



Construction Completion Report Sub-Slab Depressurization System NYSDEC Site #828023

Location:

1740 Emerson Street
Former Emerson Street Landfill
Rochester, New York 14606

Prepared for:

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

LaBella Project No. 210173

September 2018

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CERTIFICATION

I Daniel P. Noll certify that I am currently a NYS registered professional engineer, I had primary direct responsibility for the implementation of the subject construction program, and I certify that the Sub-Slab Depressurization System Work Plan was implemented and that all construction activities were completed in substantial conformance with the DER-approved Sub-Slab Depressurization System Work Plan.



081996

NYS Professional Engineer #

9/10/18

Date

D. P. Noll

Signature



1.0 Introduction

LaBella Associates, D.P.C. (LaBella) is pleased to submit this Construction Completion Report (CCR) for installation of a Sub-Slab Depressurization System (SSDS) at 1740 Emerson Street within the City of Rochester, Monroe County, New York, herein after referred to as the "Site". The Site is located on the Former Emerson Street Landfill (FESL), which is designated as New York State Department of Environmental Conservation (NYSDEC) Site #828023. A Site Location Map is included as Figure 1. LaBella is submitting this CCR on behalf of the City of Rochester's Division of Environmental Quality (City DEQ). This work was completed under an Order on Consent between the NYSDEC and the City.

The SSDS installation was conducted in accordance with the *Sub-Slab Depressurization Work Plan* by LaBella dated October 2017 and with the New York State Department of Health (NYSDOH) *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006 and subsequent updates.

2.0 Site Background

The Site is located on the FESL, which was operated by the City beginning between sometime in the 1940s and 1951 until 1971. The City began investigating and remediating potential soil vapor (SVI) issues at the FESL in 2009 after entering into an Order on Consent with the NYSDEC. The City established a Property Owner Soil Vapor Intrusion Technical Assistance Program which allowed all FESL property owners to have their properties evaluated for and, if warranted, mitigated for SVI due to the FESL by the City.

The Site is comprised of approximately 2.24 acres and is located in Quadrant A of the FESL, which was filled in the 1970s during the last years of the landfill's operational life. At this time, the incinerator was no longer operating properly, resulting in un-incinerated putrescible waste being deposited in Quadrant A of the landfill during that period. A groundwater plume of chlorinated volatile organic compounds (CVOCs) is located at the northern adjacent parcel addressed as 1700 Emerson Street (formerly 1655 Lexington Avenue). The CVOC plume is known as the P-1 Plume and has undergone several years of remedial investigation activities. The Site, in addition to 1700 Emerson Street and 1660 Emerson Street, are listed as a Class 3 NYSDEC Inactive Hazardous Waste Site (IHWDS). The remainder of the FESL has been delisted from the IHWDS. Figure 1 attached illustrates the Site location and surrounding area of the Site.

The Site is owned by LeChase Construction and improved with one (1) 17,358 square foot building constructed in 1975 that is utilized as office space, storage of construction equipment and maintenance of equipment (e.g., small engine repair). The Site is bounded to the north and east by vacant industrial land (1700 Emerson Street), to the west by commercial buildings and to the south by an electrical substation (RG&E) and manufacturing facilities across Emerson Street.



3.0 Previous Investigations

3.1 Guidance Documents

The City developed a Property Owner Soil Vapor Intrusion Technical Assistance Program, which allows all FESL property owners to have SSDS infrastructure installed for new buildings or additions constructed on the FESL. Two (2) guidance documents were developed for the FESL:

- *Guidance for Waste-fill Management During Site Development on the Former Emerson Street Landfill*, by LaBella dated October 2013
- *Former Emerson Street Landfill Sub-Slab Ventilation Guidance Document*, by LaBella dated October 2013

The following subsection includes a summary of recent SVI reports related to the Site.

3.2 Soil Vapor Intrusion

The following reports and work plan related to SVI exist for the Site:

- *Soil Vapor Intrusion Assessment Report*, by LaBella dated June 2011
- *Soil Vapor Intrusion Investigation Work Plan*, by LaBella, dated February 2016
- *Soil Vapor Intrusion Investigation Report*, by LaBella, dated March 2018. This report is not yet approved by NYSDEC and NYSDOH.

The initial SVI assessment consisted of a building inventory and field screening of indoor air conducted at buildings across the FESL from 2009-2011 in order to identify buildings warranting further investigation due to FESL-related SVI. The results of the initial FESL-wide assessment concluded that seven (7) buildings on the FESL in closest proximity to the P-1 Plume at 1700 Emerson Street, including the building at 1740 Emerson Street, warranted SVI testing. Subsequently, SVI testing was completed at the seven (7) buildings beginning in March 2016. Findings of the FESL-wide SVI investigation were detailed in a draft *SVI Investigation Report* dated March 2018.

SVI testing was completed at the Site in May 2016 and November 2016 in accordance with the February 2016 SVI Investigation Work Plan. The SVI testing results for the Site indicated mitigation of the Site Building was warranted. The results are summarized below.

Soil Vapor Intrusion Testing Results- Round 1 May 2016

TCE was detected in indoor air at a concentration of 0.81 $\mu\text{g}/\text{m}^3$ in one (1) sample location (1740-IAQ-3), which does not exceed the air guideline of 2 $\mu\text{g}/\text{m}^3$ for TCE derived by the NYSDOH in an August 2015 update of the NYSDOH Guidance Document. This sampling location was within an equipment storage area adjacent to the garage, which is not regularly occupied. Samples collected in the office area indicated no further action is warranted. A comparison of detected compounds in sub-slab and indoor air to the NYSDOH Guidance Document Decision Matrices indicated monitoring was warranted due to the results of sample location 1740-SVI/IAQ-3. It should be noted that the first round of sampling was not conducted within the heating season, and thus results may be biased low. The NYSDOH requested that a second round of SVI sampling be conducted within the heating season.

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Soil Vapor Intrusion Testing Results- Round 2 November 2016

A second round of SVI sampling was conducted on November 22, 2016 at the same locations sampled in May 2016. TCE was detected in all three (3) indoor air samples at concentrations of 0.75 µg/m³, 1.0 µg/m³, and 0.81 µg/m³, respectively which do not exceed the air guideline of 2 µg/m³ for TCE derived by the NYSDOH in an August 2015 update of the NYSDOH Guidance Document. PCE was detected in indoor air samples 1740-IAQ-1, 1740-IAQ-2, and 1740-IAQ-3 at concentrations of 2.6 µg/m³, 2.5 µg/m³, and 1.2 µg/m³, respectively which do not exceed the air guideline of 30 µg/m³ for PCE derived by the NYSDOH in a September 2013 update of the NYSDOH Guidance Document. Chloromethane was detected in 1740-IAQ-1 (note that there is no air guideline for chloromethane in Table 3.1 of the NYSDOH Guidance Document). A comparison of detected compounds in sub-slab and indoor air to the NYSDOH Guidance Document Decision Matrices indicated that mitigation was warranted, due to concentrations of TCE at sample location 1740-SVI/IAQ-2.

Refer to Figure 2 for testing locations and a summary of results. Tabulated data for the May 2016 and November 2016 sampling is included as Table 1 and Table 2, respectively. Data was validated by a third party validator and DUSRs were completed. Changes made in the DUSR are reflected on the tables. The DUSR indicates the data is considered technically defensible and usable. The field logs, laboratory reports, and DUSRs are included as Appendices 2, 4, and 5, respectively.

4.0 Standards, Criteria and Guidelines

This section identifies the Standards, Criteria and Guidelines (SCGs) for vapor intrusion at the Site. The SCGs identified are used in order to quantify the SVI conditions at the Site that require mitigation work based on the cleanup goal. The SCGs utilized as part of the implementation of this SSDS Work Plan are identified below:

- **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 with subsequent updates in 2013 and 2015 is utilized for the SCG for soil vapor and indoor air.

It should be noted that although the NYSDOH Decision Matrices were updated in May 2017, the May 2016 and November 2016 SVI sampling was conducted before the updated matrices; therefore, the data tables for samples collected prior to May 2017 include a comparison to the matrices prior to 2017. In comparing the 2016 data to the 2017 updates, the data still indicates mitigation of the Site Building is warranted.

5.0 Objective

The objective of this work was to mitigate FESL-related VOCs that were detected in the indoor air to concentrations below NYSDOH criteria by creating negative pressure beneath the floor slab to prevent sub-slab soil vapors from entering the building. The objective was accomplished by installing a retro-fitted SSDS beneath the entire building.



6.0 System Installation

System installation began on January 19, 2018 and was completed on February 14, 2018. The system layout is shown on Figure 3 and consists of seven (7) 3-inch diameter depressurization points installed within and beneath the floor of the building that are connected with 3 and 4-inch overhead piping within the ceiling to one (1) fan. Suction points were created by removing approximately 1 cubic foot of sub-slab material. During all sub-slab drilling, LaBella conducted air monitoring in accordance with the SSDS Work Plan. Soils were screened for methane using a landfill gas meter and VOCs using a photoionization detector (PID). Elevated PID readings and methane readings above background were not encountered.

Depressurization points were drilled through the floor one at a time and the radius of influence of each point was measured by connecting a fan to the depressurization point and measuring sub-slab pressure at varying distances from the point. This process was used to evaluate the radius of influence of each proposed depressurization point. This procedure continued until negative pressures were measured beneath all areas of the building. Depressurization points were installed within the floor to approximately the bottom of the floor slab and sealed to the floor. Vertical pipes were installed against walls and columns and connected via metal hangers and brackets. The overhead piping was sloped backwards towards the suction cavity.

Vertical risers in the shop area (depressurization points 1, 3 and 6) were constructed of 3-inch steel pipe to approximately 5-feet above the finished floor. All remaining piping was schedule 40 PVC. 3-inch piping was used for all vertical risers. 3 and 4-inch piping was used for overhead horizontal piping.

An intrinsically safe fan (Plastec Storm 12 with Polypropylene Blower with Black Fiber Impregnated housing) was installed on the roof near the center of the Site Building above the shop area as shown on Figure 3. Air intakes are not within 10 feet of the fan exhaust location. The vertical riser extends approximately 1-ft above the roofline. An audible and visual alarm and a U-tube manometer were installed on the interior vertical riser for depressurization point 2. A photograph log is included as Appendix 3.

7.0 System Startup and Post-Installation Testing

7.1 Pressure Field Extension Testing

The influence of the system was tested by measuring sub-slab pressures on the day the system was activated (February 14, 2018). Pressure field extension (PFE) testing points consisted of approximately 1/2-inch diameter holes drilled through the floor slab. Following completion of system testing, the holes were filled with backer rod and polyurethane caulk.

Sub-slab pressures were measured using a Fluke 922 Airflow Meter and ranged from -0.005 to -0.263 inches of water column ("wc). PFE testing locations and contours representing sub-slab pressures measured the day of system startup are included on Figure 4. It should be noted that pressure readings were extrapolated between points in some locations based on depressurization point locations and radius of influence that was determined during fan testing.



7.2 Indoor Air Sampling

Indoor air sampling was conducted on March 19, 2018 at the same three (3) locations as the previous SVI sampling locations. In addition, an outdoor air sample was collected from an upwind location on the Site. Samples were collected using 1-liter Summa canisters. A matrix spike/ matrix spike duplicate (MS/MSD) was collected using a 1.4-liter Summa canister. A blind duplicate sample was collected from the outdoor air location. It should be noted that a "T" was initially used to connect two (2) canisters to the same regulator for duplicate sample collection; however, due to a malfunction with the "T", two (2) side-by-side canisters with independent regulators were used for the duplicate. Samples were collected over an approximate 6-hour time period. It should be noted that the outdoor air sample results were rejected in the DUSR due to this malfunction with the canisters and the results of the duplicate sample also collected from the outdoor air were qualified as estimations. These qualifications are not anticipated to affect the overall findings and conclusions of this sampling.

Chloromethane was detected in each indoor air sample at similar concentrations to the outdoor air sample. There is no NYSDOH Guidance Value for chloromethane.

PCE was detected in each of the indoor air samples at concentrations ranging from 0.75 to 1.2 $\mu\text{g}/\text{m}^3$. Concentrations of PCE do not exceed the Air Guideline Value in table 3.1 of the NYSDOH Guidance or the minimum action level for no further action in Matrix B of the NYSDOH Guidance. Concentrations of PCE in indoor air decreased in IAQ-01, IAQ-02 and IAQ-03 from 2.6 $\mu\text{g}/\text{m}^3$, 2.5 $\mu\text{g}/\text{m}^3$, and 1.2 $\mu\text{g}/\text{m}^3$ respectively, prior to SSDS installation to 0.81 $\mu\text{g}/\text{m}^3$, 1.2 $\mu\text{g}/\text{m}^3$, and 0.75 $\mu\text{g}/\text{m}^3$ respectively, following SSDS installation.

TCE was detected in one (1) March 2018 indoor air sample, IAQ-02 at 0.43 $\mu\text{g}/\text{m}^3$. The concentration of TCE detected does not exceed the Air Guideline Value in table 3.1 of the NYSDOH Guidance or the minimum action level for no further action in Matrix A of the NYSDOH Guidance. Concentrations of TCE in indoor air decreased in IAQ-01, IAQ-02 and IAQ-03 from 0.75 $\mu\text{g}/\text{m}^3$, 1.0 $\mu\text{g}/\text{m}^3$ and 0.81 $\mu\text{g}/\text{m}^3$ respectively, prior to SSDS installation to non-detect, 0.43 $\mu\text{g}/\text{m}^3$ and non-detect respectively, following SSDS installation.

All detected compounds reduced in concentration in indoor air from pre-SSDS installation in November 2016 to post-SSDS installation in March 2018 with the exception of chloromethane which is present in indoor air at similar concentrations to outdoor air and is not anticipated to be a result of soil vapor intrusion. It should be noted that the Site Building is utilized by a construction company for storage and maintenance of equipment; as such, chemicals associated with daily operations may also contribute to indoor air quality. Refer to Table 3 and Figure 2 for March 2018 indoor air sampling results.

Following sample collection, sub-slab sample points (Vapor Pins®) were removed and holes were sealed with grout.

8.0 Conclusions

Based on the reduction of PCE and TCE in indoor air in all three (3) sample locations and PFE testing indicating negative pressure beneath the Site building, the SSDS is adequate in addressing SVI due to the FESL. The City will perform annual inspections and any required maintenance for five (5) years



after which time the SSDS operation and maintenance will be the responsibility of the owner. Operation and maintenance information for the system, the fan owner's manual and an annual inspection form are included as Appendix 1.

\\PROJECTS2\PROJECTSNZ-2\ROCHESTER, CITY\210173 FESL\REPORTS\1740 EMERSON STREET CCR\FESL- 1740 EMERSON CCR.DOCX

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Construction Completion Report
1740 Emerson Street SSDS
NYSDEC Site #828023
Former Emerson Street Landfill, Rochester, New York
LaBella Project No. 210173





FIGURES

CITY OF ROCHESTER
FORMER EMERSON STREET
LANDFILL
ROCHESTER, NEW YORK

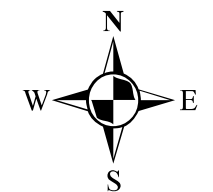
1740 EMERSON STREET
CONSTRUCTION
COMPLETION
REPORT

FORMER EMERSON STREET
LANDFILL PROJECT MAP



- Legend**
- Inactive Hazardous Waste Disposal Site #828023
 - Quadrant
 - FESL Boundary
 - FESL Parcels
 - 1740 Emerson Street

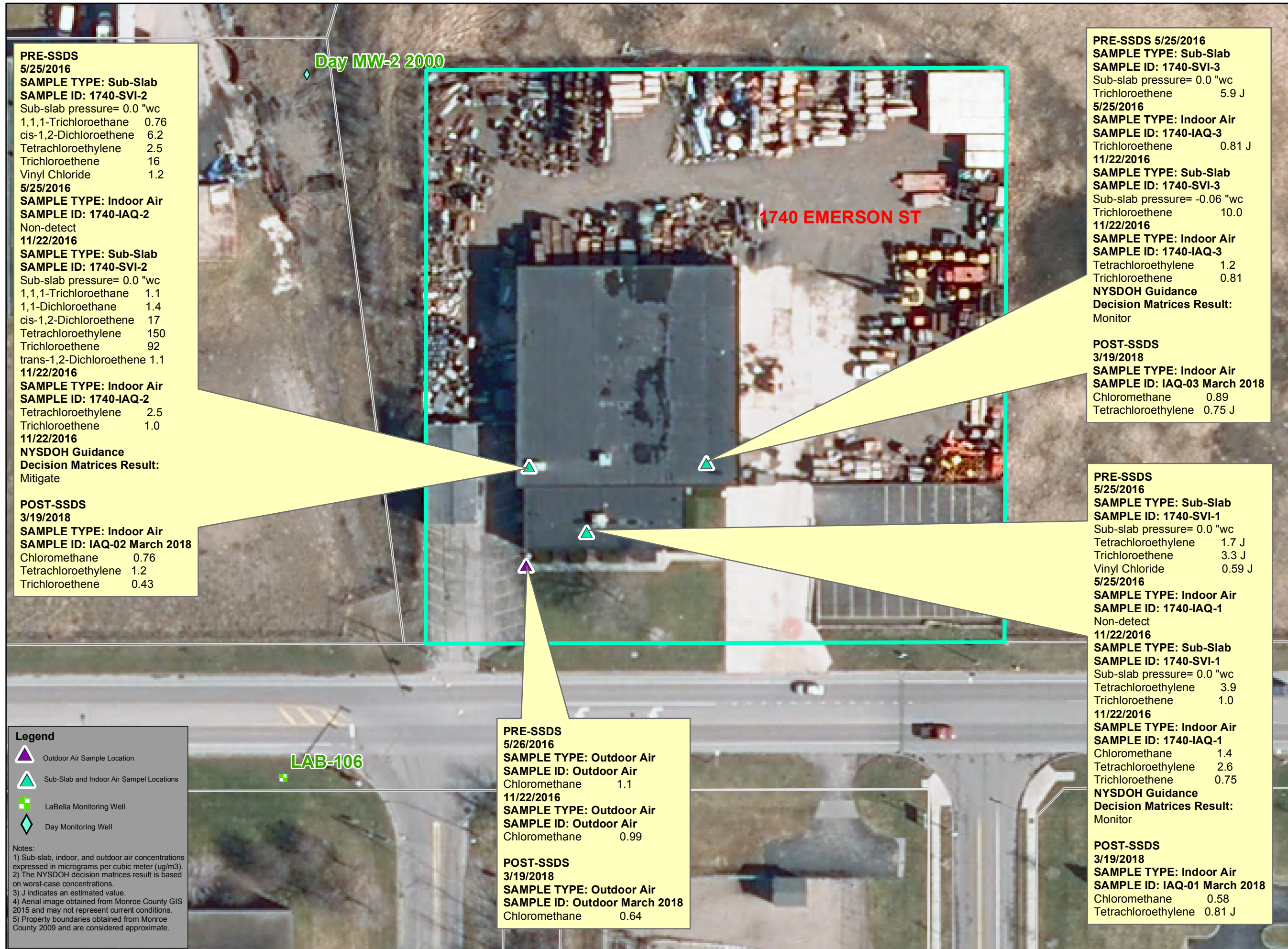
Notes:
Aerial image obtained from Monroe County GIS 2015.



0 400 Feet
1 inch = 400 feet

[210173]

[FIGURE 1]



PRE-SSDS
5/25/2016
SAMPLE TYPE: Sub-Slab
SAMPLE ID: 1740-SVI-2
 Sub-slab pressure= 0.0 "wc
 1,1,1-Trichloroethane 0.76
 cis-1,2-Dichloroethene 6.2
 Tetrachloroethylene 2.5
 Trichloroethene 16
 Vinyl Chloride 1.2

5/25/2016
SAMPLE TYPE: Indoor Air
SAMPLE ID: 1740-IAQ-2
 Non-detect

11/22/2016
SAMPLE TYPE: Sub-Slab
SAMPLE ID: 1740-SVI-2
 Sub-slab pressure= 0.0 "wc
 1,1,1-Trichloroethane 1.1
 1,1-Dichloroethane 1.4
 cis-1,2-Dichloroethene 17
 Tetrachloroethylene 150
 Trichloroethene 92
 trans-1,2-Dichloroethene 1.1

11/22/2016
SAMPLE TYPE: Indoor Air
SAMPLE ID: 1740-IAQ-2
 Tetrachloroethylene 2.5
 Trichloroethene 1.0

11/22/2016
NYSDOH Guidance
Decision Matrices Result:
 Mitigate

POST-SSDS
3/19/2018
SAMPLE TYPE: Indoor Air
SAMPLE ID: IAQ-02 March 2018
 Chloromethane 0.76
 Tetrachloroethylene 1.2
 Trichloroethene 0.43

PRE-SSDS 5/25/2016
SAMPLE TYPE: Sub-Slab
SAMPLE ID: 1740-SVI-3
 Sub-slab pressure= 0.0 "wc
 Trichloroethene 5.9 J

5/25/2016
SAMPLE TYPE: Indoor Air
SAMPLE ID: 1740-IAQ-3
 Trichloroethene 0.81 J

11/22/2016
SAMPLE TYPE: Sub-Slab
SAMPLE ID: 1740-SVI-3
 Sub-slab pressure= -0.06 "wc
 Trichloroethene 10.0

11/22/2016
SAMPLE TYPE: Indoor Air
SAMPLE ID: 1740-IAQ-3
 Tetrachloroethylene 1.2
 Trichloroethene 0.81

NYSDOH Guidance
Decision Matrices Result:
 Monitor

POST-SSDS
3/19/2018
SAMPLE TYPE: Indoor Air
SAMPLE ID: IAQ-03 March 2018
 Chloromethane 0.89
 Tetrachloroethylene 0.75 J

PRE-SSDS
5/25/2016
SAMPLE TYPE: Sub-Slab
SAMPLE ID: 1740-SVI-1
 Sub-slab pressure= 0.0 "wc
 Tetrachloroethylene 1.7 J
 Trichloroethene 3.3 J
 Vinyl Chloride 0.59 J

5/25/2016
SAMPLE TYPE: Indoor Air
SAMPLE ID: 1740-IAQ-1
 Non-detect

11/22/2016
SAMPLE TYPE: Sub-Slab
SAMPLE ID: 1740-SVI-1
 Sub-slab pressure= 0.0 "wc
 Tetrachloroethylene 3.9
 Trichloroethene 1.0

11/22/2016
SAMPLE TYPE: Indoor Air
SAMPLE ID: 1740-IAQ-1
 Chloromethane 1.4
 Tetrachloroethylene 2.6
 Trichloroethene 0.75

NYSDOH Guidance
Decision Matrices Result:
 Monitor

POST-SSDS
3/19/2018
SAMPLE TYPE: Indoor Air
SAMPLE ID: IAQ-01 March 2018
 Chloromethane 0.58
 Tetrachloroethylene 0.81 J

PRE-SSDS
5/26/2016
SAMPLE TYPE: Outdoor Air
SAMPLE ID: Outdoor Air
 Chloromethane 1.1

11/22/2016
SAMPLE TYPE: Outdoor Air
SAMPLE ID: Outdoor Air
 Chloromethane 0.99

POST-SSDS
3/19/2018
SAMPLE TYPE: Outdoor Air
SAMPLE ID: Outdoor March 2018
 Chloromethane 0.64

Legend

- Outdoor Air Sample Location
- Sub-Slab and Indoor Air Sample Locations
- LaBella Monitoring Well
- Day Monitoring Well

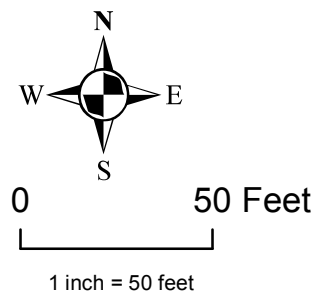
Notes:
 1) Sub-slab, indoor, and outdoor air concentrations expressed in micrograms per cubic meter (ug/m3).
 2) The NYSDOH decision matrices result is based on worst-case concentrations.
 3) J indicates an estimated value.
 4) Aerial image obtained from Monroe County GIS 2015 and may not represent current conditions.
 5) Property boundaries obtained from Monroe County 2009 and are considered approximate.



CITY OF ROCHESTER
FORMER EMERSON STREET
LANDFILL
ROCHESTER, NEW YORK

1740 EMERSON STREET
CONSTRUCTION
COMPLETION
REPORT

SOIL VAPOR
INTRUSION
SAMPLING RESULTS



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 [**FIGURE 2**]

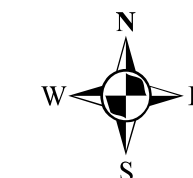
CITY OF ROCHESTER
FORMER EMERSON STREET
LANDFILL
ROCHESTER, NEW YORK

1740 EMERSON STREET
CONSTRUCTION
COMPLETION
REPORT

SUB-SLAB
DEPRESSURIZATION
SYSTEM AS-BUILT



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.



0 20 Feet
1 inch = 20 feet

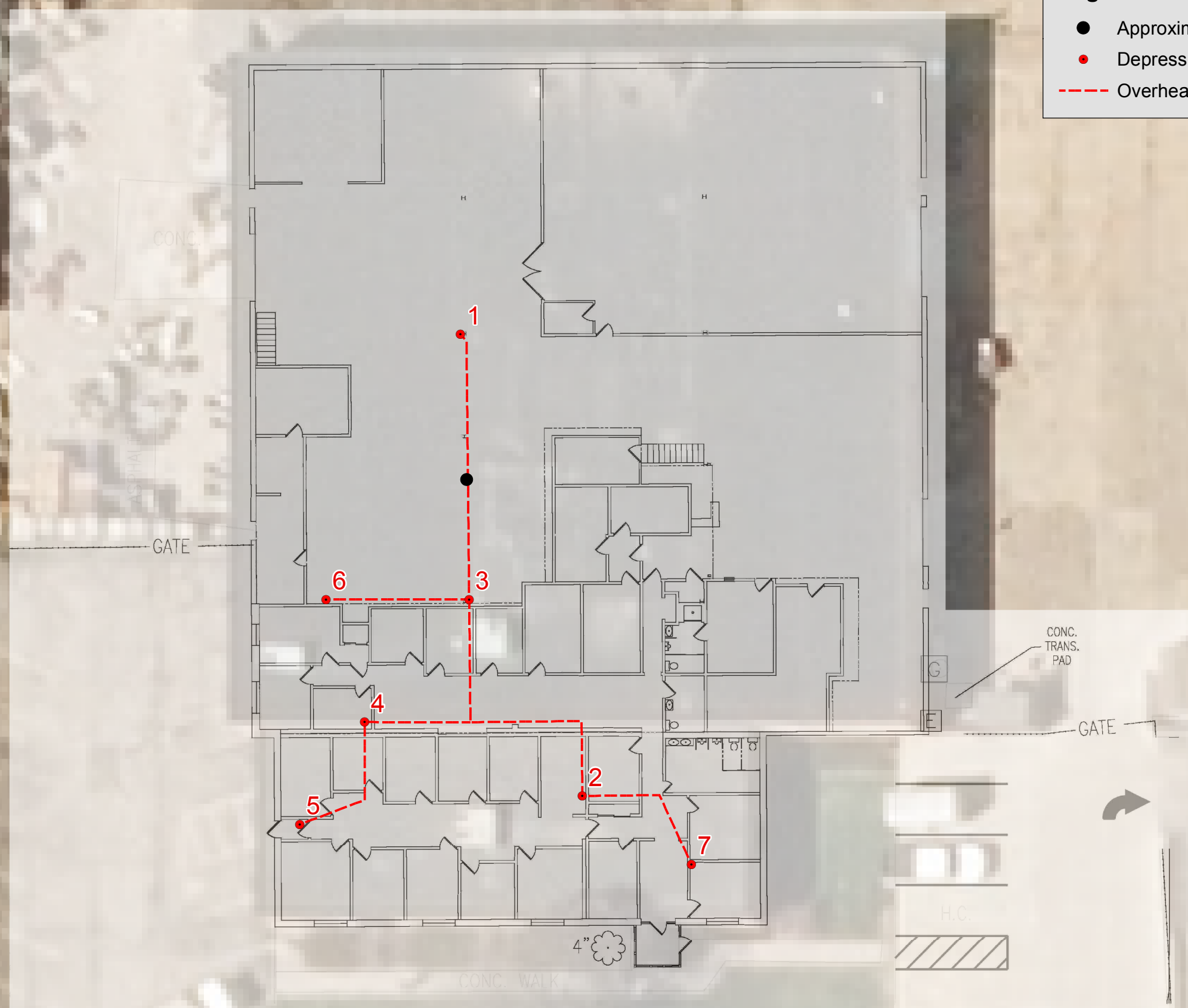
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[**FIGURE 3**]

Legend

- Approximate Fan Location
- Depressurization Points (3-inch)
- Overhead piping (3 and 4 inch)

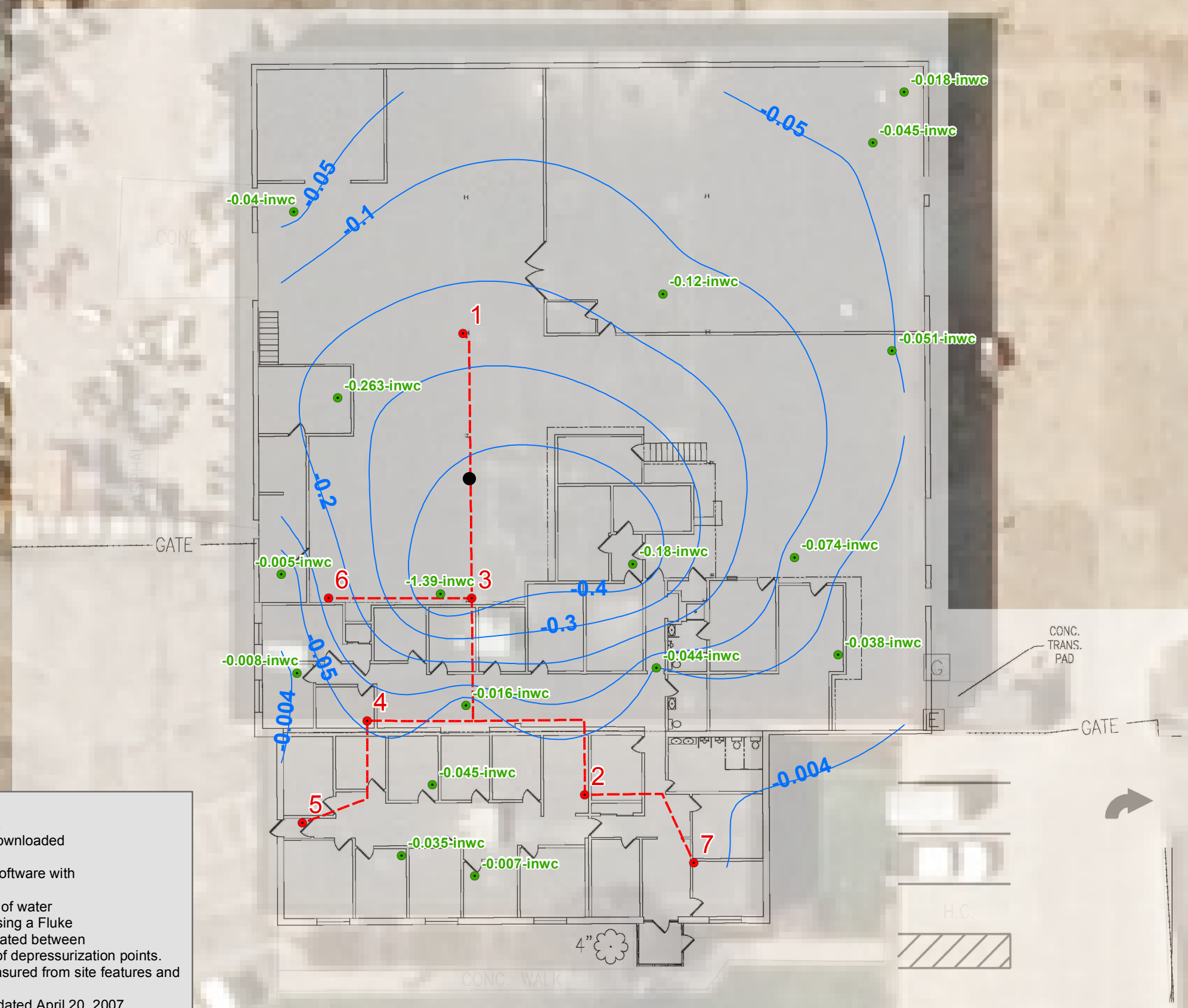


Notes:

- 1) Fan, vertical riser and overhead piping locations measured from site features and are considered approximate.
- 2) Building layout obtained from Site Plan by LeChase dated April 20, 2007.

Legend

- PFE Testing Locations
- Pressure Field Extension Contours
- Depressurization Points (3-inch)
- Approximate Fan Location
- Overhead piping (3 and 4 inch)

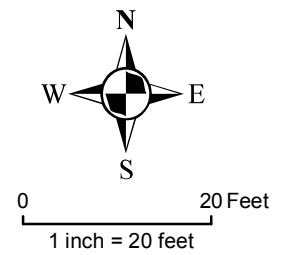


Notes:
 1) Pressure measuring point locations are approximate.
 2) The aerial photo basemap is dated 2015, and was downloaded from NYS Orthos Online (<https://orthos.dhSES.ny.gov/>).
 3) Contours were developed using Golden Surfer v14 software with the Kriging interpolation method.
 4) The contours represent pressure readings, in inches of water column, which were measured on February 14, 2018 using a Fluke 922 Airflow Meter manometer. Pressures were extrapolated between points where data was not present based on locations of depressurization points.
 5) Fan, vertical riser and overhead piping locations measured from site features and are considered approximate.
 6) Building layout obtained from Site Plan by LeChase dated April 20, 2007.

PRESSURE
FIELD EXTENSION
TESTING RESULTS

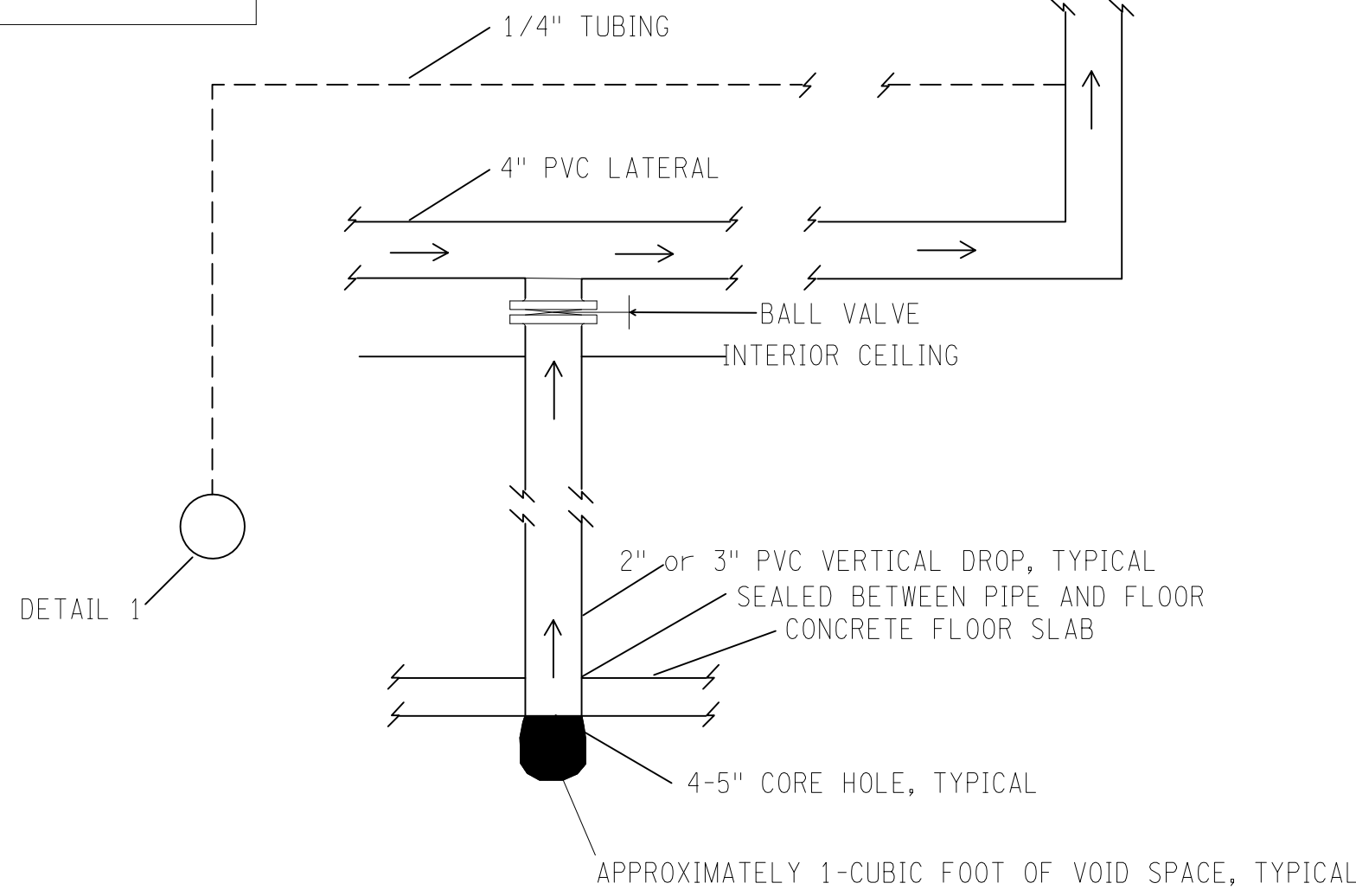
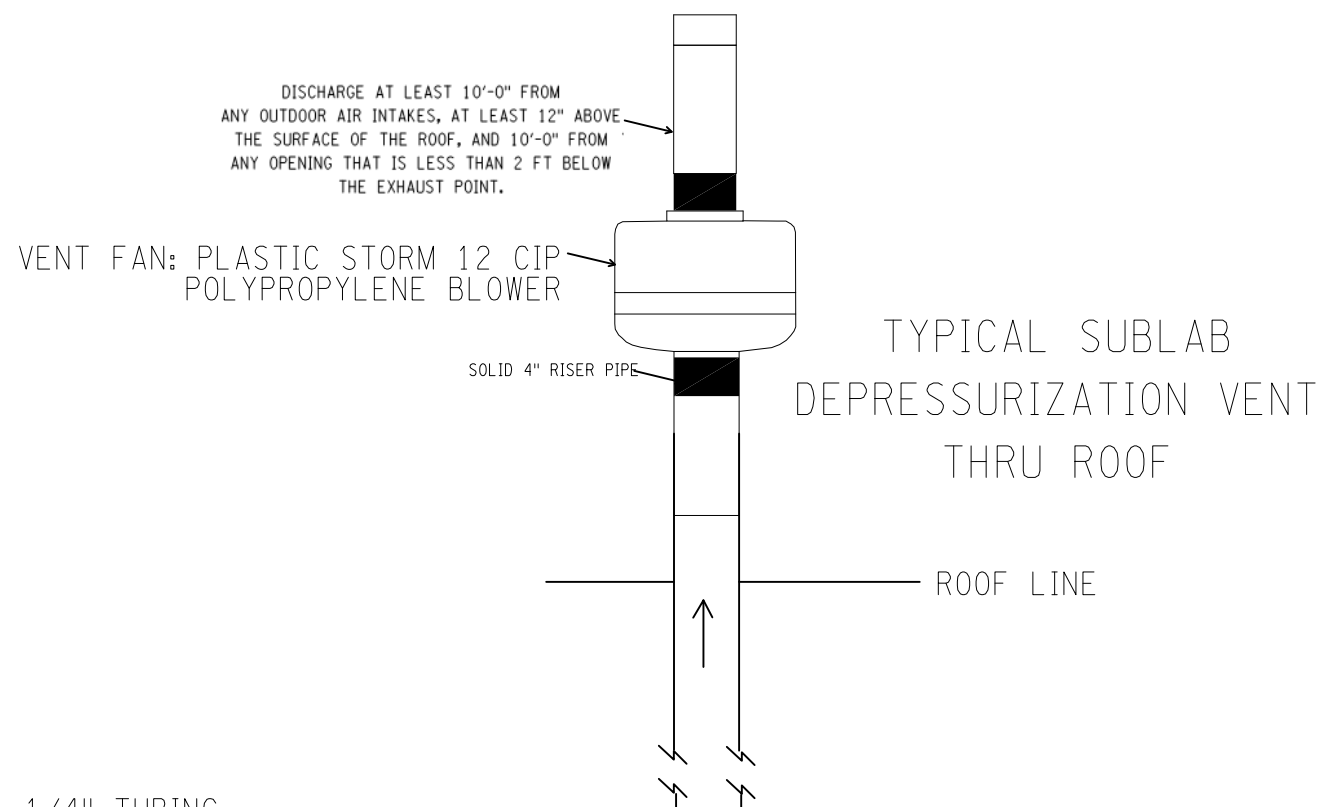
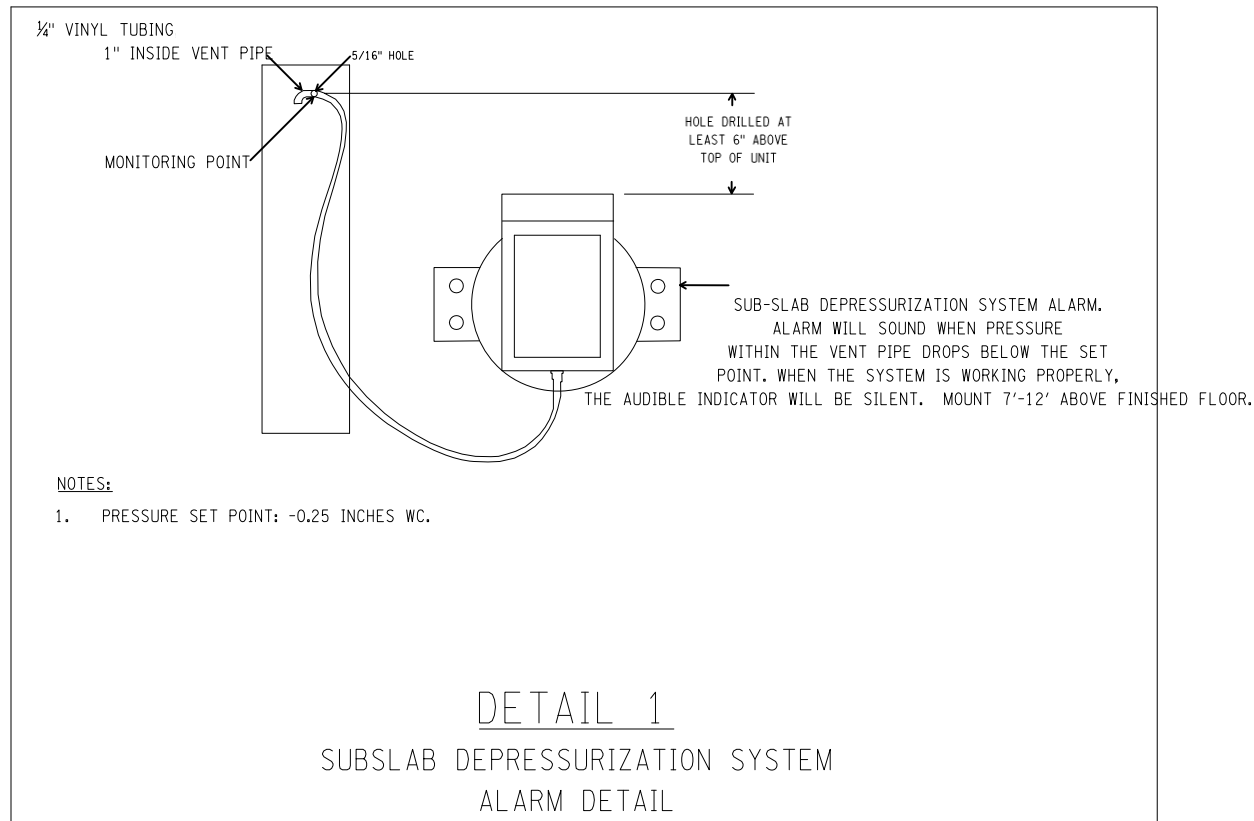


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[**210173**]
 [**FIGURE 4**]



SUBSOIL DEPRESSURIZATION SYSTEM PIPING NOTES:
 A. POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS SHALL CONFORM TO ASTM D3034.

