Air
62	661	0	0.1	21.7	0	0	Drains
63	970	0	0.1	21.7	0	0	Floor cracks
64	941	0	0.1	21.7	0	0	Indoor Air
65	2537	0	0.1	21.6	0	0	Cracks
66	1408	0	0.1	21.6	0	0	Indoor Air
67	1265	0	0.1	21.6	0	0	Indoor Air
68	480	0	0.1	21.6	0	0	Utility conduit
69	489	0	0.1	21.5	19	0	Dock 1
70	629	0	0.1	21.5	18	0	Floor crack
71	858	0	0.1	21.4	29	0	Indoor Air
72	225	0	0.1	21.3	14	0	Dock 2
73	158	0	0.1	21.4	9	0	Dock 3
74	160	0	0.1	21.5	9	0	Dock 5
75	557	0	0.1	21.4	8	0	Steel plated vault area
76	788	0	0.1	21.4	8	0	Indoor air
77	1357	0	0.1	21.4	12	0	Floor crack
78	1304	0	0.1	21.4	21	0	Indoor Air
79	239	0	0.1	21.3	0.9	0	Floor cracks
80	95	0	0.1	21.4	6	0	Floor - broken concrete

Instrument Readings (Continued):

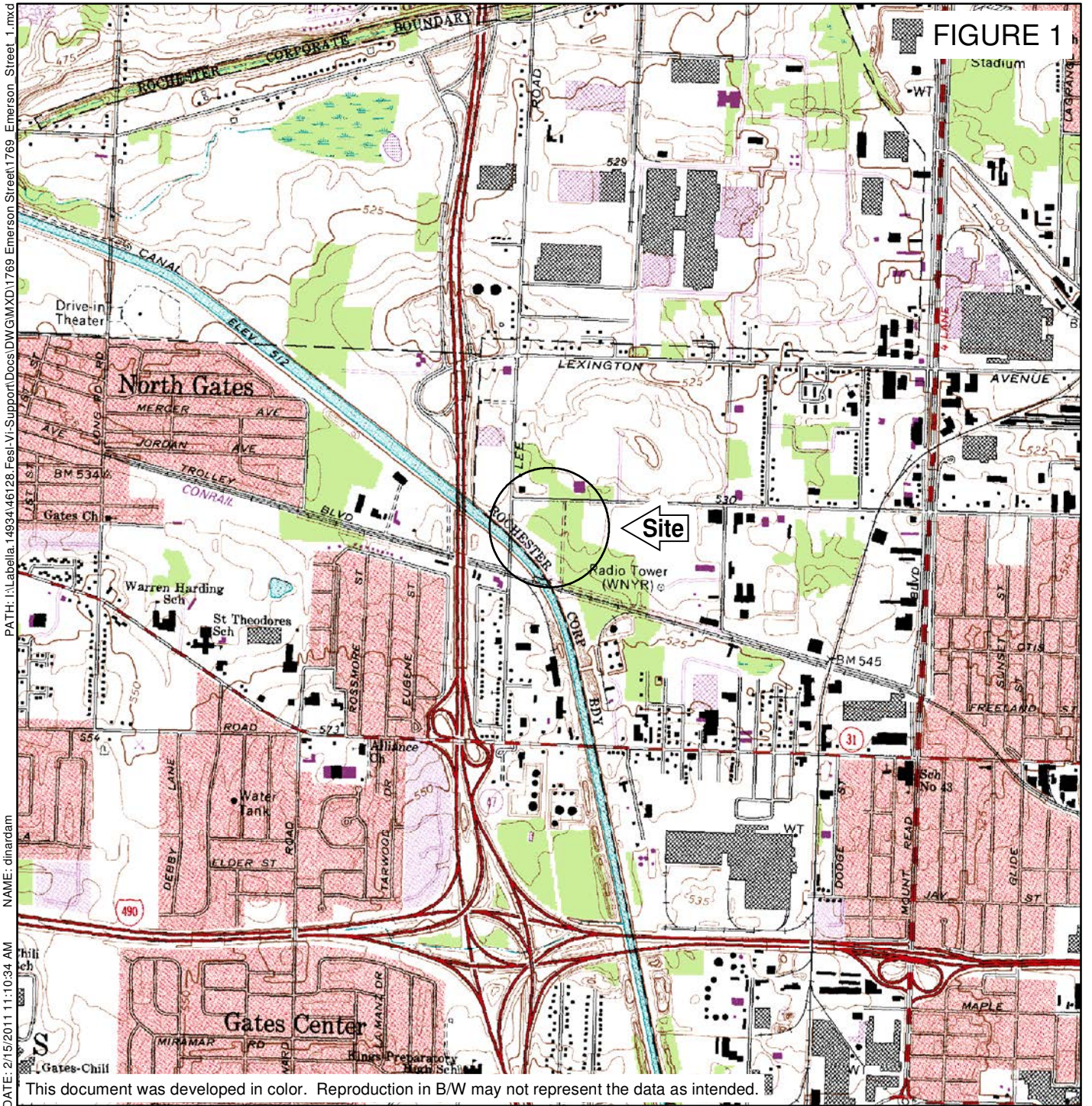
Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

Location	VOCs	CH4	CO2	O2	CO	H2S	Description & Comments
Units	ppb	%	%	%	ppm	ppm	
81	61	0	0.0	21.3	0	0	Floor crack
82	65	0	0.0	21.3	0	0	Indoor air
83	74	0	0.1	21.6	0	0	Floor drain
84	73	0	0.1	21.6	0	0	Crack
85	41	0	0.1	21.6	0	0	Trench
86	30	0	0.1	21.3	0	0	Hole in steel plate over vault
87	97	0	0.1	21.2	0	0	Drain in floor
88	67	0	0.1	21.2	0	0	Floor crack
89	71	0	0.1	21.3	0	0	Indoor air
90	56	0	0.1	21.2	1	0	Open utility conduit
91	90	0	0.2	20.7	0	0	Floor drain ladies room, office area, base floor
92	502	0.1	0.1	20.6	0	0	Floor drain mens room, office area, base floor
93	18	0	0.1	20.7	0	0	Floor drain staircase corridor, office area, base floor
94	148	0	0.1	20.8	0	0	Shredding room, broken cinder - block at wall/floor
95	130	0	0.1	20.5	0	0	Shredding room, water seepage at ceiling
96	33	0	0.1	20.9	0	0	Outside wall shredding room, broken block at floor
97	144	0	0.0	20.8	0	0	RRF - 1" open pipe
98	150	0	0.0	20.8	0	0	RRF - Floor/wall joint
99	0	0	0.0	20.8	0	0	Catch basin
100	401	0	1.0	20.9	2	0	Floor drain, mechanic's room , MCRC

Instrument Readings (Continued):

Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

Location	VOCs	CH4	CO2	O2	CO	H2S	Description & Comments
Units	ppb	%	%	%	ppm	ppm	
101	608	0	0.1	20.8	17	0	MCRC mech room
102	0	0	0.0	20.9	3	0	Exterior Catch basin
103	0	0	0.0	21.0	0	0	Exterior Trench drain
104	0	0	0.0	21.1	0	0	Exterior Catch basin
105	19,000	0	0.0	21.2	0	0	Recheck well w/readings from 12/8 - outside
106	0	8.1	0.0	21.2	0	0	Pumping station #1
107	0	0	0.0	21.4	0	0	Exterior Catch basin
108	0	0	0.0	21.4	0	0	Retaining wall drain
109	0	0	0.1	21.5	0	0	Exterior Catch basin
110	0	0	0.1	21.5	0	0	Exterior Catch basin
111	0	0	0.1	21.6	0	0	Exterior Catch basin
112	0	0	0.0	21.6	0	0	Exterior Catch basin
113	0	0	0.0	21.6	0	0	Exterior Catch basin
114	0	0	0.0	21.6	0	0	Exterior Catch basin
115	0	0	0.2	21.4	0	0	Elevator equipment room - wall penetration into elevator pit
116	0	0	0.2	21.2	0	0	Wall/Roof joint - near conduit, elect. room
117	0	0	0.1	21.3	5	0	Elect. room - man standpipe
118							
119							
120							



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 AND RECOVERY FACILITY
 1769 EMERSON STREET
 ROCHESTER, NEW YORK



SITE LOCATION

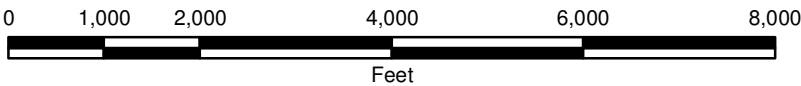


FIGURE 2



LEGEND

LOCATION TYPE

- ◆ INDOOR AIR
- VAPOR SAMPLING POINT

(SAMPLE LOCATION) 1 (ppbRAE READING) 30 (ppb)

- NOTES:
1. BASEMAP PROVIDED BY LABELLA ASSOCIATES, PC.
 2. DATA COLLECTED ON DEC. 8 AND DEC. 9, 2010.
 3. LOCATIONS ARE APPROXIMATE.
 4. VAPOR SAMPLING WAS CONDUCTED DURING NORMAL OPERATING CONDITIONS.