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PROJECT CLIENT
 CITY OF ROCHESTER
 FORMER EMERSON ST LANDFILL
 ROCHESTER, NEW YORK
 1740 EMERSON STREET
 CONSTRUCTION
 COMPLETION REPORT

DRAWING TITLE SUB-SLAB DEPRESSURIZATION SYSTEM DETAILS	DESIGNED BY: DPN
	DRAWN BY: DDP
ISSUED FOR: FINAL	REVIEWED BY: DPN
	DATE: AUGUST 2017

PROJECT/DRAWING NUMBER
 210173
 FIGURE 5



TABLES

Former Emerson Street Landfill
Table 1
Soil Vapor Intrusion Sampling Results (1st Round)
1740 Emerson Street
May 2016

Sample ID	1740-SVI-1	1740-SVI-2	1740-SVI-3	1740-IAQ-1	Dupe (1740-IAQ-1)	1740-IAQ-2	1740-IAQ-3	Outdoor Air	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	5/25/2016	5/25/2016	5/25/2016	5/25/2016	5/25/2016	5/25/2016	5/25/2016	5/25/2016			
1,1,1-Trichloroethane	<0.82 J	0.76	<0.82 J	<0.82	<0.82	<0.82	<0.82 J	<0.82	<100***	<3***	20.6
1,1-Dichloroethane	<0.61 J	<0.61	<0.61 J	<0.61	<0.61	<0.61	<0.61 J	<0.61	NL	NL	<0.7
1,1-Dichloroethene	<0.59 J	<0.59	<0.59 J	<0.59	<0.59	<0.59	<0.59 J	<0.59	<100***	<3***	<1.4
Chloroethane	<0.40 J	<0.40	<0.40 J	<0.40	<0.40	<0.40	<0.40 J	<0.40	NL	NL	<1.1
Chloromethane	<0.31 J	<0.31	<0.31 J	<0.31	<0.31	<0.31	<0.31 J	1.1	NL	NL	3.7
cis-1,2-Dichloroethene	<0.59 J	6.2	0.59 J	<0.59	<0.59	<0.59	<0.59 J	<0.59	<100***	<3***	<1.9
Tetrachloroethylene	1.7 J	2.5	<1.0 J	<1.0	<1.0	<1.0	<1.0 J	<1.0	<100***	<3*** / 30*	15.9
trans-1,2-Dichloroethene	<0.59 J	<0.59	<0.59 J	<0.59	<0.59	<0.59	<0.59 J	<0.59	NL	NL	NL
Trichloroethene	3.3 J	16	5.9 J	<0.21	0.21 U	<0.21	0.81 J	<0.21	<5 **	<0.25** / 2*	4.2
Vinyl Chloride	0.59 J	1.2	<0.38 J	<0.10	<0.10	<0.10	<0.10 J	<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

* = 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)

U indicates the DUSR deemed the concentration undetected

Former Emerson Street Landfill
Table 1
 Soil Vapor Intrusion Sampling Results (1st Round)
 1740 Emerson Street
 May 2016

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

MATRIX 1- TRICHLOROETHENE INDOOR AIR CONCENTRATION (ug/m ³)						
SUB-SLAB VAPOR CONCENTRATION (ug/m ³)	Sample IDs	IAQ-1 (<2.1)	IAQ-2 (<2.1)	IAQ-3 (0.81)		
		<0.25	0.25 to <1	1 to <5.0	5.0 and above	
				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
	SVI-1 (3.3)	<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
	SVI-2 (16) SVI-3 (5.9)	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

MATRIX 1- VINYL CHLORIDE INDOOR AIR CONCENTRATION (ug/m ³)						
SUB-SLAB VAPOR CONCENTRATION (ug/m ³)	Sample IDs	IAQ-1 (<0.10)	IAQ-2 (<0.10)			
		<0.25	0.25 to <1	1 to <5.0	5.0 and above	
				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
	SVI-1 (0.59) SVI-2 (1.2)	<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

Former Emerson Street Landfill
Table 1
 Soil Vapor Intrusion Sampling Results (1st Round)
 1740 Emerson Street
 May 2016

MATRIX 2- TETRACHLOROETHYLENE INDOOR AIR CONCENTRATION (ug/m ³)						
Sample IDs		IAQ-1 (<1.0) IAQ-2 (<1.0)				
		<3	3 to <30			
SUB-SLAB VAPOR CONCENTRATION (ug/m ³)	SVI-1 (1.7) SVI-2 (2.5)	<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 2- 1,1,1-TRICHLOROETHANE INDOOR AIR CONCENTRATION (ug/m ³)						
Sample IDs		IAQ-2 (<0.82)				
		<3	3 to <30			
SUB-SLAB VAPOR CONCENTRATION (ug/m ³)	SVI-2 (0.76)	<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

Former Emerson Street Landfill
Table 1
Soil Vapor Intrusion Sampling Results (1st Round)
1740 Emerson Street
May 2016

MATRIX 2- CIS-1,2-DICHLOROETHENE INDOOR AIR CONCENTRATION (ug/m ³)					
SUB-SLAB VAPOR CONCENTRATION (ug/m ³)	Sample IDs	IAQ-2 (<0.59)	3 to <30	30 to <100	100 and above
	IAQ-2 (6.2)	<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
	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

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.

Former Emerson Street Landfill
Table 2
Soil Vapor Intrusion Sampling Results (2nd Round)
1740 Emerson Street
November 2016

Sample ID	1740-SVI-1	Dupe (1740-SVI-1)	1740-SVI-2	1740-SVI-3	1740-IAQ-1	1740-IAQ-2	1740-IAQ-3	Outdoor Air	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	Sub-Slab	Indoor Air	Indoor Air	Indoor Air	Outdoor Air			
Sample Date	11/22/2016	11/22/2016	11/22/2016	11/22/2016	11/22/2016	11/22/2016	11/22/2016	11/22/2016			
1,1,1-Trichloroethane	R	R	1.1	<0.82	<0.82	<0.82	<0.82	<0.82	<100***	<3***	20.6
1,1-Dichloroethane	R	R	1.4	<0.61	<0.61	<0.61	<0.61	<0.61	NL	NL	<0.7
1,1-Dichloroethene	R	R	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<100***	<3***	<1.4
Chloroethane	R	R	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	NL	NL	<1.1
Chloromethane	R	R	<0.31	<0.31	1.4	<0.31	<0.31	0.99	NL	NL	3.7
cis-1,2-Dichloroethene	R	R	17 J	<0.59	<0.59	<0.59	<0.59	<0.59	<100***	<3***	<1.9
Tetrachloroethylene	3.9 J	3.3 J	150	<1.0	2.6	2.5	1.2	<1.0	<100***	<3*** / 30*	15.9
trans-1,2-Dichloroethene	R	R	1.1	<0.59	<0.59	<0.59	<0.59	<0.59	NL	NL	NL
Trichloroethene	1.0 J	0.91 J	92	10	0.75	1.0	0.81	<0.21	<5 **	<0.25** / 2*	4.2
Vinyl Chloride	R	R	<0.38	<0.38	<0.10	<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)

U indicates the DUSR deemed the concentration undetected

Former Emerson Street Landfill
 Table 2
 Soil Vapor Intrusion Sampling Results (2nd Round)
 1740 Emerson Street
 November 2016

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

MATRIX 1- TRICHLOROETHENE INDOOR AIR CONCENTRATION (ug/m ³)					
SUB-SLAB VAPOR CONCENTRATION (ug/m ³)	Sample IDs		IAQ-1 (0.75) IAQ-3 (0.81)	IAQ-2 (1.0)	
		<0.25	0.25 to <1	1 to <5.0	5.0 and above
SVI-1 (1.0)	<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
SVI-3 (10)	5 to <50	5. No further action	6. MONITOR	7. MONITOR	8. MITIGATE
SVI-2 (92)	50 to <250	9. MONITOR	10. MONITOR/ MITIGATE	11. MITIGATE	12. MITIGATE
	250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

Former Emerson Street Landfill
Table 2
Soil Vapor Intrusion Sampling Results (2nd Round)
1740 Emerson Street
November 2016

MATRIX 2- TETRACHLOROETHYLENE INDOOR AIR CONCENTRATION (ug/m ³)						
Sample IDs		IAQ-1 (2.6) IAQ-2 (2.5) IAQ-3 (1.2)				
		<3	3 to <30	30 to <100	100 and above	
SUB-SLAB VAPOR CONCENTRATION (ug/m³)	SVI-1 (3.9) SVI-3 (<1.0)	<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
	SVI-2 (150)	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 2- 1,1,1-TRICHLOROETHANE INDOOR AIR CONCENTRATION (ug/m ³)						
Sample IDs		IAQ-2 (<0.82)				
		<3	3 to <30	30 to <100	100 and above	
SUB-SLAB VAPOR CONCENTRATION (ug/m³)	SVI-2 (1.1)	<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

Former Emerson Street Landfill
Table 2
Soil Vapor Intrusion Sampling Results (2nd Round)
1740 Emerson Street
November 2016

		MATRIX 2- CIS-1,2-DICHLOROETHENE INDOOR AIR CONCENTRATION (ug/m ³)				
Sample IDs		IAQ-2 (<0.59)				
		<3	3 to <30	30 to <100	100 and above	
SUB-SLAB VAPOR CONCENTRATION (ug/m³)	IAQ-2 (17)	<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

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.

Monitor/ Mitigate: Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building and site-specific conditions.

Former Emerson Street Landfill
Table 3
Post-SSDS Startup Indoor Air Sampling Results
1740 Emerson Street
March 2018

Sample ID	IAQ-01 March 2018	IAQ-02 March 2018	IAQ-03 March 2018	Outdoor March 2018	Dupe March 2018	NYSDOH Indoor Air Concentration (minimum action level) ⁽¹⁾	USEPA (2001) (BASE) Database - 90th Percentile ⁽²⁾
Sample Location	Indoor Air	Indoor Air	Indoor Air	Outdoor Air	Outdoor Air		
Sample Date	3/19/2018	3/19/2018	3/19/2018	3/19/2018	3/19/2018		
1,1,1-Trichloroethane	<0.82	<0.82	<0.82	<0.82 R	<0.82 J	10***	20.6
1,1-Dichloroethane	<0.61	<0.61	<0.61	<0.61 R	<0.61 J	NL	<0.7
1,1-Dichloroethene	<0.16	<0.16 J	<0.16	<0.16 R	<0.16 J	1**	<1.4
Chloroethane	<0.40	<0.40	<0.40	<0.40 R	<0.40 J	NL	<1.1
Chloromethane	0.58	0.76 J	0.89	0.64 R	0.62 J	NL	3.7
cis-1,2-Dichloroethene	<0.16	<0.16	<0.16	<0.16 R	<0.16 J	1**	<1.9
Tetrachloroethylene	0.81 J	1.2 J	0.75 J	<1.0 R	<1.0 J	10***/30*	15.9
trans-1,2-Dichloroethene	<0.59	<0.59	<0.59	<0.59 R	<0.59 J	NL	NL
Trichloroethene	<0.16	0.43	<0.16	<0.16 R	<0.16 J	1** / 2*	4.2
Vinyl Chloride	<0.10	<0.10	<0.10	<0.10 R	<0.10 J	0.2****	<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 and updates in September 2013 for PCE and August 2015 for TCE.

** = Guideline Value obtained from Soil Vapor/Indoor Air Matrix A (minimum action level), NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York May 2017.

*** = Guidance Value obtained from Soil Vapor/Indoor Air Matrix B (minimum action level), NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York May 2017.

**** = Guidance Value obtained from Soil Vapor/Indoor Air Matrix C (minimum action level), NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York May 2017.

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 due to a malfunction with the sampling equipment



APPENDIX 1

Annual Certification & Operation and Maintenance

City of Rochester
Former Emerson Street Landfill (NYSDEC Site #828023)
Annual Certification Form

Site: 1740 Emerson Street

Site Acreage: 2.24

Square Footage: 17,358
Construction Date: 1975

Site Owner: LeChase Construction

Owner Address: 1740 Emerson Street
City/Town: Rochester, NY 14606

Reporting Period:

1. Is the information above correct? YES NO

If NO, include handwritten above or on a separate sheet.

2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period? YES NO

3. Has there been any change of use (new tenant, significantly different operations, etc.) at the site during this Reporting Period? YES NO

4. Have any federal, state, and/or local permits been issued for or at the property during this Reporting Period (specifically for utility work or work through the floor slab)? YES NO

If you answered YES to questions 2 thru 4, please include additional information.

5. Is the site currently undergoing development or planned for development (any renovation work, changes to building layout, HVAC equipment, etc.)? YES NO

6. Is the venting fan operating properly and has the fan been down at any time throughout the year? YES NO

Sub-Slab Depressurization System Monitoring, refer to OM&M Plan
(Attached any comments on separate sheet, if necessary)

Fan #1 _____
 System Piping Intact? _____
 Manometer Reading = _____
 Alarm Functioning (Check)? _____

 Signature of Property Owner or Designated Representative

 Date

Control Description for Site

The property has the following controls in-place with the City of Rochester:

- The existing sub-slab depressurization system at the site must be monitored annually and maintained as needed.
- All subsurface activities on the property that disturb fill materials must be conducted in accordance with the *Guidance for Waste-fill Management During Site Development on the Former Emerson Street Landfill* by LaBella dated October 2013
- Any new buildings constructed at the Site must have a sub-slab depressurization system installed in accordance with the *Former Emerson Street Landfill Sub-Slab Ventilation Guidance Document* Updated October 2013 and the NYSDOH 2006 Guidance (or the most recent Guidance from these agencies).
- The use of the groundwater underlying the property is prohibited without written approval from the City of Rochester and NYSDEC/NYSDOH.

Operation, Maintenance and Monitoring Plan

1740 Emerson Street

Sub-Slab Depressurization System

This Operation, Maintenance and Monitoring (OM&M) Plan describes the measures necessary to operate, monitor and maintain the mechanical components of the sub-slab depressurization system (SSDS) for the building located at 1740 Emerson Street, Rochester, New York property. The OM&M items identified include the following:

- the steps necessary to allow individuals unfamiliar with the Site to operate and maintain the SSDS;
- system maintenance; and
- system monitoring requirements.

A copy of this Plan should be kept at the Site.

SYSTEM LAYOUT AND COMPONENTS

The SSDS was installed in 2018. The SSDS consists of one venting fan that connects to seven vertical depressurization pipes that extend beneath the building floor slab. The piping is connected within the ceiling to a vertical riser pipe has an in-line fan (Plastec Storm 12 with Polypropylene Blower with Black Fiber Impregnated housing) located on the building roof. An Installation, Operation, and Maintenance Manual for the fan is attached. The piping extends to approximately one (1)-feet above the roof-line. A U-Tube Manometer (vacuum gauge) is connected to depressurization point 2. An audible and visual alarm is also connected to the vacuum side of the system at depressurization point 2 so that a pressure loss (or power loss) to the fan will activate the alarm (red light on alarm and audible alarm).

An as-built drawing that provides the system layout is included in the Construction Completion Report (CCR) as Figure 3. SSDS details are included on Figure 5 of the CCR.

Following the installation of the SSDS, testing was conducted by LaBella to evaluate the effectiveness and to confirm that there is adequate negative pressure beneath the entire floor slab of the building. The following post start-up testing was completed:

- **Alarm Test** – On February 14, 2018 the alarm was tested to confirm proper operation. The alarm test consisted of disconnecting the fan power and confirming both the light and audible alarm were triggered.
- **Pressure Field Extension Testing** - On February 14, 2018 sub-slab pressure was tested in the locations shown on Construction Completion Report Figure 4. The testing consisted of connecting a digital micro-manometer (Fluke 922 Airflow Meter) to each sub-slab test point and recording the vacuum reading. Refer to Construction Completion Report Figure 4 for results.

It should be noted that the United States Environmental Protection Agency (USEPA) indicates in their Engineering Issue: Indoor Vapor Intrusion Mitigation Approaches: “As a practical matter SSD systems are normally designed to achieve a pressure differential of at least 0.02 inch of water (5 Pascal), during the worst case season, to provide an adequate safety factor for long-term variations.” The testing completed indicated that adequate sub-slab depressurization was occurring beneath the entire floor slab.

SYSTEM MAINTENANCE

The system was designed and installed to operate with minimal maintenance. In the event of an alarm, the system should be inspected for obvious damage. In the event no damage is apparent, the system can be shut-off and restarted. In the event the alarm continues, the fan should be evaluated and the manufacturer contacted or a mitigation contractor (e.g., radon mitigation specialist) should be contacted

for servicing the fan. Information on contacts for the system are provided below.

In the event that maintenance is required of the system, reports and any other information generated during regular operations at the Site should be provided to the City of Rochester. Maintenance events must be documented and documentation must include the following information:

- Date;
- Condition of SSDS upon arrival;
- Name, company, and position of person(s) conducting maintenance activities;
- Maintenance activities conducted;
- Any modifications to the system;
- Other documentation such as copies of invoices or work orders for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form); and,
- Condition of SSDS when finished.

In the event that the system and/or system components are observed to require non-routine maintenance (e.g., broken components, alarm sounding, etc.) the following persons can be contacted to assist with repairs to the system:

Plastec Ventilation Inc.
2012 58th Avenue Circle East
Bradenton, FL 34203
(866) 360-2422

Mitigation Tech
55 Shumway Road
Brockport, New York 14420
(585) 637-7430

Joseph J. Biondolillo
City of Rochester
Department of Environmental Services
City Hall
Room 300-B
30 Church Street
Rochester, New York 14614
(585) 428-6649

Dan Noll
LaBella Associates, P.C.
300 State Street
Rochester, New York 14614
(585) 295-6611

All non-routine maintenance of the SSDS will be documented and these documents will be kept on-file.

MONITORING

Unless it becomes evident that more frequent monitoring is necessary, annual monitoring of the Site's SSDS will be performed to ensure that the system is operating properly. A visual inspection of the accessible portions of the system will be conducted during each monitoring event. SSDS components to be visually inspected include: the vent fans, system piping, system wiring, and system alarms. In addition, the U-Tube Manometer reading should also be recorded. In the event that the vent fan appears to be malfunctioning, or if piping or wiring appears damaged, the component(s) in question should be promptly repaired or replaced. Vent fan failure(s), repair(s), replacement(s), and/or operational problems should be documented and included with the annual certification.



PLASTEC VENTILATION, INC.

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PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

INTRODUCTION

DO NOT INSTALL, USE OR OPERATE THIS EQUIPMENT UNTIL THIS MANUAL HAS BEEN READ AND UNDERSTOOD. RETAIN THESE INSTRUCTIONS FOR FUTURE USE.

THESE INSTRUCTIONS ARE INTENDED TO SUPPLEMENT GOOD GENERAL PRACTICES FOR THE VARIOUS STYLES OF PLASTEC FANS AND BLOWERS. DETAILED INSTRUCTIONS WILL BE PRESENTED SEPARATELY.

IT IS THE RESPONSIBILITY OF THE USER/PURCHASER TO ASSURE THE INSTALLATION, OPERATION, AND MAINTENANCE OF THIS EQUIPMENT IS CARRIED OUT BY EXPERIENCED AND QUALIFIED PERSONNEL IN THIS TYPE OF WORK.

CONTACT YOUR LOCAL REPRESENTATIVE FOR ANY FURTHER INFORMATION REQUIRED.

SHIPPING & RECEIVING

All fans and blowers have been thoroughly inspected before shipment. Unless otherwise noted, All fans and blowers are test run and approved prior to shipment.

THE RECEIVER MUST NOTE ANY DAMAGE ON THE CARRIER'S BILL OF LADING AND FILE A CLAIM IMMEDIATELY WITH THE FREIGHT COMPANY.

Keep a record of all equipment received including inspection details and date of receipt.

Contact your sales representative for replacement service.

HANDLING

Handle your equipment with caution using proper equipment and safety procedures.

STORAGE

Store fans in a clean, dry location prior to installation to protect against the weather and corrosive atmospheres. If it is necessary to store equipment outdoors, protect from the elements as much as possible. Keep equipment dry and clean. Cover inlets/outlets to prevent collection of moisture, dust, etc.

For equipment stored for extended periods of time (1 month), rotate motor bearings. Records of stored equipment should be kept to assure proper procedures.



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

INSTALLATION

Area where fan is installed should provide support for rigid mounting of the fan(s). Fans not supported properly will cause vibration that could cause damage or injury! Use guy wires to secure roof mounted units, stacks and accessories where excessively windy conditions are prevalent.

CAUTION! Fans contain rotating parts and electrical service is used to operate. Use appropriate safety precautions during Installation, Operation and Maintenance procedures.

WARNING! Do not install or operate fan in an environment or atmosphere where combustible or flammable materials, gases or fumes are present unless it is specifically designed for that type of environment. Explosion or fire can result.

Roof curbs for mounting of fans should be securely installed prior to fan installation. Fan should be firmly secured to roof curb to prevent vibration.

CAUTION! All electrical work must be done in accordance with local and/or national codes as applied. Work should be performed by qualified electricians.

WARNING! This product must be grounded.

DANGER! Make sure power is turned off and locked in the off position before installing, wiring or servicing fan.

CAUTION! Always check the supply voltage against the motor name plate voltage. Incorrect voltage can damage the motor and void the motor warranty.

WARNING! Keep all wiring clear of rotating or moving parts.

WARNING! Before starting the fan, turn the wheel to assure it rotates freely. **POWER MUST BE OFF DURING THIS OPERATION.**

CAUTION! Before operating any fan or blower, make sure any guards or protective devices required are in place for protection against injury.



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

TEST & START PROCEDURES

Disconnect power before servicing the unit. Make sure power is turned off and locked in the **OFF** position.

Check that fan/blower is securely attached to the mounting location and that the mounting location is also secure. This unit should not vibrate when operating! Check clearances and all mounting hardware and secure as required.

All fans have sealed for life ball bearings and do not require lubrication. Running the unit for 15 to 20 minutes will assure lubricant to thoroughly mix with the bearings and operate at optimum quietness.

When power is applied to the unit, check for proper rotation of fan wheel/impeller. Most motors allow for reverse rotation and if the fan wheel/impeller is moving in the wrong direction, air performance will be greatly affected. Reverse rotation for a prolonged period of time may cause motor damage that could void the warranty. Check the motor wiring diagram for proper wiring.

Electrical input check should be performed with fan properly loaded (pressure drop) to assure motor name plate amps are not exceeded. Never run a fan at free air.

Check fan RPM against motor name plate to verify correct performance.

The fans are factory tested and checked for vibration so this type of balancing is not required. Vibration could be caused by rough handling during shipment, installation, and weak foundations. Correct as required.



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

MAINTENANCE

Before performing any maintenance on the fan, be sure power is turned off and locked in the off position at the service entrance.

Ventilators should be carefully checked at least once a year. For critical or rugged applications, a routine check every two or three months is suggested.

All motors carry a one-year warranty from the date of shipment. For repairs within the warranty period, the motor must be taken to the motor manufacturer's authorized service dealer. Contact your representative for additional warranty details.

A periodic motor check should consist of spinning the motor shaft with the power off to be sure the motor turns freely and the bearings run smoothly.

The motor cooling fan and guard should also be maintained by checking and cleaning accumulated dust and debris.

The rotating wheel or propeller requires particular attention since materials in the air being handled can build up on blades to cause destructive vibration or weaken the structure of the propeller by corroding and/or eroding the blades. Regular inspection and corrective action at intervals determined by the severity of each application are essential to good service life and safety.



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

MOTORS

Periodic checks of voltage, frequency and current of a motor while in operation are recommended. Such checks assure the correctness of frequency and voltage applied to the motor and yield an indication of the fan load. Comparison of this data with previous data will give an indication of the fan performance. Any serious deviations could indicate a potential motor failure.

All motors carry a one-year warranty from date of shipment. For repairs within warranty period, the motor must be taken to the motor manufacturer's authorized service dealer. Contact your representative for additional warranty details.

A periodic motor check should consist of spinning the motor shaft with the power off so to be sure the motor turns freely and the bearings run smoothly.

Repair or replacement of motors is normally performed by a repair station authorized by the manufacturer. Contact your representative or the factory for locations nearest you. DO NOT ship motor to factory without specific authorization forms.



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

WARRANTY

This Blower Housing Assembly is warranted to be free from defects in material and workmanship for two years from date of original shipment. Any units or parts which prove to be defective and are reported during the warranty period will be replaced at our option when returned to our factory, transportation prepaid by the sender. Deterioration of wear by heat, abrasive action, chemicals, improper installation or operation or lack of normal maintenance shall not constitute defects, and are not covered by warranty. **Transportation to and from the factory for warranty repairs is not covered under warranty and is the sole responsibility of the owner of the equipment.**

The motor is warranted by the motor manufacturer for one year. If the motor becomes defective in the warranty period, it should be taken to the nearest authorized motor service station. If this is not done, the motor manufacturer will not warrant the motor. Call the factory for instructions if authorized service station is not known.

The manufacturer will not be responsible for any installation, removal or re-installation cost or any consequential damage resulting in failure to meet conditions of any warranty.

LIMITATION OF WARRANTY AND LIABILITY: This warranty does not apply to any product or parts which have failed as a result of faulty installation or abuse, or incorrect electrical connections or alterations, made by other, or use under abnormal operating conditions or misapplications of the products and parts.

The manufacturer will not approve for payment any repairs made outside its factory without prior written consent.

The foregoing shall constitute our sole and exclusive warranty and our sole and exclusive liability and is in lieu of all other warranties whether written, oral, implied, or statutory. There are no warranties which extend beyond the description of the page hereof. Seller does not warranty that said goods and articles are merchantable quality or that they are fit for any particular purpose. The liability of seller on any claim of any kind, including negligence, for any loss or damage arising out of, or connected with, or resulting from the sale and purchase of the products and parts covered by this proposal, acknowledgment, order or from performance or breach of any contract pertaining to such sale or purchase, or from the design, manufacture, sale, delivery, resale, installation, technical direction of installation, inspection, repair, operation or use of any products or parts covered by this proposal, acknowledgment, order or furnished by seller shall, in no case exceed the price allocable to the product or parts thereof which give rise to the claim and shall terminate one (1) year after shipment of said products and parts.

In no event, whether as a result of breach of contract, or warranty or alleged negligence, defects, incorrect advise or other causes, shall seller be liable for special or consequential damages including, but not limited to, loss of profits or revenue, loss of use of the equipment or any associated equipment, cost of capital, cost of substitute equipment, facilities or services, down time costs or claims of customers of the purchaser for such damages. The manufacturer neither assumes nor authorizes any persons to assume for it any other liability in connection with the sale of its fan products and parts.

SAFETY ACCESSORIES WARNING: The responsibility for providing safety accessories for equipment supplied by the manufacturer is that of the installer and user of this equipment. The manufacturer sells its equipment with and without safety accessories, and accordingly it can supply such safety accessories upon receipt of order.

The user, in making its determination as to the appropriate safety accessories to be installed and any warning notices, should consider (1) the location of the installation, (2) the accessibility of employees and other persons to this equipment, (3) any adjacent equipment, (4) applicable building codes, and (5) requirements of the Federal Occupational Safety and Health Act.

Users and installers of this equipment should read, "RECOMMENDED SAFETY PRACTICES FOR AIR MOVING DEVICES" which is published by Air Movement and Control Association, 30 West University Drive, Arlington Heights, Illinois, 60004.



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual DISASSEMBLY INSTRUCTIONS

PLASTEC UTILITY AND STORM BLOWERS

Before beginning these instructions, place this fan on a bench or table top that can support its weight.

- 1) Remove Torx head screws from the motor plate. (These screws require a T-20 bit.)**
- 2) Lift the assembly clear of the fan housing. Set the fan housing aside.**
- 3) Use a thin flat head screwdriver to pop the black hub cap off the bushing. It may be necessary to reach between the blades of the impeller to do this. (Be careful not to damage the impeller during this step.)**
- 4) Remove the shaft bolt, lock washer and washer. The bolt will be 8mm, 10mm or 13mm.**
- 5) Use a gear puller to remove the impeller from the shaft. Always use the bushing as the pulling point. Pulling on the blades or rim of the impeller will cause irreparable damage.**
- 6) Use a 10mm or 13mm socket to remove the four bolts securing the motor plate to the C-face.**

(See Illustrations)



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual REASSEMBLY INSTRUCTIONS

PLASTEC UTILITY AND STORM BLOWERS

Before beginning these instructions, place this fan on a bench or table top that can support its weight.

- 1)** Stand the motor on end, so that the shaft is pointing vertically.
- 2)** Set the motor plate onto the C-face and align bolt holes. If motor plate does not fit flush on the C-face, use a small hammer or dead blow mallet to seat the plate onto the rabbet. You should not need much force to seat the plate. Secure the motor plate with four bolts, lock washers and washers.
- 3)** Check the fit of the impeller bushing on the motor shaft. If it slides on easily, then push it onto the shaft and tap to seat it on the shaft shoulder. If it is a tight fit, lubricate the inside of the bushing with 3-in-1 oil or a similar product. Set the impeller on top of the shaft so it sits level. Use a driving rod and mallet, on bushing only, to drive the impeller onto the shaft until it touches the shoulder. Do not hit with excessive force or the bearings may be damaged. Remove any debris that was cut from the inside of the bushing. If there is a gap between the tip of the shaft and the top of the bushing, fill it with stainless steel washer(s).
- 4)** Secure the impeller on the shaft with supplied bolt, lock washer and washer.
- 5)** Cover the bushing with the hub cap and use a mallet to seat it properly. It may be necessary to cut out the raised ring on the inside of the hub cap with a box knife.
- 6)** Select the orientation of the fan housing. There are eight possible orientations. Remember, if the fan is being installed in a weather hood, the motor will be upside down. Use eight Torx head screws to secure the motor assembly to the fan housing. Inspect visually and test electrically before installing the fan.

(See Illustrations)



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual DISASSEMBLY INSTRUCTIONS

PLASTEC PSS SERIES STAINLESS STEEL UTILITY BLOWERS

Before beginning these instructions, place this fan on a bench or table top that can support its weight. For tool size see illustration.

- 1) Remove Hex cap screws from the motor plate. (Be careful not to damage the impeller during this operation.)**
- 2) Lift the assembly clear of the fan housing. Set the fan housing aside.**
- 3) Remove the hub cap and teflon gasket.**
- 4) Loosen the shaft locking screws (hub).**
- 5) Use a gear puller to remove the impeller from the shaft. Always use the bushing as the pulling point. Pulling on the blades or rim of the impeller will cause irreparable damage.**
- 6) Remove the 4 motor plate bolts to remove the motor plate from the motor.**
- 7) Remove the motor support stand if required by this operation.**

(See Illustrations)

**NOTE: Any new assembly parts or mounting hardware sourced
must be 316 Stainless Steel**



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual REASSEMBLY INSTRUCTIONS

PLASTEC PSS SERIES STAINLESS STEEL UTILITY BLOWERS

Before beginning these instructions, place this fan on a bench or table top that can support its weight.

- 1)** Stand the motor on end, so that the shaft is pointing vertically.
- 2)** Set the motor plate onto the C-face and align bolt holes. If motor plate does not fit flush on the C-face, use a small hammer or dead blow mallet to seat the plate onto the rabbet. You should not need much force to seat the plate. Secure the motor plate with four bolts, lock washers and washers. Apply the teflon gasket between the motor plate and housing.
- 3)** Check the fit of the impeller bushing on the motor shaft. If it slides on easily, then push it onto the shaft and tap to seat it on the shaft. If it is a tight fit, lubricate the inside of the bushing with 3-in-1 oil or a similar product. Set the impeller on top of the shaft so it sits level. Use a driving rod and mallet, on bushing only, to drive the impeller onto the shaft until it is even with the end of the motor shaft. Do not hit with excessive force or the bearings may be damaged.
- 4)** Secure the impeller on the shaft with supplied locking screws (2).
- 5)** Cover the bushing with the hub cap gasket and hub cap. Lock in place with two screws supplied.
- 6)** Select the orientation of the fan housing. There are eight possible orientations. Remember, if the fan is being installed in a weather hood, the motor will be upside down. Use eight Hex head screws to secure the motor assembly to the fan housing. Inspect visually and test electrically before installing the fan. Ensure the teflon gasket is in place.

(See Illustrations)

**NOTE: Any new assembly parts or mounting hardware sourced
must be 316 Stainless Steel**



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual DISASSEMBLY INSTRUCTIONS

PLASTEC JET SERIES

Before beginning these instructions, place this fan on a bench or table top that can support its weight.

- 1) Disconnect the fan from its power source.
- 2) Open the switch box. Take note of the wire positions before removing them from the wiring terminal.
- 3) Unscrew the plastic locknut from the liquid tight fitting on top of the switch box and the one from the face of the weather cover.
- 4) Gently pull the conduit and cable out of the top of the switch box and pull the conduit off the cable.
- 5) Push a short length of cable back into the weather cover. This provides slack for lifting the weather cover off the manifold.
- 6) Remove the six or eight Phillips head screws from the base ring of the weather cover.
- 7) Lift the weather cover up and over the top of the manifold, being careful not to damage the cable.
- 8) If the motor is being replaced, be sure to retrieve the cable and strain relief connector from the wiring box. Take note of the orientation of the wiring positions before removing the cable.
- 9) Take note of the orientation of the motor as it sits in the fan body. This is important for the reassembly procedure.
- 10) Remove eight Torx head screws from the motor plate. Lift the motor assembly out of the fan body. Stand on the cooling fan end of the motor. Refer to step #3 of the utility blower disassembly sheet.

(See Illustrations)



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual REASSEMBLY INSTRUCTIONS

PLASTEC JET SERIES

Before beginning these instructions, place this fan on a bench or table top that can support its weight.

- 1) Complete steps one through five of the Utility Blower assembly procedure.
- 2) Set the motor plate into the fan body in the same orientation as it was before being removed.
- 3) Secure the motor assembly to the fan body with eight Torx head screws.
- 4) Remove the lid from the wiring box. Install the strain relief connector and wire according to the motors and wiring diagram. Close the wiring box.
- 5) Slide the manifold onto the outlet of the fan body. If it is a tight fit, use a rubber mallet to tap it into position. Use careful strikes to avoid damaging the fan body or manifold. Do not use any adhesive or hardware to secure the manifold. Make sure the drain hole in the manifold is clear from the fan housing outlet.
- 6) Hold the weather cover over the fan assembly and feed the cable through the liquid tight fitting, from inside to out, while lowering the weather cover over the fan assembly.
- 7) Push the weather cover down past the fan body so it is seated in the ring on the colored base. Pull any additional slack out of the power cable. Align the holes around the base of the weather cover and the colored ring. Secure it in place with 6 or 8 Phillips head screws.
- 8) Feed the power cable through the conduit and fit the conduit into the liquid tight fitting in the weather cover. Screw the plastic lock nut onto this liquid tight fitting. Slide the other locknut onto the conduit and make sure it is oriented correctly.
- 9) Feed the power cable through the liquid tight fitting on top of the switch box and fit positions as before. Screw the second locknut onto the liquid tight fitting. Reconnect the power supply and close the switch box.

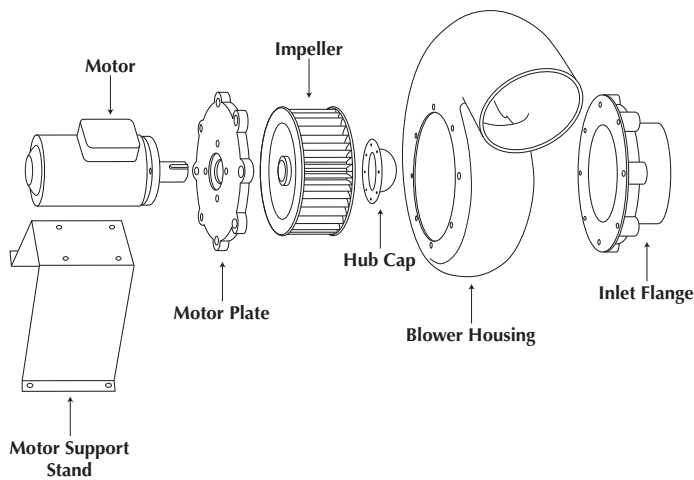
[See Illustrations]



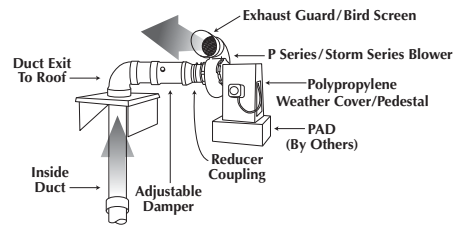
PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual ILLUSTRATIONS

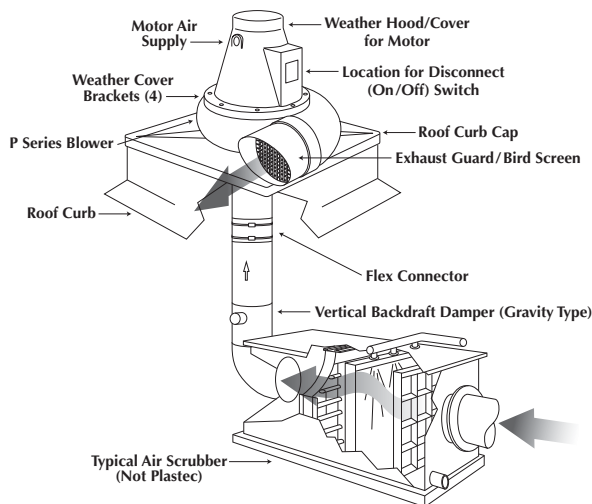
PLASTEC / STORM BLOWERS



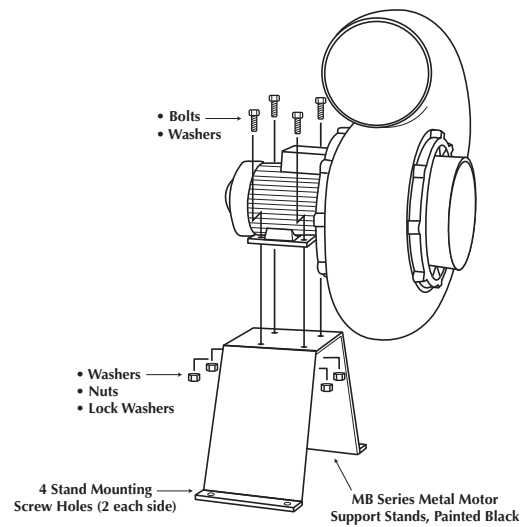
TYPICAL ROOF TOP INSTALLATION FOR PLASTEC / STORM UTILITY BLOWER



TYPICAL INSTALLATION FOR PLASTEC BLOWER WITH ROOF UNIT OPTION



MOUNTING PLASTEC SERIES AND STORM SERIES TO SUPPORT STAND

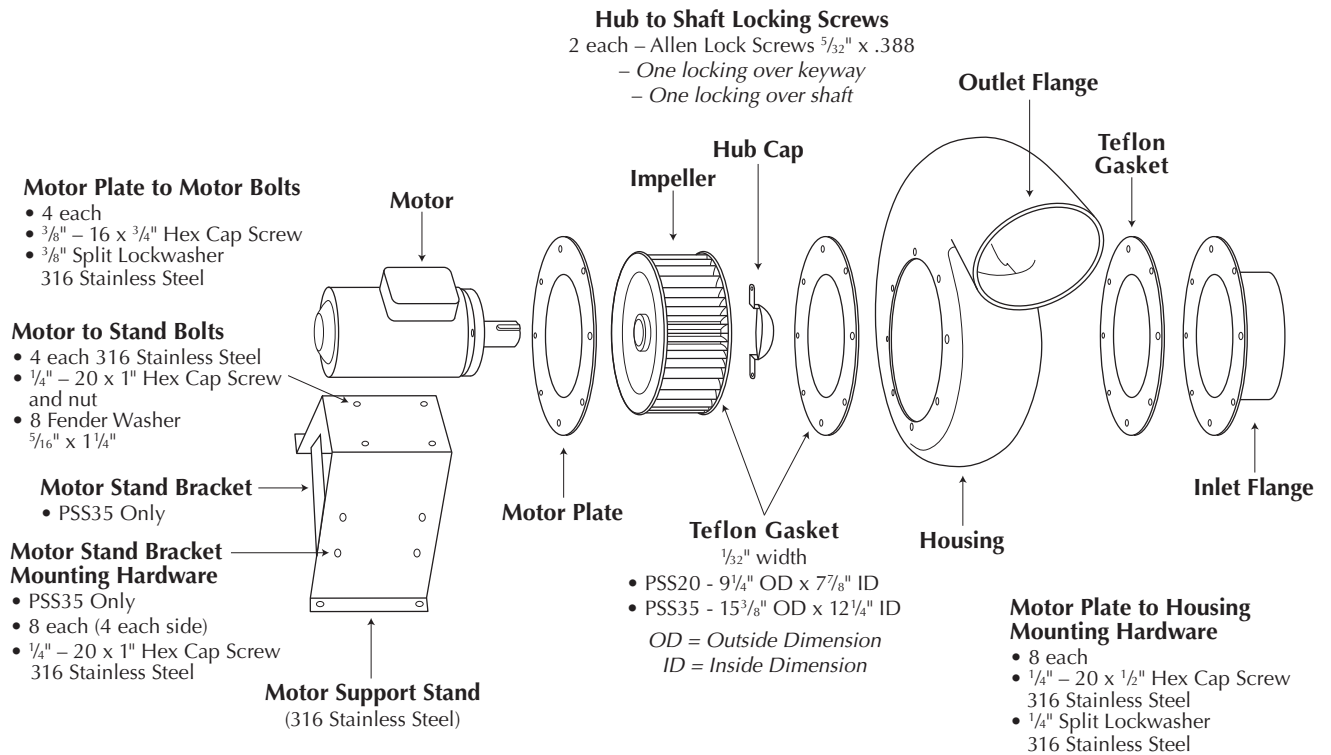




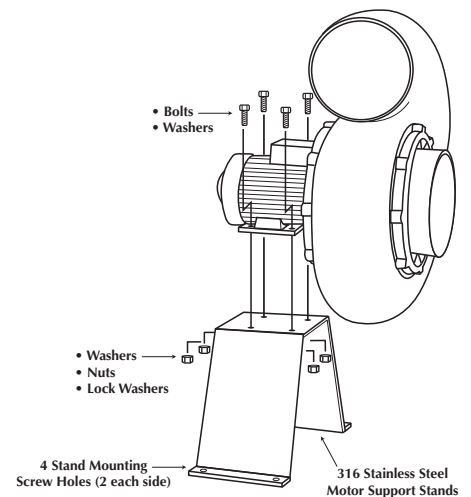
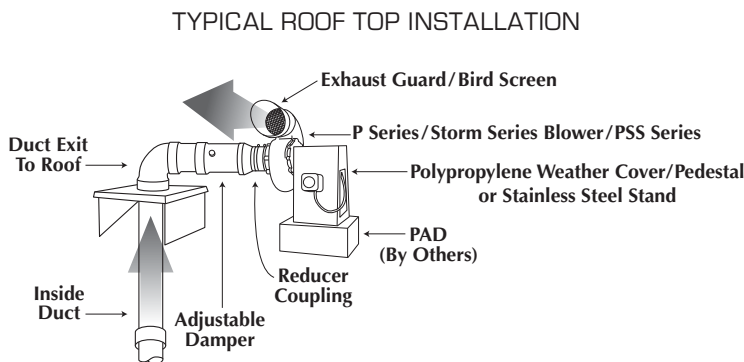
PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual ILLUSTRATIONS