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**AIR QUALITY SURVEY -
 RESOURCE RECOVERY
 FACILITY**

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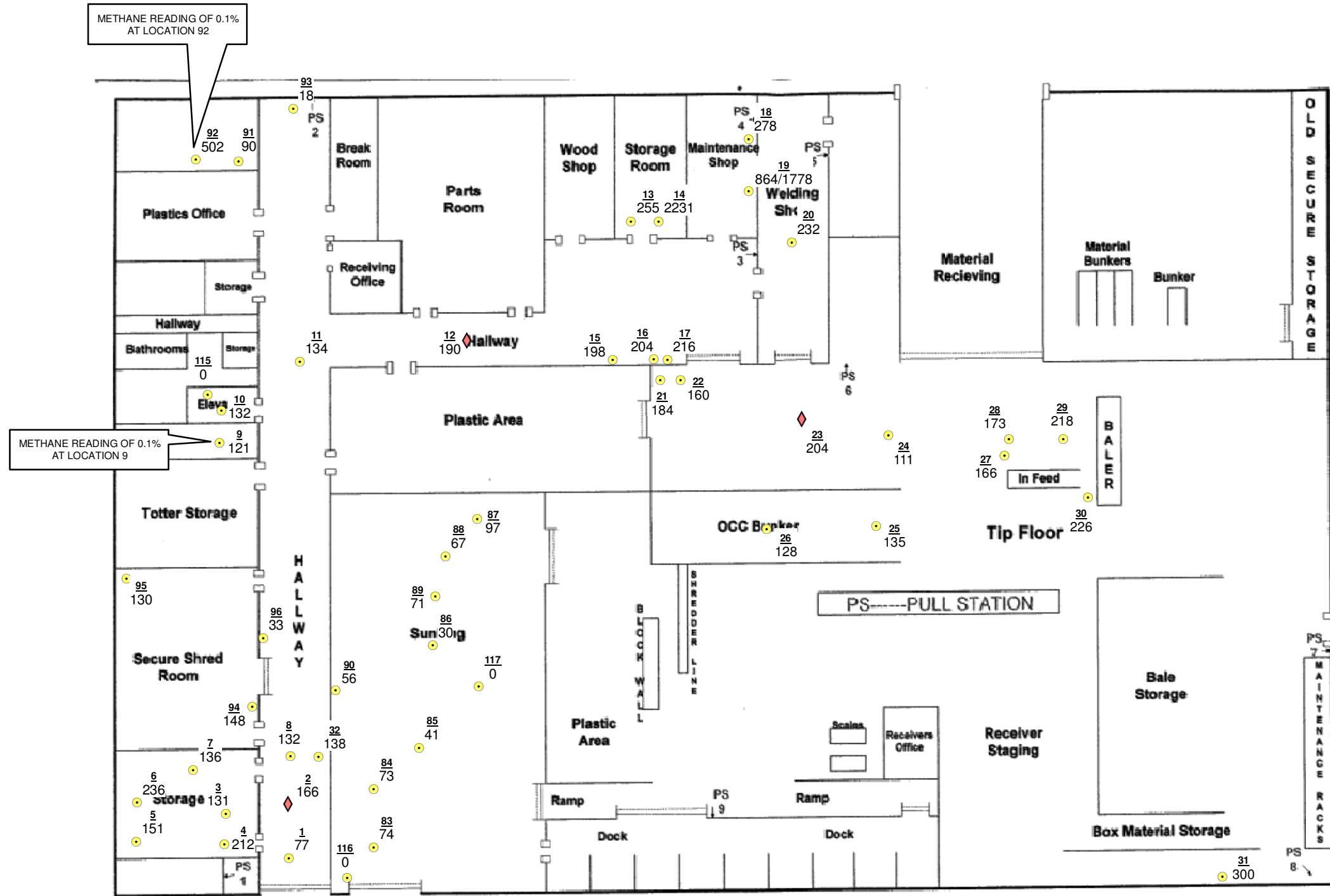
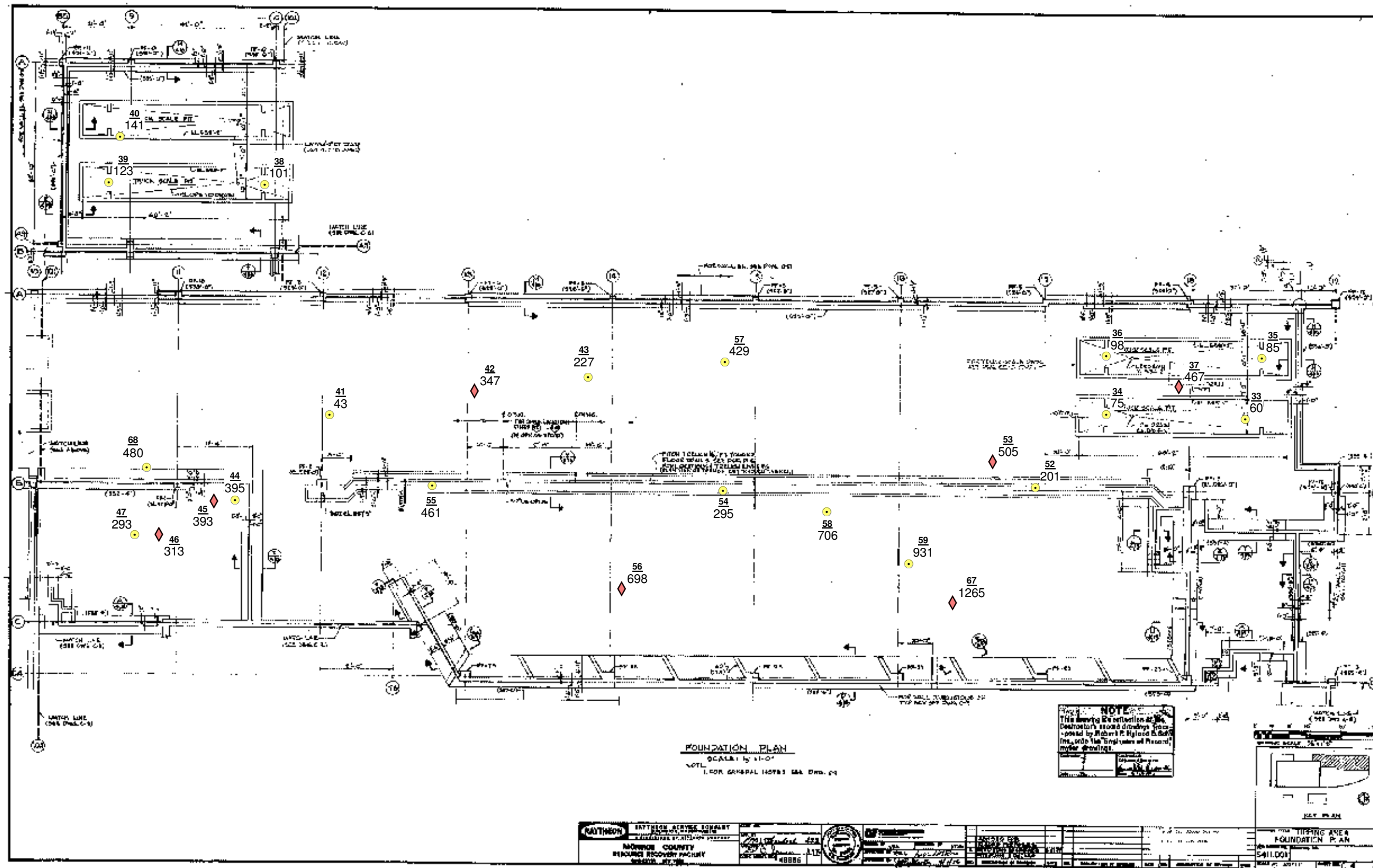


FIGURE 3



LEGEND

- LOCATION TYPE
- ◆ INDOOR AIR
 - VAPOR SAMPLING POINT

(SAMPLE LOCATION) 1
 (ppbRAE READING) 30 (ppb)

- NOTES:
1. BASEMAP PROVIDED BY LABELLA ASSOCIATES, PC.
 2. DATA COLLECTED ON DEC. 8 AND DEC. 9, 2010.
 3. LOCATIONS ARE APPROXIMATE.
 4. VAPOR SAMPLING WAS CONDUCTED DURING NORMAL OPERATION CONDITIONS.