PSS SERIES – PSS20 AND PSS35



MOUNTING PSS SERIES TO SUPPORT STAND

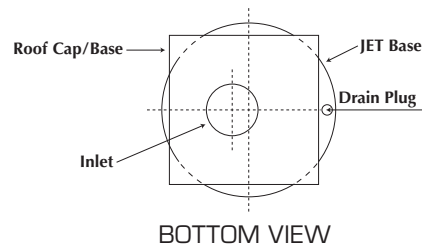
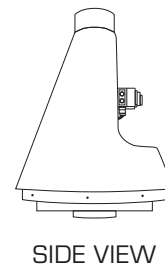
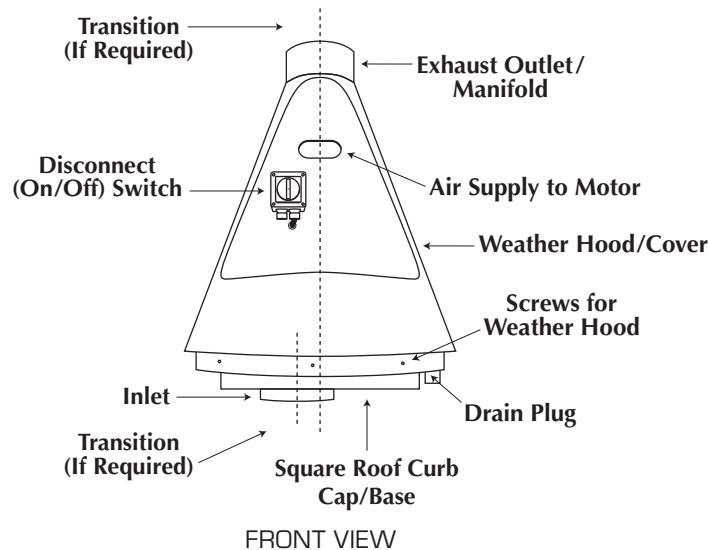
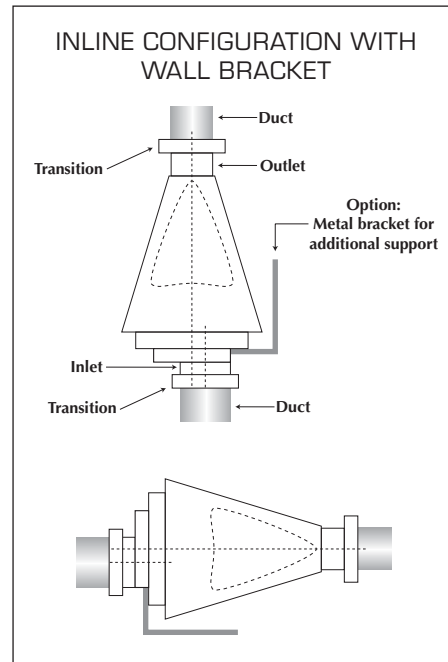
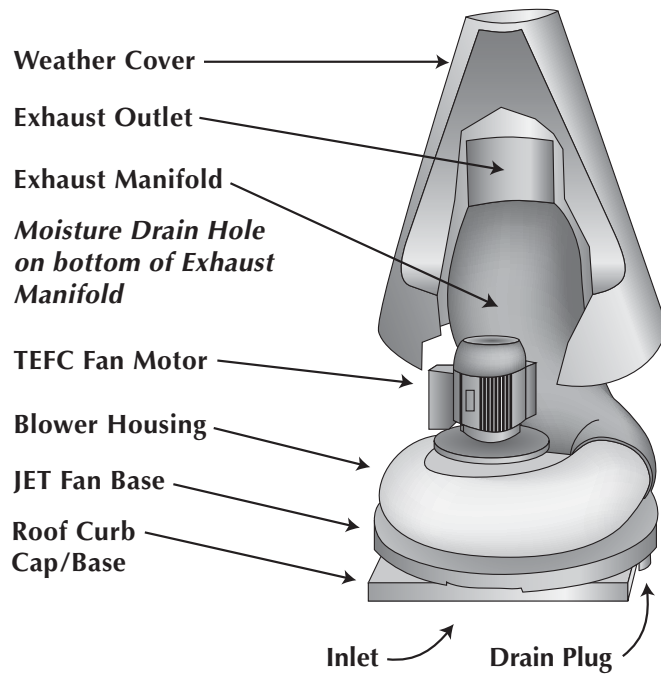




PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual ILLUSTRATIONS

PLASTEC JET SERIES





PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual ILLUSTRATIONS

ROOF UNIT 15 - ROOF UNIT 30 KIT ASSEMBLY





PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual ILLUSTRATIONS

ROOF UNIT 15 - ROOF UNIT 30 KIT ASSEMBLY

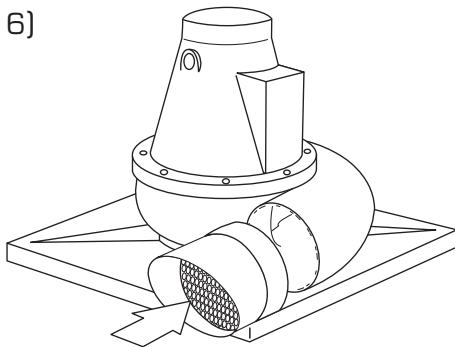
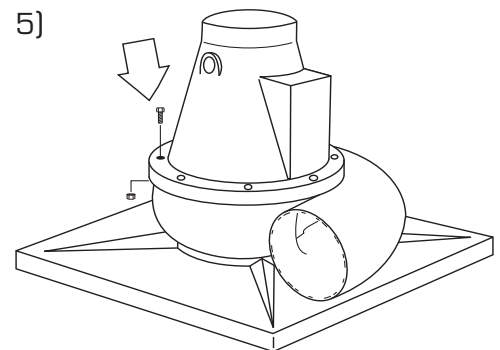
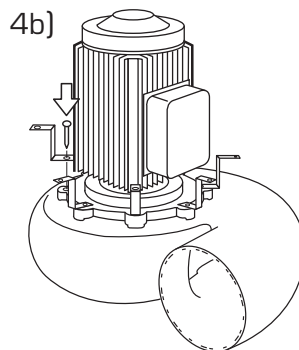
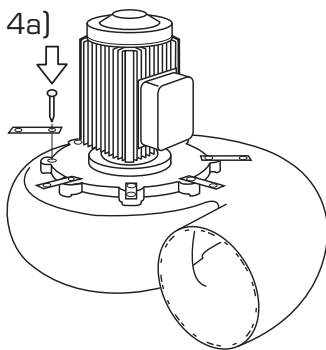
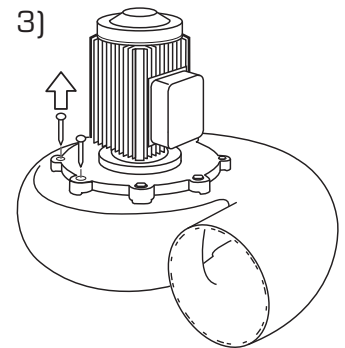
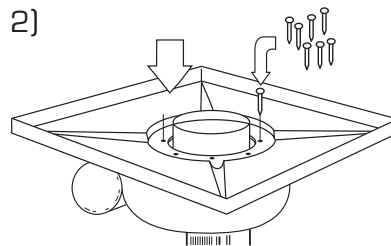
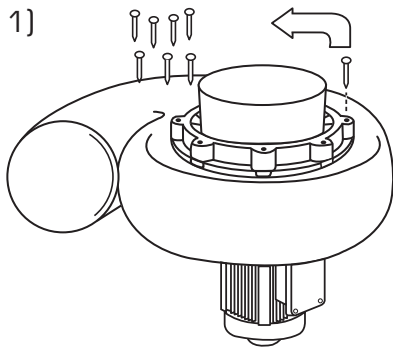
- 1) Components of Roof Kit: Roof Curb Cap, Motor Cap, Cap Bracket, Exhaust Guard
- 2) Place the cap bracket on the motor with the screwing inserts upwards.
- 3) Fix the motor flange.
- 4) Place the O-ring seal.
- 5) Place the impeller.
- 6) Push in the impeller.
- 7) Screw the hub cap on the motor shaft.
- 8) Install the hub cap.
- 9) Place the roof curb cap O-ring seal.
- 10) Place the roof curb cap on the housing.
- 11) Screw the roof curb cap to the housing.
- 12) Turn over the housing. Reinforce the base before placing the roof curb cap to support.
- 13) Place the motor/impeller part.
- 14-17) Screw the motor flange and the cap bracket on the housing indicated in the pictures.
- 18) Do the correct wiring between the switch and the motor, respecting tension.
- 19) Screw back on the terminal box lid.
- 20-21) Place the motor cap and secure with screws.
- 22-24) Attach switch with screws on the flat side of the motor cap.
- 25) Place the exhaust cap on the outlet and attach with 4 screws.
- 26) Finished Assembly.



PLASTEC VENTILATION, INC.

Installation, Operation & Maintenance Manual ILLUSTRATIONS

ROOF UNIT 35 KIT ASSEMBLY



- 1) Remove inlet screws.
- 2) Place roof cap on inlet and secure with inlet screws.
- 3) Remove applicable motor plate screws where brackets fit.
- 4) (a & b) Attach brackets using motor plate screws.
- 5) Attach motor weather cover to brackets using bolts, washers and nuts. (After installing electrical cable.)
- 6) Complete assembly by installing outlet guard/bird screen using screws.

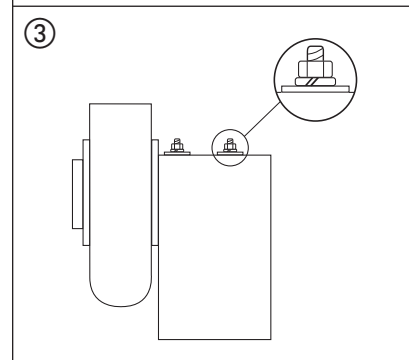
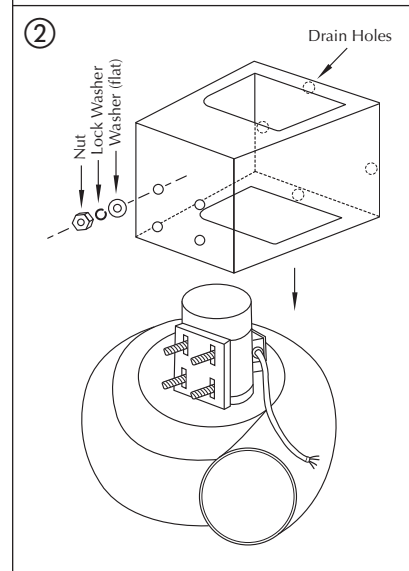
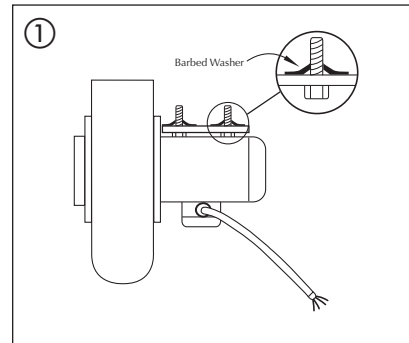


PLASTEC VENTILATION, INC.

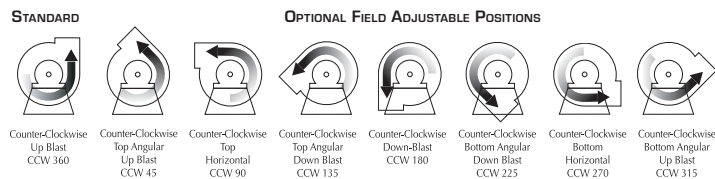
Installation, Operation & Maintenance Manual ILLUSTRATIONS

ATTACHMENT OF PLASTEC FAN TO WEATHER HOOD

1. The motor feet should point vertically upwards for attachment to the underside of the hood top. Ensure that the fan discharge is correctly orientated in relation to the motor feet.
2. It is recommended that the motor is connected to the disconnect switch prior to assembly of motor and weather hood, otherwise access to the terminals may be difficult.
3. Insert the four bolts into the holes in the weather cover. Prevent them from falling out by fitting the barbed washers.
4. Secure weather hood to the motor by means of nuts, large washers and lock washers. This is best accomplished by placing the fan housing on a horizontal surface with the motor shaft vertical, then introduce the holes in the hood to the bolts you have fitted to the motor feet.
5. Ensure that the weather hood is installed in an upright position and that the drain holes in the base panel are clear.



Rotation and Discharge for Centrifugal Fans



Notes:

- [1] Direction of rotation is determined from the drive side of fan.
Standard position is up-blast CCW 360.
- [2] On single inlet fans, drive side is always considered as the opposite fan inlet.



APPENDIX 2

Field Logs



Soil Gas Testing Log

Project Name: Former Emerson Street Landfill- 1740 Emerson
Project No: 210173
Sampled By: AA
Date: 19-Mar-18
Weather: ~35 degress clear skies
Wind Speed/Direction: from E <5 mph

**Former Emerson Street
Landfill
1740 Emerson Street**

ID: Outdoor March 2018	
Sub-Slab Pressure: NA "wc	
Canister: 290	
Regulator: 1152	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Outdoor Air	
Time	Vacuum Reading ("Hg)
Start 743	22.5
910	7
End 940	3

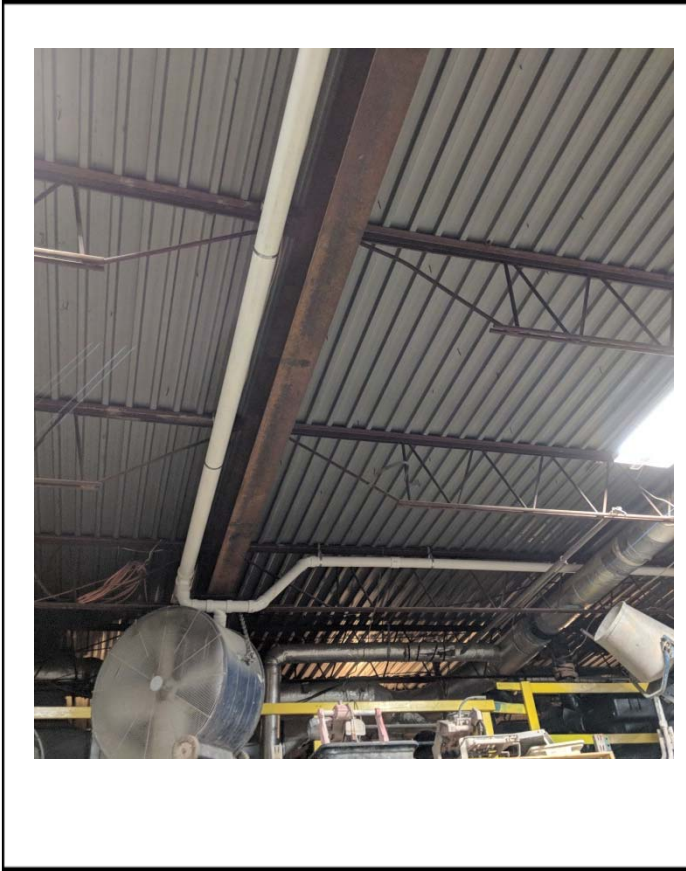
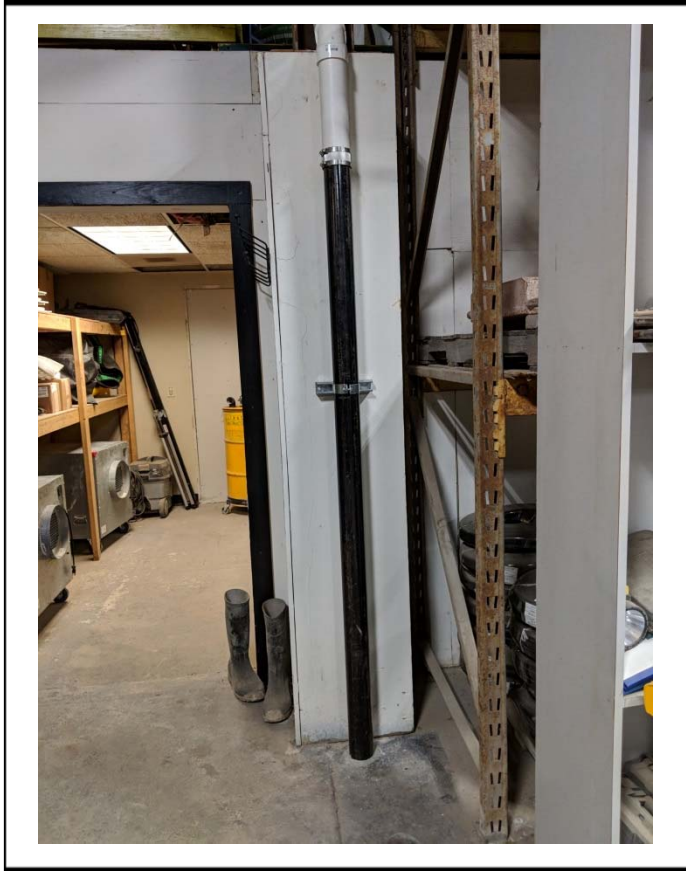
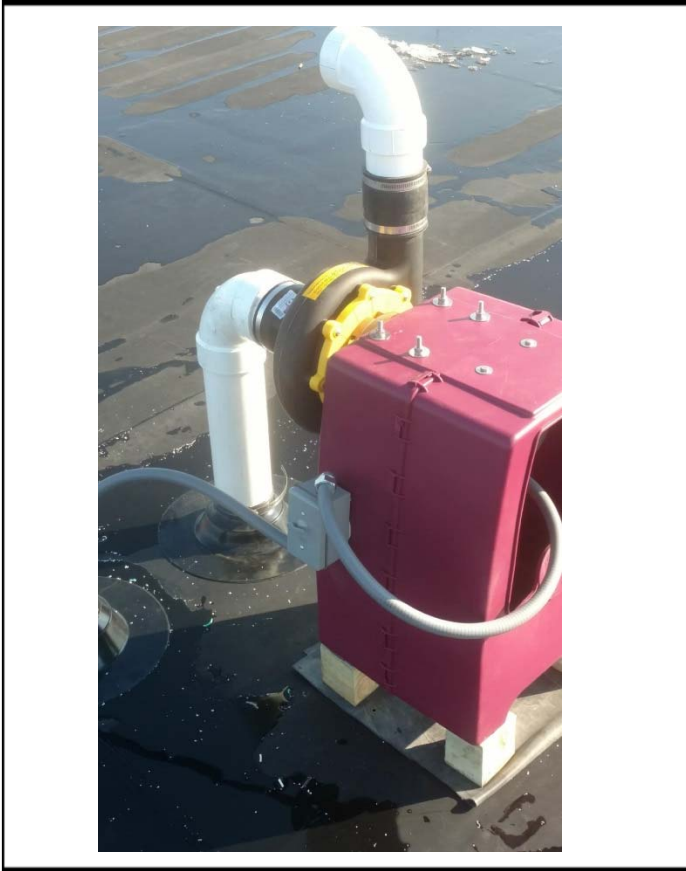
ID: Dupe March 2018	
Sub-Slab Pressure: NA "wc	
Canister: 1181	
Regulator: 209	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Outdoor Air	
Time	Vacuum Reading ("Hg)
Start 745	26
910	19
1025	13
1140	6
1155	5
End 1210	4

Notes/Activities: _____



APPENDIX 3

Photograph Log





APPENDIX 4

Laboratory Reports

TO-15 Package Review Checklist

Client: LaBella Project: Emerson Landfill SDG: C/605057

		<u>YES</u>	<u>NO</u>	<u>NA</u>
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: C1606057

		<u>YES</u>	<u>NO</u>	<u>NA</u>
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: _____

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: Wally Doherty Date: 7/6/16

QC Supervisor: [Signature] Date: 7/6/16



CEN TEK 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

Daniel Noll
LaBella Associates, P.C.
300 State Street, Suite 201
Rochester, NY 14614

Tuesday, May 31, 2016
Order No.: C1605057

TEL: (585) 454-6110
FAX (585) 454-3066
RE: Emerson Landfill

Dear Daniel Noll:

Centek Laboratories, LLC received 8 sample(s) on 5/23/2016 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 Dobbins
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

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 - a. Corrective actions**
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- 4. Sample Tracking Form**
- 5. Bottle Order**
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 - a. Form 1**
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 - c. QC Canister Log Book**



CENTEK LABORATORIES, LLC

Date: 06-Jul-16

CLIENT: LaBella Associates, P.C.

Project: Emerson Landfill

Lab Order: C1605057

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 ($\pm 2"$, 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 ($\pm 1"$, vacuum, absolute) for the sample to be valid. Once received at the laboratory, the canister vacuum should be confirmed to be 5" of Hg, $\pm 1"$. 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 Chain of Custody

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

Vapor Intrusion & IAQ

Site Name: 1740 Emerson
Project: EPK over Emerson
PO#: 210173
Quote # Q-591
Other: 100780

Turnaround Time:
 5 Business Days
 4 Business Days
 3 Business Days
 2 Business Days
 *Next Day by 5pm
 *Next Day by Noon
 *Same Day

Check Rush TAT Due Date:
 One Surcharge %
 0%
 25%
 50%
 75%
 100%
 150%
 200%

Company: Labella
 Report to: Ann Noll
 Address: Ann Aquino
 City, State, Zip: 300 State Street
Perth Amboy, NY 08861
 Email: ann@labelllabs.com
 Phone: 888-285-6611

Company: Labella
 Check Here If Same:
 Invoice to: SAME
 Address:
 City, State, Zip:
 Email: labelllabs@labelllabs.com
 Phone:

Sample ID	Date Sampled	Canister Number	Regulator Number	Analysis Request	Comments	Vacuum Start/Stop
1740-SVI-1	5/19/16	357	278	TO-15		30" / 4.5
1740-IAQ-1		552	1154	Select		30" / 4
1740-SVI-2		133	300	15K		30" / 3.5
1740-IAQ-2		95	266			30" / 5
1740-SVI-3		237	1172			30" / 4
1740-IAQ-3		202	1160			29" / 5
Outdoor Air		482	111		MS/MSD	30" / 4
Dupe		358	1154		Indoor Air	30" / 4

Chain of Custody
 Sampled by: Ann Aquino
 Relinquished by: Ann Aquino
 Received at Lab by: Ann Aquino

Print Name: Ann Aquino
 Signature: [Signature]

Date/Time: 5/19/16 1:00 PM
 Courier: FedEx UPS Pickup/Dropoff

For LAB USE ONLY
 Work Order #: 5-8346
C1605057

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



CENTEK LABORATORIES, LLC

Date: 06-Jul-16

CLIENT: LaBella Associates, P.C.
Project: Emerson Landfill
Lab Order: C1605057

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1605057-001A	1740 -SVI-1	357,278	5/19/2016	5/23/2016
C1605057-002A	1740-IAQ-1	552,1154	5/19/2016	5/23/2016
C1605057-003A	1740-SVI-2	133,300	5/19/2016	5/23/2016
C1605057-004A	1740-IAQ-2	95,266	5/19/2016	5/23/2016
C1605057-005A	1740-SVI-3	237,1172	5/19/2016	5/23/2016
C1605057-006A	1740-IAQ-3	202,1160	5/19/2016	5/23/2016
C1605057-007A	Outdoor Air	482,111	5/19/2016	5/23/2016

CLIENT: LaBella Associates, P.C.
Project: Emerson Landfill
Lab Order: C1605057

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1605057-008A	Dupe	358,1154	5/19/2016	5/23/2016



CENTEK LABORATORIES, LLC

Sample Receipt Checklist

Client Name LABELLA - ROCHESTER

Date and Time Receive

5/23/2016

Work Order Number C1605057

Received by JDS

Checklist completed by

[Handwritten Signature]

5-23-16

Reviewed by

[Handwritten Initials]

5/23/16

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? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No

Adjusted? _____ Checked b _____

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 _____

DATES REPORT

Lab Order: C1605057
 Client: LaBella Associates, P.C.
 Project: Emerson Landfill

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C1605057-001A	1740-SVI-1	5/19/2016	Air	1ug/M3 by Method TO15			5/26/2016
C1605057-002A	1740-IAQ-1			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			5/25/2016
C1605057-003A	1740-SVI-2			1ug/M3 by Method TO15			5/27/2016
				1ug/M3 by Method TO15			5/26/2016
C1605057-004A	1740-IAQ-2			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			5/25/2016
C1605057-005A	1740-SVI-3			1ug/M3 by Method TO15			5/26/2016
C1605057-006A	1740-IAQ-3			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			5/25/2016
C1605057-007A	Outdoor Air			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			5/25/2016
C1605057-008A	Dupe			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			5/25/2016

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

5780

06-Jul-16

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: Emerson Street L

Submitted By:

MadeBy: rjp
 Ship Date: 5/16/2016
 VIA: FedEx Ground
 Due Date: 5/17/2016

Bottle Code	Bottle Type	TEST(s)	QTY
MC1400CC	1.4L Mini-Can	1ug/m3 w/ 0.25ug/M3 CT-TCE-VC	1
MC1000CC	1L Mini-Can	1ug/M3 by Method TO15	9

Can / Reg ID	Description
95	1L Mini-Can - 1087 VI
111	Time-Set Reg - 586 VI
133	1L Mini-Can - 1082 VI
202	1L Mini-Can - 1157 VI
222	1L Mini-Can - 1184 VI
237	1L Mini-Can - 1168 VI
243	1L Mini-Can - 1175 VI
265	Time-Set Reg - 703 VI
266	Time-Set Reg - 704 VI
277	Time-Set Reg - 633 VI
278	Time-Set Reg - 634 VI
300	Time-Set Reg - 723 VI
358	1L Mini-Can - 1307 VI
482	1.4L Mini-Can - 1364 VI
552	1L Mini-Can - 120 VI
1154	Time-Set Reg-0680 VI
1160	Time-Set Reg-0673 VI
1172	Time-Set Reg-0797 VI

Comments: 8 1L @ 6hr + dupe + 1.4 L @ 6hr + 10' tubing WAC 032816D, 042816 D-F

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.	Client Sample ID: 1740 -SVI-1
Lab Order: C1605057	Tag Number: 357,278
Project: Emerson Landfill	Collection Date: 5/19/2016
Lab ID: C1605057-001A	Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-5			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
Tetrachloroethylene	0.25	0.15		ppbV	1	5/26/2016 9:02:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
Trichloroethene	0.61	0.15		ppbV	1	5/26/2016 9:02:00 AM
Vinyl chloride	0.23	0.15		ppbV	1	5/26/2016 9:02:00 AM
Surr: Bromofluorobenzene	96.0	70-130		%REC	1	5/26/2016 9:02:00 AM

Qualifiers:	** Quantitation Limit	.
	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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-001A

Client Sample ID: 1740 -SVI-1
Tag Number: 357,278
Collection Date: 5/19/2016
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	5/26/2016 9:02:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/26/2016 9:02:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 9:02:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/26/2016 9:02:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/26/2016 9:02:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 9:02:00 AM
Tetrachloroethylene	1.7	1.0		ug/m3	1	5/26/2016 9:02:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 9:02:00 AM
Trichloroethene	3.3	0.81		ug/m3	1	5/26/2016 9:02:00 AM
Vinyl chloride	0.59	0.38		ug/m3	1	5/26/2016 9:02:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-002A

Client Sample ID: 1740-1AQ-1
 Tag Number: 552,1154
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-4			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	5/25/2016 4:47:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	5/25/2016 4:47:00 AM
Surr: Bromofluorobenzene	110	70-130		%REC	1	5/25/2016 4:47:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-002A

Client Sample ID: 1740-1AQ-1
Tag Number: 552,1154
Collection Date: 5/19/2016
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	5/25/2016 4:47:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 4:47:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 4:47:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 4:47:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 4:47:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 4:47:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 4:47:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 4:47:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	5/25/2016 4:47:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 4:47:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-003A

Client Sample ID: 1740-SV1-2
 Tag Number: 133,300
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-4			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 BY METHOD TO15			TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.14	0.15	J	ppbV	1	5/26/2016 1:56:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/26/2016 1:56:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 1:56:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	5/26/2016 1:56:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	5/26/2016 1:56:00 PM
cis-1,2-Dichloroethene	1.6	0.15		ppbV	1	5/26/2016 1:56:00 PM
Tetrachloroethylene	0.37	0.15		ppbV	1	5/26/2016 1:56:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 1:56:00 PM
Trichloroethene	3.0	0.30		ppbV	2	5/27/2016 3:24:00 AM
Vinyl chloride	0.45	0.15		ppbV	1	5/26/2016 1:56:00 PM
Surr: Bromofluorobenzene	98.0	70-130		%REC	1	5/26/2016 1:56:00 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: 05-Jul-16.

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-003A

Client Sample ID: 1740-SV1-2
 Tag Number: 133,300
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15						Analyst: RJP
			TO-15			
1,1,1-Trichloroethane	0.76	0.82	J	ug/m3	1	5/26/2016 1:56:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/26/2016 1:56:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	5/26/2016 1:56:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	5/26/2016 1:56:00 PM
cis-1,2-Dichloroethene	6.2	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Tetrachloroethylene	2.5	1.0		ug/m3	1	5/26/2016 1:56:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Trichloroethene	16	1.6		ug/m3	2	5/27/2016 3:24:00 AM
Vinyl chloride	1.2	0.38		ug/m3	1	5/26/2016 1:56:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-004A

Client Sample ID: 1740-IAQ-2
Tag Number: 95,266
Collection Date: 5/19/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-5			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	5/25/2016 5:28:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	5/25/2016 5:28:00 AM
Surr: Bromofluorobenzene	97.0	70-130		%REC	1	5/25/2016 5:28:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-004A

Client Sample ID: 1740-1AQ-2
Tag Number: 95,266
Collection Date: 5/19/2016
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	5/25/2016 5:28:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 5:28:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 5:28:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 5:28:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 5:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 5:28:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 5:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 5:28:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	5/25/2016 5:28:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 5:28:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-005A

Client Sample ID: 1740-SVI-3
Tag Number: 237,1172
Collection Date: 5/19/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-4			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 BY METHOD TO15			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
cis-1,2-Dichloroethene	2.0	0.15		ppbV	1	5/26/2016 2:36:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
Trichloroethene	1.1	0.15		ppbV	1	5/26/2016 2:36:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
Surr: Bromofluorobenzene	97.0	70-130		%REC	1	5/26/2016 2:36:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-005A

Client Sample ID: 1740-SVI-3
Tag Number: 237,1172
Collection Date: 5/19/2016
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	5/26/2016 2:36:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/26/2016 2:36:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 2:36:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	5/26/2016 2:36:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	5/26/2016 2:36:00 PM
cis-1,2-Dichloroethene	7.8	0.59		ug/m3	1	5/26/2016 2:36:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/26/2016 2:36:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 2:36:00 PM
Trichloroethene	5.9	0.81		ug/m3	1	5/26/2016 2:36:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	5/26/2016 2:36:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-006A

Client Sample ID: 1740-1AQ-3
 Tag Number: 202,1160
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-5			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
Trichloroethene	0.15	0.040		ppbV	1	5/25/2016 6:10:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	5/25/2016 6:10:00 AM
Surr: Bromofluorobenzene	92.0	70-130		%REC	1	5/25/2016 6:10:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-006A

Client Sample ID: 1740-1AQ-3
Tag Number: 202,1160
Collection Date: 5/19/2016
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	5/25/2016 6:10:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 6:10:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:10:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 6:10:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 6:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:10:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 6:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:10:00 AM
Trichloroethene	0.81	0.21		ug/m3	1	5/25/2016 6:10:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 6:10:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-007A

Client Sample ID: Outdoor Air
Tag Number: 482,111
Collection Date: 5/19/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-4			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
Chloromethane	0.51	0.15		ppbV	1	5/25/2016 6:51:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	5/25/2016 6:51:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	5/25/2016 6:51:00 AM
Surr: Bromofluorobenzene	93.0	70-130		%REC	1	5/25/2016 6:51:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-007A

Client Sample ID: Outdoor Air
Tag Number: 482,111
Collection Date: 5/19/2016
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	5/25/2016 6:51:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 6:51:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:51:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 6:51:00 AM
Chloromethane	1.1	0.31		ug/m3	1	5/25/2016 6:51:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:51:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 6:51:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:51:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	5/25/2016 6:51:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 6:51:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-008A

Client Sample ID: Dupe
 Tag Number: 358,1154
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-4			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
Trichloroethene	0.13	0.040		ppbV	1	5/25/2016 3:45:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	5/25/2016 3:45:00 PM
Surr: Bromofluorobenzene	101	70-130		%REC	1	5/25/2016 3:45:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-008A

Client Sample ID: Dupe
Tag Number: 358,1154
Collection Date: 5/19/2016
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	5/25/2016 3:45:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 3:45:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 3:45:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 3:45:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 3:45:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 3:45:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 3:45:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 3:45:00 PM
Trichloroethene	0.70	0.21		ug/m3	1	5/25/2016 3:45:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 3:45:00 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: 05-Jul-16



CENTEK LABORATORIES, LLC

**QC SUMMARY REPORT
SURROGATE RECOVERIES**

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ						
ALCSIUG-052416	99.0						
ALCSIUG-052516	95.0						
ALCSIUG-052616	96.0						
ALCSIUGD-052416	98.0						
ALCSIUGD-052516	98.0						
ALCSIUGD-052616	95.0						
AMBIUG-052416	103						
AMBIUG-052516	90.0						
AMBIUG-052616	93.0						
C1605057-001A	96.0						
C1605057-002A	110						
C1605057-003A	98.0						
C1605057-004A	97.0						
C1605057-005A	97.0						
C1605057-006A	92.0						
C1605057-007A	93.0						
C1605057-007A MS	96.0						
C1605057-007A MSD	94.0						
C1605057-008A	101						

Acronym	Surrogate	QC Limits
BR4FBZ	= Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

/

Tune File : C:\HPCHEM\1\DATA\AN052402.D

Tune Time : 24 May 2016 9:01 am

Daily Calibration File : C:\HPCHEM\1\DATA\AN052402.D

	(BFB)	(IS1)	(IS2)	(IS3)
		28909	124023	112008
File	Sample	DL	Surrogate Recovery %	Internal Standard Responses
AN052403.D	ALCS1UG-052416	99		27568 121586 110436
AN052404.D	AMB1UG-052416	103		32220 142168 130938
AN052424.D	ALCS1UGD-052416	98		30886 136888 122919
AN052425.D	C1605057-002A	110		31146 143773 131129
AN052426.D	C1605057-004A	97		32994 151877 134890
AN052427.D	C1605057-006A	92		34031 154167 139832
AN052428.D	C1605057-007A	93		33187 153820 134344
AN052429.D	C1605057-007A MS	96		35023 155307 141397
AN052430.D	C1605057-007A MSD	94		33863 151029 134777

t - fails 24hr time check * - fails criteria

Created: Tue Jul 05 08:31:52 2016 MSD #1/

Tune File : C:\HPCHEM\1\DATA\AN052502.D
 Tune Time : 25 May 2016 9:49 am

Daily Calibration File : C:\HPCHEM\1\DATA\AN052502.D

(BFB) (IS1) (IS2) (IS3)
 31781 146372 128608

File	Sample	DL Surrogate Recovery %	Internal Standard Responses		
AN052503.D	ALCS1UG-052516	95	32260	144109	128882
AN052504.D	AMB1UG-052516	90	29901	138589	122793
AN052511.D	C1605057-008A	101	31435	140644	130607
AN052526.D	ALCS1UGD-052516	98	28173	119863	110297
AN052537.D	C1605057-001A	96	38693	176249	164783

t - fails 24hr time check * - fails criteria

Created: Tue Jul 05 08:33:41 2016 MSD #1/

Centek Laboratories, LLC

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN052603.D

Tune Time : 26 May 2016 11:20 am

Daily Calibration File : C:\HPCHEM\1\DATA\AN052603.D

(BFB) (IS1) (IS2) (IS3)
 36716 162829 147852

File	Sample	DL	Surrogate Recovery %	Internal Standard Responses		
AN052605.D	AMB1UG-052616		93	35017	160418	141574
AN052606.D	ALCS1UG-052616		96	33909	160629	142992
AN052607.D	C1605057-003A		98	35540	169900	156999
AN052608.D	C1605057-005A		97	38889	194963	178304
AN052627.D	C1605057-003A 2X	100		33396	156833	146762
AN052628.D	ALCS1UGD-052616		95	33398	153762	138123

t - fails 24hr time check * - fails criteria

Created: Tue Jul 05 08:35:06 2016 MSD #1/



Date: 05-Jul-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
 Work Order: C1605057
 Project: Emerson Landfill
 TestCode: 0.25CT-ICE-VC

Sample ID	ALCS1UG-052416	Sample Type: LCS	TestCode: 0.25CT-ICE-	Units: ppbV	Prep Date:	RunNo: 10999					
Client ID:	ZZZZZ	Batch ID: R10999	TestNo: TO-15		Analysis Date: 5/24/2016	SeqNo: 128925					
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9900	0.15	1	0	99.0	70	130				
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130				
1,1-Dichloroethene	1.020	0.15	1	0	102	70	130				
Chloroethane	1.140	0.15	1	0	114	70	130				
Chloromethane	1.250	0.15	1	0	125	70	130				
cis-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
Tetrachloroethylene	1.040	0.15	1	0	104	70	130				
trans-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
Trichloroethene	1.050	0.040	1	0	105	70	130				
Vinyl chloride	1.190	0.040	1	0	119	70	130				

Sample ID	ALCS1UG-052516	Sample Type: LCS	TestCode: 0.25CT-ICE-	Units: ppbV	Prep Date:	RunNo: 11000					
Client ID:	ZZZZZ	Batch ID: R11000	TestNo: TO-15		Analysis Date: 5/25/2016	SeqNo: 128944					
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.010	0.15	1	0	101	70	130				
1,1-Dichloroethane	1.080	0.15	1	0	108	70	130				
1,1-Dichloroethene	1.050	0.15	1	0	105	70	130				
Chloroethane	1.190	0.15	1	0	119	70	130				
Chloromethane	1.220	0.15	1	0	122	70	130				
cis-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130				
Tetrachloroethylene	1.100	0.15	1	0	110	70	130				
trans-1,2-Dichloroethene	1.020	0.15	1	0	102	70	130				
Trichloroethene	1.090	0.040	1	0	109	70	130				

Qualifiers: J Results reported are not blank corrected
 S Analyte detected below quantitation limit
 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
 S Spike Recovery outside accepted recovery limits

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-052516	SampType:	LCS	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	11000
Client ID:	ZZZZ	Batch ID:	R11000	TestNo:	TO-15			Analysis Date:	5/25/2016	SeqNo:	128944
Analyte		Result	1.180	PQL	0.040	SPK value	1	%REC	118	LowLimit	70
Vinyl chloride				SPK Ref Val	0	SPK Ref Val	0	HighLimit	130	RPD Ref Val	
										%RPD	RPDLimit
											Qual

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

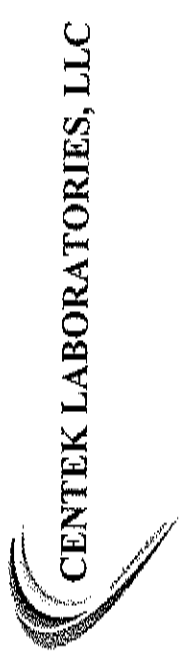
CLIENT: LaBella Associates, P.C.
 Work Order: C1605057
 Project: Emerson Landfill

TestCode: 1ugM3_TO15

Sample ID: ALCS1UG-052616 SampType: LCS TestCode: 1ugM3_TO15 Units: ppbv Prep Date: RunNo: 11001
 Client ID: ZZZZ Batch ID: R11001 TestNo: TO-15 Analysis Date: 5/26/2016 SeqNo: 128976

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9500	0.15	1	0	95.0	70	130				
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130				
1,1-Dichloroethene	1.040	0.15	1	0	104	70	130				
Chloroethane	1.200	0.15	1	0	120	70	130				
Chloromethane	1.270	0.15	1	0	127	70	130				
cis-1,2-Dichloroethene	1.000	0.15	1	0	100	70	130				
Tetrachloroethylene	1.060	0.15	1	0	106	70	130				
trans-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
Trichloroethene	1.070	0.15	1	0	107	70	130				
Vinyl chloride	1.280	0.15	1	0	128	70	130				

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



CENTEK LABORATORIES, LLC

Date: 05-Jul-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-ICE-VC

Sample ID	ALCS1UGD-052416	SampType: LCSD	TestCode: 0.25CT-ICE-	Units: ppbV	Prep Date:	RunNo: 10999					
Client ID:	ZZZZ	Batch ID: R10999	TestNo: TO-15	Analysis Date: 5/25/2016	SeqNo: 128926						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.080	0.15	1	0	108	70	130	0.99	8.70	30	
1,1-Dichloroethane	1.110	0.15	1	0	111	70	130	1.02	8.45	30	
1,1-Dichloroethene	1.090	0.15	1	0	109	70	130	1.02	6.64	30	
Chloroethane	1.200	0.15	1	0	120	70	130	1.14	5.13	30	
Chloromethane	1.270	0.15	1	0	127	70	130	1.25	1.59	30	
cis-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130	0.99	4.93	30	
Tetrachloroethylene	1.110	0.15	1	0	111	70	130	1.04	6.51	30	
trans-1,2-Dichloroethene	1.050	0.15	1	0	105	70	130	0.98	6.90	30	
Trichloroethene	1.100	0.040	1	0	110	70	130	1.05	4.65	30	
Vinyl chloride	1.220	0.040	1	0	122	70	130	1.19	2.49	30	

Sample ID	ALCS1UGD-052516	SampType: LCSD	TestCode: 0.25CT-ICE-	Units: ppbV	Prep Date:	RunNo: 11000					
Client ID:	ZZZZ	Batch ID: R11000	TestNo: TO-15	Analysis Date: 5/26/2016	SeqNo: 128945						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.110	0.15	1	0	111	70	130	1.01	9.43	30	
1,1-Dichloroethane	1.090	0.15	1	0	109	70	130	1.08	0.922	30	
1,1-Dichloroethene	1.080	0.15	1	0	108	70	130	1.05	2.82	30	
Chloroethane	1.230	0.15	1	0	123	70	130	1.19	3.31	30	
Chloromethane	1.160	0.15	1	0	116	70	130	1.22	5.04	30	
cis-1,2-Dichloroethene	1.030	0.15	1	0	103	70	130	1.04	0.966	30	
Tetrachloroethylene	1.120	0.15	1	0	112	70	130	1.1	1.80	30	
trans-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130	1.02	1.94	30	
Trichloroethene	1.140	0.040	1	0	114	70	130	1.09	4.48	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
 Spike Recovery outside accepted recovery limits

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UGD-052516	SampType	LCSD	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:	RunNo:	11000			
Client ID:	ZZZZZ	Batch ID:	R11000	TestNo:	TO-15			Analysis Date:	SeqNo:	128945			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride		1.230		0.040	1	0	123	70	130	1.18	4.15	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

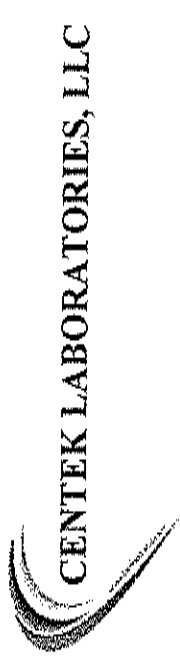
CLIENT: LaBella Associates, P.C.
Work Order: CI605057
Project: Emerson Landfill

TestCode: 1ugM3_TO15

Sample ID: ALCS1UGD-052616 SampType: LCSD TestCode: 1ugM3_TO15 Units: ppbV Prep Date: RunNo: 11001
 Client ID: ZZZZZ Batch ID: R11001 TestNo: TO-15 Analysis Date: 5/27/2016 SeqNo: 128977

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9800	0.15	1	0	98.0	70	130	0.95	3.11	30	
1,1-Dichloroethane	1.080	0.15	1	0	108	70	130	1.04	3.77	30	
1,1-Dichloroethene	1.070	0.15	1	0	107	70	130	1.04	2.84	30	
Chloroethane	1.170	0.15	1	0	117	70	130	1.2	2.53	30	
Chloromethane	1.210	0.15	1	0	121	70	130	1.27	4.84	30	
cis-1,2-Dichloroethene	1.020	0.15	1	0	102	70	130	1	1.98	30	
Tetrachloroethylene	1.060	0.15	1	0	106	70	130	1.06	0	30	
trans-1,2-Dichloroethene	1.020	0.15	1	0	102	70	130	0.99	2.99	30	
Trichloroethene	1.080	0.15	1	0	108	70	130	1.07	0.930	30	
Vinyl chloride	1.140	0.15	1	0	114	70	130	1.28	11.6	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



Date: 05-Jul-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-052416	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	10999	
Client ID:	ZZZZZ	Batch ID:	R10999	TestNo:	TO-15	Analysis Date:	5/24/2016	Analysis Date:	SeqNo:	128924	
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-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									

Sample ID	AMB1UG-052516	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	11000	
Client ID:	ZZZZZ	Batch ID:	R11000	TestNo:	TO-15	Analysis Date:	5/25/2016	Analysis Date:	SeqNo:	128943	
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-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									

Qualifiers:

- J Results reported are not blank corrected
- S Analyte detected below quantitation limit
- 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
- S Spike Recovery outside accepted recovery limits

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-052516	Sample Type	MBLK	TestCode	0.25CT-TCE-	Units	ppbv	Prep Date:		RunNo:	11000		
Client ID:	ZZZZZ	Batch ID:	R11000	TestNo:	TO-15			Analysis Date:	5/25/2016	SeqNo:	128943		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride < 0.040 0.040

Qualifiers:

- J 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: C1605057
Project: Emerson Landfill

TestCode: 1ugM3_TO15

Sample ID: AMB1UG-052616 SampType: MBLK TestCode: 1ugM3_TO15 Units: ppbv Prep Date: RunNo: 11001
 Client ID: ZZZZ Batch ID: R11001 TestNo: TO-15 Analysis Date: 5/26/2016 SeqNo: 128975

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-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	< 0.15	0.15									
Vinyl chloride	< 0.15	0.15									

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: 05-Jul-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: CI605057
Project: Emerson Landfill
TestCode: 0.25CT-TCE-VC

Sample ID	C1605057-007A MS	SampType: MS	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 10999					
Client ID:	Outdoor Air	Batch ID: R10999	TestNo: TO-15		Analysis Date: 5/25/2016	SeqNo: 128941					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9700	0.15	1	0	97.0	70	130				
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130				
1,1-Dichloroethene	1.030	0.15	1	0	103	70	130				
Chloroethane	1.130	0.15	1	0	113	70	130				
Chloromethane	1.290	0.15	1	0.51	78.0	70	130				
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130				
Tetrachloroethylene	1.040	0.15	1	0	104	70	130				
trans-1,2-Dichloroethene	1.020	0.15	1	0	102	70	130				
Trichloroethene	1.150	0.040	1	0	115	70	130				
Vinyl chloride	1.070	0.040	1	0	107	70	130				

Sample ID	C1605057-007A MS	SampType: MSD	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 10999					
Client ID:	Outdoor Air	Batch ID: R10999	TestNo: TO-15		Analysis Date: 5/25/2016	SeqNo: 128942					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.010	0.15	1	0	101	70	130	0.97	4.04	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.02	1.94	30	
1,1-Dichloroethene	1.040	0.15	1	0	104	70	130	1.03	0.966	30	
Chloroethane	1.200	0.15	1	0	120	70	130	1.13	6.01	30	
Chloromethane	1.280	0.15	1	0.51	77.0	70	130	1.29	0.778	30	
cis-1,2-Dichloroethene	1.030	0.15	1	0	103	70	130	1.01	1.96	30	
Tetrachloroethylene	1.080	0.15	1	0	108	70	130	1.04	3.77	30	
trans-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130	1.02	1.94	30	
Trichloroethene	1.180	0.040	1	0	118	70	130	1.15	2.58	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: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	C1605057-007A MS	SampType	MSD	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:		RunNo:	10999		
Client ID:	Outdoor Air	Batch ID:	R10999	TestNo:	TO-15			Analysis Date:	5/25/2016	SeqNo:	128942		
Analyte		Result	1.140	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride				0.040	1	0	114	70	130	1.07	6.33	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				

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	0.066
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	0.186	0.022	80.8	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	89.7	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	86.8	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	89.7	0.076

Centek Laboratories IDL Study	Name	Amount	1ug/M3 Detection Limit January 2016										Method TO-15A Units=ppb		
			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	0.13	0.15	0.16	0.15	0.007	98.1	0.022
Heptane		0.15	0.12	0.13	0.13	0.12	0.13	0.12	0.13	0.13	0.13	0.13	0.005	118.0	0.015
Trichloroethene		0.15	0.14	0.15	0.14	0.15	0.15	0.15	0.15	0.15	0.14	0.15	0.005	102.9	0.017
1,2-dichloropropane		0.15	0.16	0.17	0.17	0.16	0.16	0.16	0.17	0.16	0.16	0.16	0.005	91.3	0.017
Bromodichloromethane		0.15	0.16	0.16	0.16	0.15	0.16	0.15	0.16	0.16	0.17	0.16	0.006	93.8	0.018
cis-1,3-dichloropropene		0.15	0.13	0.13	0.13	0.14	0.13	0.14	0.13	0.13	0.13	0.13	0.005	112.9	0.015
trans-1,3-dichloropropene		0.15	0.16	0.13	0.13	0.14	0.14	0.14	0.14	0.14	0.14	0.16	0.013	105.0	0.039
1,1,2-trichloroethane		0.15	0.16	0.15	0.16	0.15	0.15	0.15	0.16	0.16	0.18	0.17	0.011	92.9	0.034
Toluene		0.15	0.14	0.14	0.14	0.13	0.13	0.13	0.16	0.16	0.14	0.15	0.010	105.0	0.030
Methyl Isobutyl Ketone		0.15	0.18	0.18	0.18	0.18	0.16	0.18	0.16	0.16	0.18	0.15	0.013	86.8	0.039
Dibromochloromethane		0.15	0.16	0.16	0.16	0.17	0.16	0.18	0.16	0.16	0.17	0.18	0.009	89.0	0.028
Methyl Butyl Ketone		0.15	0.17	0.16	0.18	0.17	0.17	0.17	0.16	0.16	0.17	0.14	0.013	91.3	0.040
1,2-dibromoethane		0.15	0.16	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.17	0.005	92.1	0.015
Tetrachloroethylene		0.15	0.16	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.005	91.3	0.017
Chlorobenzene		0.15	0.16	0.16	0.16	0.16	0.16	0.17	0.15	0.15	0.17	0.17	0.008	92.1	0.024
1,1,1,2-tetrachloroethane		0.15	0.17	0.17	0.17	0.18	0.18	0.18	0.16	0.16	0.18	0.17	0.007	87.5	0.022
Ethylbenzene		0.15	0.13	0.14	0.14	0.14	0.14	0.14	0.12	0.12	0.14	0.13	0.008	111.7	0.025
m&p-xylene		0.3	0.25	0.25	0.25	0.23	0.23	0.25	0.25	0.25	0.25	0.25	0.008	121.4	0.024
Nonane		0.15	0.11	0.11	0.11	0.11	0.11	0.11	0.1	0.1	0.1	0.11	0.005	140.0	0.015
Styrene		0.15	0.12	0.13	0.13	0.11	0.11	0.11	0.12	0.12	0.13	0.12	0.008	122.1	0.024
Bromoform		0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.17	0.16	0.008	96.3	0.025
o-xylene		0.15	0.11	0.12	0.12	0.14	0.14	0.14	0.14	0.14	0.12	0.11	0.013	122.1	0.039
Cumene		0.15	0.12	0.13	0.13	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.005	118.0	0.015
Bromofluorobenzene		1	0.88	0.9	0.9	0.87	0.87	0.89	0.89	0.89	0.89	0.9	0.012	112.4	0.036
1,1,2,2-tetrachloroethane		0.15	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.005	91.3	0.017
Propylbenzene		0.15	0.13	0.12	0.12	0.13	0.13	0.13	0.11	0.11	0.13	0.11	0.010	122.1	0.030
2-Chlorotoluene		0.15	0.13	0.13	0.13	0.14	0.14	0.13	0.13	0.13	0.12	0.13	0.006	115.4	0.018
4-ethyltoluene		0.15	0.11	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.11	0.008	125.0	0.026
1,3,5-trimethylbenzene		0.15	0.12	0.13	0.13	0.14	0.14	0.14	0.13	0.13	0.13	0.13	0.007	116.7	0.022
1,2,4-trimethylbenzene		0.15	0.12	0.13	0.13	0.12	0.12	0.12	0.13	0.13	0.12	0.12	0.005	122.1	0.015
1,3-dichlorobenzene		0.15	0.14	0.14	0.14	0.13	0.13	0.13	0.14	0.14	0.13	0.14	0.005	109.4	0.015
benzyl chloride		0.15	0.13	0.16	0.16	0.15	0.15	0.15	0.13	0.13	0.15	0.16	0.014	104.0	0.044
1,4-dichlorobenzene		0.15	0.13	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.007	123.5	0.022
1,2,3-trimethylbenzene		0.15	0.12	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.005	129.6	0.017
1,2-dichlorobenzene		0.15	0.13	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.005	108.4	0.015
1,2,4-trichlorobenzene		0.15	0.1	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.1	0.008	140.0	0.024
Napthalene		0.15	0.13	0.13	0.13	0.11	0.11	0.11	0.12	0.12	0.14	0.12	0.011	118.0	0.035
Hexachloro-1,3-butadiene		0.15	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.005	91.3	0.017

0.25ug/M3 Detection Limit
January 2016

Centek Laboratories
IDL Study

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	0.09	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

Confidential

1/15/2016

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

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

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)

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

Percent Difference (%D)

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

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

Sample Calculations

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

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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-001A

Client Sample ID: 1740 -SV1-1
 Tag Number: 357,278
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-5			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
Tetrachloroethylene	0.25	0.15		ppbV	1	5/26/2016 9:02:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 9:02:00 AM
Trichloroethene	0.61	0.15		ppbV	1	5/26/2016 9:02:00 AM
Vinyl chloride	0.23	0.15		ppbV	1	5/26/2016 9:02:00 AM
Surr: Bromofluorobenzene	96.0	70-130		%REC	1	5/26/2016 9:02:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-001A

Client Sample ID: 1740 -SVI-1
 Tag Number: 357,278
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15						Analyst: RJP
		TO-15				
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	5/26/2016 9:02:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/26/2016 9:02:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 9:02:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/26/2016 9:02:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/26/2016 9:02:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 9:02:00 AM
Tetrachloroethylene	1.7	1.0		ug/m3	1	5/26/2016 9:02:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 9:02:00 AM
Trichloroethene	3.3	0.81		ug/m3	1	5/26/2016 9:02:00 AM
Vinyl chloride	0.59	0.38		ug/m3	1	5/26/2016 9:02:00 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

Data File : C:\HPCHEM\1\DATA\AN052537.D Vial: 35
 Acq On : 26 May 2016 9:02 am Operator: RJP
 Sample : C1605057-001A Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 26 10:08:33 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.62	128	38693	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.90	114	176249	1.00	ppb	0.00
50) Chlorobenzene-d5	16.42	117	164783	1.00	ppb	0.00

System Monitoring Compounds
 66) Bromofluorobenzene 18.00 95 111563m 0.96 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 96.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	4.40	62	8202	0.23	ppb	82
44) Trichloroethene	12.52	130	44215	0.61	ppb	90
56) Tetrachloroethylene	15.52	164	20015	0.25	ppb	89

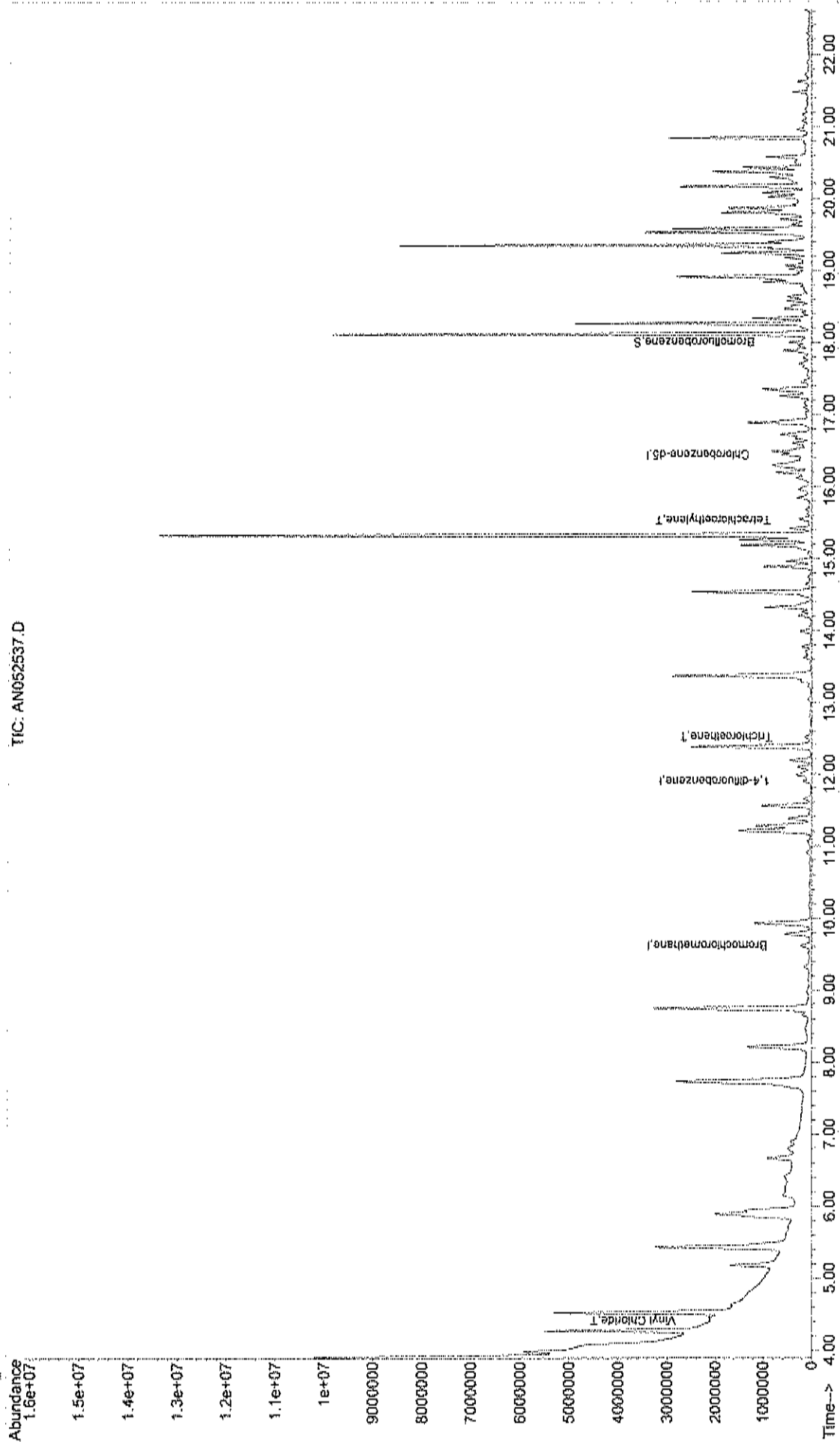
Quantitation Report (QT Reviewed)

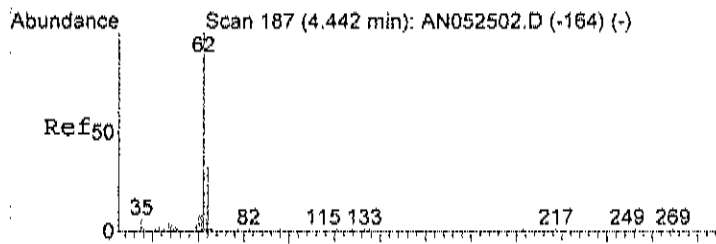
Data File : C:\HPCHEM\1\DATA\AN052537.D
Acq On : 26 May 2016 9:02 am
Sample : C1605057-001A
Misc : A505 1UG
MS Integration Params: RTEINT.P
Quant Time: May 26 10:47 2016

Vial: 35
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A505_1UG.RES

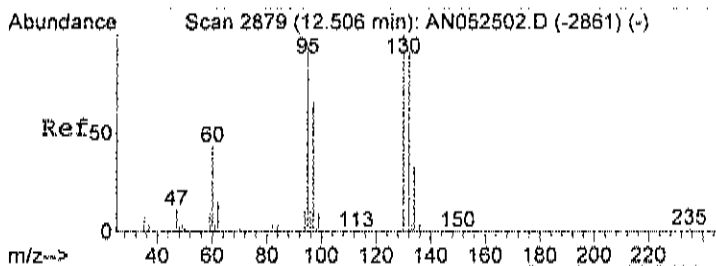
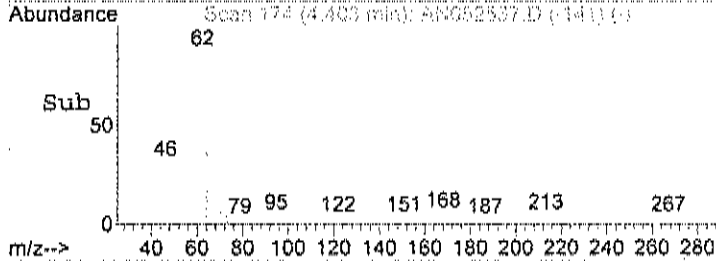
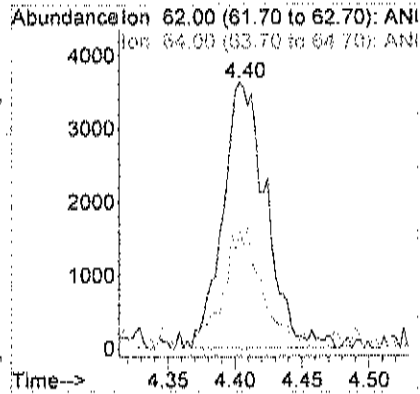
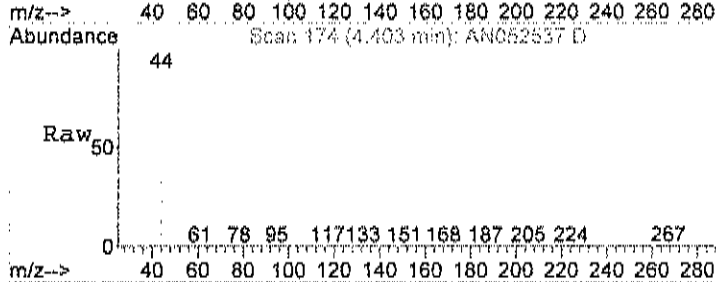
Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration





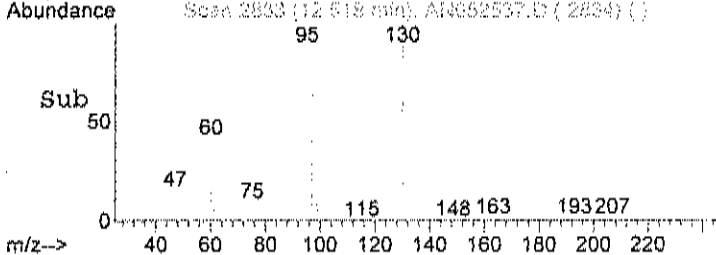
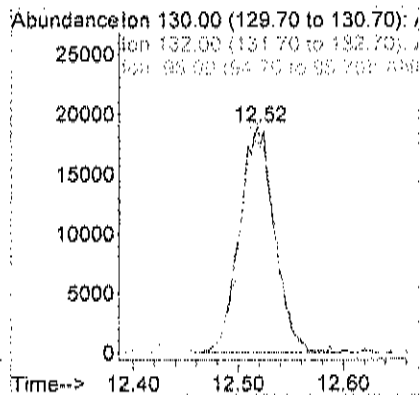
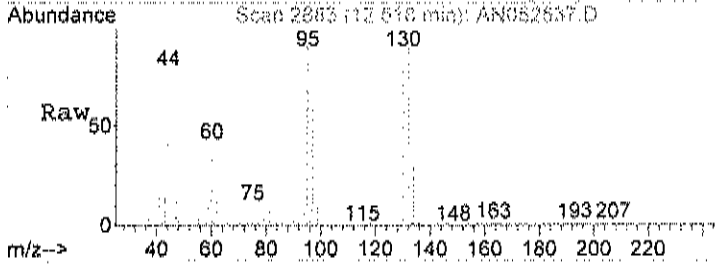
#6
 Vinyl Chloride
 Concen: 0.23 ppb
 RT: 4.40 min Scan# 174
 Delta R.T. -0.05 min
 Lab File: AN052537.D
 Acq: 26 May 2016 9:02 am

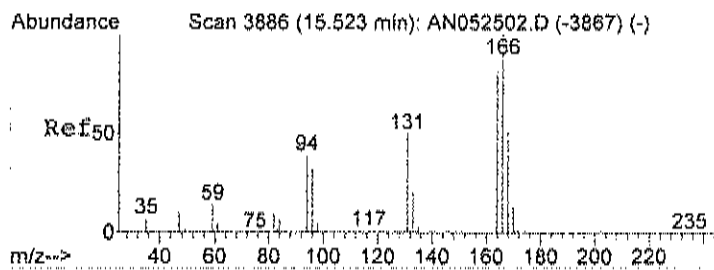
Tgt Ion	Resp	Lower	Upper
62	100		
64	41.4	1.3	61.3



#44
 Trichloroethene
 Concen: 0.61 ppb
 RT: 12.52 min Scan# 2883
 Delta R.T. -0.00 min
 Lab File: AN052537.D
 Acq: 26 May 2016 9:02 am

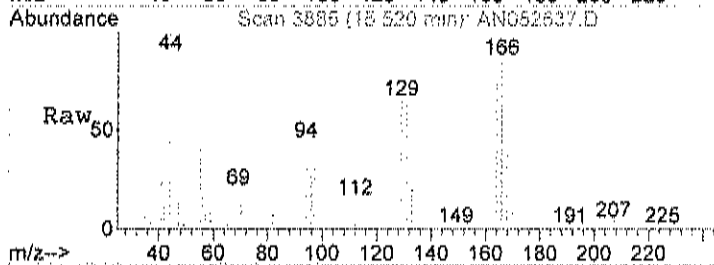
Tgt Ion	Resp	Lower	Upper
130	100		
132	96.8	63.3	103.3
95	105.1	78.5	118.5



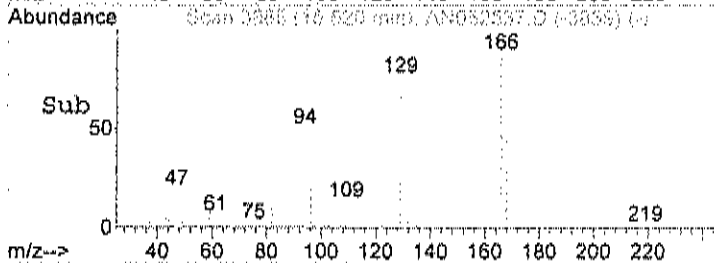
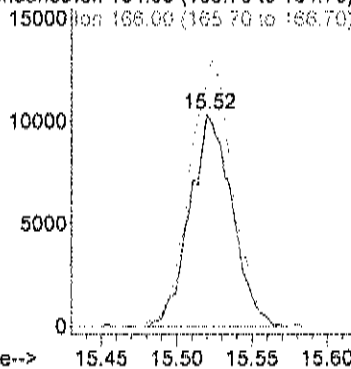


#56
 Tetrachloroethylene
 Concen: 0.25 ppb
 RT: 15.52 min Scan# 3885
 Delta R.T. -0.01 min
 Lab File: AN052537.D
 Acq: 26 May 2016 9:02 am

Tgt Ion	Resp	Lower	Upper
164	20015		
164	100		
166	127.7	96.0	136.0



Abundance Ion 164.00 (163.70 to 164.70);
 15000 Ion 166.00 (165.70 to 166.70);



Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-002A

Client Sample ID: 1740-IAQ-1
Tag Number: 552,1154
Collection Date: 5/19/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-4			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 4:47:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	5/25/2016 4:47:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	5/25/2016 4:47:00 AM
Surr: Bromofluorobenzene	110	70-130		%REC	1	5/25/2016 4:47:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-002A

Client Sample ID: 1740-IAQ-1
Tag Number: 552,1154
Collection Date: 5/19/2016
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	5/25/2016 4:47:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 4:47:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 4:47:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 4:47:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 4:47:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 4:47:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 4:47:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 4:47:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	5/25/2016 4:47:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 4:47:00 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\AN052425.D Vial: 25
 Acq On : 25 May 2016 4:47 am Operator: RJP
 Sample : C1605057-002A Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 25 09:00:06 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	31146	1.00	ppb	-0.03
35) 1,4-difluorobenzene	11.88	114	143773	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	131129	1.00	ppb	-0.01

System Monitoring Compounds
 66) Bromofluorobenzene 18.00 95 101713 1.10 ppb -0.01
 Spiked Amount 1.000 Range 70 - 130 Recovery = 110.00%

Target Compounds Qvalue

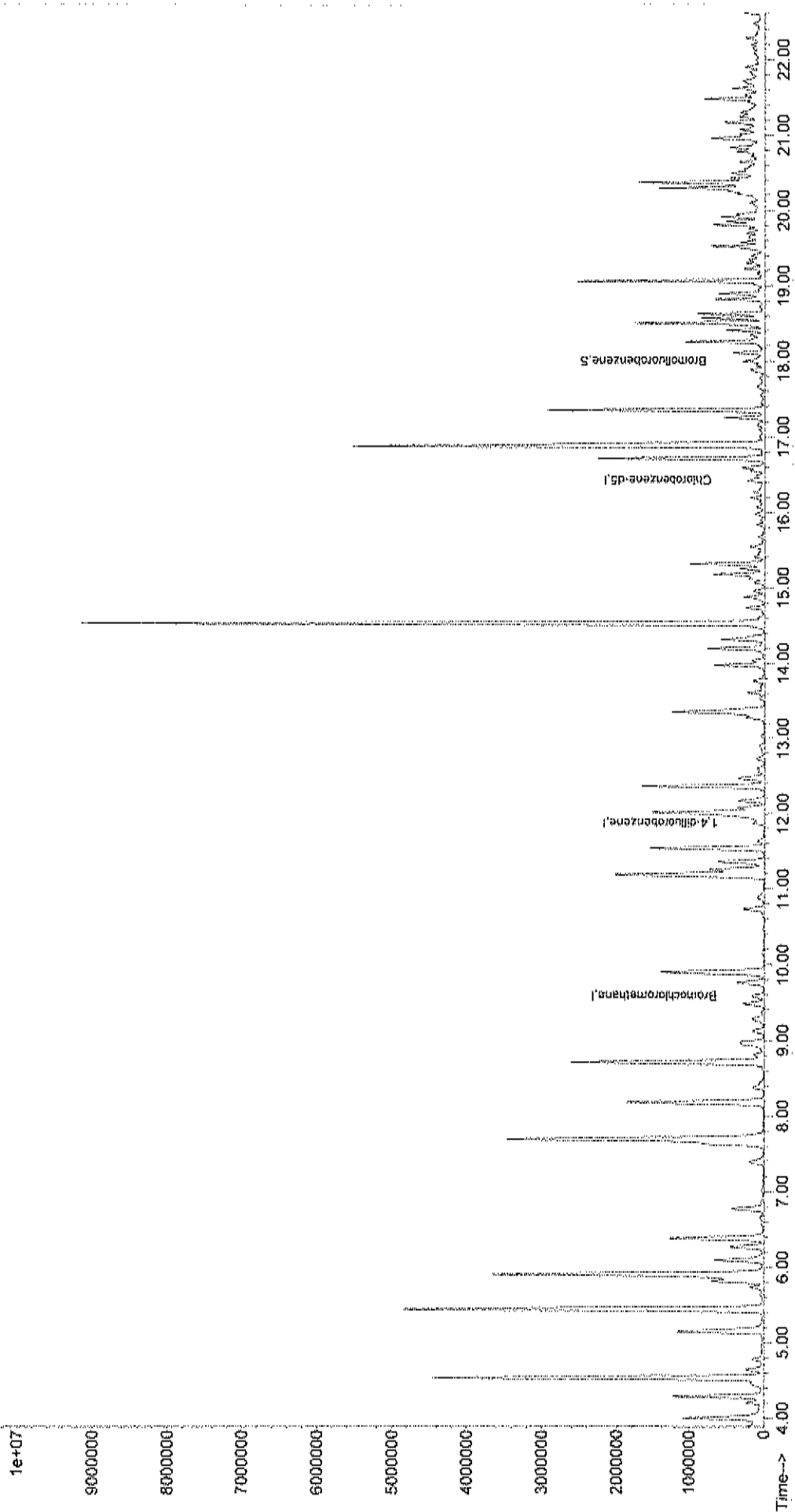
Data File : C:\HPCHEM\1\DATA\AN052425.D
Acq On : 25 May 2016 4:47 am
Sample : C1605057-002A
Misc : A505_1UG
MS Integration Params: RTEINT.P
Quant Time: May 25 10:03 2016

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

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration

Abundance
1.1e+07
TIC: AN052425.D



Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-003A

Client Sample ID: 1740-SV1-2
 Tag Number: 133,300
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-4			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	0.14	0.15	J	ppbV	1	5/26/2016 1:56:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/26/2016 1:56:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 1:56:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	5/26/2016 1:56:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	5/26/2016 1:56:00 PM
cis-1,2-Dichloroethene	1.6	0.15		ppbV	1	5/26/2016 1:56:00 PM
Tetrachloroethylene	0.37	0.15		ppbV	1	5/26/2016 1:56:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 1:56:00 PM
Trichloroethene	3.0	0.30		ppbV	2	5/27/2016 3:24:00 AM
Vinyl chloride	0.45	0.15		ppbV	1	5/26/2016 1:56:00 PM
Surr: Bromofluorobenzene	98.0	70-130		%REC	1	5/26/2016 1:56:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-003A

Client Sample ID: 1740-SVI-2
Tag Number: 133,300
Collection Date: 5/19/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15			TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.76	0.82	J	ug/m3	1	5/26/2016 1:56:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/26/2016 1:56:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	5/26/2016 1:56:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	5/26/2016 1:56:00 PM
cis-1,2-Dichloroethene	6.2	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Tetrachloroethylene	2.5	1.0		ug/m3	1	5/26/2016 1:56:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Trichloroethene	16	1.6		ug/m3	2	5/27/2016 3:24:00 AM
Vinyl chloride	1.2	0.38		ug/m3	1	5/26/2016 1:56:00 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\AN052607.D
 Acq On : 26 May 2016 1:56 pm
 Sample : C1605057-003A
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 14:58:41 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu May 26 10:56:15 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.60	128	35540	1.00	ppb	-0.01
35) 1,4-difluorobenzene	11.89	114	169900	1.00	ppb	0.00
50) Chlorobenzene-d5	16.42	117	156999	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	18.00	95	108716m ¹	0.98	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	98.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	4.44	62	14683	0.45	ppb	82
29) cis-1,2-dichloroethene	9.14	61	89294	1.56	ppb	# 68
36) 1,1,1-trichloroethane	10.57	97	15524	0.14	ppb	96
44) Trichloroethene	12.52	130	211016	3.02	ppb	93
56) Tetrachloroethylene	15.52	164	28475	0.37	ppb	88

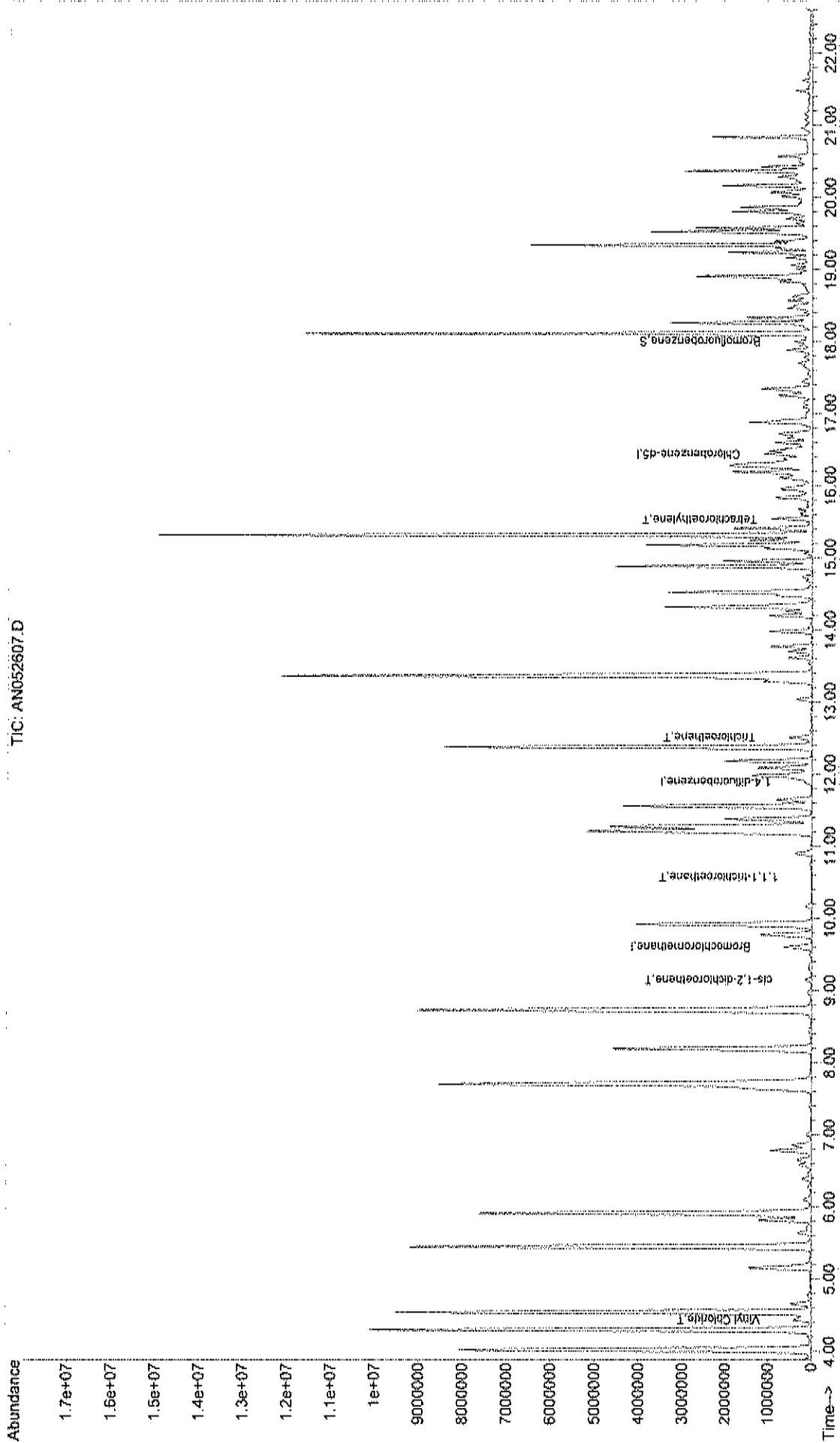
Quantitation Report (QT Reviewed)

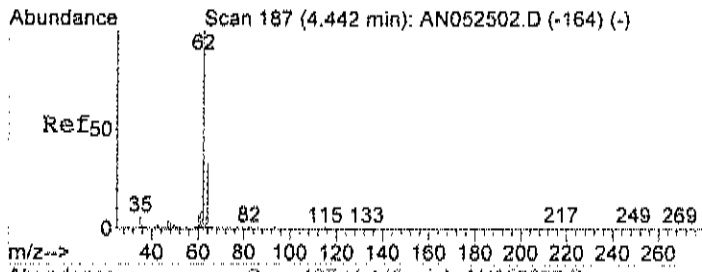
Data File : C:\HPCHEM\1\DATA\AN052607.D
Acq On : 26 May 2016 1:56 pm
Sample : C1605057-003A
Misc : A505 IUG
MS Integration Params: RTEINT.P
Quant Time: May 26 16:09 2016

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

Quant Results File: A505_IUG.RE5

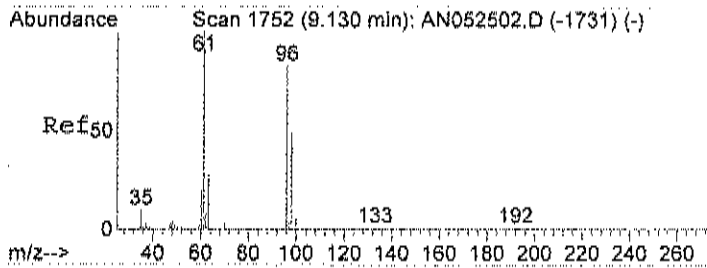
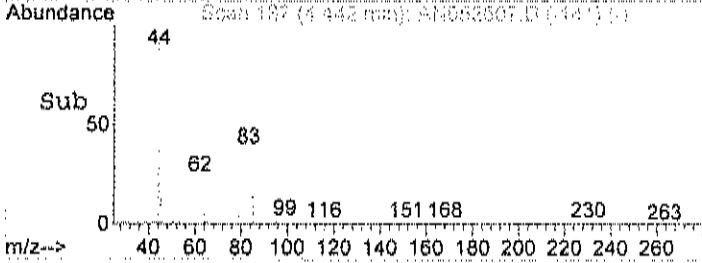
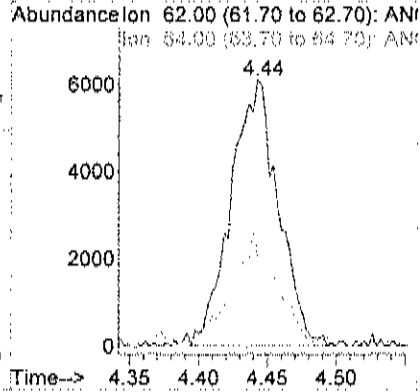
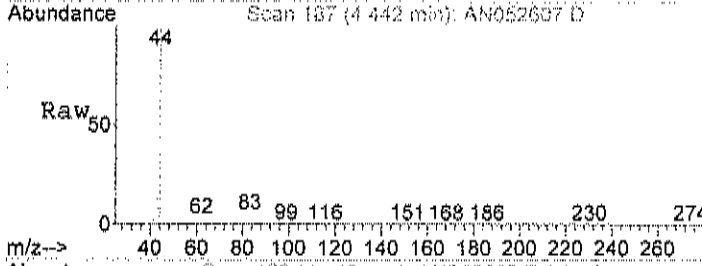
Method : C:\HPCHEM\1\METHODS\A505_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration





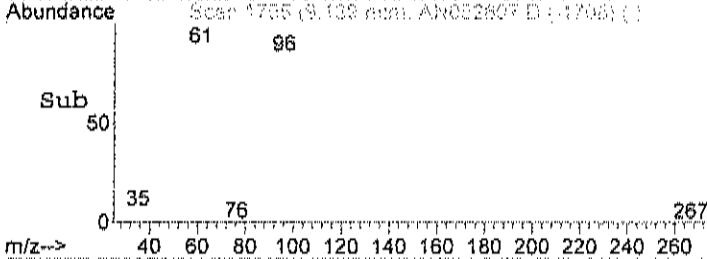
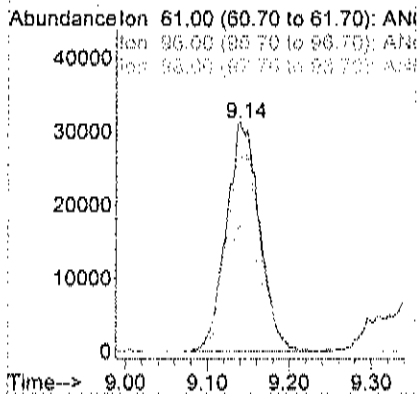
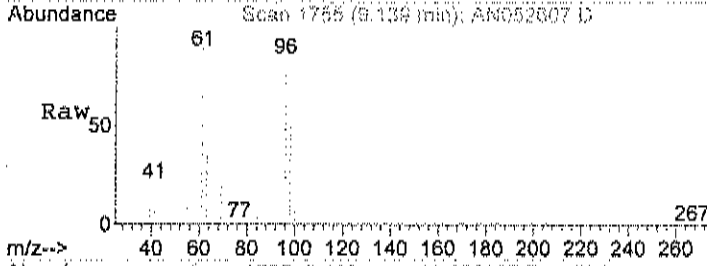
#6
 Vinyl Chloride
 Concen: 0.45 ppb
 RT: 4.44 min Scan# 187
 Delta R.T. -0.01 min
 Lab File: AN052607.D
 Acq: 26 May 2016 1:56 pm

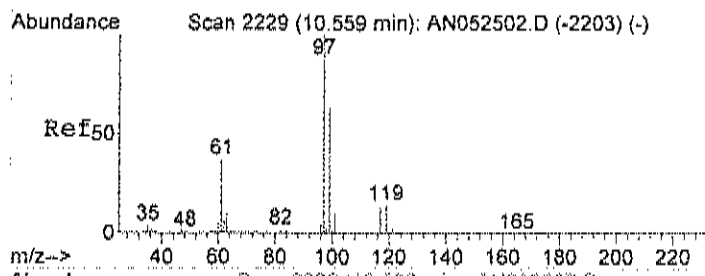
Tgt Ion	Resp	Lower	Upper
62	14683		
64	41.0	1.3	61.3



#29
 cis-1,2-dichloroethene
 Concen: 1.56 ppb
 RT: 9.14 min Scan# 1755
 Delta R.T. -0.01 min
 Lab File: AN052607.D
 Acq: 26 May 2016 1:56 pm

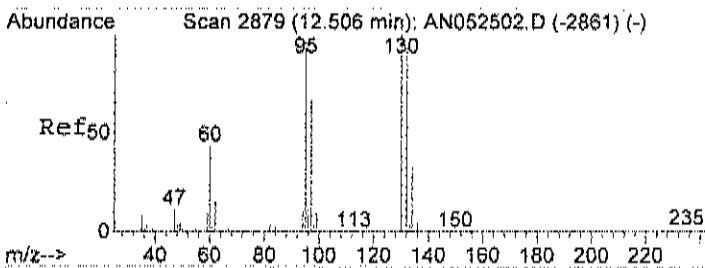
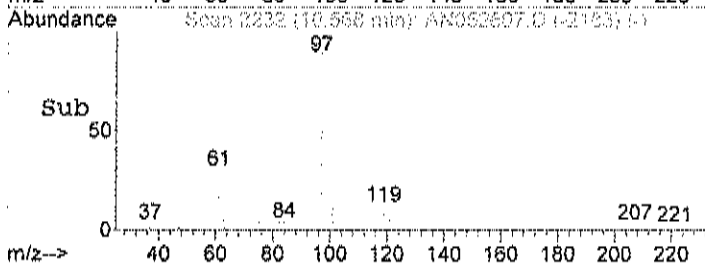
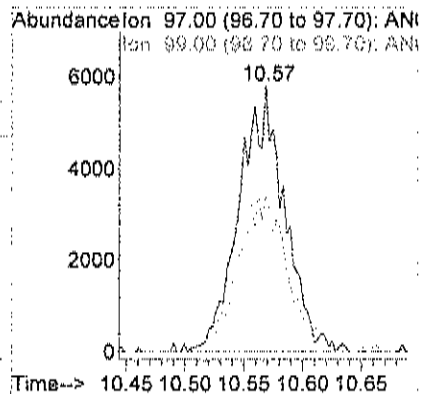
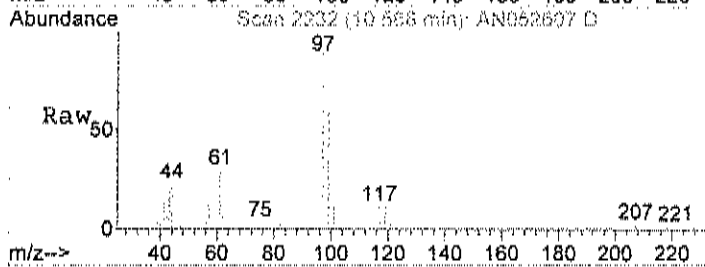
Tgt Ion	Resp	Lower	Upper
61	89294		
96	89.2	41.2	81.2#
98	57.6	21.8	61.8