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 MONROE COUNTY RESOURCE
 AND RECOVERY FACILITY
 1769 EMERSON STREET
 ROCHESTER, NEW YORK

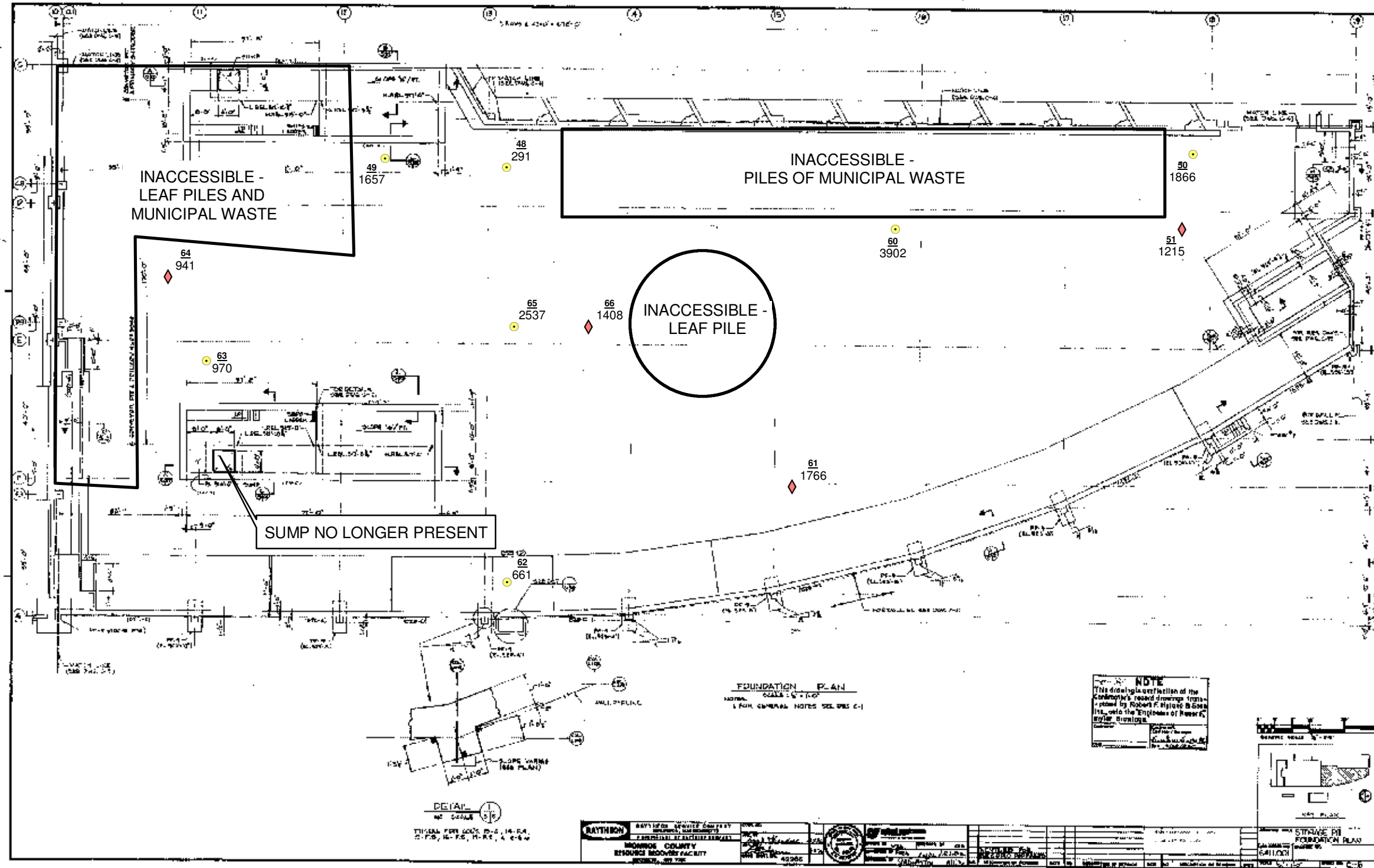
AIR QUALITY SURVEY - TIPPING AREA

NOT TO SCALE

FOUNDATION PLAN
 SCALE: 1/4" = 1'-0"
 NOT FOR GENERAL HOBBY USE ONLY

<p>NOTE: THIS DRAWING IS THE PROPERTY OF THE DESIGNER AND SHOULD BE KEPT IN A SAFE PLACE. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. IT IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE DESIGNER.</p>	<p>DATE: 02/15/2011</p>	<p>PROJECT: MONROE COUNTY RESOURCE RECOVERY FACILITY</p>	<p>CLIENT: MONROE COUNTY</p>	<p>DESIGNER: LABELLA ASSOCIATES, PC</p>	<p>SCALE: 1/4" = 1'-0"</p>	<p>PROJECT NO: 1769</p>	<p>DATE: 02/15/2011</p>
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FIGURE 4



LEGEND

- LOCATION TYPE
- ◆ INDOOR AIR
 - VAPOR SAMPLING POINT

(SAMPLE LOCATION) 1
(ppbRAE READING) 30 (ppb)

- NOTES:
1. BASEMAP PROVIDED BY LABELLA ASSOCIATES, PC.
 2. DATA COLLECTED ON DEC. 8 AND DEC. 9, 2010.
 3. LOCATIONS ARE APPROXIMATE.
 4. VAPOR SAMPLING WAS CONDUCTED DURING NORMAL OPERATION CONDITIONS.

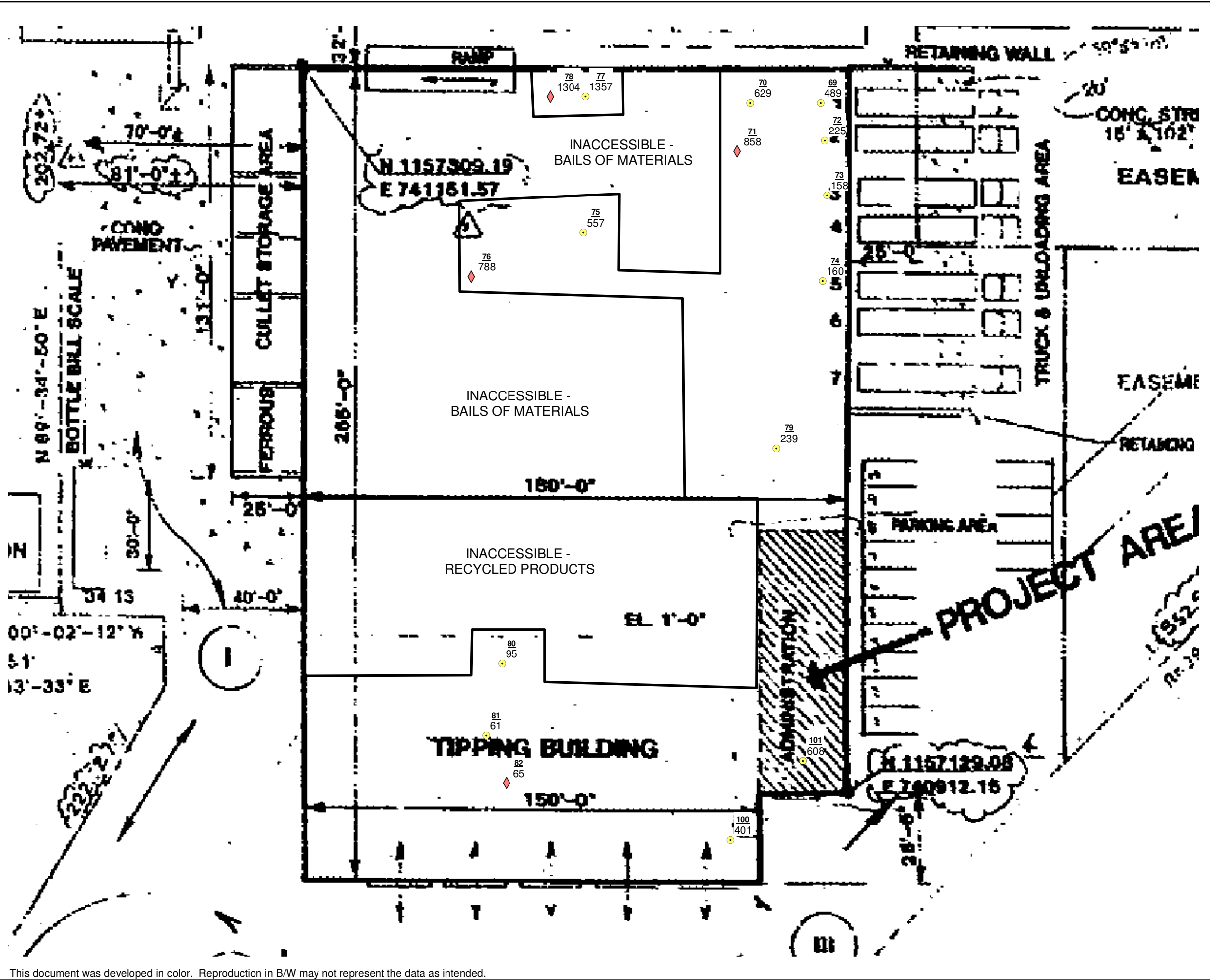
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AIR QUALITY SURVEY -
TRANSFER STATION

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FIGURE 5



LEGEND

LOCATION TYPE

- ◆ INDOOR AIR
- VAPOR SAMPLING POINT

(SAMPLE LOCATION) 1
(ppbRAE READING) 30 (ppb)

- NOTES:
1. BASEMAP PROVIDED BY LABELLA ASSOCIATES, PC.
 2. DATA COLLECTED ON DEC. 8 AND DEC. 9, 2010.
 3. LOCATIONS ARE APPROXIMATE.
 4. VAPOR SAMPLING WAS CONDUCTED DURING NORMAL OPERATION CONDITIONS.