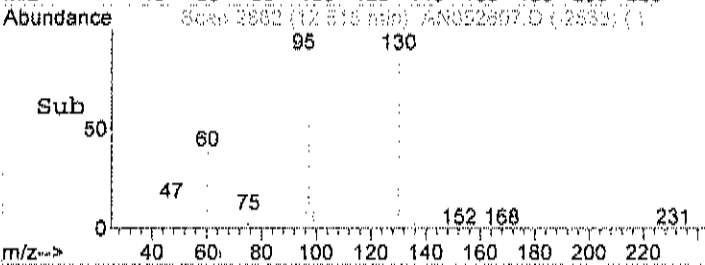
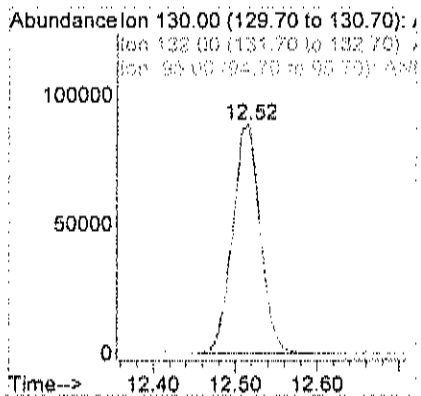
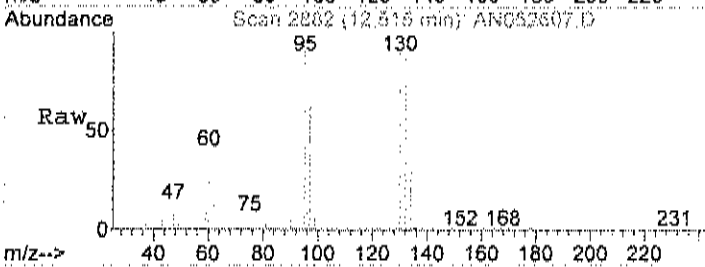
#36
 1,1,1-trichloroethane
 Concen: 0.14 ppb
 RT: 10.57 min Scan# 2232
 Delta R.T. -0.00 min
 Lab File: AN052607.D
 Acq: 26 May 2016 1:56 pm

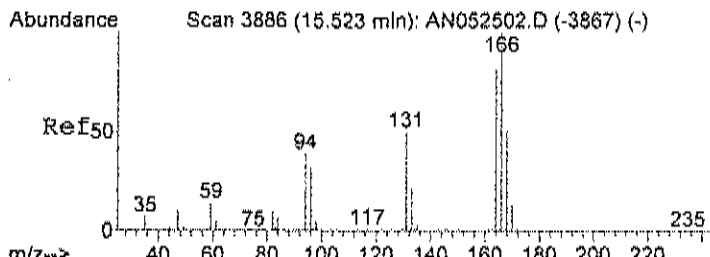
Tgt Ion	Resp	Lower	Upper
97	15524		
99	64.2	47.1	87.1



#44
 Trichloroethene
 Concen: 3.02 ppb
 RT: 12.52 min Scan# 2882
 Delta R.T. -0.00 min
 Lab File: AN052607.D
 Acq: 26 May 2016 1:56 pm

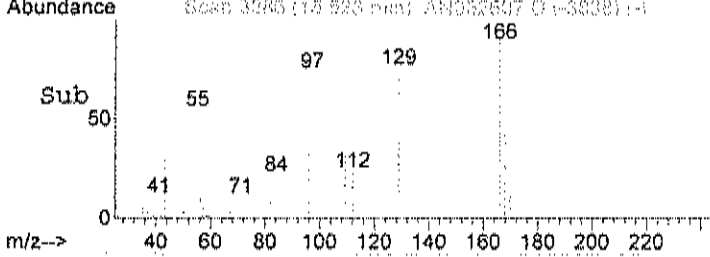
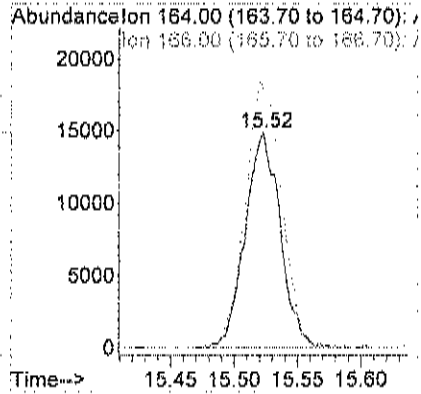
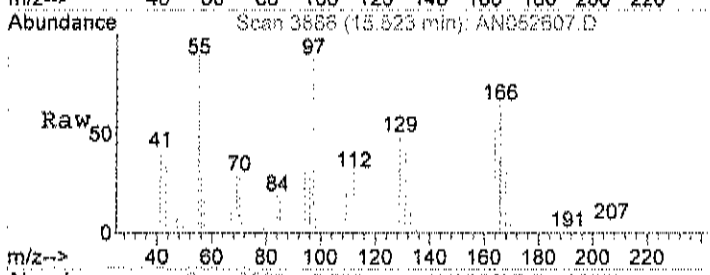
Tgt Ion	Resp	Lower	Upper
130	211016		
132	95.6	63.3	103.3
95	97.3	78.5	118.5





#56
 Tetrachloroethylene
 Concen: 0.37 ppb
 RT: 15.52 min Scan# 3886
 Delta R.T. -0.01 min
 Lab File: AN052607.D
 Acq: 26 May 2016 1:56 pm

Tgt Ion	Resp	Lower	Upper
164	100		
166	128.9	96.0	136.0



Data File : C:\HPCHEM\1\DATA\AN052627.D
 Acq On : 27 May 2016 3:24 am
 Sample : C1605057-003A 2X
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 27 09:32:49 2016

Vial: 20
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu May 26 10:56:15 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

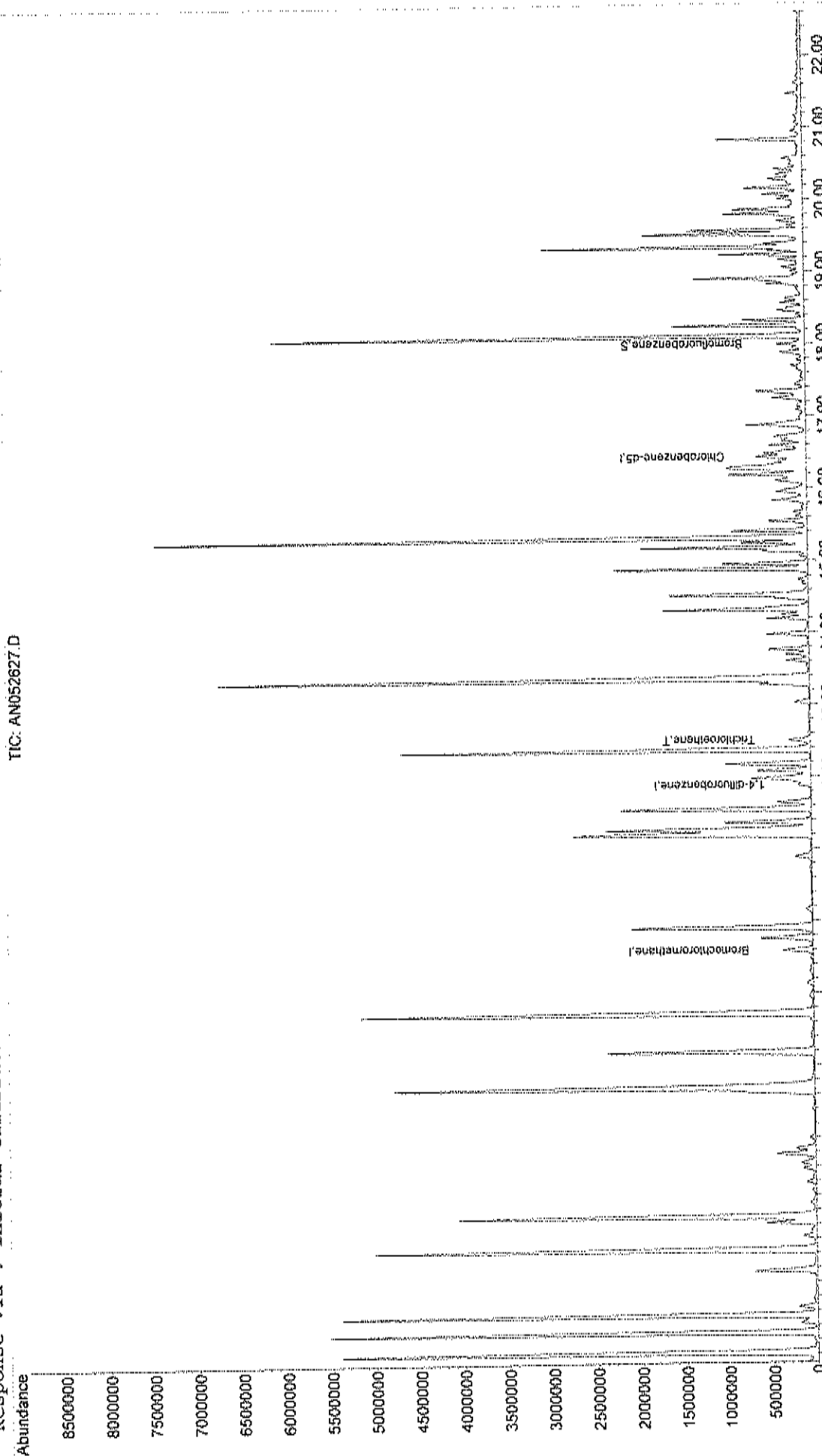
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	33396	1.00	ppb	-0.02
35) 1,4-difluorobenzene	11.89	114	156833	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	146762	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.00	95	103526m/y	1.00	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	100.00%	
Target Compounds						Qvalue
44) Trichloroethene	12.51	130	95134	1.48	ppb	92

Data File : C:\HPCHEM\1\DATA\AN052627.D
Acq On : 27 May 2016 3:24 am
Sample : C1605057-003A 2X
Misc : A505_1UG
MS Integration Params: RTEINT.P
Quant Time: May 27 9:39 2016

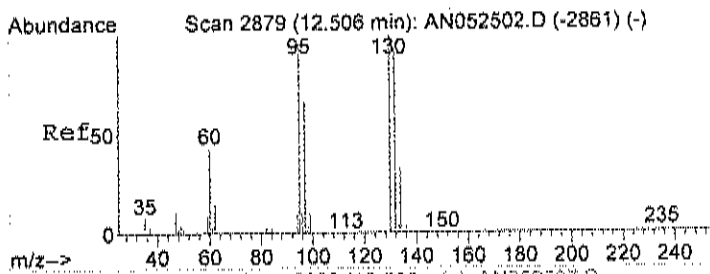
Vial: 20
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration

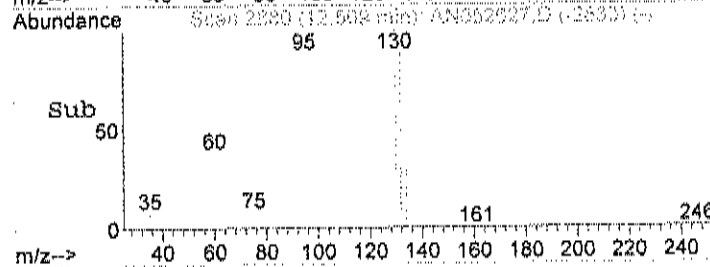
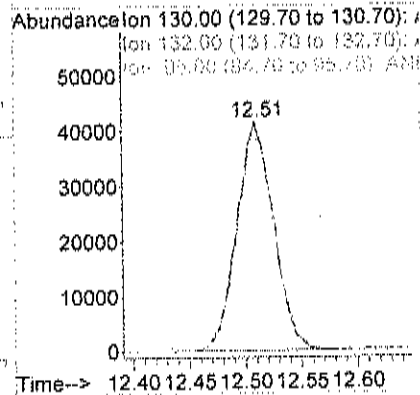
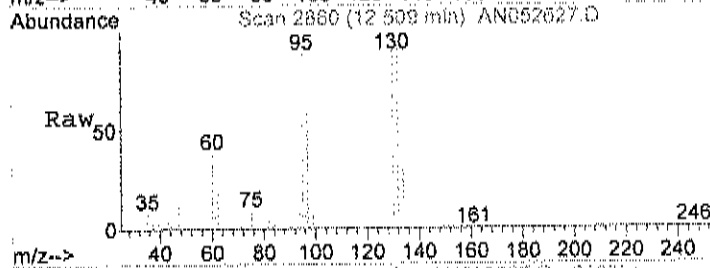


TIC: AN052627.D



#44
 Trichloroethene
 Concen: 1.48 ppb
 RT: 12.51 min Scan# 2880
 Delta R.T. -0.01 min
 Lab File: AN052627.D
 Acq: 27 May 2016 3:24 am

Tgt Ion	Resp	Lower	Upper
130	100		
132	99.2	63.3	103.3
95	98.2	78.5	118.5



Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-004A

Client Sample ID: 1740-IAQ-2
Tag Number: 95,266
Collection Date: 5/19/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-5			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 5:28:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	5/25/2016 5:28:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	5/25/2016 5:28:00 AM
Surr: Bromofluorobenzene	97.0	70-130		%REC	1	5/25/2016 5:28:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-004A

Client Sample ID: 1740-IAQ-2
Tag Number: 95,266
Collection Date: 5/19/2016
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	5/25/2016 5:28:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 5:28:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 5:28:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 5:28:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 5:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 5:28:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 5:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 5:28:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	5/25/2016 5:28:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 5:28:00 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\AN052426.D Vial: 26
 Acq On : 25 May 2016 5:28 am Operator: RJP
 Sample : C1605057-004A Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 25 09:00:07 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	32994	1.00	ppb	-0.02
35) 1,4-difluorobenzene	11.88	114	151877	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	134890	1.00	ppb	-0.01

System Monitoring Compounds
 66) Bromofluorobenzene 18.00 95 92439 0.97 ppb -0.01
 Spiked Amount 1.000 Range 70 - 130 Recovery = 97.00%

Target Compounds Qvalue

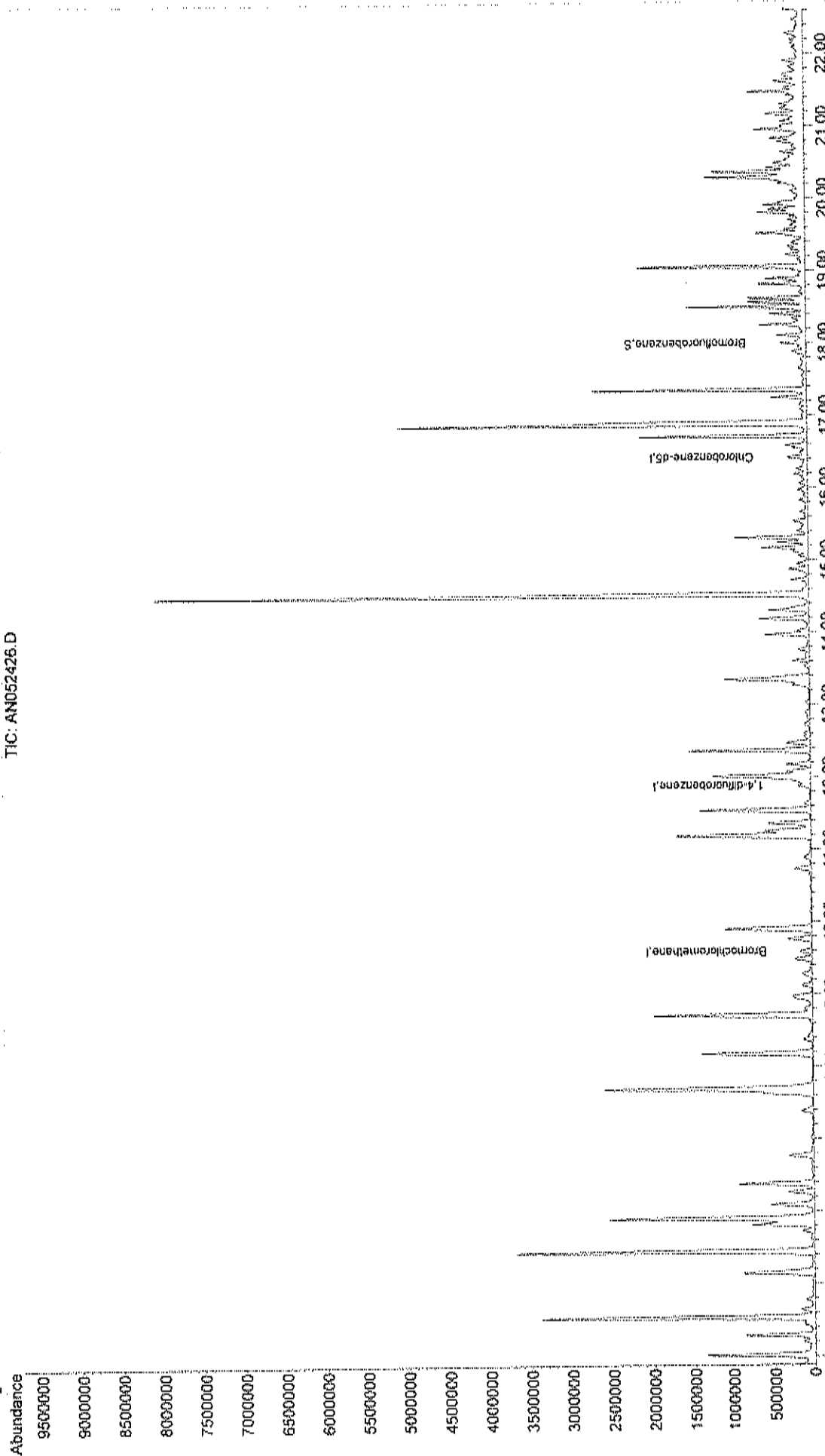
Data File : C:\HPCHEM\1\DATA\AN052426.D
Acq On : 25 May 2016 5:28 am
Sample : C1605057-004A
Misc : A505_LUG
MS Integration Params: RTEINT.P
Quant Time: May 25 10:03 2016

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

Quant Results File: A505_LUG.RES

Method : C:\HPCHEM\1\METHODS\A505_LUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration

TIC: AN052426.D



Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-005A

Client Sample ID: 1740-SV1-3
Tag Number: 237,1172
Collection Date: 5/19/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-4			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 BY METHOD TO15			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
cis-1,2-Dichloroethene	2.0	0.15		ppbV	1	5/26/2016 2:36:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
Trichloroethene	1.1	0.15		ppbV	1	5/26/2016 2:36:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	5/26/2016 2:36:00 PM
Surr: Bromofluorobenzene	97.0	70-130		%REC	1	5/26/2016 2:36:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-005A

Client Sample ID: 1740-SVI-3
 Tag Number: 237,1172
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15						Analyst: RJP
		TO-15				
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	5/26/2016 2:36:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/26/2016 2:36:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 2:36:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	5/26/2016 2:36:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	5/26/2016 2:36:00 PM
cis-1,2-Dichloroethene	7.8	0.59		ug/m3	1	5/26/2016 2:36:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/26/2016 2:36:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 2:36:00 PM
Trichloroethene	5.9	0.81		ug/m3	1	5/26/2016 2:36:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	5/26/2016 2:36:00 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\AN052608.D
 Acq On : 26 May 2016 2:36 pm
 Sample : C1605057-005A
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 16:06:46 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu May 26 10:56:15 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.60	128	38889	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.89	114	194963	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	178304	1.00	ppb	0.00

System Monitoring Compounds						
66) Bromofluorobenzene	18.00	95	121705m nd	0.97	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	97.00%	

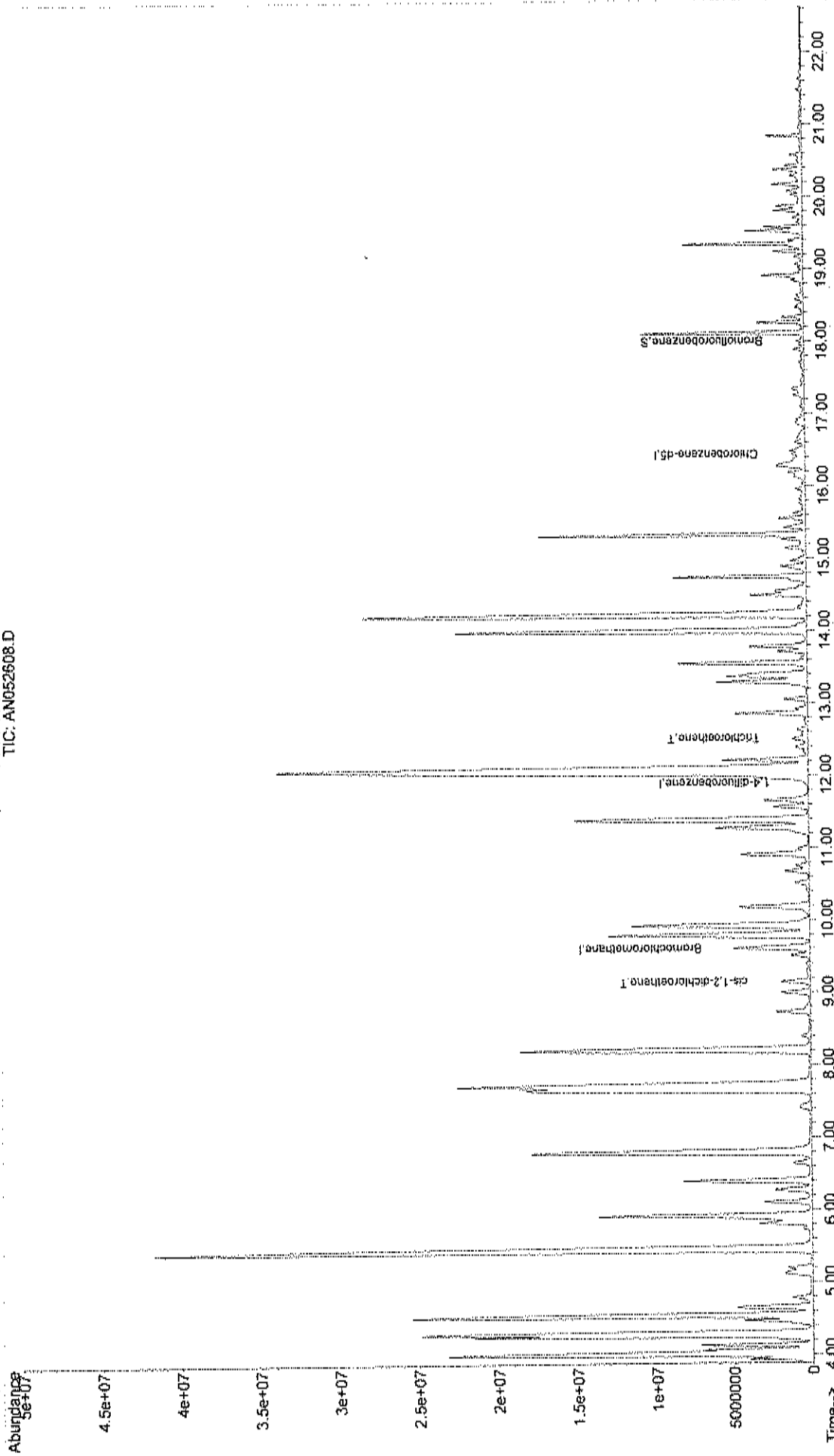
Target Compounds						Qvalue
29) cis-1,2-dichloroethene	9.15	61	124062	1.98	ppb	# 69
44) Trichloroethene	12.52	130	87213	1.09	ppb	# 79

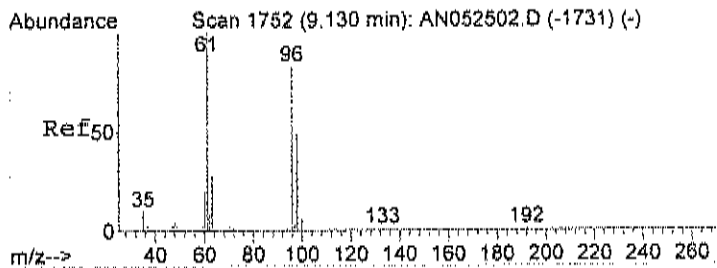
Data File : C:\HPCHEM\1\DATA\AN052608.D
Acq On : 26 May 2016 2:36 pm
Sample : C1605057-005A
Misc : A505_IUG
MS Integration Params: RTEINT.P
Quant Time: May 26 16:08 2016

Vial: 8
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A505_IUG.RES

Method : C:\HPCHEM\1\METHODS\A505_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration

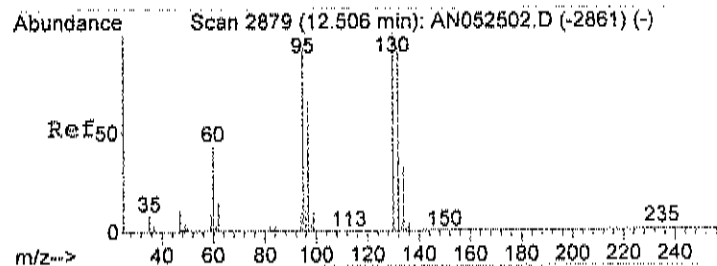
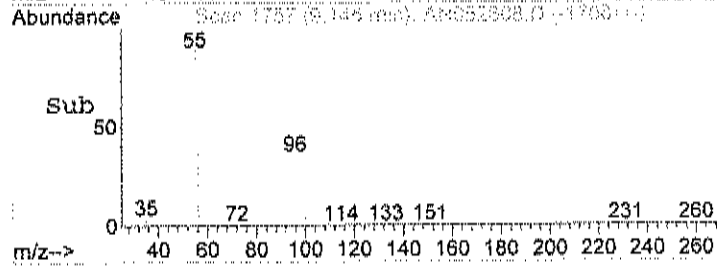
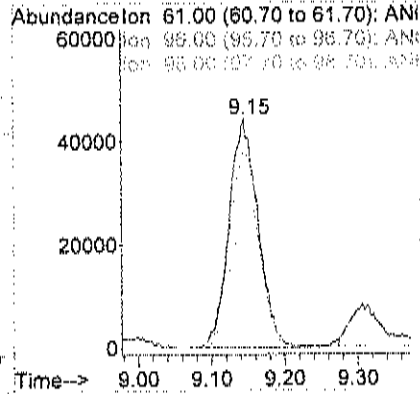
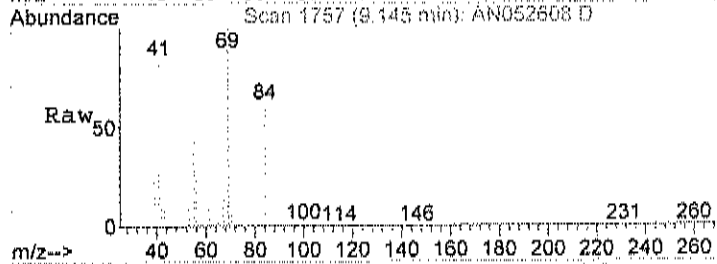
TIC: AN052608.D





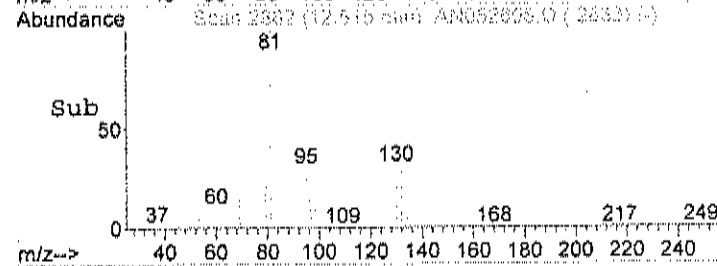
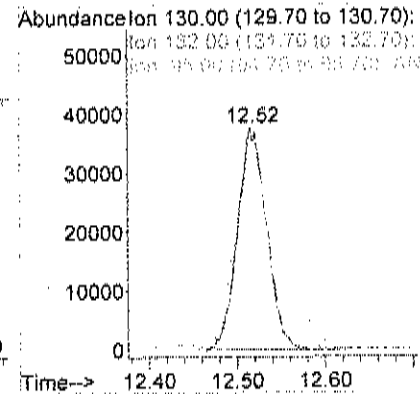
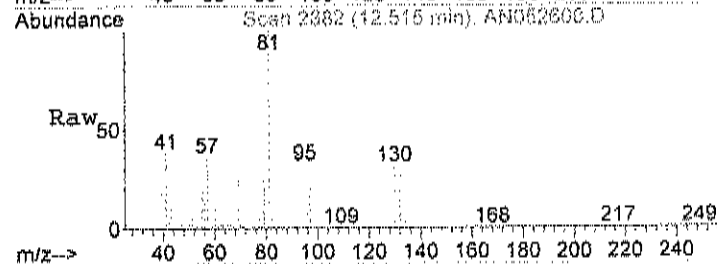
#29
 cis-1,2-dichloroethene
 Concen: 1.98 ppb
 RT: 9.15 min Scan# 1757
 Delta R.T. -0.00 min
 Lab File: AN052608.D
 Acq: 26 May 2016 2:36 pm

Tgt Ion	Resp	Lower	Upper
61	100		
96	86.8	41.2	81.2#
98	58.3	21.8	61.8



#44
 Trichloroethene
 Concen: 1.09 ppb
 RT: 12.52 min Scan# 2882
 Delta R.T. -0.00 min
 Lab File: AN052608.D
 Acq: 26 May 2016 2:36 pm

Tgt Ion	Resp	Lower	Upper
130	100		
132	95.0	63.3	103.3
95	126.4	78.5	118.5#



Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-006A

Client Sample ID: 1740-IAQ-3
 Tag Number: 202,1160
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-5			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:10:00 AM
Trichloroethene	0.15	0.040		ppbV	1	5/25/2016 6:10:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	5/25/2016 6:10:00 AM
Surr: Bromofluorobenzene	92.0	70-130		%REC	1	5/25/2016 6:10:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-006A

Client Sample ID: 1740-1AQ-3
 Tag Number: 202,1160
 Collection Date: 5/19/2016
 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	5/25/2016 6:10:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 6:10:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:10:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 6:10:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 6:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:10:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 6:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:10:00 AM
Trichloroethane	0.81	0.21		ug/m3	1	5/25/2016 6:10:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 6:10:00 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

Data File : C:\HPCHEM\1\DATA\AN052427.D
 Acq On : 25 May 2016 6:10 am
 Sample : C1605057-006A
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 25 09:00:08 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

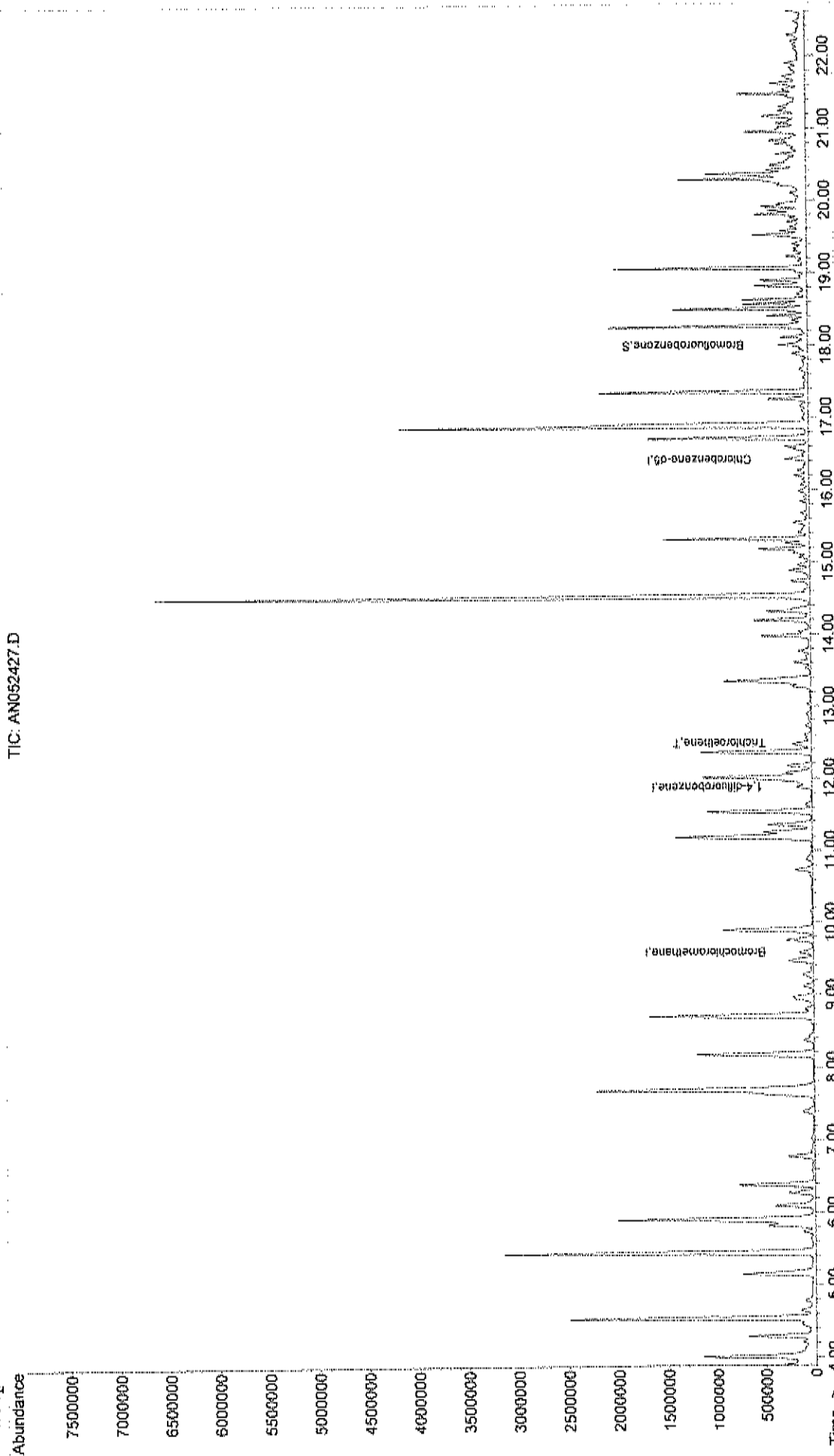
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	34031	1.00	ppb	-0.02
35) 1,4-difluorobenzene	11.88	114	154167	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	139832	1.00	ppb	-0.01
System Monitoring Compounds						
66) Bromofluorobenzene	18.00	95	90855	0.92	ppb	-0.01
Spiked Amount	1.000	Range 70 - 130	Recovery	=	92.00%	
Target Compounds						
44) Trichloroethene	12.50	130	9387	0.15	ppb	Qvalue # 60

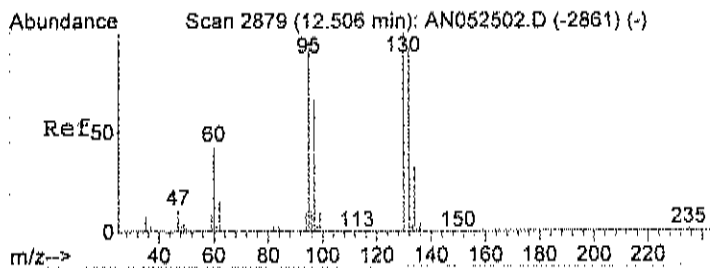
Data File : C:\HPCHEM\1\DATA\AN052427.D
Acq On : 25 May 2016 6:10 am
Sample : C1605057-006A
Misc : A505_IUG
MS Integration Params: RTEINT.P
Quant Time: May 25 10:05 2016

Vial: 27
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A505_IUG.RES

Method : C:\HPCHEM\1\METHODS\A505_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration

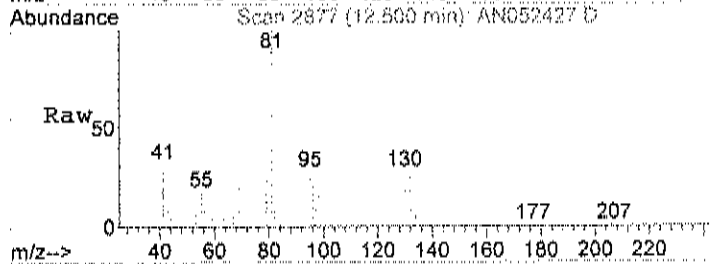
Abundance
TIC: AN052427.D



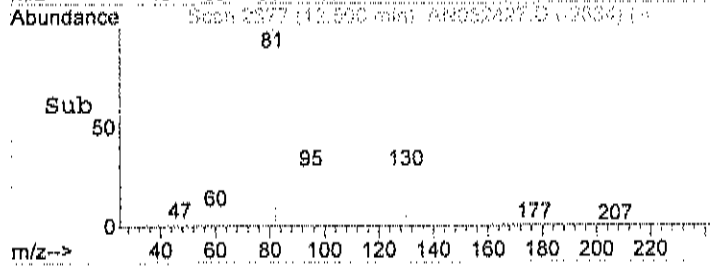
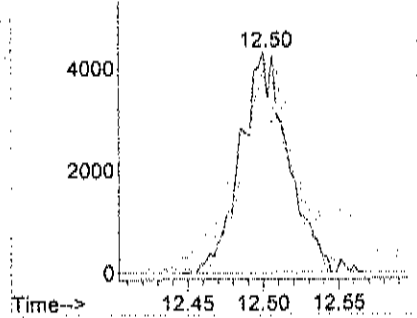


#44
 Trichloroethene
 Concen: 0.15 ppb
 RT: 12.50 min Scan# 2877
 Delta R.T. -0.02 min
 Lab File: AN052427.D
 Acq: 25 May 2016 6:10 am

Tgt Ion	Resp	Lower	Upper
130	100		
132	92.2	63.3	103.3
95	163.9	78.5	118.5#



Abundance Ion 130.00 (129.70 to 130.70):
 Ion 132.00 (131.70 to 132.70):
 Ion 95.00 (94.70 to 95.70):



Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-007A

Client Sample ID: Outdoor Air
Tag Number: 482,111
Collection Date: 5/19/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-4			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
Chloromethane	0.51	0.15		ppbV	1	5/25/2016 6:51:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 6:51:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	5/25/2016 6:51:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	5/25/2016 6:51:00 AM
Surr: Bromofluorobenzene	93.0	70-130		%REC	1	5/25/2016 6:51:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-007A

Client Sample ID: Outdoor Air
Tag Number: 482,111
Collection Date: 5/19/2016
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	5/25/2016 6:51:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 6:51:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:51:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 6:51:00 AM
Chloromethane	1.1	0.31		ug/m3	1	5/25/2016 6:51:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:51:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 6:51:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:51:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	5/25/2016 6:51:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 6:51:00 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\AN052428.D Vial: 28
 Acq On : 25 May 2016 6:51 am Operator: RJP
 Sample : C1605057-007A Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 25 09:00:09 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	33187	1.00	ppb	-0.03
35) 1,4-difluorobenzene	11.87	114	153820	1.00	ppb	-0.03
50) Chlorobenzene-d5	16.42	117	134344	1.00	ppb	-0.01

System Monitoring Compounds						
66) Bromofluorobenzene	18.00	95	88444	0.93	ppb	-0.01
Spiked Amount	1.000	Range	70 - 130	Recovery	=	93.00%

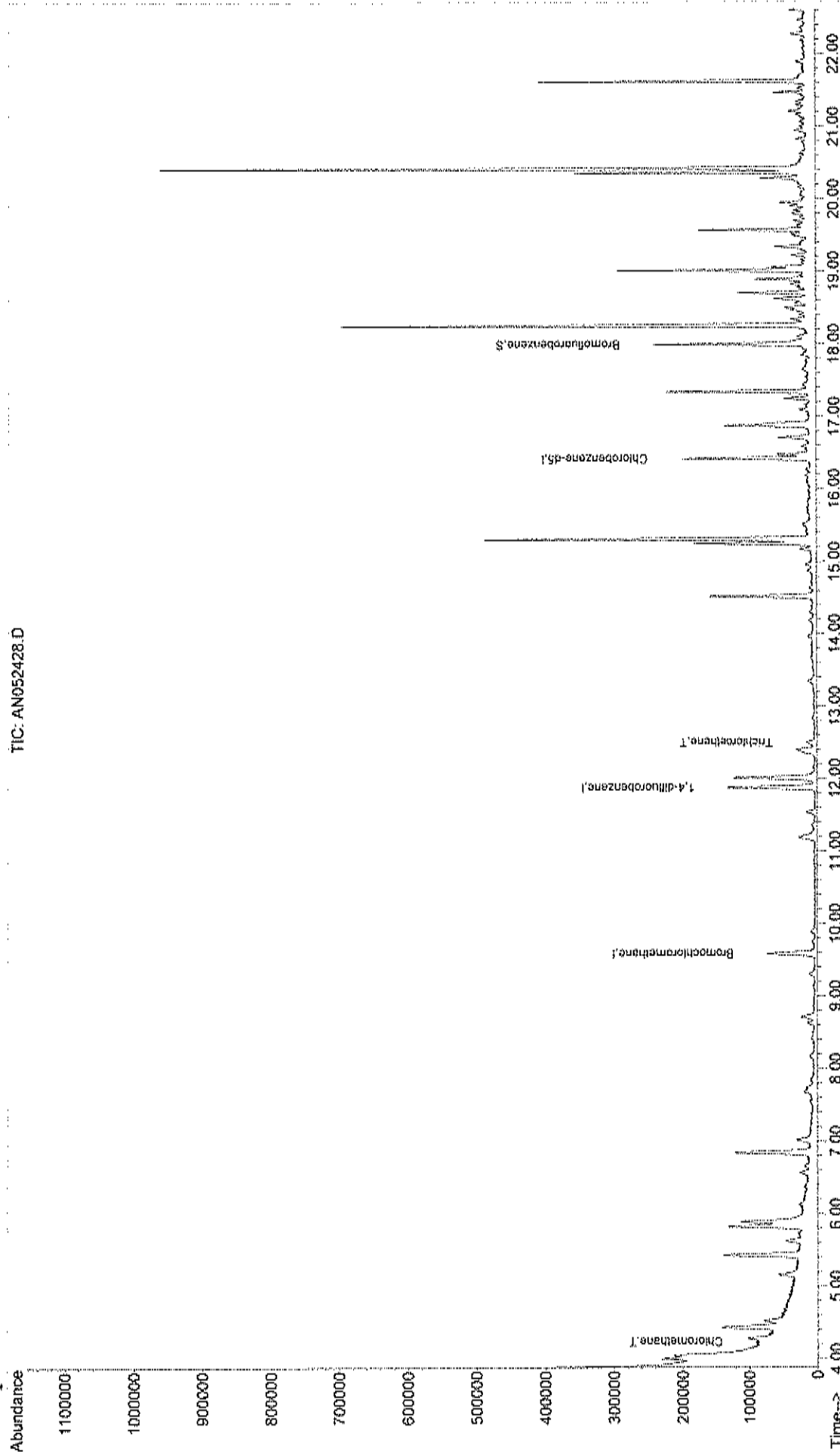
Target Compounds						Qvalue
4) Chloromethane	4.24	50	16150	0.51	ppb	77
44) Trichloroethene	12.50	130	4552	0.07	ppb	88

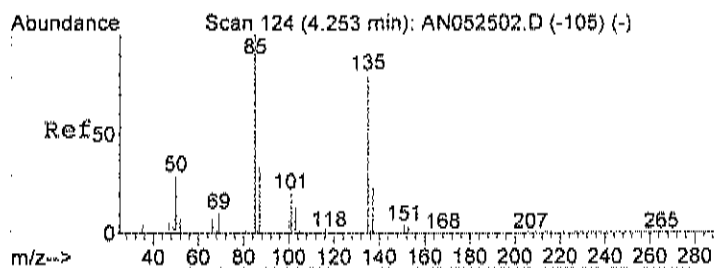
Data File : C:\HPCHEM\1\DATA\AN052428.D
Acq On : 25 May 2016 6:51 am
Sample : C1605057-007A
Misc : A505_1UG
MS Integration Params: RTEINT.P
Quant Time: May 25 10:06 2016

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

Quant Results File: A505_1UG.RES

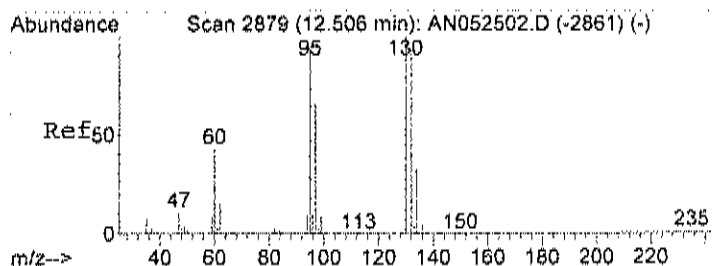
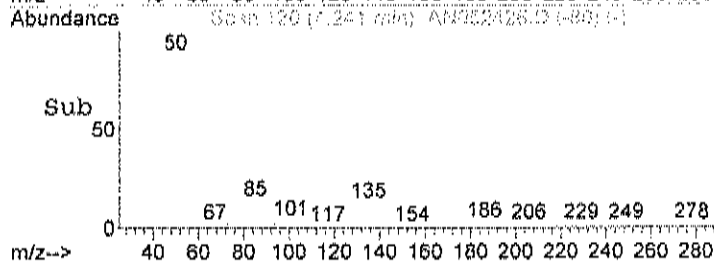
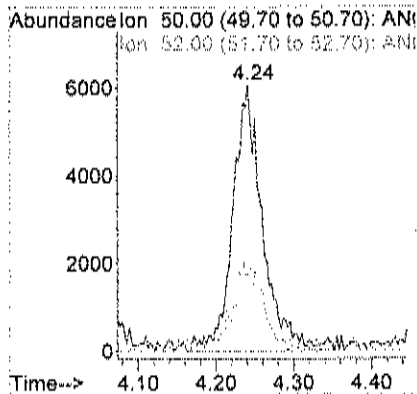
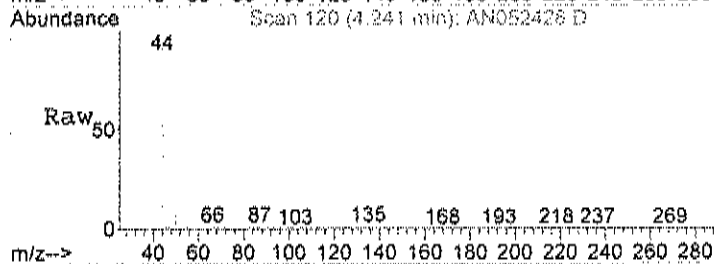
Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration





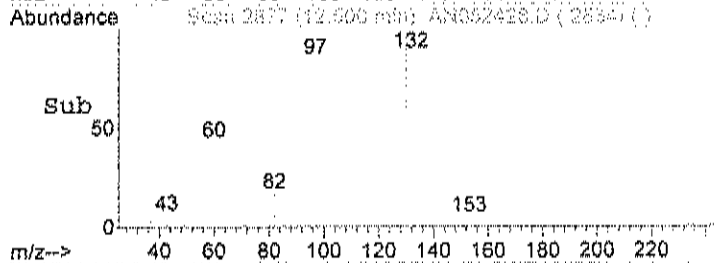
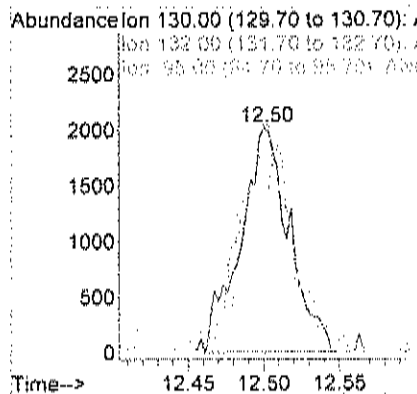
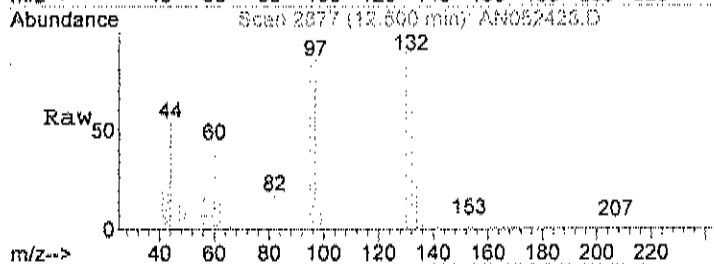
#4
 Chloromethane
 Concen: 0.51 ppb
 RT: 4.24 min Scan# 120
 Delta R.T. -0.03 min
 Lab File: AN052428.D
 Acq: 25 May 2016 6:51 am

Tgt Ion	Resp	Lower	Upper
50	16150		
52	33.5	2.5	42.5



#44
 Trichloroethene
 Concen: 0.07 ppb
 RT: 12.50 min Scan# 2877
 Delta R.T. -0.02 min
 Lab File: AN052428.D
 Acq: 25 May 2016 6:51 am

Tgt Ion	Resp	Lower	Upper
130	4552		
132	100.3	63.3	103.3
95	104.8	78.5	118.5



Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-008A

Client Sample ID: Dupe
 Tag Number: 358,1154
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-4			"Hg		5/23/2016
Lab Vacuum Out	-30			"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	5/25/2016 3:45:00 PM
Trichloroethene	0.13	0.040		ppbV	1	5/25/2016 3:45:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	5/25/2016 3:45:00 PM
Surr: Bromofluorobenzene	101	70-130		%REC	1	5/25/2016 3:45:00 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1605057
Project: Emerson Landfill
Lab ID: C1605057-008A

Client Sample ID: Dupe
Tag Number: 358,1154
Collection Date: 5/19/2016
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	5/25/2016 3:45:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 3:45:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 3:45:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 3:45:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 3:45:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 3:45:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 3:45:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 3:45:00 PM
Trichloroethene	0.70	0.21		ug/m3	1	5/25/2016 3:45:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 3:45:00 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\AN052511.D Vial: 11
 Acq On : 25 May 2016 3:45 pm Operator: RJP
 Sample : C1605057-008A Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 26 10:08:07 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	31435	1.00	ppb	-0.02
35) 1,4-difluorobenzene	11.88	114	140644	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	130607	1.00	ppb	-0.01

System Monitoring Compounds

66) Bromofluorobenzene	17.99	95	93521	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
44) Trichloroethene	12.51	130	7238	0.13	ppb	# 33

Quantitation Report (QT Reviewed)

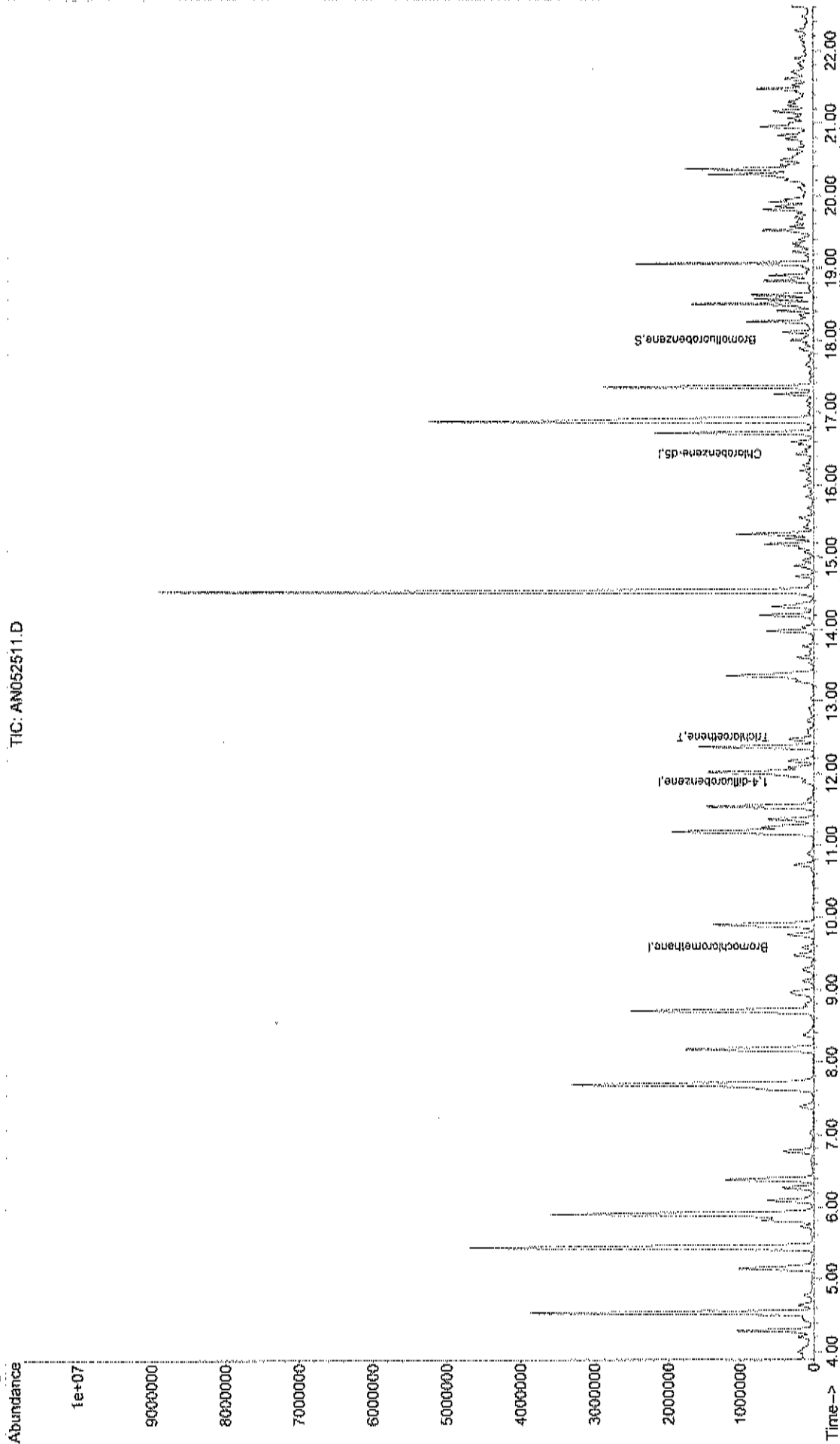
Data File : C:\HPCHEM\1\DATA\AN052511.D
Acq On : 25 May 2016 3:45 pm
Sample : C1605057-008A
Misc : A505 IUG
MS Integration Params: RTEINT.P
Quant Time: May 26 10:45 2016

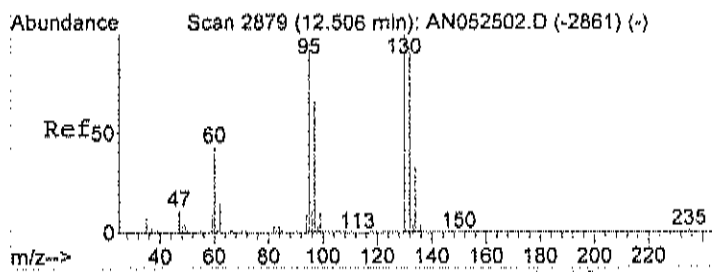
Vial: 11
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A505_IUG.RES

Method : C:\HPCHEM\1\METHODS\A505_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration

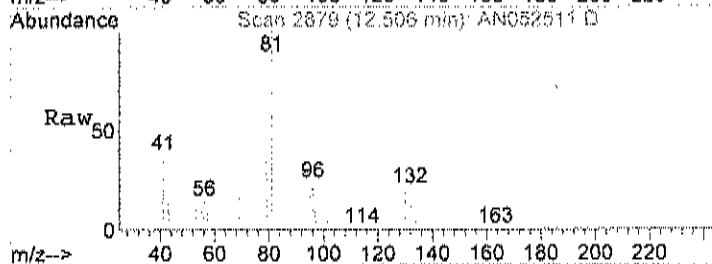
TIC: AN052511.D



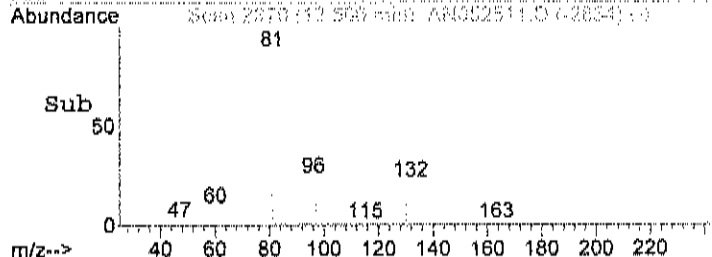
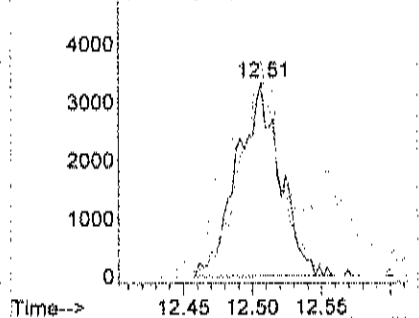


#44
 Trichloroethene
 Concen: 0.13 ppb
 RT: 12.51 min Scan# 2879
 Delta R.T. -0.01 min
 Lab File: AN052511.D
 Acq: 25 May 2016 3:45 pm

Tgt Ion	Resp	Ion Ratio	Lower	Upper
130	7238	100		
132		101.7	63.3	103.3
95		204.4	78.5	118.5#



Abundance Ion 130.00 (129.70 to 130.70): /
 Ion 132.00 (131.70 to 132.70): /
 Ion 95.00 (94.70 to 95.30): /



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\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Jul 05 08:17:16 2016
 Response via : Initial Calibration

Calibration Files
 0.04 =AN050513.D 0.10 =AN050512.D 0.15 =AN050511.D
 0.30 =AN050510.D 0.50 =AN050509.D 0.75 =AN050508.D

Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
-----ISTD-----								
1) I Bromochloromethane								
2) T Propylene			1.131	1.010	1.016	0.911	0.956	9.31
3) T Freon 12			4.465	4.380	4.134	4.256	4.161	4.61
4) T Chloromethane			1.267	0.913	0.918	0.915	0.949	14.16
5) T Freon 114			3.441	2.937	2.903	2.790	2.925	8.34
6) T Vinyl Chloride	1.301	1.019	1.041	0.859	0.835	0.816	0.928	16.87
7) T Butane			1.495	0.936	1.029	1.052	1.132	15.54
8) T 1,3-butadiene			1.043	0.968	0.778	0.773	0.871	11.56
9) T Bromomethane			1.100	1.142	0.926	0.964	0.993	10.22
10) T Chloroethane			0.349	0.398	0.374	0.401	0.386	6.16
11) T Ethanol			0.378	0.343	0.298	0.271	0.302	13.48
12) T Acrolein				0.341	0.297	0.284	0.282	10.50
13) T Vinyl Bromide			1.081	1.249	0.901	0.960	0.989	12.98
14) T Freon 11			2.723	2.959	2.579	2.604	2.678	6.30
15) T Acetone			0.459	0.470	0.343	0.378	0.397	11.55
16) T Pentane			0.818	0.844	0.733	0.674	0.721	10.67
17) T Isopropyl alcoh			1.305	1.389	1.095	1.041	1.190	9.30
18) T 1,1-dichloroeth			1.447	1.535	1.344	1.389	1.378	5.64
19) T Freon 113			2.942	2.953	2.893	2.978	2.907	1.75
20) t t-Butyl alcohol			2.557	2.325	2.391	2.400	2.434	3.11
21) T Methylene chlor			1.425	1.394	1.338	1.176	1.244	9.79
22) T Allyl chloride			1.645	1.599	1.342	1.500	1.490	6.59
23) T Carbon disulfid			3.967	3.796	3.554	3.632	3.615	4.94
24) T trans-1,2-dichl			1.728	1.766	1.677	1.715	1.696	2.36
25) T methyl tert-but			3.939	3.458	3.380	3.418	3.520	5.27
26) T 1,1-dichloroeth			2.239	2.225	2.207	2.180	2.182	1.89
27) T Vinyl acetate			3.024	2.826	2.764	2.819	2.832	3.01
28) T Methyl Ethyl Ke			0.547	0.553	0.557	0.555	0.558	2.97
29) T cis-1,2-dichlor			1.605	1.668	1.654	1.620	1.615	1.89
30) T Hexane			2.081	2.131	1.783	1.827	1.883	7.40
31) T Ethyl acetate			2.265	1.944	2.084	2.043	2.106	5.01
32) T Chloroform			3.107	2.967	2.858	2.914	2.911	3.05
33) T Tetrahydrofuran			1.441	1.281	1.035	1.098	1.157	11.71
34) T 1,2-dichloroeth			1.670	1.687	1.685	1.716	1.681	1.34
-----ISTD-----								
35) I 1,4-difluorobenzene								
36) T 1,1,1-trichloro			0.700	0.653	0.657	0.662	0.661	2.53
37) T Cyclohexane			0.426	0.419	0.380	0.364	0.385	6.42
38) T Carbon tetrachl	0.636	0.667	0.685	0.706	0.700	0.691	0.686	3.01
39) T Benzene			0.895	0.843	0.817	0.803	0.826	3.78
40) T Methyl methacry			0.298	0.272	0.278	0.317	0.289	4.87
41) T 1,4-dioxane			0.151	0.137	0.141	0.137	0.147	6.10
42) T 2,2,4-trimethyl			1.130	1.144	1.131	1.154	1.142	0.94
43) T Heptane			0.566	0.451	0.395	0.418	0.427	14.03
44) T Trichloroethene	0.398	0.392	0.396	0.416	0.413	0.423	0.411	2.77
45) T 1,2-dichloropro			0.311	0.311	0.299	0.295	0.299	2.64
46) T Bromodichlorome			0.677	0.631	0.627	0.613	0.632	3.07
47) T cis-1,3-dichlor			0.533	0.521	0.487	0.502	0.499	3.65
48) T trans-1,3-dichl			0.442	0.432	0.429	0.462	0.453	3.57
49) T 1,1,2-trichloro			0.393	0.397	0.374	0.378	0.382	2.35
-----ISTD-----								
50) I Chlorobenzene-d5								
51) T Toluene			0.690	0.696	0.676	0.693	0.692	1.12

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Jul 05 08:17:16 2016
 Response via : Initial Calibration

Calibration Files

0.04 =AN050513.D 0.10 =AN050512.D 0.15 =AN050511.D
 0.30 =AN050510.D 0.50 =AN050509.D 0.75 =AN050508.D

Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
52) T Methyl Isobutyl			0.425	0.438	0.393	0.395	0.416	4.53
53) T Dibromochlorome			0.761	0.779	0.788	0.805	0.795	2.32
54) T Methyl Butyl Ke			0.348	0.279	0.276	0.276	0.301	10.73
55) T 1,2-dibromoetha			0.701	0.682	0.684	0.691	0.697	1.42
56) T Tetrachloroethy			0.484	0.493	0.478	0.491	0.488	1.23
57) T Chlorobenzene			0.995	0.970	0.965	0.971	0.978	1.33
58) T 1,1,1,2-tetrach			0.560	0.557	0.553	0.568	0.566	1.50
59) T Ethylbenzene			1.531	1.528	1.498	1.574	1.547	1.66
60) T m&p-xylene			1.148	1.179	1.167	1.200	1.192	2.12
61) T Nonane			0.742	0.659	0.655	0.663	0.669	4.43
62) T Styrene			0.924	0.927	0.913	0.943	0.940	1.86
63) T Bromoform			0.638	0.656	0.649	0.664	0.672	3.59
64) T o-xylene			1.202	1.316	1.145	1.208	1.229	5.12
65) T Cumene			1.714	1.682	1.647	1.717	1.711	1.83
66) S Bromofluorobenz	0.713	0.704	0.718	0.707	0.694	0.703	0.706	1.07
67) T 1,1,2,2-tetrach			0.933	0.842	0.852	0.867	0.875	3.11
68) T Propylbenzene			2.188	1.899	1.940	2.078	2.028	4.72
69) T 2-Chlorotoluene			1.137	1.115	1.265	1.171	1.194	4.72
70) T 4-ethyltoluene			1.763	1.590	1.563	1.640	1.637	3.68
71) T 1,3,5-trimethyl			1.602	1.427	1.368	1.424	1.443	4.82
72) T 1,2,4-trimethyl			1.478	1.348	1.262	1.326	1.355	4.49
73) T 1,3-dichloroben			0.969	0.944	0.941	0.943	0.953	1.21
74) T benzyl chloride			1.316	1.060	1.072	1.255	1.245	9.37
75) T 1,4-dichloroben			0.992	0.937	0.942	0.960	0.953	1.88
76) T 1,2,3-trimethyl			1.424	1.350	1.253	1.282	1.317	4.19
77) T 1,2-dichloroben			0.978	0.922	0.883	0.880	0.900	3.84
78) T 1,2,4-trichloro			0.630	0.608	0.603	0.638	0.641	4.51
79) T Naphthalene			1.455	1.330	1.358	1.401	1.447	6.25
80) T Hexachloro-1,3-			0.666	0.636	0.603	0.605	0.629	3.41

Data File : C:\HPCHEM\1\DATA\AN050504.D
 Acq On : 5 May 2016 6:22 pm
 Sample : ALUG_2.0
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 07:00:08 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.60	128	55142	1.00	ppb	-0.01
35) 1,4-difluorobenzene	11.89	114	262449	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	235118	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.01	95	166491	1.02	ppb	0.00
Spiked Amount	1.000	Range 70 ~ 130	Recovery	=	102.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.01	41	94939	1.89	ppb	99
3) Freon 12	4.07	85	431999	1.90	ppb	99
4) Chloromethane	4.26	50	102126m	1.85	ppb	
5) Freon 114	4.26	85	304516	1.78	ppb	96
6) Vinyl Chloride	4.45	62	90146m	1.71	ppb	
7) Butane	4.55	43	112255m	1.77	ppb	
8) 1,3-butadiene	4.55	39	97948m	1.92	ppb	
9) Bromomethane	4.89	94	93292	1.66	ppb	81
10) Chloroethane	5.06	64	43179m	1.93	ppb	
11) Ethanol	5.17	45	29212	2.00	ppb	76
12) Acrolein	5.73	56	29985	1.96	ppb	76
13) Vinyl Bromide	5.38	106	98323	1.71	ppb	93
14) Freon 11	5.65	101	279884	1.74	ppb	97
15) Acetone	5.85	58	38692m	1.76	ppb	
16) Pentane	5.91	42	69978	1.71	ppb	# 21
17) Isopropyl alcohol	5.96	45	127851m	1.94	ppb	
18) 1,1-dichloroethene	6.40	96	145030	1.96	ppb	88
19) Freon 113	6.58	101	314176	1.96	ppb	87
20) t-Butyl alcohol	6.67	59	278199	2.06	ppb	98
21) Methylene chloride	6.87	84	125020	1.88	ppb	94
22) Allyl chloride	6.84	41	156418m	1.93	ppb	
23) Carbon disulfide	7.01	76	388576	2.02	ppb	98
24) trans-1,2-dichloroethene	7.79	61	181053	1.94	ppb	81
25) methyl tert-butyl ether	7.81	73	389080	1.97	ppb	98
26) 1,1-dichloroethane	8.22	63	235654	1.94	ppb	94
27) Vinyl acetate	8.20	43	314437	2.04	ppb	93
28) Methyl Ethyl Ketone	8.72	72	65071	2.15	ppb	# 36
29) cis-1,2-dichloroethene	9.15	61	174521	1.98	ppb	# 68
30) Hexane	8.73	57	197003	1.95	ppb	89
31) Ethyl acetate	9.32	43	241179	2.05	ppb	86
32) Chloroform	9.77	83	314184	2.00	ppb	96
33) Tetrahydrofuran	9.95	42	124370	2.10	ppb	92
34) 1,2-dichloroethane	10.89	62	181809	1.93	ppb	87
36) 1,1,1-trichloroethane	10.57	97	338619	1.96	ppb	98
37) Cyclohexane	11.27	56	196101	1.96	ppb	# 63
38) Carbon tetrachloride	11.22	117	362157	1.96	ppb	87
39) Benzene	11.19	78	423327	1.95	ppb	97
40) Methyl methacrylate	12.76	41	150882	1.94	ppb	# 91
41) 1,4-dioxane	12.81	88	79278	2.04	ppb	77
42) 2,2,4-trimethylpentane	12.03	57	599050	1.97	ppb	88
43) Heptane	12.37	43	206042	1.90	ppb	92
44) Trichloroethene	12.52	130	218056	1.98	ppb	93
45) 1,2-dichloropropane	12.64	63	152663	1.99	ppb	98

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

Data File : C:\HPCHEM\1\DATA\AN050504.D

Vial: 3

Acq On : 5 May 2016 6:22 pm

Operator: RJP

Sample : A1UG_2.0

Inst : MSD #1

Misc : A505_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 07:00:08 2016

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 06:59:07 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.97	83	330390	1.98	ppb	96
47) cis-1,3-dichloropropene	13.74	75	258937	2.01	ppb	89
48) trans-1,3-dichloropropene	14.48	75	245532	2.00	ppb	86
49) 1,1,2-trichloroethane	14.79	97	197252	1.98	ppb	98
51) Toluene	14.53	92	324989	1.99	ppb	96
52) Methyl Isobutyl Ketone	13.67	43	199637	2.09	ppb	92
53) Dibromochloromethane	15.47	129	377945m ↑	2.02	ppb	
54) Methyl Butyl Ketone	14.96	43	159722	2.39	ppb	90
55) 1,2-dibromoethane	15.71	107	330162	2.00	ppb	96
56) Tetrachloroethylene	15.53	164	228784	2.01	ppb	89
57) Chlorobenzene	16.48	112	458586	2.02	ppb	96
58) 1,1,1,2-tetrachloroethane	16.58	131	268448	2.02	ppb	96
59) Ethylbenzene	16.72	91	730154	1.99	ppb	95
60) m&p-xylene	16.92	91	1145378	4.07	ppb	100
61) Nonane	17.26	43	310586	2.02	ppb	94
62) Styrene	17.34	104	452205	2.05	ppb	96
63) Bromoform	17.46	173	330960	2.06	ppb	98
64) o-xylene	17.36	91	568662	2.01	ppb	83
65) Cumene	17.89	105	814705	2.00	ppb	# 92
67) 1,1,2,2-tetrachloroethane	17.80	83	416019	2.04	ppb	97
68) Propylbenzene	18.42	91	940589m ↓	1.94	ppb	
69) 2-Chlorotoluene	18.46	91	585060m ↓	2.07	ppb	
70) 4-ethyltoluene	18.58	105	781539m ↓	2.03	ppb	
71) 1,3,5-trimethylbenzene	18.64	105	684361m ↓	2.04	ppb	
72) 1,2,4-trimethylbenzene	19.07	105	644501	2.04	ppb	93
73) 1,3-dichlorobenzene	19.36	146	451214	2.01	ppb	92
74) benzyl chloride	19.44	91	641327	2.13	ppb	100
75) 1,4-dichlorobenzene	19.50	146	447700	2.01	ppb	96
76) 1,2,3-trimethylbenzene	19.53	105	624311	2.02	ppb	88
77) 1,2-dichlorobenzene	19.81	146	413277	1.99	ppb	96
78) 1,2,4-trichlorobenzene	21.68	180	321593	2.14	ppb	93
79) Naphthalene	21.87	128	749008	2.26	ppb	96
80) Hexachloro-1,3-butadiene	21.96	225	301856	2.03	ppb	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN050504.D A505_1UG.M Tue Jul 05 08:22:06 2016 MSD1

Data File : C:\HPCHEM\1\DATA\AN050505.D
 Acq On : 5 May 2016 7:03 pm
 Sample : A1UG_1.5
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 06:59:45 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.60	128	54237	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.90	114	259165	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	229649	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	18.01	95	163605	1.03	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	103.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.02	41	74163	1.50	ppb	93
3) Freon 12	4.07	85	328277	1.47	ppb	98
4) Chloromethane	4.26	50	70191m	1.29	ppb	
5) Freon 114	4.27	85	222765m	1.32	ppb	
6) Vinyl Chloride	4.45	62	64997	1.25	ppb	87
7) Butane	4.55	43	97175m	1.56	ppb	
8) 1,3-butadiene	4.55	39	65575m	1.31	ppb	
9) Bromomethane	4.90	94	73530	1.33	ppb	79
10) Chloroethane	5.07	64	29402m	1.34	ppb	
11) Ethanol	5.19	45	21426m	1.49	ppb	
12) Acrolein	5.74	56	20805	1.38	ppb	# 58
13) Vinyl Bromide	5.39	106	74020	1.31	ppb	96
14) Freon 11	5.65	101	209813	1.33	ppb	99
15) Acetone	5.85	58	31468m	1.45	ppb	
16) Pentane	5.92	42	54295	1.35	ppb	# 26
17) Isopropyl alcohol	5.97	45	94919m	1.46	ppb	
18) 1,1-dichloroethene	6.41	96	110180	1.52	ppb	# 84
19) Freon 113	6.59	101	236324	1.50	ppb	88
20) t-Butyl alcohol	6.68	59	199272	1.50	ppb	95
21) Methylene chloride	6.87	84	93915	1.43	ppb	93
22) Allyl chloride	6.85	41	117774m	1.47	ppb	
23) Carbon disulfide	7.02	76	286361	1.51	ppb	98
24) trans-1,2-dichloroethene	7.79	61	137805	1.50	ppb	81
25) methyl tert-butyl ether	7.82	73	286240	1.48	ppb	97
26) 1,1-dichloroethane	8.22	63	173256	1.45	ppb	94
27) Vinyl acetate	8.21	43	230677	1.52	ppb	93
28) Methyl Ethyl Ketone	8.74	72	46578	1.56	ppb	# 34
29) cis-1,2-dichloroethene	9.15	61	129781	1.50	ppb	# 71
30) Hexane	8.73	57	146631	1.47	ppb	88
31) Ethyl acetate	9.32	43	177751	1.54	ppb	87
32) Chloroform	9.77	83	233256	1.51	ppb	97
33) Tetrahydrofuran	9.97	42	89358	1.53	ppb	95
34) 1,2-dichloroethane	10.89	62	135733	1.46	ppb	88
36) 1,1,1-trichloroethane	10.57	97	252942	1.48	ppb	98
37) Cyclohexane	11.28	56	143281	1.45	ppb	# 64
38) Carbon tetrachloride	11.22	117	267795	1.47	ppb	88
39) Benzene	11.19	78	313980	1.46	ppb	97
40) Methyl methacrylate	12.76	41	109085	1.42	ppb	93
41) 1,4-dioxane	12.82	88	63967	1.66	ppb	86
42) 2,2,4-trimethylpentane	12.03	57	441928	1.47	ppb	88
43) Heptane	12.38	43	150314	1.41	ppb	90
44) Trichloroethene	12.52	130	163723	1.51	ppb	92
45) 1,2-dichloropropane	12.64	63	114881	1.52	ppb	98

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

Data File : C:\HPCHEM\1\DATA\AN050505.D

Vial: 4

Acq On : 5 May 2016 7:03 pm

Operator: RJP

Sample : A1UG_1.5

Inst : MSD #1

Misc : A505_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 06:59:45 2016

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 06:59:07 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.97	83	240859	1.47	ppb	95
47) cis-1,3-dichloropropene	13.75	75	189126	1.48	ppb	91
48) trans-1,3-dichloropropene	14.49	75	180504	1.49	ppb	85
49) 1,1,2-trichloroethane	14.80	97	149631	1.52	ppb	95
51) Toluene	14.54	92	242597	1.52	ppb	96
52) Methyl Isobutyl Ketone	13.68	43	152529	1.64	ppb	94
53) Dibromochloromethane	15.47	129	279382m	1.53	ppb	
54) Methyl Butyl Ketone	14.96	43	113928	1.75	ppb	91
55) 1,2-dibromoethane	15.71	107	244681	1.51	ppb	95
56) Tetrachloroethylene	15.53	164	170433	1.53	ppb	90
57) Chlorobenzene	16.48	112	343990	1.55	ppb	98
58) 1,1,1,2-tetrachloroethane	16.58	131	199445	1.54	ppb	95
59) Ethylbenzene	16.72	91	537927	1.50	ppb	96
60) m&p-xylene	16.92	91	839887	3.06	ppb	100
61) Nonane	17.26	43	226387	1.51	ppb	93
62) Styrene	17.34	104	331456	1.54	ppb	96
63) Bromoform	17.46	173	240534	1.53	ppb	98
64) o-xylene	17.36	91	418664	1.51	ppb	84
65) Cumene	17.90	105	598276	1.50	ppb	92
67) 1,1,2,2-tetrachloroethane	17.80	83	302362	1.52	ppb	96
68) Propylbenzene	18.42	91	731017m	1.54	ppb	
69) 2-Chlorotoluene	18.46	91	399108m	1.45	ppb	
70) 4-ethyltoluene	18.58	105	568678m	1.51	ppb	
71) 1,3,5-trimethylbenzene	18.63	105	496029m	1.52	ppb	
72) 1,2,4-trimethylbenzene	19.07	105	472922	1.53	ppb	93
73) 1,3-dichlorobenzene	19.36	146	333264	1.52	ppb	90
74) benzyl chloride	19.44	91	463160	1.57	ppb	100
75) 1,4-dichlorobenzene	19.50	146	328418	1.51	ppb	95
76) 1,2,3-trimethylbenzene	19.53	105	455785	1.51	ppb	88
77) 1,2-dichlorobenzene	19.82	146	308350	1.52	ppb	97
78) 1,2,4-trichlorobenzene	21.68	180	233124	1.59	ppb	95
79) Naphthalene	21.87	128	533391	1.65	ppb	95
80) Hexachloro-1,3-butadiene	21.96	225	219469	1.51	ppb	92

Quantitation Report (QT Reviewed)

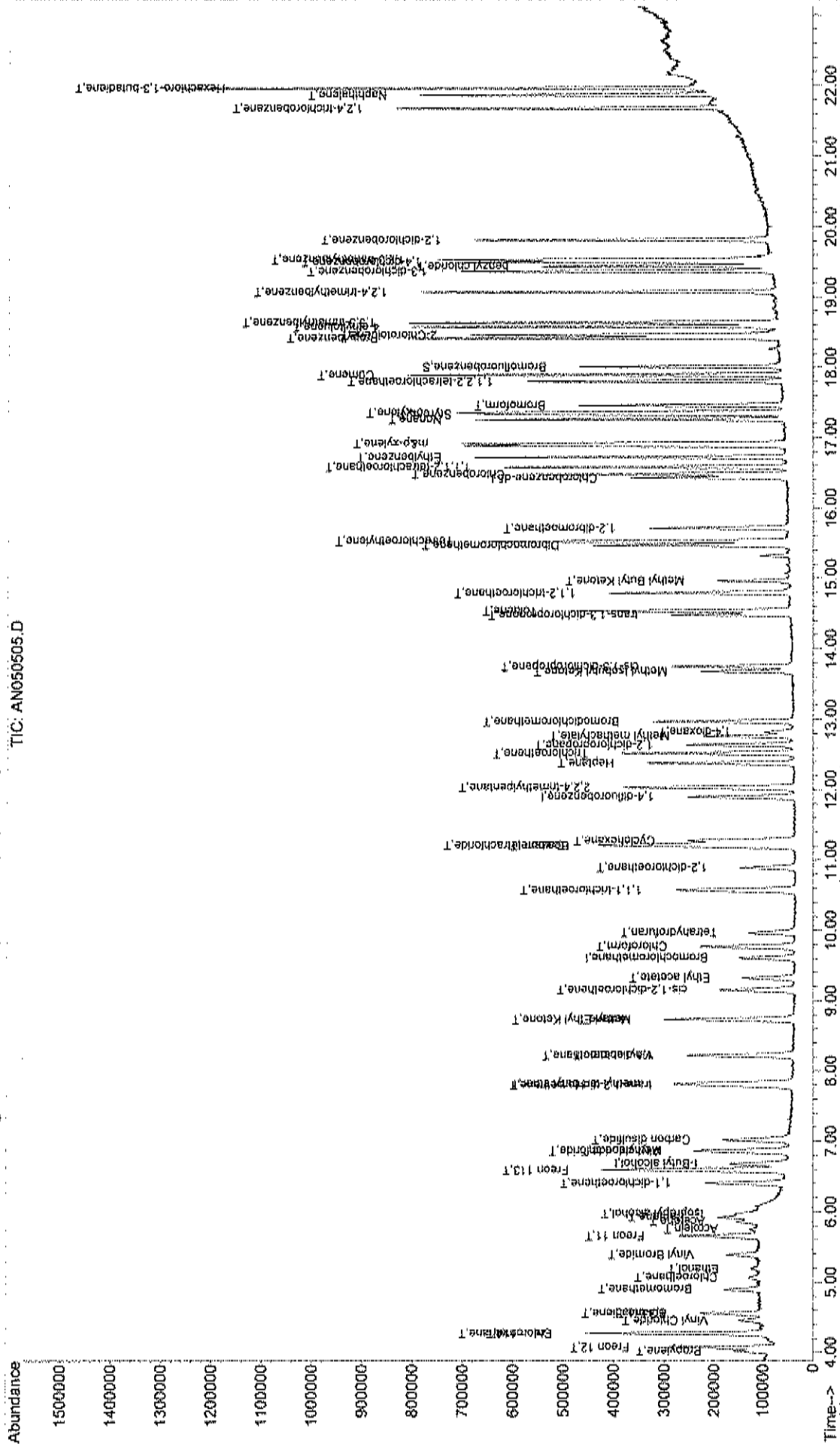
Data File : C:\HPCHEM\1\DATA\AN050505.D
Acq On : 5 May 2016 7:03 pm
Sample : A1UG 1.5
Misc : A505_1UG
MS Integration Params: RTEINT.F
Quant Time: May 6 7:05 2016

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

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

TIC: AN050505.D



Data File : C:\HPCHEM\1\DATA\AN050506.D Vial: 5
 Acq On : 5 May 2016 7:43 pm Operator: RJP
 Sample : A1UG_1.25 Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 06 06:59:26 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.61	128	54192	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.90	114	255757	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	227751	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	18.01	95	160677	1.02	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	102.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.01	41	61015	1.24	ppb	99
3) Freon 12	4.07	85	269934	1.21	ppb	99
4) Chloromethane	4.27	50	56284m	1.04	ppb	
5) Freon 114	4.26	85	184786m	1.10	ppb	
6) Vinyl Chloride	4.45	62	57810m	1.12	ppb	
7) Butane	4.55	43	74211m	1.19	ppb	
8) 1,3-butadiene	4.55	39	53451m	1.06	ppb	
9) Bromomethane	4.90	94	70848m	1.28	ppb	
10) Chloroethane	5.06	64	26353m	1.20	ppb	
11) Ethanol	5.19	45	19474	1.35	ppb	# 57
12) Acrolein	5.75	56	18079	1.20	ppb	73
13) Vinyl Bromide	5.39	106	59481	1.05	ppb	96
14) Freon 11	5.65	101	171784	1.09	ppb	96
15) Acetone	5.86	58	26274m	1.22	ppb	
16) Pentane	5.92	42	44681	1.11	ppb	# 26
17) Isopropyl alcohol	5.96	45	79499m	1.23	ppb	
18) 1,1-dichloroethene	6.40	96	88442	1.22	ppb	84
19) Freon 113	6.58	101	191654	1.22	ppb	86
20) t-Butyl alcohol	6.68	59	161910	1.22	ppb	# 93
21) Methylene chloride	6.87	84	76419	1.17	ppb	94
22) Allyl chloride	6.84	41	98061m	1.23	ppb	
23) Carbon disulfide	7.01	76	233302	1.23	ppb	98
24) trans-1,2-dichloroethene	7.79	61	112367	1.23	ppb	80
25) methyl tert-butyl ether	7.82	73	227001	1.17	ppb	98
26) 1,1-dichloroethane	8.22	63	145365	1.22	ppb	94
27) Vinyl acetate	8.21	43	186700	1.24	ppb	92
28) Methyl Ethyl Ketone	8.74	72	36407	1.22	ppb	# 34
29) cis-1,2-dichloroethene	9.15	61	108417	1.25	ppb	# 72
30) Hexane	8.73	57	123316	1.24	ppb	88
31) Ethyl acetate	9.33	43	136265	1.18	ppb	81
32) Chloroform	9.77	83	194527	1.26	ppb	99
33) Tetrahydrofuran	9.97	42	74815	1.28	ppb	95
34) 1,2-dichloroethane	10.89	62	112866	1.22	ppb	89
36) 1,1,1-trichloroethane	10.57	97	210584	1.25	ppb	94
37) Cyclohexane	11.28	56	115738	1.18	ppb	# 58
38) Carbon tetrachloride	11.22	117	222130	1.24	ppb	87
39) Benzene	11.19	78	257472	1.22	ppb	99
40) Methyl methacrylate	12.76	41	91395m	1.21	ppb	
41) 1,4-dioxane	12.82	88	47132	1.24	ppb	77
42) 2,2,4-trimethylpentane	12.03	57	363404	1.22	ppb	89
43) Heptane	12.37	43	126155	1.20	ppb	92
44) Trichloroethene	12.52	130	133706	1.25	ppb	93
45) 1,2-dichloropropane	12.64	63	95108	1.27	ppb	98

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

Data File : C:\HPCHEM\1\DATA\AN050506.D

Vial: 5

Acq On : 5 May 2016 7:43 pm

Operator: RJP

Sample : A1UG_1.25

Inst : MSD #1

Misc : A505_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 06:59:26 2016

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 06:59:07 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.97	83	199722	1.23	ppb	97
47) cis-1,3-dichloropropene	13.75	75	154612	1.23	ppb	88
48) trans-1,3-dichloropropene	14.48	75	146681	1.22	ppb	85
49) 1,1,2-trichloroethane	14.80	97	119263	1.23	ppb	100
51) Toluene	14.54	92	197790	1.25	ppb	96
52) Methyl Isobutyl Ketone	13.67	43	116324	1.26	ppb	91
53) Dibromochloromethane	15.47	129	232381m	1.28	ppb	
54) Methyl Butyl Ketone	14.96	43	78371	1.21	ppb	91
55) 1,2-dibromoethane	15.71	107	199227	1.24	ppb	97
56) Tetrachloroethylene	15.53	164	140790	1.27	ppb	90
57) Chlorobenzene	16.48	112	279334	1.27	ppb	98
58) 1,1,1,2-tetrachloroethane	16.58	131	162736	1.27	ppb	95
59) Ethylbenzene	16.72	91	446990	1.26	ppb	95
60) m&p-xylene	16.92	91	688325	2.52	ppb	99
61) Nonane	17.26	43	188696	1.27	ppb	94
62) Styrene	17.34	104	269322	1.26	ppb	95
63) Bromoform	17.46	173	195339	1.26	ppb	98
64) o-xylene	17.36	91	379415	1.38	ppb	91
65) Cumene	17.90	105	489926	1.24	ppb	92
67) 1,1,2,2-tetrachloroethane	17.80	83	249158	1.26	ppb	96
68) Propylbenzene	18.42	91	568073m	1.21	ppb	
69) 2-Chlorotoluene	18.46	91	344602m	1.26	ppb	
70) 4-ethyltoluene	18.58	105	461892m	1.24	ppb	
71) 1,3,5-trimethylbenzene	18.64	105	399301m	1.23	ppb	
72) 1,2,4-trimethylbenzene	19.07	105	379441	1.24	ppb	92
73) 1,3-dichlorobenzene	19.36	146	268721	1.23	ppb	92
74) benzyl chloride	19.44	91	360163	1.23	ppb	100
75) 1,4-dichlorobenzene	19.50	146	266768	1.24	ppb	95
76) 1,2,3-trimethylbenzene	19.53	105	358451	1.20	ppb	88
77) 1,2-dichlorobenzene	19.81	146	249976	1.24	ppb	96
78) 1,2,4-trichlorobenzene	21.68	180	185631	1.28	ppb	94
79) Naphthalene	21.87	128	420041	1.31	ppb	96
80) Hexachloro-1,3-butadiene	21.96	225	174273	1.21	ppb	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN050506.D A505_1UG.M Tue Jul 05 08:22:14 2016 MSD1