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AIR QUALITY SURVEY -
RECYCLING CENTER

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FIGURE 6



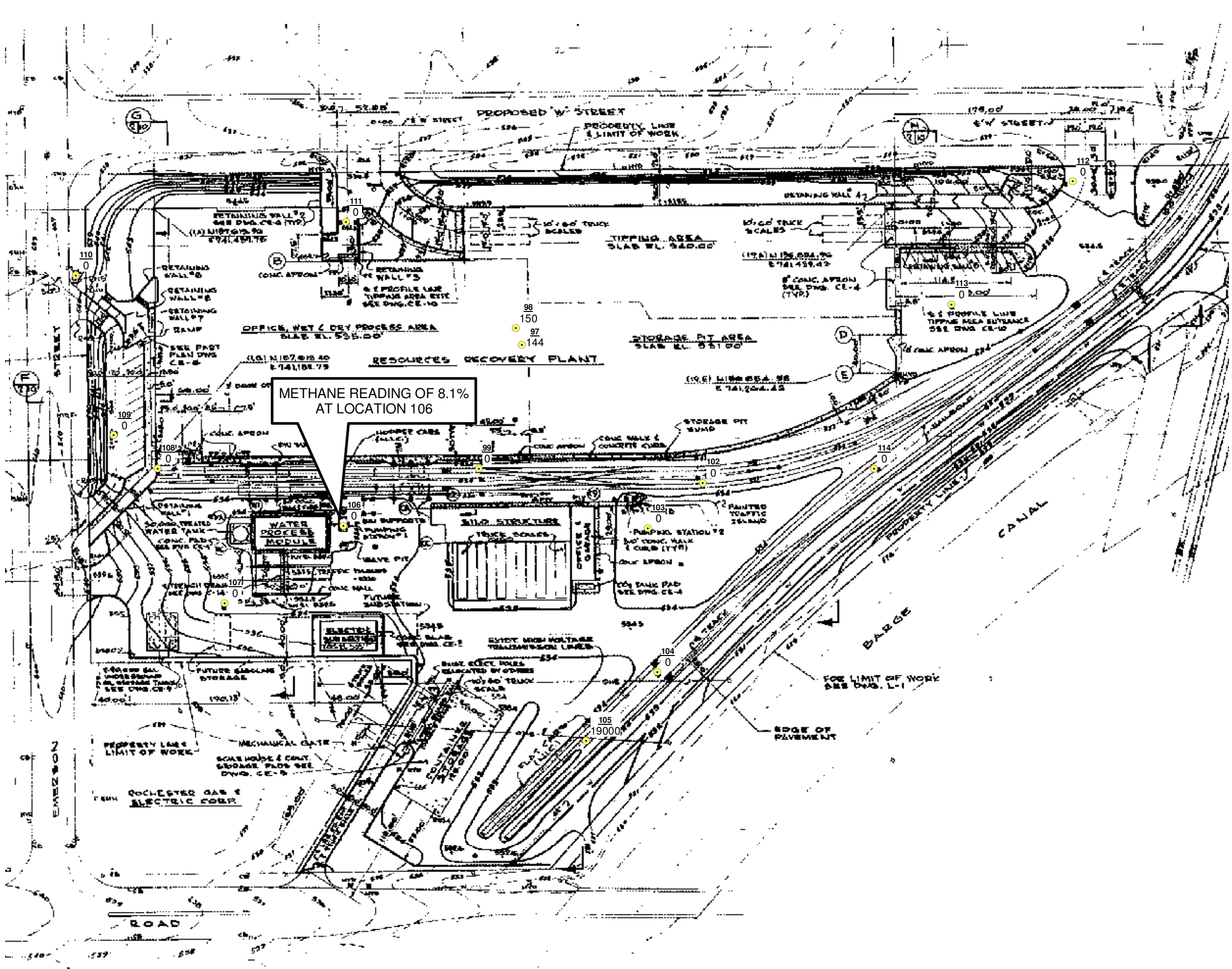
LEGEND

LOCATION TYPE

- ◆ INDOOR AIR
- VAPOR SAMPLING POINT

(SAMPLE LOCATION) 1
(ppbRAE READING) 30 (ppb)

- NOTES:
1. BASEMAP PROVIDED BY LABELLA ASSOCIATES, PC.
 2. DATA COLLECTED ON DEC. 8 AND DEC. 9, 2010.
 3. LOCATIONS ARE APPROXIMATE.
 4. VAPOR SAMPLING WAS CONDUCTED DURING NORMAL OPERATING CONDITIONS.



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**AIR QUALITY SURVEY -
 RESOURCE RECOVERY
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14934/46128





Location #1 – Crack in floor



Location #4 – Conduit from floor in boiler room



Location #4 – Conduit from floor in boiler room



Locations #5 & #6 – Trench drain in boiler room



Location # 7 – Floor drain in boiler room



Location # 8 – Trench drain



Location # 9 – Floor drain in stairwell



Location #10 – Bottom of elevator (not operational)



Location #11 – Floor cracking



Location #14 – Xylene (5-gallon)



Location #15 – Wall/floor gap



Location #16 – Conduit along wall



Location #17 – Dirty rag bin



Location #18 – Transmission fluid/wiper fluid/antifreeze (55-gallon drums)



Location #19 – Flammable cabinet



Location #19 – Flammable cabinet



Location #21 – Hydraulic fluid/engine oil



Location #22 – Open conduit to floor



Location #24 – Trench drain



Location #25 – Large floor cracks



Location #26 – Large floor cracks



Locations #27 & 28 – Open conduit to floor near column/floor cracks near column



Location #29 – Floor drain



Location #30 – Trench drain



Location #31 – Open conduit



Location #32 – Manhole (oil interceptor)