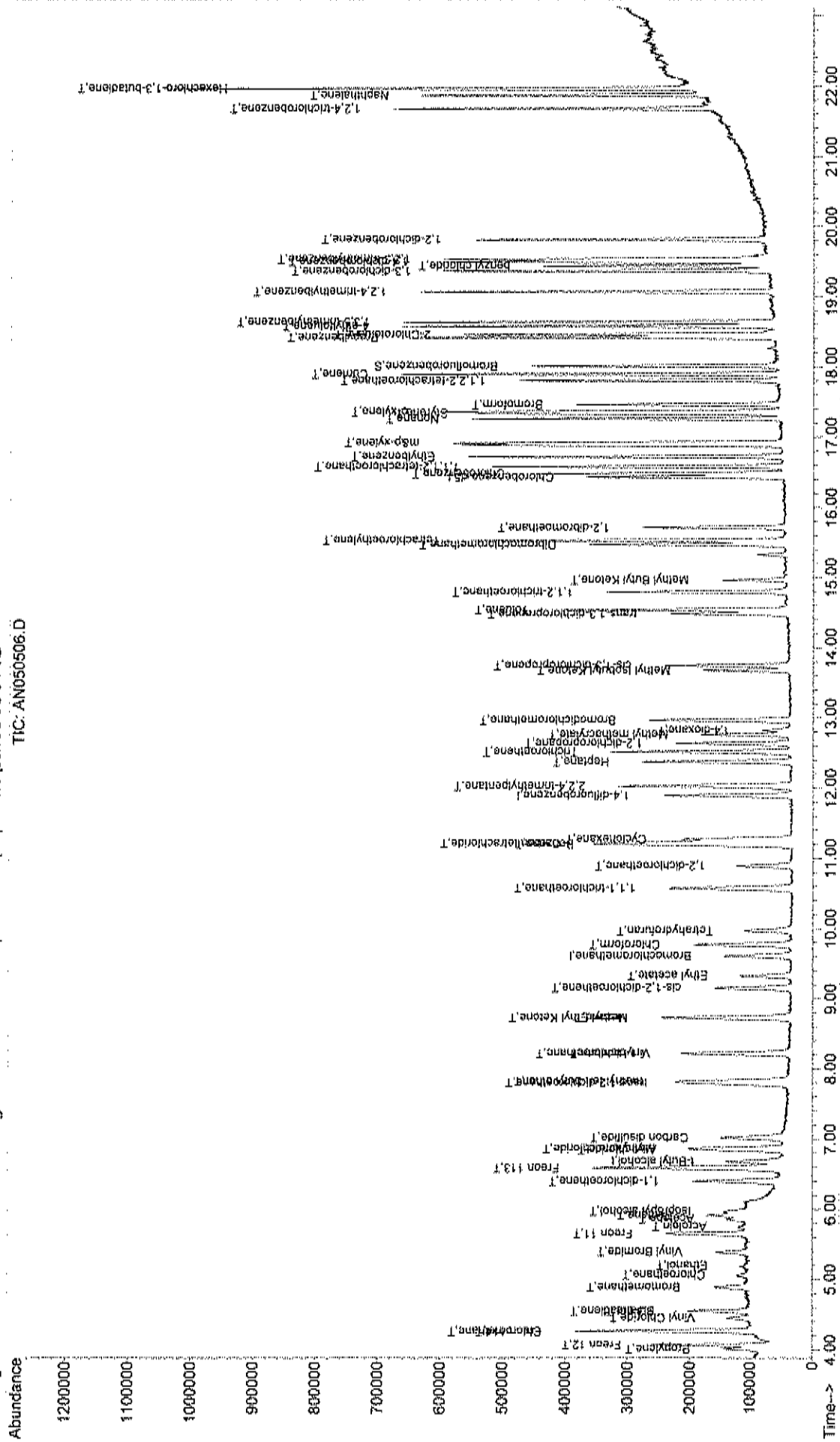
Quantitation Report (QF Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050506.D
Acq On : 5 May 2016 7:43 pm
Sample : A1UG 1.25
Misc : A505_LUG
MS Integration Params: RTEINT.P
Quant Time: May 6 7:06 2016

Quant Results File: A505_LUG.RES

Method : C:\HPCHEM\1\METHODS\A505_LUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

TIC: AN050506.D



Data File : C:\HPCHEM\1\DATA\AN050507.D
 Acq On : 5 May 2016 8:23 pm
 Sample : A1UG_1.0
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 06:59:16 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.61	128	53072	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.90	114	250462	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	228195	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	18.01	95	158600	1.00	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	100.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.02	41	48170	1.00	ppb	85
3) Freon 12	4.07	85	218463	1.00	ppb	99
4) Chloromethane	4.27	50	51087m	0.96	ppb	
5) Freon 114	4.27	85	164533	1.00	ppb	96
6) Vinyl Chloride	4.45	62	49864m	0.98	ppb	
7) Butane	4.55	43	65744	1.08	ppb	93
8) 1,3-butadiene	4.56	39	48868	0.99	ppb	98
9) Bromomethane	4.90	94	53980	1.00	ppb	79
10) Chloroethane	5.07	64	22491	1.05	ppb	# 71
11) Ethanol	5.20	45	16402m	1.16	ppb	
12) Acrolein	5.75	56	13686m	0.93	ppb	
13) Vinyl Bromide	5.39	106	55148	1.00	ppb	99
14) Freon 11	5.66	101	154393	1.00	ppb	99
15) Acetone	5.86	58	21133	1.00	ppb	# 1
16) Pentane	5.93	42	39284	1.00	ppb	# 1
17) Isopropyl alcohol	5.97	45	63320	1.00	ppb	# 100
18) 1,1-dichloroethene	6.41	96	70934	1.00	ppb	89
19) Freon 113	6.59	101	154104	1.00	ppb	87
20) t-Butyl alcohol	6.69	59	129500	1.00	ppb	96
21) Methylene chloride	6.87	84	63945	1.00	ppb	91
22) Allyl chloride	6.85	41	80482m	1.03	ppb	
23) Carbon disulfide	7.02	76	185063	1.00	ppb	99
24) trans-1,2-dichloroethene	7.79	61	89504	1.00	ppb	79
25) methyl tert-butyl ether	7.82	73	189372	1.00	ppb	98
26) 1,1-dichloroethane	8.23	63	116409	1.00	ppb	96
27) Vinyl acetate	8.21	43	147379	1.00	ppb	92
28) Methyl Ethyl Ketone	8.73	72	29110	1.00	ppb	# 1
29) cis-1,2-dichloroethene	9.15	61	84624	1.00	ppb	# 70
30) Hexane	8.73	57	97270	1.00	ppb	87
31) Ethyl acetate	9.32	43	112811	1.00	ppb	87
32) Chloroform	9.77	83	151332	1.00	ppb	93
33) Tetrahydrofuran	9.97	42	56923	1.00	ppb	97
34) 1,2-dichloroethane	10.89	62	90643	1.00	ppb	91
36) 1,1,1-trichloroethane	10.57	97	165005	1.00	ppb	98
37) Cyclohexane	11.28	56	95715	1.00	ppb	# 65
38) Carbon tetrachloride	11.22	117	175962	1.00	ppb	88
39) Benzene	11.19	78	207261	1.00	ppb	96
40) Methyl methacrylate	12.76	41	74179	1.00	ppb	98
41) 1,4-dioxane	12.83	88	37177	1.00	ppb	# 68
42) 2,2,4-trimethylpentane	12.03	57	290656	1.00	ppb	89
43) Heptane	12.38	43	103405	1.00	ppb	93
44) Trichloroethene	12.52	130	104982	1.00	ppb	92
45) 1,2-dichloropropane	12.64	63	73241	1.00	ppb	99

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

Data File : C:\HPCHEM\1\DATA\AN050507.D

Vial: 6

Acq On : 5 May 2016 8:23 pm

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A505_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 06:59:16 2016

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 06:59:07 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.97	83	158923	1.00	ppb	94
47) cis-1,3-dichloropropene	13.75	75	121870	0.99	ppb	87
48) trans-1,3-dichloropropene	14.48	75	117232	1.00	ppb	86
49) 1,1,2-trichloroethane	14.79	97	94813	1.00	ppb	98
51) Toluene	14.54	92	158310	1.00	ppb	97
52) Methyl Isobutyl Ketone	13.68	43	92657	1.00	ppb	94
53) Dibromochloromethane	15.47	129	182084m	1.00	ppb	
54) Methyl Butyl Ketone	14.96	43	64816	1.00	ppb	93
55) 1,2-dibromoethane	15.71	107	160649	1.00	ppb	94
56) Tetrachloroethylene	15.53	164	110766	1.00	ppb	89
57) Chlorobenzene	16.48	112	220347	1.00	ppb	96
58) 1,1,1,2-tetrachloroethane	16.58	131	128920	1.00	ppb	95
59) Ethylbenzene	16.72	91	355850	1.00	ppb	94
60) m&p-xylene	16.89	91	546541	2.00	ppb	99
61) Nonane	17.26	43	148961	1.00	ppb	93
62) Styrene	17.34	104	214226	1.00	ppb	95
63) Bromoform	17.46	173	155822	1.00	ppb	98
64) o-xylene	17.36	91	274720	1.00	ppb	85
65) Cumene	17.90	105	395809	1.00	ppb	# 92
67) 1,1,2,2-tetrachloroethane	17.80	83	197826	1.00	ppb	97
68) Propylbenzene	18.42	91	456091m	0.97	ppb	
69) 2-Chlorotoluene	18.46	91	285308m	1.04	ppb	
70) 4-ethyltoluene	18.58	105	366600m	0.98	ppb	
71) 1,3,5-trimethylbenzene	18.64	105	324671m	1.00	ppb	
72) 1,2,4-trimethylbenzene	19.07	105	307021	1.00	ppb	94
73) 1,3-dichlorobenzene	19.36	146	218418	1.00	ppb	91
74) benzyl chloride	19.44	91	293055	1.00	ppb	98
75) 1,4-dichlorobenzene	19.49	146	216409	1.00	ppb	95
76) 1,2,3-trimethylbenzene	19.53	105	299668	1.00	ppb	89
77) 1,2-dichlorobenzene	19.81	146	202347	1.01	ppb	96
78) 1,2,4-trichlorobenzene	21.68	180	145548	1.00	ppb	98
79) Naphthalene	21.87	128	322595	1.00	ppb	94
80) Hexachloro-1,3-butadiene	21.96	225	144419	1.00	ppb	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN050507.D A505_1UG.M Tue Jul 05 08:22:18 2016 MSDi

Quantitation Report (QT reviewed)

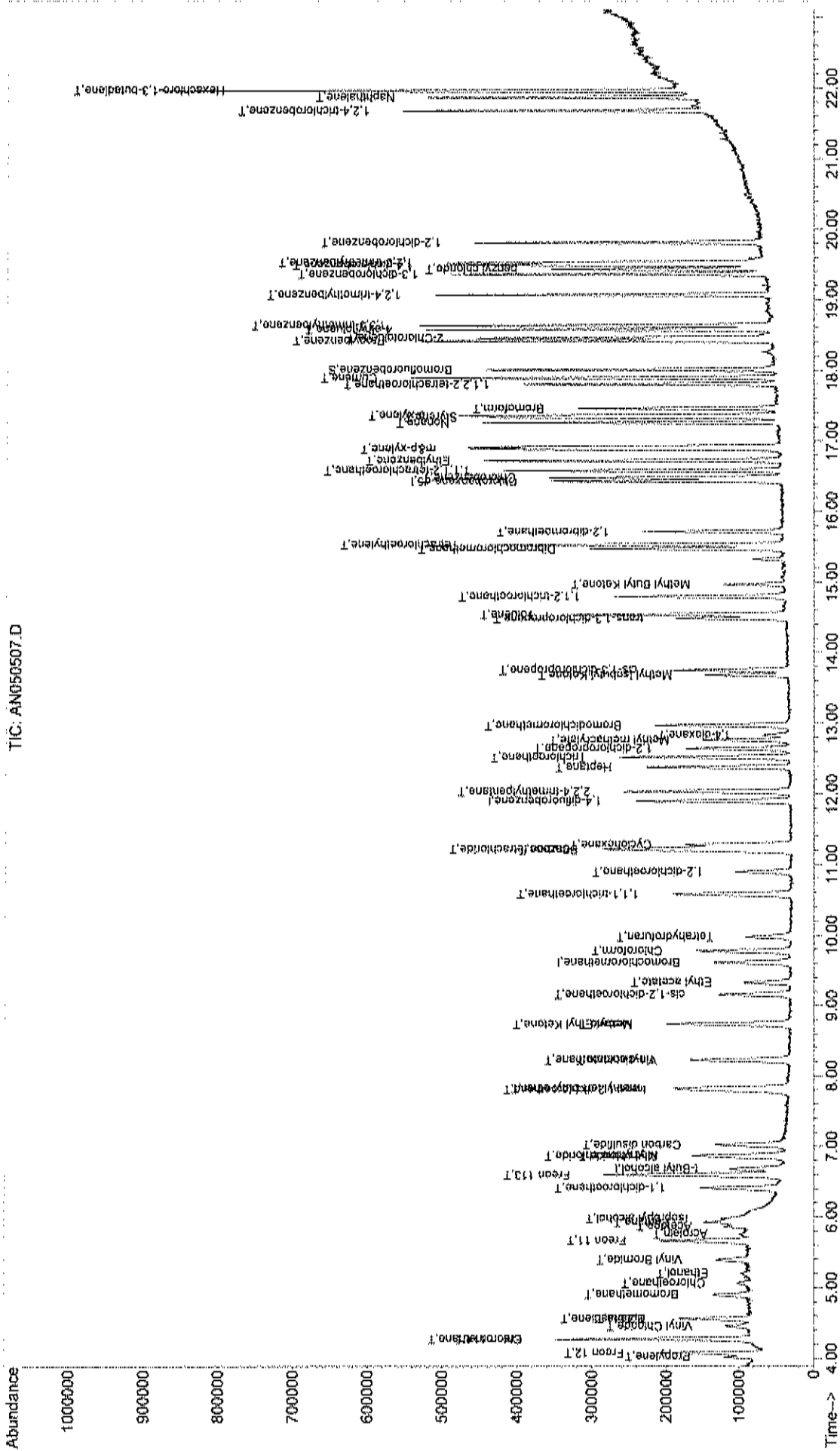
Data File : C:\HPCHEM\1\DATA\AN050507.D
 Acq On : 5 May 2016 8:23 pm
 Sample : A1UG 1.0
 Misc : A505_IUG
 MS Integration Params: RFEINT.P
 Quant Time: May 6 7:09 2016

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

Quant Results File: A505_IUG.RES

Method : C:\HPCHEM\1\METHODS\A505_IUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Jul 05 08:17:16 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

TIC: AN050507.D



Data File : C:\HPCHEM\1\DATA\AN050508.D
 Acq On : 5 May 2016 9:02 pm
 Sample : A1UG_0.75
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 07:00:25 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.61	128	52122	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.90	114	250327	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	226181	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.01	95	158959	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	4.02	41	35627	0.75	ppb	92
3) Freon 12	4.07	85	166362	0.77	ppb	100
4) Chloromethane	4.27	50	35764m	0.69	ppb	
5) Freon 114	4.27	85	109053	0.67	ppb	99
6) Vinyl Chloride	4.45	62	31898	0.64	ppb	83
7) Butane	4.55	43	41109	0.68	ppb	90
8) 1,3-butadiene	4.56	39	30205	0.63	ppb	73
9) Bromomethane	4.89	94	37674	0.71	ppb	90
10) Chloroethane	5.07	64	15693	0.74	ppb	# 7
11) Ethanol	5.19	45	10610m	0.77	ppb	
12) Acrolein	5.74	56	11099m	0.77	ppb	
13) Vinyl Bromide	5.39	106	37544	0.69	ppb	96
14) Freon 11	5.65	101	101792	0.67	ppb	97
15) Acetone	5.86	58	14793	0.71	ppb	# 1
16) Pentane	5.92	42	26337	0.68	ppb	# 12
17) Isopropyl alcohol	5.98	45	40704	0.65	ppb	# 100
18) 1,1-dichloroethene	6.40	96	54300	0.78	ppb	86
19) Freon 113	6.59	101	116431	0.77	ppb	88
20) t-Butyl alcohol	6.69	59	93804	0.74	ppb	97
21) Methylene chloride	6.87	84	45976	0.73	ppb	94
22) Allyl chloride	6.84	41	58649m	0.76	ppb	
23) Carbon disulfide	7.02	76	141991	0.78	ppb	91
24) trans-1,2-dichloroethene	7.79	61	67053	0.76	ppb	81
25) methyl tert-butyl ether	7.83	73	133608	0.72	ppb	93
26) 1,1-dichloroethane	8.22	63	85209	0.74	ppb	91
27) Vinyl acetate	8.21	43	110186	0.76	ppb	93
28) Methyl Ethyl Ketone	8.73	72	21715	0.76	ppb	# 1
29) cis-1,2-dichloroethene	9.15	61	63332	0.76	ppb	# 66
30) Hexane	8.73	57	71425	0.75	ppb	87
31) Ethyl acetate	9.33	43	79875	0.72	ppb	89
32) Chloroform	9.77	83	113901	0.77	ppb	97
33) Tetrahydrofuran	9.97	42	42903	0.77	ppb	98
34) 1,2-dichloroethane	10.89	62	67089	0.75	ppb	88
36) 1,1,1-trichloroethane	10.57	97	124256	0.75	ppb	95
37) Cyclohexane	11.27	56	68424	0.72	ppb	# 62
38) Carbon tetrachloride	11.22	117	129796	0.74	ppb	87
39) Benzene	11.19	78	150836	0.73	ppb	96
40) Methyl methacrylate	12.76	41	59522m	0.80	ppb	
41) 1,4-dioxane	12.82	88	25782	0.69	ppb	76
42) 2,2,4-trimethylpentane	12.03	57	216622	0.75	ppb	88
43) Heptane	12.37	43	78462	0.76	ppb	95
44) Trichloroethene	12.52	130	79433	0.76	ppb	93
45) 1,2-dichloropropane	12.64	63	55316	0.76	ppb	99

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

Data File : C:\HPCHEM\1\DATA\AN050508.D
 Acq On : 5 May 2016 9:02 pm
 Sample : A1UG_0.75
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 07:00:25 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.96	83	115086	0.72	ppb	90
47) cis-1,3-dichloropropene	13.75	75	94212	0.77	ppb	91
48) trans-1,3-dichloropropene	14.48	75	86797	0.74	ppb	78
49) 1,1,2-trichloroethane	14.80	97	70891	0.75	ppb	99
51) Toluene	14.54	92	117578	0.75	ppb	98
52) Methyl Isobutyl Ketone	13.68	43	66969	0.73	ppb	97
53) Dibromochloromethane	15.47	129	136600m	0.76	ppb	
54) Methyl Butyl Ketone	14.97	43	46736	0.73	ppb	86
55) 1,2-dibromoethane	15.71	107	117272	0.74	ppb	97
56) Tetrachloroethylene	15.53	164	83299	0.76	ppb	92
57) Chlorobenzene	16.48	112	164642	0.75	ppb	97
58) 1,1,1,2-tetrachloroethane	16.58	131	96280	0.75	ppb	96
59) Ethylbenzene	16.72	91	266964	0.76	ppb	92
60) m&p-xylene	16.89	91	407057	1.50	ppb	100
61) Nonane	17.26	43	112442	0.76	ppb	95
62) Styrene	17.34	104	159941	0.75	ppb	93
63) Bromoform	17.46	173	112608	0.73	ppb	99
64) o-xylene	17.36	91	204865	0.75	ppb	84
65) Cumene	17.89	105	291342	0.74	ppb	93
67) 1,1,2,2-tetrachloroethane	17.80	83	146996	0.75	ppb	98
68) Propylbenzene	18.42	91	352472m	0.76	ppb	
69) 2-Chlorotoluene	18.46	91	198664m	0.73	ppb	
70) 4-ethyltoluene	18.58	105	278220m	0.75	ppb	
71) 1,3,5-trimethylbenzene	18.64	105	241617m	0.75	ppb	
72) 1,2,4-trimethylbenzene	19.07	105	224877	0.74	ppb	92
73) 1,3-dichlorobenzene	19.36	146	159936	0.74	ppb	90
74) benzyl chloride	19.44	91	212892	0.73	ppb	99
75) 1,4-dichlorobenzene	19.50	146	162770	0.76	ppb	96
76) 1,2,3-trimethylbenzene	19.53	105	217483	0.73	ppb	88
77) 1,2-dichlorobenzene	19.81	146	149195	0.75	ppb	98
78) 1,2,4-trichlorobenzene	21.68	180	108201	0.75	ppb	94
79) Naphthalene	21.87	128	237643	0.75	ppb	95
80) Hexachloro-1,3-butadiene	21.96	225	102554	0.72	ppb	91

Quantitation Report (QT Reviewed)

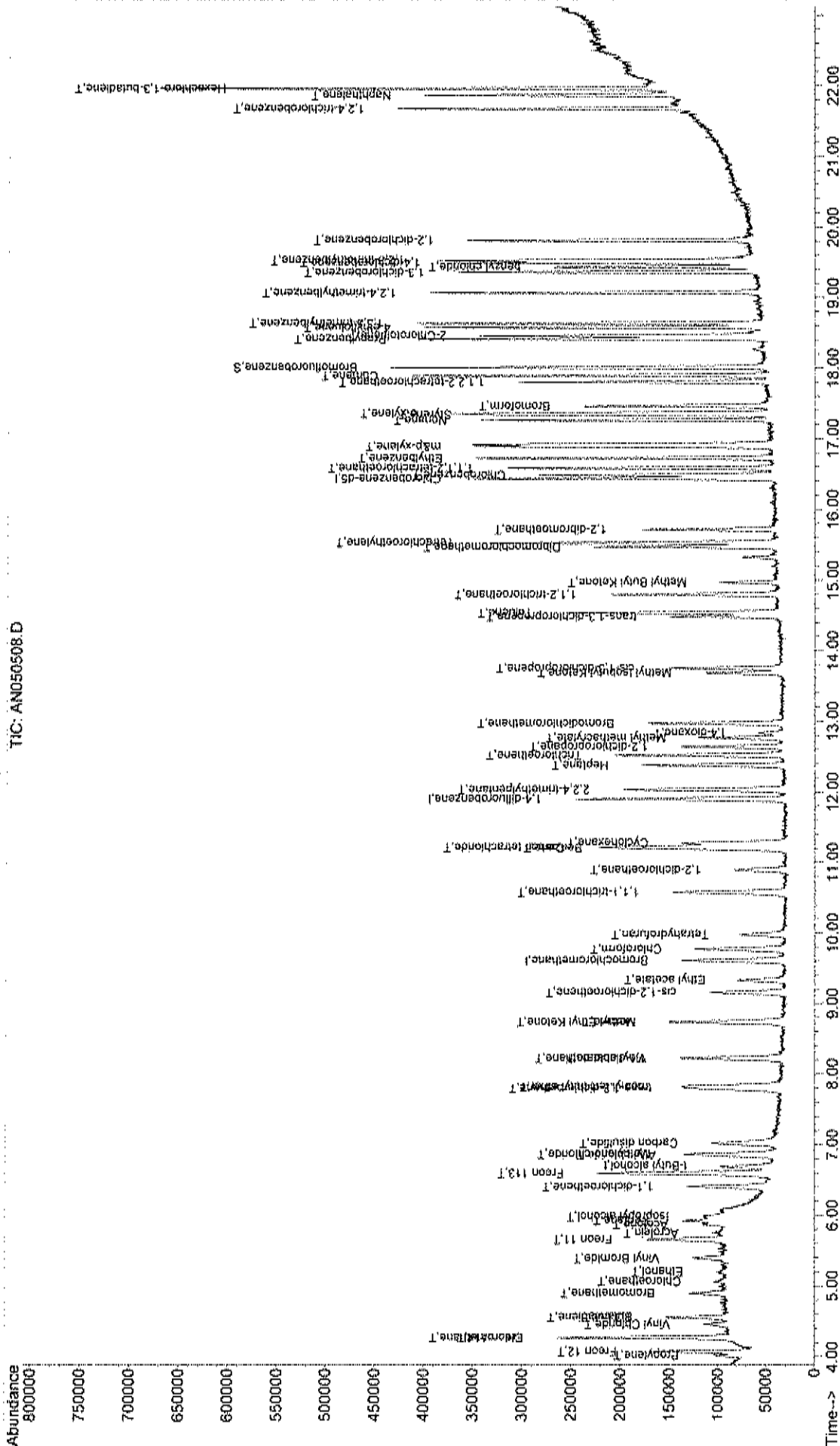
Data File : C:\HPCHEM\1\DATA\AN050508.D
Acq On : 5 May 2016 9:02 pm
Sample : A1UG 0.75
Misc : A505_IUG
MS Integration Params: RTEINT.P
Quant Time: May 6 7:12 2016

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

Quant Results File: A505_IUG.RES

Method : C:\HPCHEM\1\METHODS\A505_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

TIC: AN050508.D



Data File : C:\HPCHEM\1\DATA\AN050509.D
 Acq On : 5 May 2016 9:39 pm
 Sample : A1UG_0.50
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 07:00:44 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.61	128	52254	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.90	114	246068	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	225455	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.01	95	156419	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	4.02	41	26548m ⁰	0.56	ppb	
3) Freon 12	4.07	85	108016	0.50	ppb	96
4) Chloromethane	4.27	50	23979	0.46	ppb	89
5) Freon 114	4.26	85	75836	0.47	ppb	89
6) Vinyl Chloride	4.45	62	21825	0.44	ppb	83
7) Butane	4.55	43	26888	0.45	ppb	87
8) 1,3-butadiene	4.55	39	20326	0.42	ppb	82
9) Bromomethane	4.89	94	24187	0.45	ppb	# 73
10) Chloroethane	5.05	64	9782	0.46	ppb	# 19
11) Ethanol	5.19	45	7779m ⁰	0.56	ppb	
12) Acrolein	5.75	56	7756	0.54	ppb	# 1
13) Vinyl Bromide	5.38	106	23538	0.43	ppb	98
14) Freon 11	5.64	101	67372	0.44	ppb	99
15) Acetone	5.86	58	8970m ⁰	0.43	ppb	
16) Pentane	5.91	42	19155	0.49	ppb	# 25
17) Isopropyl alcohol	5.98	45	28618	0.46	ppb	# 100
18) 1,1-dichloroethene	6.40	96	35127	0.50	ppb	85
19) Freon 113	6.59	101	75574	0.50	ppb	87
20) t-Butyl alcohol	6.69	59	62481	0.49	ppb	# 89
21) Methylene chloride	6.87	84	34949	0.55	ppb	# 85
22) Allyl chloride	6.84	41	35056	0.46	ppb	89
23) Carbon disulfide	7.02	76	92856	0.51	ppb	93
24) trans-1,2-dichloroethene	7.79	61	43802	0.50	ppb	80
25) methyl tert-butyl ether	7.83	73	88298	0.47	ppb	93
26) 1,1-dichloroethane	8.22	63	57673	0.50	ppb	99
27) Vinyl acetate	8.21	43	72227	0.50	ppb	91
28) Methyl Ethyl Ketone	8.73	72	14558	0.51	ppb	# 1
29) cis-1,2-dichloroethene	9.15	61	43219	0.52	ppb	# 63
30) Hexane	8.72	57	46572	0.49	ppb	90
31) Ethyl acetate	9.33	43	54447	0.49	ppb	87
32) Chloroform	9.77	83	74673	0.50	ppb	99
33) Tetrahydrofuran	9.97	42	27044	0.48	ppb	97
34) 1,2-dichloroethane	10.89	62	44025	0.49	ppb	89
36) 1,1,1-trichloroethane	10.57	97	80863	0.50	ppb	98
37) Cyclohexane	11.27	56	46771	0.50	ppb	# 61
38) Carbon tetrachloride	11.22	117	86084	0.50	ppb	87
39) Benzene	11.19	78	100535	0.49	ppb	99
40) Methyl methacrylate	12.76	41	34239	0.47	ppb	95
41) 1,4-dioxane	12.83	88	17380	0.48	ppb	# 70
42) 2,2,4-trimethylpentane	12.03	57	139198	0.49	ppb	93
43) Heptane	12.38	43	48583	0.48	ppb	93
44) Trichloroethene	12.52	130	50862	0.49	ppb	92
45) 1,2-dichloropropane	12.64	63	36829	0.51	ppb	99

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

Data File : C:\HPCHEM\1\DATA\AN050509.D
 Acq On : 5 May 2016 9:39 pm
 Sample : A1UG_0.50
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 07:00:44 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.96	83	77106	0.49	ppb	94
47) cis-1,3-dichloropropene	13.75	75	59960	0.50	ppb	87
48) trans-1,3-dichloropropene	14.48	75	52776	0.46	ppb	77
49) 1,1,2-trichloroethane	14.80	97	46037	0.49	ppb	99
51) Toluene	14.54	92	76257	0.49	ppb	97
52) Methyl Isobutyl Ketone	13.67	43	44255	0.48	ppb	95
53) Dibromochloromethane	15.47	129	88812m	0.49	ppb	
54) Methyl Butyl Ketone	14.97	43	31093	0.49	ppb	# 84
55) 1,2-dibromoethane	15.71	107	77146	0.49	ppb	97
56) Tetrachloroethylene	15.53	164	53868	0.49	ppb	89
57) Chlorobenzene	16.48	112	108750	0.50	ppb	94
58) 1,1,1,2-tetrachloroethane	16.58	131	62351	0.49	ppb	96
59) Ethylbenzene	16.72	91	168901	0.48	ppb	99
60) m&p-xylene	16.89	91	263118	0.97	ppb	99
61) Nonane	17.26	43	73785	0.50	ppb	95
62) Styrene	17.34	104	102938	0.49	ppb	93
63) Bromoform	17.46	173	73115	0.48	ppb	99
64) o-xylene	17.36	91	129076	0.48	ppb	81
65) Cumene	17.89	105	185624	0.47	ppb	# 92
67) 1,1,2,2-tetrachloroethane	17.80	83	96074	0.49	ppb	97
68) Propylbenzene	18.41	91	218695m	0.47	ppb	
69) 2-Chlorotoluene	18.46	91	142596m	0.53	ppb	
70) 4-ethyltoluene	18.58	105	176241m	0.48	ppb	
71) 1,3,5-trimethylbenzene	18.64	105	154187m	0.48	ppb	
72) 1,2,4-trimethylbenzene	19.07	105	142295	0.47	ppb	91
73) 1,3-dichlorobenzene	19.36	146	106099	0.49	ppb	90
74) benzyl chloride	19.43	91	120839	0.42	ppb	92
75) 1,4-dichlorobenzene	19.49	146	106205	0.50	ppb	96
76) 1,2,3-trimethylbenzene	19.53	105	141292	0.48	ppb	91
77) 1,2-dichlorobenzene	19.81	146	99587	0.50	ppb	97
78) 1,2,4-trichlorobenzene	21.68	180	68026	0.47	ppb	97
79) Naphthalene	21.87	128	153050	0.48	ppb	89
80) Hexachloro-1,3-butadiene	21.96	225	68022	0.48	ppb	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN050509.D A505_1UG.M Tue Jul 05 08:22:26 2016 MSD1

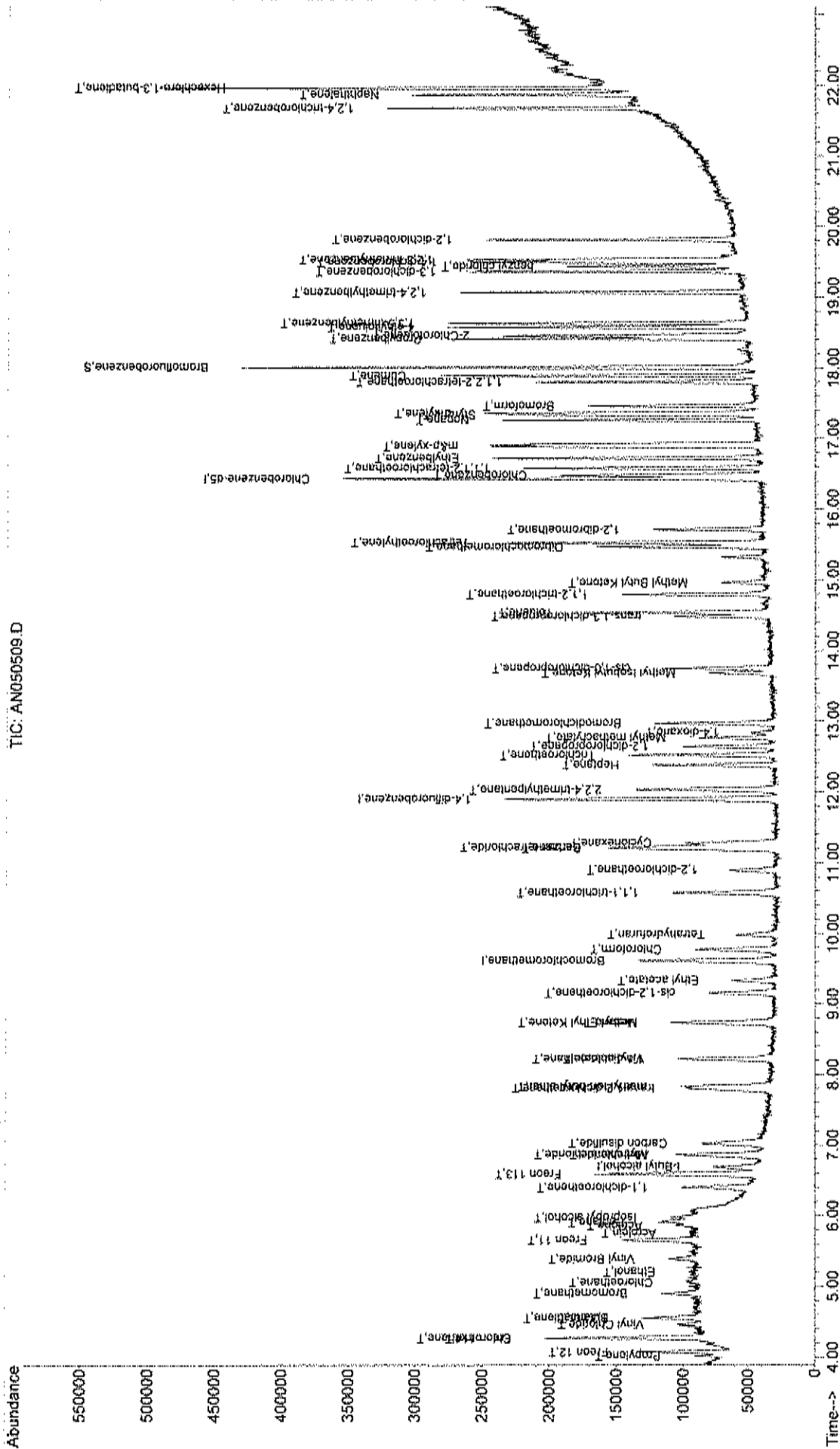
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050509.D
 Acq On : 5 May 2016 9:39 pm
 Sample : A1UG 0.50
 Misc : A505_IUG
 MS Integration Params: RTEINT.P
 Quant Time: May 6 7:13 2016

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

Quant Results File: A505_IUG.RES

Method : C:\HPCHEM\1\METHODS\A505_IUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Jul 05 08:17:16 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D



Data File : C:\HPCHEM\1\DATA\AN050510.D Vial: 9
 Acq On : 5 May 2016 10:17 pm Operator: RJP
 Sample : A1UG_0.30 Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 06 07:00:59 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.61	128	50949	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.90	114	244973	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	220988	1.00	ppb	0.00

System Monitoring Compounds
 66) Bromofluorobenzene 18.01 95 156226 1.02 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 102.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.01	41	15438m	0.33	ppb	
3) Freon 12	4.07	85	66940	0.32	ppb	97
4) Chloromethane	4.27	50	13953	0.27	ppb	# 53
5) Freon 114	4.26	85	44896	0.28	ppb	95
6) Vinyl Chloride	4.45	62	13129	0.27	ppb	80
7) Butane	4.55	43	14309m	0.24	ppb	
8) 1,3-butadiene	4.55	39	14794	0.31	ppb	98
9) Bromomethane	4.89	94	17461	0.34	ppb	# 63
10) Chloroethane	5.06	64	6087m	0.29	ppb	
11) Ethanol	5.21	45	5245m	0.39	ppb	
12) Acrolein	5.75	56	5206m	0.37	ppb	
13) Vinyl Bromide	5.39	106	19095	0.36	ppb	96
14) Freon 11	5.65	101	45228	0.30	ppb	94
15) Acetone	5.86	58	7187m	0.35	ppb	
16) Pentane	5.92	42	12904	0.34	ppb	# 11
17) Isopropyl alcohol	5.97	45	21236	0.35	ppb	# 100
18) 1,1-dichloroethene	6.40	96	23469	0.34	ppb	# 79
19) Freon 113	6.59	101	45133	0.30	ppb	85
20) t-Butyl alcohol	6.69	59	35530	0.29	ppb	# 72
21) Methylene chloride	6.87	84	21306	0.35	ppb	# 87
22) Allyl chloride	6.84	41	24438	0.33	ppb	85
23) Carbon disulfide	7.02	76	58025	0.33	ppb	80
24) trans-1,2-dichloroethene	7.80	61	26997	0.31	ppb	# 76
25) methyl tert-butyl ether	7.84	73	52852	0.29	ppb	91
26) 1,1-dichloroethane	8.22	63	34005	0.30	ppb	85
27) Vinyl acetate	8.21	43	43189	0.30	ppb	92
28) Methyl Ethyl Ketone	8.74	72	8445	0.30	ppb	# 1
29) cis-1,2-dichloroethene	9.15	61	25496	0.31	ppb	# 68
30) Hexane	8.73	57	32569	0.35	ppb	86
31) Ethyl acetate	9.33	43	29711	0.27	ppb	65
32) Chloroform	9.77	83	45346	0.31	ppb	79
33) Tetrahydrofuran	9.98	42	19584	0.36	ppb	93
34) 1,2-dichloroethane	10.89	62	25789	0.30	ppb	77
36) 1,1,1-trichloroethane	10.58	97	47983	0.30	ppb	99
37) Cyclohexane	11.28	56	30829	0.33	ppb	# 64
38) Carbon tetrachloride	11.22	117	51896	0.30	ppb	88
39) Benzene	11.19	78	61988	0.31	ppb	94
40) Methyl methacrylate	12.76	41	20008	0.28	ppb	94
41) 1,4-dioxane	12.84	88	10083	0.28	ppb	# 67
42) 2,2,4-trimethylpentane	12.03	57	84097	0.30	ppb	89
43) Heptane	12.38	43	33141	0.33	ppb	97
44) Trichloroethene	12.52	130	30556	0.30	ppb	89
45) 1,2-dichloropropane	12.64	63	22842	0.32	ppb	94

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

Data File : C:\HPCHEM\1\DATA\AN050510.D
 Acq On : 5 May 2016 10:17 pm
 Sample : A1UG_0.30
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 07:00:59 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.97	83	46406	0.30	ppb	84
47) cis-1,3-dichloropropene	13.75	75	38256	0.32	ppb	91
48) trans-1,3-dichloropropene	14.48	75	31772	0.28	ppb #	58
49) 1,1,2-trichloroethane	14.79	97	29151	0.31	ppb	98
51) Toluene	14.54	92	46132	0.30	ppb	96
52) Methyl Isobutyl Ketone	13.68	43	29009	0.32	ppb	95
53) Dibromochloromethane	15.47	129	51640m	0.29	ppb	
54) Methyl Butyl Ketone	14.96	43	18476	0.29	ppb	80
55) 1,2-dibromoethane	15.72	107	45220	0.29	ppb	95
56) Tetrachloroethylene	15.53	164	32680	0.30	ppb	91
57) Chlorobenzene	16.48	112	64324	0.30	ppb	96
58) 1,1,1,2-tetrachloroethane	16.58	131	36952	0.30	ppb #	94
59) Ethylbenzene	16.72	91	101329	0.29	ppb	96
60) m&p-xylene	16.92	91	156326	0.59	ppb	98
61) Nonane	17.26	43	43693	0.30	ppb	93
62) Styrene	17.34	104	61470	0.30	ppb	88
63) Bromoform	17.46	173	43480	0.29	ppb	98
64) o-xylene	17.36	91	87215	0.33	ppb	91
65) Cumene	17.89	105	111482	0.29	ppb #	91
67) 1,1,2,2-tetrachloroethane	17.81	83	55844	0.29	ppb	92
68) Propylbenzene	18.41	91	125872m	0.28	ppb	
69) 2-Chlorotoluene	18.46	91	73946m	0.28	ppb	
70) 4-ethyltoluene	18.58	105	105427m	0.29	ppb	
71) 1,3,5-trimethylbenzene	18.64	105	94600m	0.30	ppb	
72) 1,2,4-trimethylbenzene	19.07	105	89381	0.30	ppb	91
73) 1,3-dichlorobenzene	19.36	146	62563	0.30	ppb	94
74) benzyl chloride	19.44	91	70254	0.25	ppb	91
75) 1,4-dichlorobenzene	19.50	146	62113	0.30	ppb	93
76) 1,2,3-trimethylbenzene	19.53	105	89509	0.31	ppb	90
77) 1,2-dichlorobenzene	19.81	146	61126	0.31	ppb	97
78) 1,2,4-trichlorobenzene	21.68	180	40330	0.29	ppb	96
79) Naphthalene	21.87	128	88178	0.28	ppb	87
80) Hexachloro-1,3-butadiene	21.96	225	42189	0.30	ppb	90

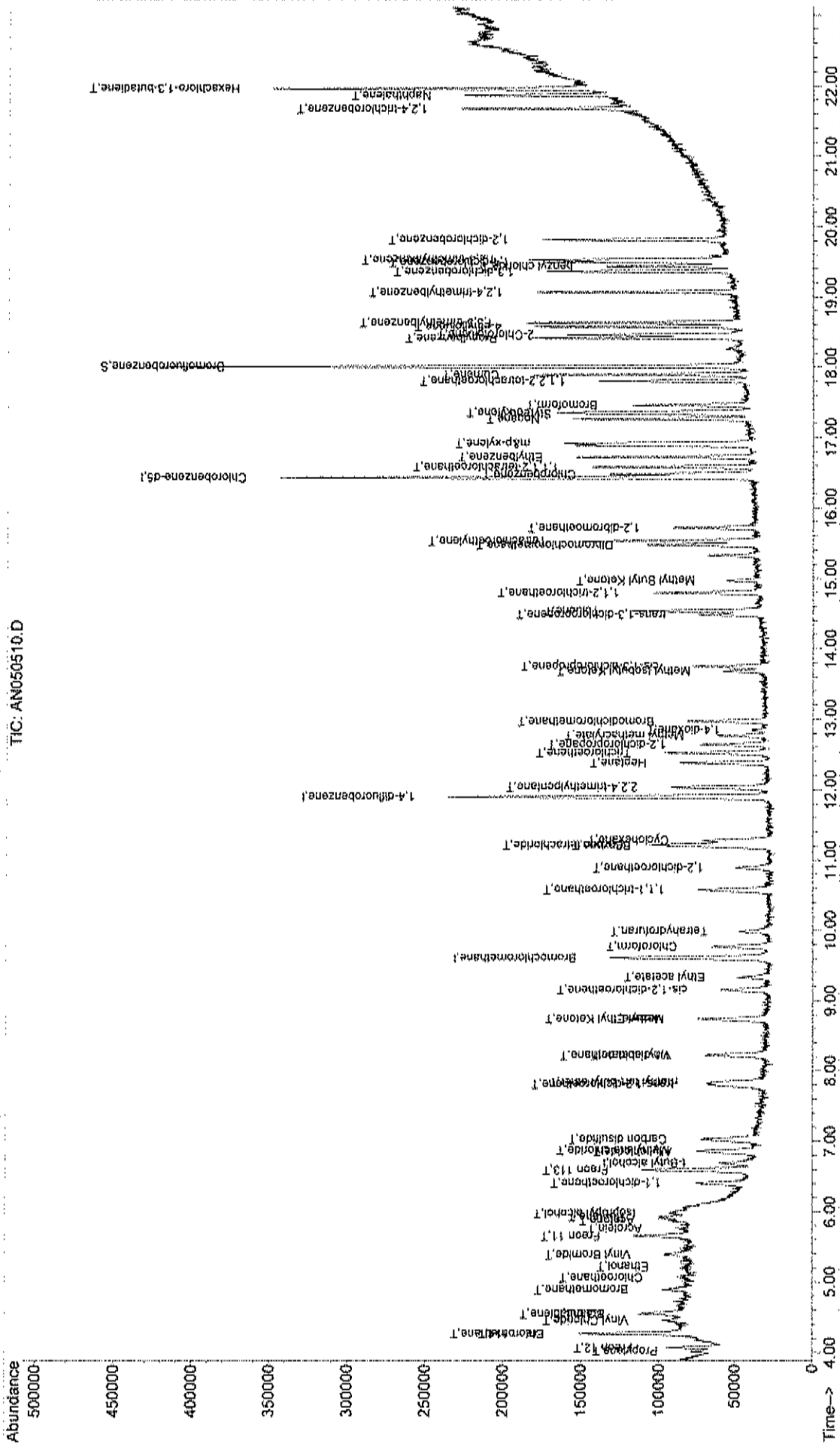
Data File : C:\HPCHEM\1\DATA\AN050510.D
Acq On : 5 May 2016 10:17 pm
Sample : A1UG 0.30
Misc : A505_1UG
MS Integration Params: RTEINT.P
Quant Time: May 6 7:14 2016

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

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_LUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