Location #33 – Scale pit



Location #34 – Scale pit



Location #35 – Scale pit



Location #36 – Scale pit



Location #38 – Scale pit



Location #39 – Scale pit



Location #40 – Scale pit



Location #41 – Large floor crack



Location #42 – Indoor air



Location #43 – Large crack in floor



Location #44 – Floor drain



Location #47 – Floor drain in fire pump room



Location #48 – Large open floor space



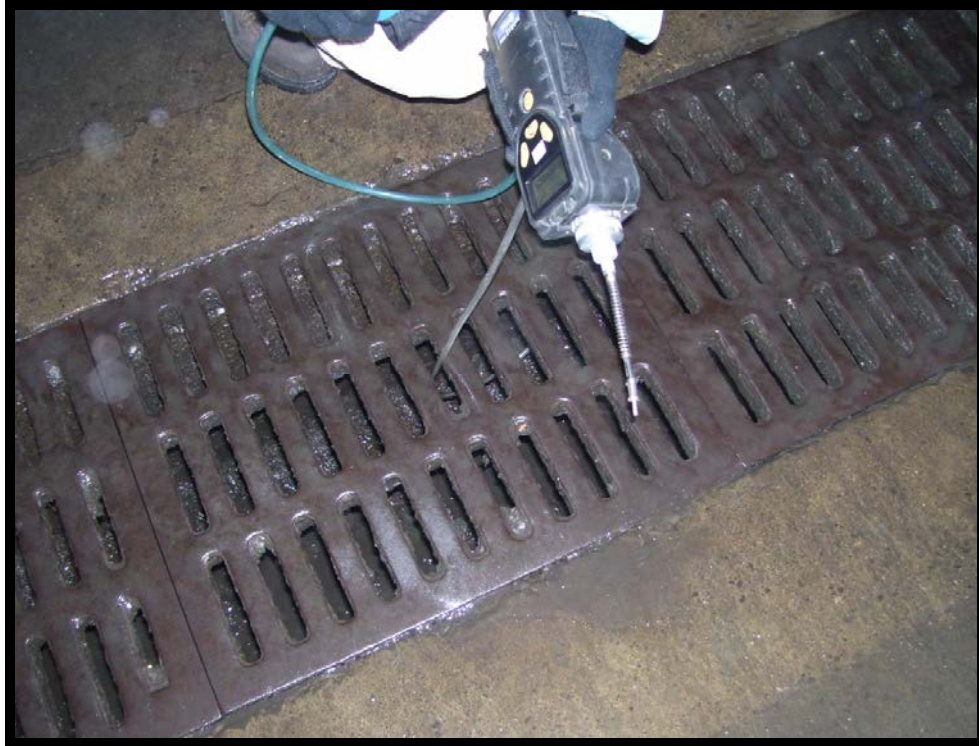
Location #49 – Pit under conveyor



Location #50 – Large floor cracks



Location #52 – Floor trench



Location #54 – Floor trench



Location #55 – Floor trench



Location #57 – Floor joint



Location #58 – Floor cracks



Location #59 – Broken floor



Location #60 – Broken floor



Location #63 – Floor cracks



Location #65 – Floor cracks



Location #68 – Utility conduit



Location #69 – Dock 1



Location #70 – Floor crack



Location #75 – Steel plated vault area



Location #79 – Floor cracks



Location #80 – Broken concrete



Location #81 – Floor crack



Location #83 – Floor drain



Location #84 – Crack



Location #86 – Hole in steel plate over vault



Location #87 – Drain in floor



Location #88 – Floor crack



Location #90 – Open utility conduit



Location #91 – Floor drain ladies room (office area, base floor)



Location #92 – Floor drain men’s room (office area, base floor)



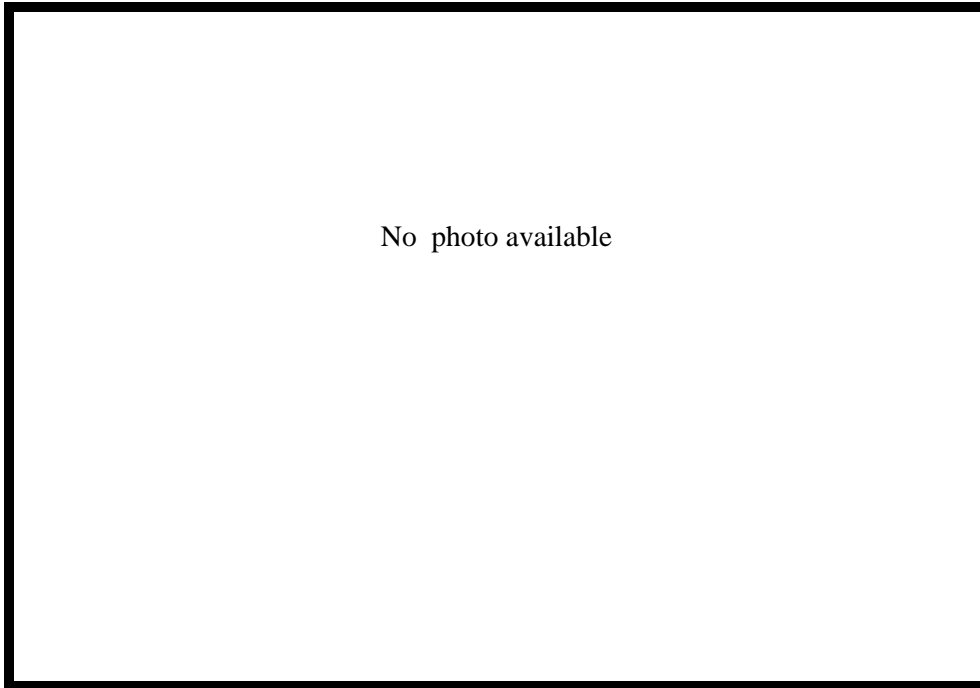
Location #93 – Floor drain staircase corridor (office area, base floor)



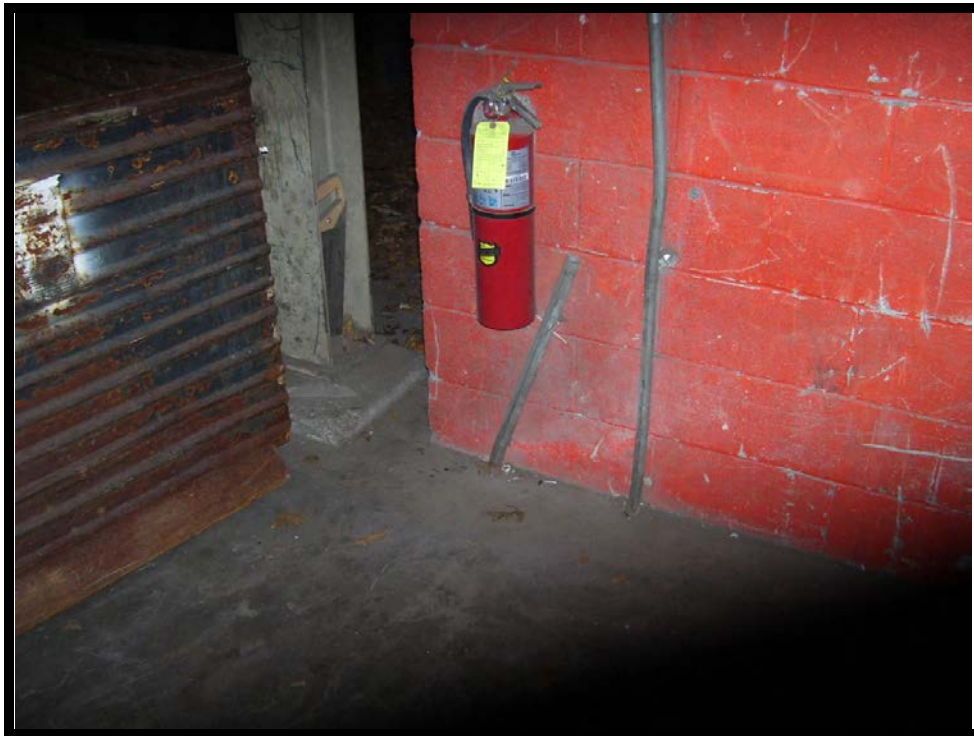
Location #94 – Broken cinder block wall at floor in shredding room



Location #95 – Water seepage at ceiling in shredding room



Location #96 – Outside wall shredding room (broken block at floor)



Location #97 – 1” Open pipe in RRF



Location #98 – Floor/wall joint in RRF



Location #99 – Catch basin



Location #100 – Floor drain in mechanic's room (MCRC)



Location #102 – Exterior catch basin



Location #103 – Exterior trench drain



Location #104 – Exterior catch basin



Location #105 – Recheck well w/readings from 12/8



Location #105 – Recheck well w/readings from 12/8



Location #106 – Pumping station #1



Location #107 – Exterior catch basin



Location #108 – Retaining wall drain



Location #109 – Exterior catch basin



Location #110 – Exterior catch basin



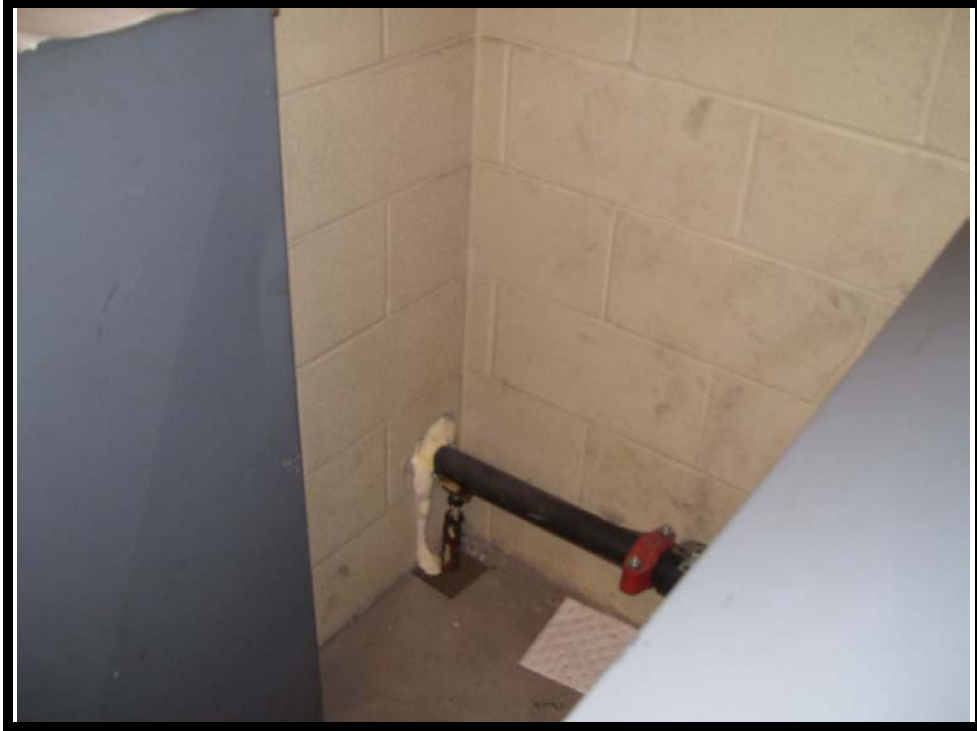
Location #111 – Exterior catch basin



Location #112 – Exterior catch basin



Location #113 – Exterior catch basin



Location #115 – Wall penetration into elevator pit (elevator equipment room)



Location #116 – Wall/roof joint near conduit



Location #117 – Electric room (manual standpipe)



Oil/water separator



Scale pit



Wood block floor near flammable cabinet