TIC: AN050510.D



Data File : C:\HPCHEM\1\DATA\AN050511.D
 Acq On : 5 May 2016 10:54 pm
 Sample : A1UG_0.15
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 07:01:16 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : LUG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.61	128	51160	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.89	114	244242	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	219351	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.01	95	157444	1.03	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	103.00%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.03	41	8676m ρ	0.19	ppb	
3) Freon 12	4.07	85	34262	0.16	ppb	99
4) Chloromethane	4.27	50	9721	0.19	ppb	# 55
5) Freon 114	4.26	85	26406	0.17	ppb	89
6) Vinyl Chloride	4.45	62	7990	0.16	ppb	# 7
7) Butane	4.55	43	11473m ρ	0.19	ppb	
8) 1,3-butadiene	4.55	39	8001m	0.17	ppb	
9) Bromomethane	4.89	94	8440	0.16	ppb	81
10) Chloroethane	5.05	64	2679m	0.13	ppb	
11) Ethanol	5.19	45	2903m	0.21	ppb	
13) Vinyl Bromide	5.38	106	8294	0.16	ppb	83
14) Freon 11	5.65	101	20898	0.14	ppb	89
15) Acetone	5.89	58	3520	0.17	ppb	# 1
16) Pentane	5.91	42	6278m	0.17	ppb	
17) Isopropyl alcohol	6.00	45	10015	0.16	ppb	# 100
18) 1,1-dichloroethene	6.40	96	11106	0.16	ppb	82
19) Freon 113	6.58	101	22577	0.15	ppb	86
20) t-Butyl alcohol	6.69	59	19624	0.16	ppb	# 77
21) Methylene chloride	6.87	84	10935	0.18	ppb	# 84
22) Allyl chloride	6.86	41	12627	0.17	ppb	79
23) Carbon disulfide	7.02	76	30439	0.17	ppb	81
24) trans-1,2-dichloroethene	7.79	61	13264	0.15	ppb	# 72
25) methyl tert-butyl ether	7.84	73	30229	0.17	ppb	87
26) 1,1-dichloroethane	8.22	63	17181	0.15	ppb	88
27) Vinyl acetate	8.23	43	23205	0.16	ppb	88
28) Methyl Ethyl Ketone	8.75	72	4195	0.15	ppb	# 1
29) cis-1,2-dichloroethene	9.15	61	12320	0.15	ppb	# 59
30) Hexane	8.73	57	15967	0.17	ppb	86
31) Ethyl acetate	9.34	43	17378	0.16	ppb	63
32) Chloroform	9.77	83	23845	0.16	ppb	98
33) Tetrahydrofuran	9.99	42	11057	0.20	ppb	94
34) 1,2-dichloroethane	10.88	62	12816	0.15	ppb	62
36) 1,1,1-trichloroethane	10.56	97	25636	0.16	ppb	91
37) Cyclohexane	11.27	56	15615	0.17	ppb	# 62
38) Carbon tetrachloride	11.22	117	25112	0.15	ppb	85
39) Benzene	11.19	78	32796	0.16	ppb	97
40) Methyl methacrylate	12.77	41	10904	0.15	ppb	89
41) 1,4-dioxane	12.85	88	5540	0.15	ppb	72
42) 2,2,4-trimethylpentane	12.03	57	41395	0.15	ppb	91
43) Heptane	12.37	43	20743	0.21	ppb	90
44) Trichloroethene	12.52	130	14518	0.14	ppb	90
45) 1,2-dichloropropane	12.63	63	11409	0.16	ppb	91
46) Bromodichloromethane	12.97	83	24800	0.16	ppb	100

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

Data File : C:\HPCHEM\1\DATA\AN050511.D
 Acq On : 5 May 2016 10:54 pm
 Sample : A1UG_0.15
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 07:01:16 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

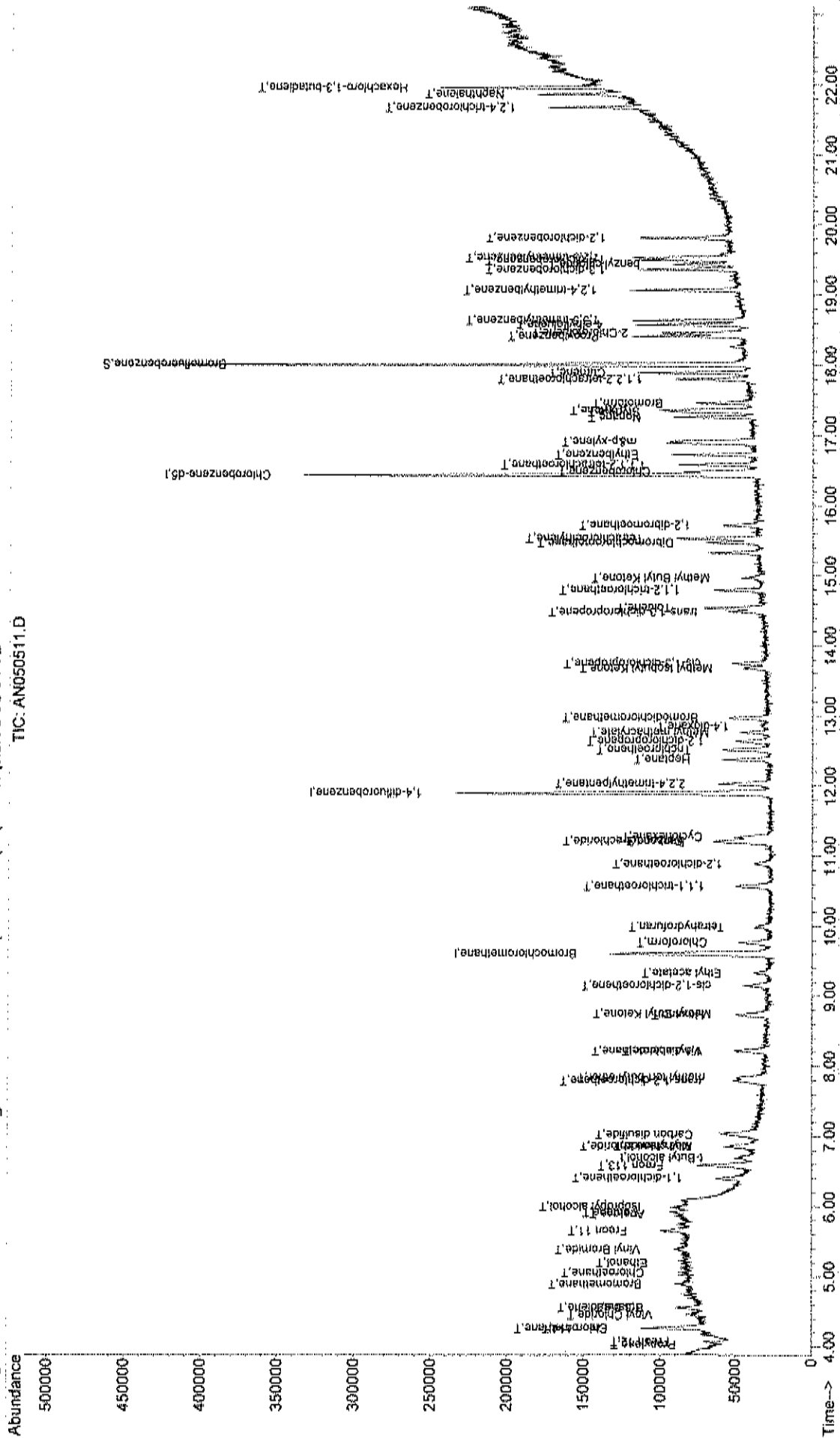
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47) cis-1,3-dichloropropene	13.74	75	19515	0.16	ppb	83
48) trans-1,3-dichloropropene	14.48	75	16180	0.14	ppb #	41
49) 1,1,2-trichloroethane	14.80	97	14411	0.16	ppb	100
51) Toluene	14.54	92	22705	0.15	ppb	97
52) Methyl Isobutyl Ketone	13.67	43	13983	0.16	ppb	90
53) Dibromochloromethane	15.47	129	25032m	0.14	ppb	
54) Methyl Butyl Ketone	14.96	43	11442m	0.18	ppb	
55) 1,2-dibromoethane	15.71	107	23052	0.15	ppb	91
56) Tetrachloroethylene	15.53	164	15909	0.15	ppb	87
57) Chlorobenzene	16.48	112	32743	0.15	ppb	89
58) 1,1,1,2-tetrachloroethane	16.59	131	18421	0.15	ppb #	90
59) Ethylbenzene	16.72	91	50385	0.15	ppb	96
60) m&p-xylene	16.91	91	75561	0.29	ppb	97
61) Nonane	17.26	43	24406	0.17	ppb	94
62) Styrene	17.33	104	30409	0.15	ppb	87
63) Bromoform	17.46	173	20982	0.14	ppb	98
64) o-xylene	17.37	91	39540	0.15	ppb	77
65) Cumene	17.90	105	56396	0.15	ppb #	92
67) 1,1,2,2-tetrachloroethane	17.80	83	30695	0.16	ppb	99
68) Propylbenzene	18.41	91	71991m	0.16	ppb	
69) 2-Chlorotoluene	18.46	91	37408m	0.14	ppb	
70) 4-ethyltoluene	18.58	105	58012m	0.16	ppb	
71) 1,3,5-trimethylbenzene	18.64	105	52726m	0.17	ppb	
72) 1,2,4-trimethylbenzene	19.07	105	48640	0.16	ppb	92
73) 1,3-dichlorobenzene	19.36	146	31871	0.15	ppb	92
74) benzyl chloride	19.44	91	43292	0.15	ppb	99
75) 1,4-dichlorobenzene	19.49	146	32649	0.16	ppb	91
76) 1,2,3-trimethylbenzene	19.53	105	46851	0.16	ppb	90
77) 1,2-dichlorobenzene	19.82	146	32173	0.17	ppb	96
78) 1,2,4-trichlorobenzene	21.68	180	20734	0.15	ppb	98
79) Naphthalene	21.87	128	47883	0.16	ppb	83
80) Hexachloro-1,3-butadiene	21.96	225	21918	0.16	ppb	93

Data File : C:\HPCHEM\1\DATA\AN050511.D
 Acq On : 5 May 2016 10:54 pm
 Sample : AIDG 0.15
 Misc : A505_LUG
 MS Integration Params: RTEINT.P
 Quant Time: May 6 7:16 2016

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

Quant Results File: A505_LUG.RES

Method : C:\HPCHEM\1\METHODS\A505_LUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Jul 05 08:17:16 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D



Data File : C:\HPCHEM\1\DATA\AN050512.D

Vial: 11

Acq On : 5 May 2016 11:32 pm

Operator: RJP

Sample : A1UG_0.10

Inst : MSD #1

Misc : A505_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 07:01:36 2016

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 06:59:07 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.61	128	51754	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.90	114	241393	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	220463	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.01	95	155139	1.01	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	101.00%

Target Compounds

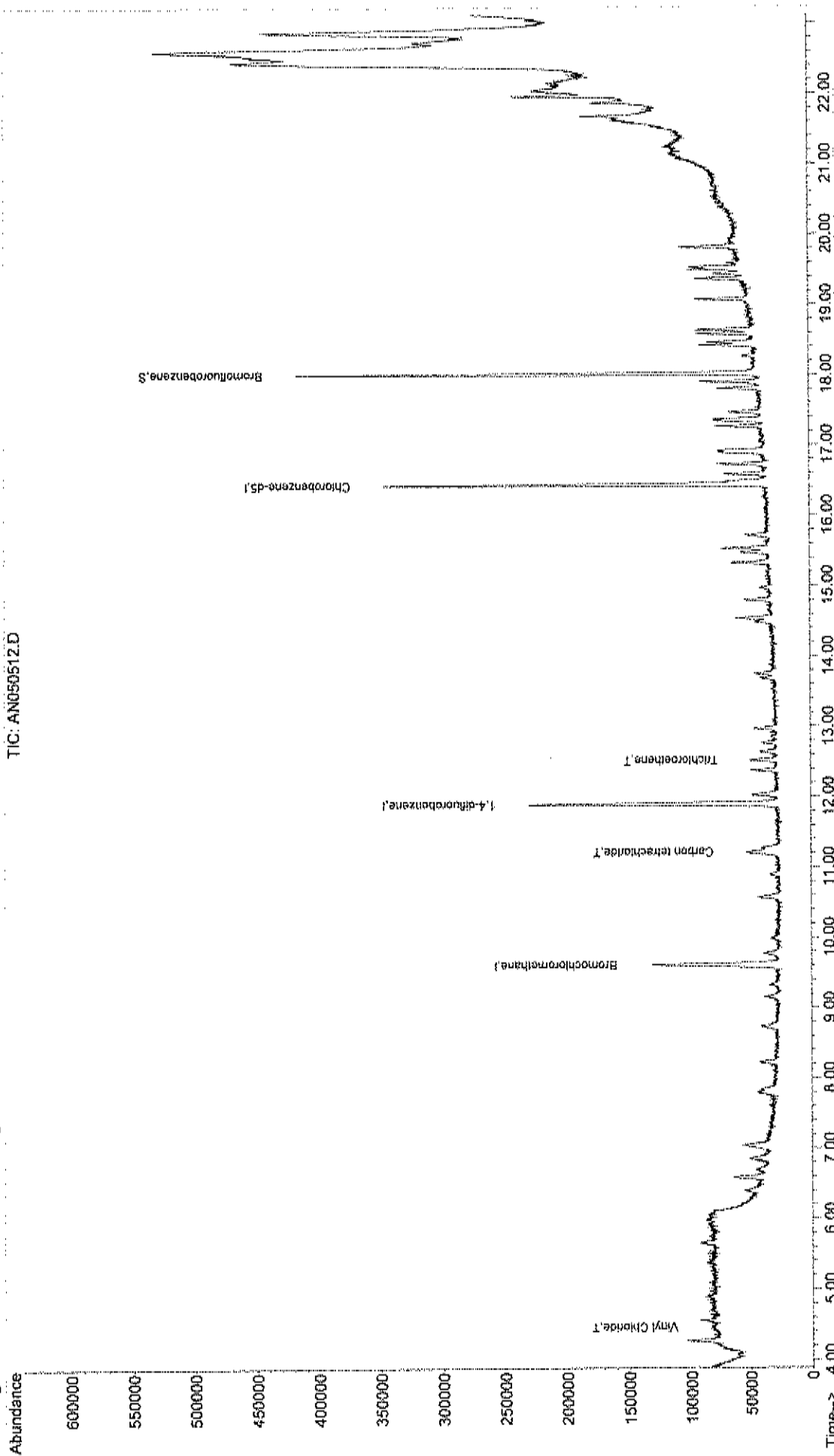
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	4.45	62	5274	0.11	ppb	64
38) Carbon tetrachloride	11.21	117	16104	0.09	ppb	82
44) Trichloroethene	12.52	130	9458	0.09	ppb	# 78

Data File : C:\HPCHEM\1\DATA\AN050512.D
Acq On : 5 May 2016 11:32 pm
Sample : ALUG_0.10
Misc : A505_1UG
MS Integration Params: RTEINT.P
Quant Time: May 6 7:17 2016

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

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D



Data File : C:\HPCHEM\1\DATA\AN050513.D
 Acq On : 6 May 2016 12:09 am
 Sample : A1UG_0.04
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 06 07:01:54 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 06:59:07 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.61	128	51599	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.90	114	245316	1.00	ppb	0.00
50) Chlorobenzene-d5	16.43	117	219782	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.01	95	156606	1.03	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	103.00%	

Target Compounds

						Qvalue
6) Vinyl Chloride	4.45	62	2685	0.05	ppb	# 1
38) Carbon tetrachloride	11.22	117	6243	0.04	ppb	# 83
44) Trichloroethene	12.52	130	3907	0.04	ppb	# 63

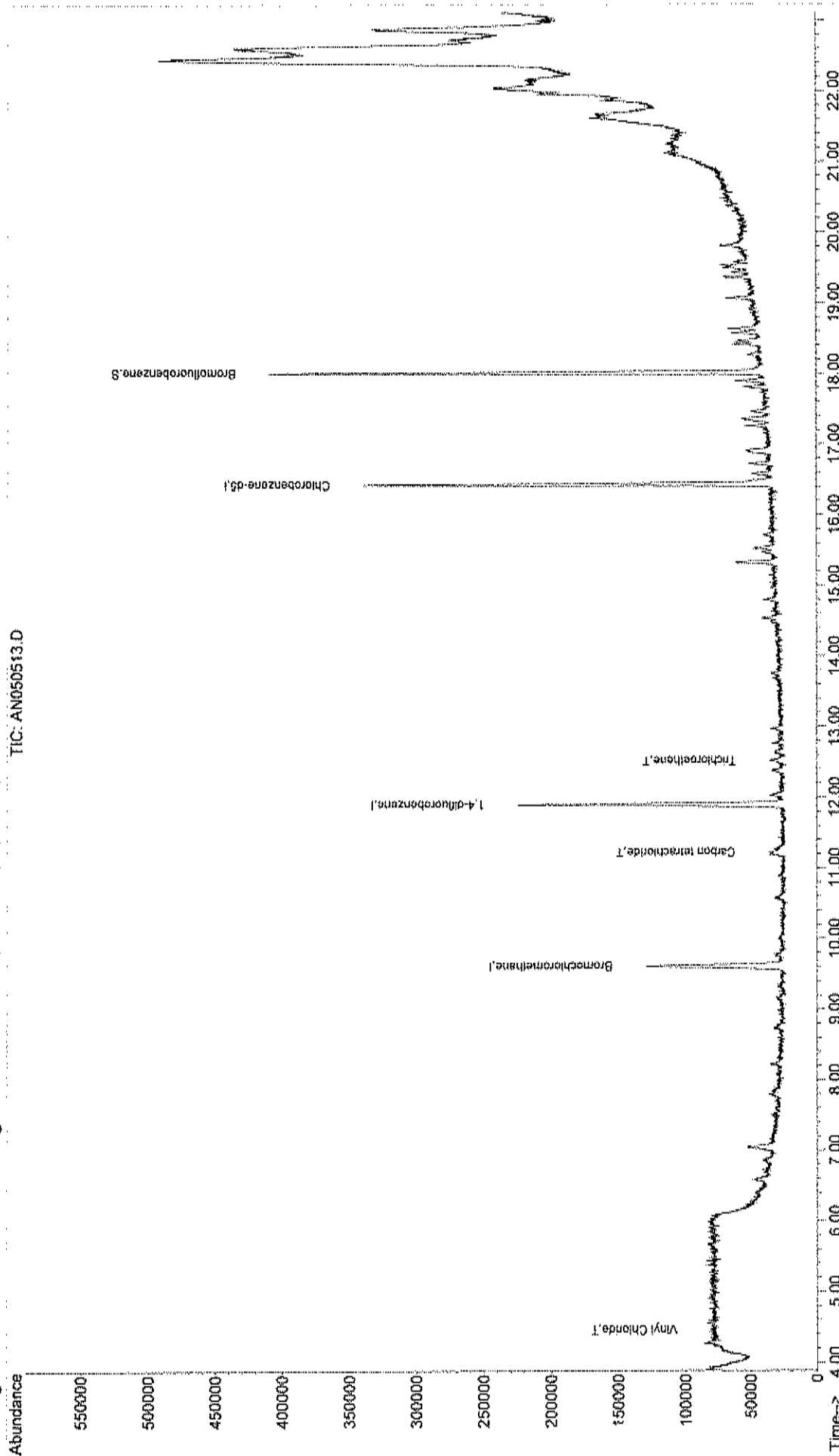
Data File : C:\HPCHEM\1\DATA\AN050513.D
Acq On : 6 May 2016 12:09 am
Sample : AIUG 0.04
Misc : A505_IUG
MS Integration Params: RTEINT.P
Quant Time: May 6 7:20 2016

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

Quant Results File: A505_IUG.RES

Method : C:\HPCHEM\1\METHODS\A505_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

TIC: AN050513.D



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN052402.D

Vial: 2

Acq On : 24 May 2016 9:01 am

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A505_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Jul 05 08:17:16 2016

Response via : Multiple 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	54	0.00
2 T	Propylene	0.956	1.038	-8.6	62	-0.01
3 T	Freon 12	4.161	5.232	-25.7	69	0.00
4 T	Chloromethane	0.949	1.116	-17.6	63	0.00
5 T	Freon 114	2.925	3.657	-25.0	64	0.00
6 T	Vinyl Chloride	0.928	1.026	-10.6	59	-0.01
7 T	Butane	1.132	1.318	-16.4	58	0.00
8 T	1,3-butadiene	0.871	0.900	-3.3	53	0.00
9 T	Bromomethane	0.993	1.229	-23.8	66	0.00
10 T	Chloroethane	0.386	0.444	-15.0	57	0.00
11 T	Ethanol	0.302	0.362	-19.9	64	-0.04
12 T	Acrolein	0.282	0.297	-5.3	63	-0.01
13 T	Vinyl Bromide	0.989	1.176	-18.9	62	0.00
14 T	Freon 11	2.678	3.391	-26.6	63	0.00
15 T	Acetone	0.397	0.470	-18.4	64	-0.02
16 T	Pentane	0.721	0.909	-26.1	67	0.00
17 T	Isopropyl alcohol	1.190	1.420	-19.3	65	-0.04
18 T	1,1-dichloroethene	1.378	1.413	-2.5	58	0.00
19 T	Freon 113	2.907	3.353	-15.3	63	0.00
20 t	t-Butyl alcohol	2.434	2.580	-6.0	58	-0.02
21 T	Methylene chloride	1.244	1.460	-17.4	66	-0.01
22 T	Allyl chloride	1.490	1.274	14.5	46#	-0.02
23 T	Carbon disulfide	3.615	3.806	-5.3	59	0.00
24 T	trans-1,2-dichloroethene	1.696	1.784	-5.2	58	-0.01
25 T	methyl tert-butyl ether	3.520	3.485	1.0	53	-0.03
26 T	1,1-dichloroethane	2.182	2.296	-5.2	57	-0.01
27 T	Vinyl acetate	2.832	2.643	6.7	52	-0.01
28 T	Methyl Ethyl Ketone	0.558	0.604	-8.2	60	-0.01
29 T	cis-1,2-dichloroethene	1.615	1.656	-2.5	57	0.00
30 T	Hexane	1.883	1.740	7.6	52	0.00
31 T	Ethyl acetate	2.106	2.284	-8.5	59	-0.02
32 T	Chloroform	2.911	3.114	-7.0	59	-0.01
33 T	Tetrahydrofuran	1.157	1.052	9.1	53	-0.03
34 T	1,2-dichloroethane	1.681	1.888	-12.3	60	0.00
35 I	1,4-difluorobenzene	1.000	1.000	0.0	50#	0.00
36 T	1,1,1-trichloroethane	0.661	0.743	-12.4	56	-0.01
37 T	Cyclohexane	0.385	0.405	-5.2	52	0.00
38 T	Carbon tetrachloride	0.686	0.727	-6.0	51	0.00
39 T	Benzene	0.826	0.927	-12.2	55	-0.01
40 T	Methyl methacrylate	0.289	0.314	-8.7	52	-0.01
41 T	1,4-dioxane	0.147	0.177	-20.4	59	-0.03
42 T	2,2,4-trimethylpentane	1.142	1.204	-5.4	51	-0.01
43 T	Heptane	0.427	0.409	4.2	49#	0.00
44 T	Trichloroethene	0.411	0.466	-13.4	55	0.00
45 T	1,2-dichloropropane	0.299	0.331	-10.7	56	-0.01
46 T	Bromodichloromethane	0.632	0.697	-10.3	54	0.00
47 T	cis-1,3-dichloropropene	0.499	0.481	3.6	49#	0.00
48 T	trans-1,3-dichloropropene	0.453	0.418	7.7	44#	0.00
49 T	1,1,2-trichloroethane	0.382	0.436	-14.1	57	0.00

(#)= Out of Range

AN052402.D A505_1UG.M

Tue Jul 05 08:30:55 2016

MSD1

Page 1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN052402.D
 Acq On : 24 May 2016 9:01 am
 Sample : A1UG_1.0
 Misc : A505_1UG
 MS Integration Params: RTEINT.P

Vial: 2
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Jul 05 08:17:16 2016
 Response via : Multiple 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	0.692	0.746	-7.8	53	0.00
52 T	Methyl Isobutyl Ketone	0.416	0.537	-29.1	65	-0.01
53 T	Dibromochloromethane	0.795	0.746	6.2	46#	0.00
54 T	Methyl Butyl Ketone	0.301	0.594	-97.3#	103	-0.01
55 T	1,2-dibromoethane	0.697	0.763	-9.5	53	0.00
56 T	Tetrachloroethylene	0.488	0.561	-15.0	57	0.00
57 T	Chlorobenzene	0.978	1.056	-8.0	54	0.00
58 T	1,1,1,2-tetrachloroethane	0.566	0.574	-1.4	50#	0.00
59 T	Ethylbenzene	1.547	1.663	-7.5	52	0.00
60 T	m&p-xylene	1.192	1.295	-8.6	53	0.00
61 T	Nonane	0.669	0.680	-1.6	51	0.00
62 T	Styrene	0.940	0.971	-3.3	51	0.00
63 T	Bromoform	0.672	0.539	19.8	39#	0.00
64 T	o-xylene	1.229	1.439	-17.1	59	0.00
65 T	Cumene	1.711	1.814	-6.0	51	0.00
66 S	Bromofluorobenzene	0.706	0.689	2.4	49#	0.00
67 T	1,1,2,2-tetrachloroethane	0.875	0.979	-11.9	55	0.00
68 T	Propylbenzene	2.028	2.119	-4.5	52	0.00
69 T	2-Chlorotoluene	1.194	1.308	-9.5	51	0.00
70 T	4-ethyltoluene	1.637	1.724	-5.3	53	0.00
71 T	1,3,5-trimethylbenzene	1.443	1.572	-8.9	54	0.00
72 T	1,2,4-trimethylbenzene	1.355	1.452	-7.2	53	0.00
73 T	1,3-dichlorobenzene	0.953	1.049	-10.1	54	0.00
74 T	benzyl chloride	1.245	0.880	29.3	34#	0.00
75 T	1,4-dichlorobenzene	0.953	1.039	-9.0	54	0.00
76 T	1,2,3-trimethylbenzene	1.317	1.447	-9.9	54	0.00
77 T	1,2-dichlorobenzene	0.900	1.002	-11.3	55	0.00
78 T	1,2,4-trichlorobenzene	0.641	0.706	-10.1	54	0.00
79 T	Naphthalene	1.447	1.843	-27.4	64	0.00
80 T	Hexachloro-1,3-butadiene	0.629	0.758	-20.5	59	0.00

Data File : C:\HPCHEM\1\DATA\AN052402.D
 Acq On : 24 May 2016 9:01 am
 Sample : A1UG_1.0
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 24 09:24:46 2016

Vial: 2
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	9.58	128	28909	1.00	ppb	-0.03
35) 1,4-difluorobenzene	11.87	114	124023	1.00	ppb	-0.03
50) Chlorobenzene-d5	16.42	117	112008	1.00	ppb	-0.01

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)
66) Bromofluorobenzene	18.00	95	77188	0.98	ppb	-0.01
Spiked Amount	1.000	Range 70 - 130	Recovery	=	98.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.99	41	30007	1.09	ppb	86
3) Freon 12	4.05	85	151255	1.26	ppb	100
4) Chloromethane	4.24	50	32272	1.18	ppb	95
5) Freon 114	4.24	85	105712	1.25	ppb	97
6) Vinyl Chloride	4.43	62	29655	1.11	ppb	95
7) Butane	4.52	43	38097	1.16	ppb	95
8) 1,3-butadiene	4.53	39	26022	1.03	ppb	98
9) Bromomethane	4.87	94	35533	1.24	ppb	86
10) Chloroethane	5.04	64	12831	1.15	ppb	# 34
11) Ethanol	5.16	45	10451m	1.20	ppb	
12) Acrolein	5.72	56	8589	1.05	ppb	#
13) Vinyl Bromide	5.36	106	34011	1.19	ppb	100
14) Freon 11	5.63	101	98033m	1.27	ppb	
15) Acetone	5.84	58	13586	1.18	ppb	# 1
16) Pentane	5.89	42	26278	1.26	ppb	# 22
17) Isopropyl alcohol	5.95	45	41057	1.19	ppb	# 100
18) 1,1-dichloroethene	6.37	96	40840	1.02	ppb	93
19) Freon 113	6.56	101	96924	1.15	ppb	88
20) t-Butyl alcohol	6.66	59	74571	1.06	ppb	# 79
21) Methylene chloride	6.84	84	42200	1.17	ppb	91
22) Allyl chloride	6.81	41	36831	0.86	ppb	93
23) Carbon disulfide	6.99	76	110032	1.05	ppb	100
24) trans-1,2-dichloroethene	7.76	61	51575	1.05	ppb	81
25) methyl tert-butyl ether	7.79	73	100745	0.99	ppb	91
26) 1,1-dichloroethane	8.19	63	66365	1.05	ppb	93
27) Vinyl acetate	8.19	43	76399	0.93	ppb	94
28) Methyl Ethyl Ketone	8.71	72	17471	1.08	ppb	# 31
29) cis-1,2-dichloroethene	9.13	61	47861	1.03	ppb	# 74
30) Hexane	8.71	57	50293	0.92	ppb	90
31) Ethyl acetate	9.30	43	66042	1.08	ppb	89
32) Chloroform	9.74	83	90027	1.07	ppb	97
33) Tetrahydrofuran	9.94	42	30417	0.91	ppb	94
34) 1,2-dichloroethane	10.87	62	54567	1.12	ppb	89
36) 1,1,1-trichloroethane	10.54	97	92161	1.12	ppb	99
37) Cyclohexane	11.25	56	50193	1.05	ppb	# 66
38) Carbon tetrachloride	11.20	117	90147	1.06	ppb	88
39) Benzene	11.17	78	114932	1.12	ppb	98
40) Methyl methacrylate	12.74	41	38882	1.08	ppb	96
41) 1,4-dioxane	12.80	88	21957m	1.20	ppb	
42) 2,2,4-trimethylpentane	12.01	57	149311	1.05	ppb	91
43) Heptane	12.36	43	50682	0.96	ppb	95
44) Trichloroethene	12.50	130	57773	1.13	ppb	92
45) 1,2-dichloropropane	12.62	63	41050	1.11	ppb	97

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

Data File : C:\HPCHEM\1\DATA\AN052402.D
 Acq On : 24 May 2016 9:01 am
 Sample : A1UG_1.0
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 24 09:24:46 2016

Vial: 2
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.95	83	86399	1.10	ppb	95
47) cis-1,3-dichloropropene	13.73	75	59668	0.96	ppb	90
48) trans-1,3-dichloropropene	14.47	75	51800	0.92	ppb	78
49) 1,1,2-trichloroethane	14.78	97	54116	1.14	ppb	97
51) Toluene	14.52	92	83561	1.08	ppb	97
52) Methyl Isobutyl Ketone	13.66	43	60152m	1.29	ppb	
53) Dibromochloromethane	15.46	129	83596m	0.94	ppb	
54) Methyl Butyl Ketone	14.95	43	66578m	1.98	ppb	
55) 1,2-dibromoethane	15.70	107	85490	1.10	ppb	95
56) Tetrachloroethylene	15.51	164	62809	1.15	ppb	90
57) Chlorobenzene	16.47	112	118229	1.08	ppb	97
58) 1,1,1,2-tetrachloroethane	16.57	131	64248	1.01	ppb	94
59) Ethylbenzene	16.71	91	186264	1.07	ppb	95
60) m&p-xylene	16.90	91	290021	2.17	ppb	99
61) Nonane	17.25	43	76195	1.02	ppb	98
62) Styrene	17.32	104	108778	1.03	ppb	93
63) Bromoform	17.45	173	60427	0.80	ppb	99
64) o-xylene	17.35	91	161184	1.17	ppb	91
65) Cumene	17.88	105	203151	1.06	ppb	94
67) 1,1,2,2-tetrachloroethane	17.79	83	109678	1.12	ppb	97
68) Propylbenzene	18.40	91	237398m	1.05	ppb	
69) 2-Chlorotoluene	18.45	91	146555m	1.10	ppb	
70) 4-ethyltoluene	18.56	105	193126m	1.05	ppb	
71) 1,3,5-trimethylbenzene	18.62	105	176121m	1.09	ppb	
72) 1,2,4-trimethylbenzene	19.06	105	162674	1.07	ppb	97
73) 1,3-dichlorobenzene	19.35	146	117543	1.10	ppb	90
74) benzyl chloride	19.43	91	98620m	0.71	ppb	
75) 1,4-dichlorobenzene	19.49	146	116365	1.09	ppb	95
76) 1,2,3-trimethylbenzene	19.52	105	162114	1.10	ppb	88
77) 1,2-dichlorobenzene	19.80	146	112187	1.11	ppb	97
78) 1,2,4-trichlorobenzene	21.69	180	79056	1.10	ppb	96
79) Naphthalene	21.90	128	206467	1.27	ppb	95
80) Hexachloro-1,3-butadiene	22.00	225	84919m	1.20	ppb	

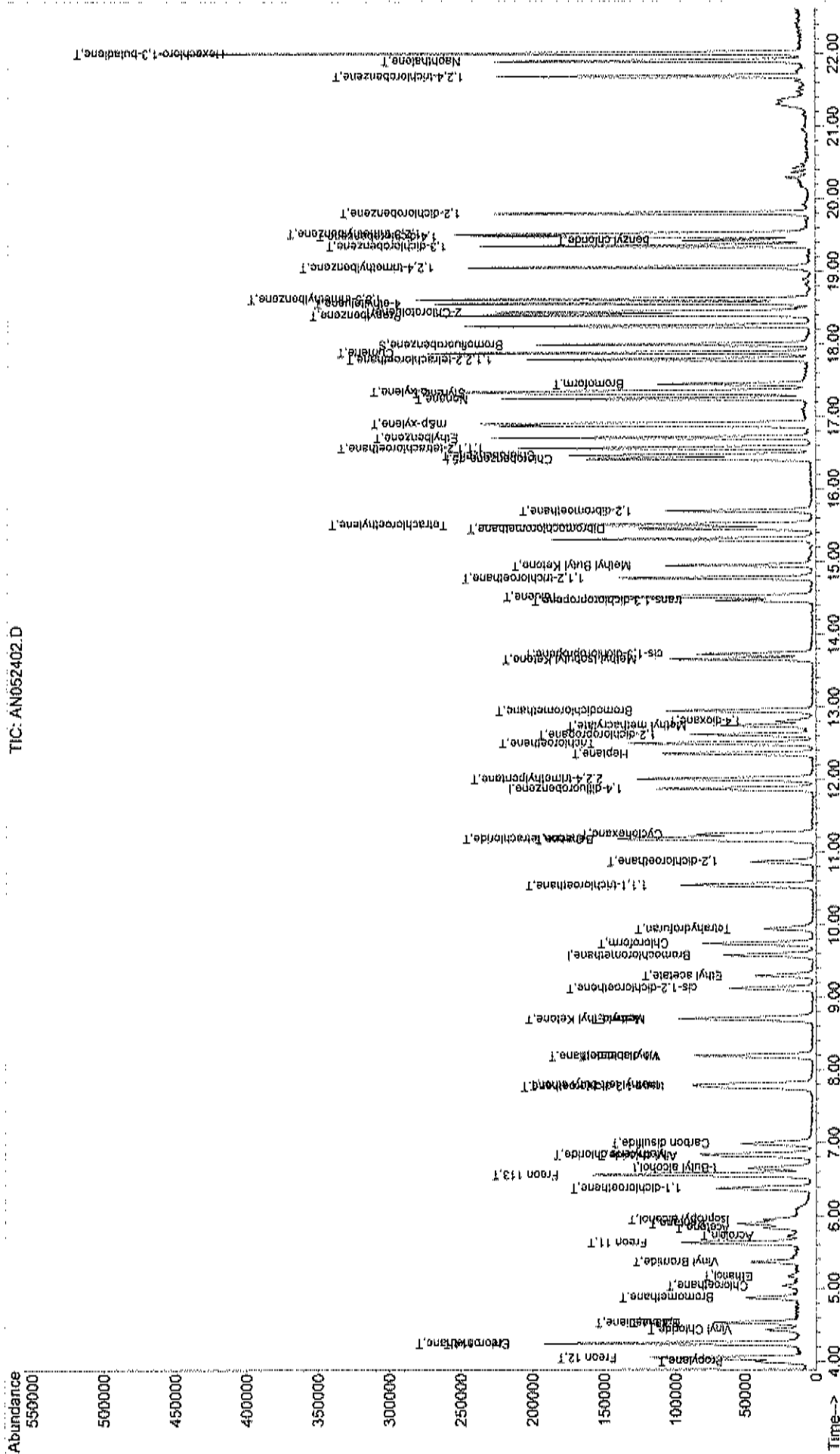
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052402.D
Acq On : 24 May 2016 9:01 am
Sample : A1UG_1.0
Misc : A505_1UG
MS Integration Params: RTEINT.P
Quant Time: May 24 10:11 2016

Vial: 2
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN052502.D

Vial: 2

Acq On : 25 May 2016 9:49 am

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A505_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Jul 05 08:17:16 2016

Response via : Multiple 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	60	0.00
2 T	Propylene	0.956	0.975	-2.0	64	0.00
3 T	Freon 12	4.161	4.817	-15.8	70	0.00
4 T	Chloromethane	0.949	1.202	-26.7	75	0.00
5 T	Freon 114	2.925	3.743	-28.0	72	0.00
6 T	Vinyl Chloride	0.928	1.174	-26.5	75	0.00
7 T	Butane	1.132	1.392	-23.0	67	0.00
8 T	1,3-butadiene	0.871	1.069	-22.7	70	0.00
9 T	Bromomethane	0.993	1.284	-29.3	76	0.00
10 T	Chloroethane	0.386	0.463	-19.9	65	0.00
11 T	Ethanol	0.302	0.351	-16.2	68	0.00
12 T	Acrolein	0.282	0.274	2.8	64	0.00
13 T	Vinyl Bromide	0.989	1.224	-23.8	71	0.00
14 T	Freon 11	2.678	3.406	-27.2	70	0.00
15 T	Acetone	0.397	0.427	-7.6	64	0.00
16 T	Pentane	0.721	0.894	-24.0	72	0.00
17 T	Isopropyl alcohol	1.190	1.239	-4.1	62	0.00
18 T	1,1-dichloroethene	1.378	1.337	3.0	60	0.00
19 T	Freon 113	2.907	3.013	-3.6	62	0.00
20 t	t-Butyl alcohol	2.434	1.932	20.6	47#	0.00
21 T	Methylene chloride	1.244	1.287	-3.5	64	0.00
22 T	Allyl chloride	1.490	1.233	17.2	49#	0.00
23 T	Carbon disulfide	3.615	3.395	6.1	58	0.00
24 T	trans-1,2-dichloroethene	1.696	1.604	5.4	57	0.00
25 T	methyl tert-butyl ether	3.520	3.188	9.4	54	0.00
26 T	1,1-dichloroethane	2.182	2.080	4.7	57	0.00
27 T	Vinyl acetate	2.832	2.424	14.4	52	0.00
28 T	Methyl Ethyl Ketone	0.558	0.475	14.9	52	0.00
29 T	cis-1,2-dichloroethene	1.615	1.491	7.7	56	0.00
30 T	Hexane	1.883	1.613	14.3	53	0.00
31 T	Ethyl acetate	2.106	1.912	9.2	54	0.00
32 T	Chloroform	2.911	2.837	2.5	60	0.00
33 T	Tetrahydrofuran	1.157	0.922	20.3	51	0.00
34 T	1,2-dichloroethane	1.681	1.666	0.9	58	0.00
35 I	1,4-difluorobenzene	1.000	1.000	0.0	58	0.00
36 T	1,1,1-trichloroethane	0.661	0.616	6.8	55	0.00
37 T	Cyclohexane	0.385	0.338	12.2	52	0.00
38 T	Carbon tetrachloride	0.686	0.619	9.8	52	0.00
39 T	Benzene	0.826	0.767	7.1	54	0.00
40 T	Methyl methacrylate	0.289	0.246	14.9	49#	0.00
41 T	1,4-dioxane	0.147	0.125	15.0	49#	0.00
42 T	2,2,4-trimethylpentane	1.142	1.036	9.3	52	0.00
43 T	Heptane	0.427	0.345	19.2	49#	0.00
44 T	Trichloroethene	0.411	0.394	4.1	55	0.00
45 T	1,2-dichloropropane	0.299	0.276	7.7	55	0.00
46 T	Bromodichloromethane	0.632	0.580	8.2	53	0.00
47 T	cis-1,3-dichloropropene	0.499	0.410	17.8	49#	0.00
48 T	trans-1,3-dichloropropene	0.453	0.366	19.2	46#	0.00
49 T	1,1,2-trichloroethane	0.382	0.361	5.5	56	0.00

(#)= Out of Range

AN052502.D A505_1UG.M

Tue Jul 05 08:32:55 2016

MSD1

Page 1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN052502.D

Acq On : 25 May 2016 9:49 am

Sample : A1UG_1.0

Misc : A505_1UG

MS Integration Params: RTEINT.P

Vial: 2

Operator: RJP

Inst : MSD #1

Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Jul 05 08:17:16 2016

Response via : Multiple 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	0.692	0.654	5.5	53	0.00
52 T	Methyl Isobutyl Ketone	0.416	0.387	7.0	54	0.00
53 T	Dibromochloromethane	0.795	0.669	15.8	47#	0.00
54 T	Methyl Butyl Ketone	0.301	0.291	3.3	58	0.00
55 T	1,2-dibromoethane	0.697	0.670	3.9	54	0.00
56 T	Tetrachloroethylene	0.488	0.478	2.0	56	0.00
57 T	Chlorobenzene	0.978	0.920	5.9	54	0.00
58 T	1,1,1,2-tetrachloroethane	0.566	0.518	8.5	52	0.00
59 T	Ethylbenzene	1.547	1.461	5.6	53	0.00
60 T	m&p-xylene	1.192	1.145	3.9	54	0.00
61 T	Nonane	0.669	0.599	10.5	52	0.00
62 T	Styrene	0.940	0.864	8.1	52	0.00
63 T	Bromoform	0.672	0.472	29.8	39#	0.00
64 T	o-xylene	1.229	1.169	4.9	55	0.00
65 T	Cumene	1.711	1.598	6.6	52	0.00
66 S	Bromofluorobenzene	0.706	0.698	1.1	57	0.00
67 T	1,1,2,2-tetrachloroethane	0.875	0.847	3.2	55	0.00
68 T	Propylbenzene	2.028	1.921	5.3	54	0.00
69 T	2-Chlorotoluene	1.194	1.125	5.8	51	0.00
70 T	4-ethyltoluene	1.637	1.543	5.7	54	0.00
71 T	1,3,5-trimethylbenzene	1.443	1.321	8.5	52	0.00
72 T	1,2,4-trimethylbenzene	1.355	1.257	7.2	53	0.00
73 T	1,3-dichlorobenzene	0.953	0.903	5.2	53	0.00
74 T	benzyl chloride	1.245	0.899	27.8	39#	0.00
75 T	1,4-dichlorobenzene	0.953	0.903	5.2	54	0.00
76 T	1,2,3-trimethylbenzene	1.317	1.235	6.2	53	0.00
77 T	1,2-dichlorobenzene	0.900	0.847	5.9	54	0.00
78 T	1,2,4-trichlorobenzene	0.641	0.584	8.9	52	0.00
79 T	Naphthalene	1.447	1.333	7.9	53	0.00
80 T	Hexachloro-1,3-butadiene	0.629	0.705	-12.1	63	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

AN052502.D A505_1UG.M

Tue Jul 05 08:32:56 2016

MSD1

Page 2

Data File : C:\HPCHEM\1\DATA\AN052502.D
 Acq On : 25 May 2016 9:49 am
 Sample : A1UG_1.0
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 25 10:14:14 2016

Vial: 2
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	31781	1.00	ppb	-0.03
35) 1,4-difluorobenzene	11.88	114	146372	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	128608	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	18.00	95	89761	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	4.00	41	30991	1.02	ppb	95
3) Freon 12	4.05	85	153084	1.16	ppb	99
4) Chloromethane	4.25	50	38185m	1.27	ppb	
5) Freon 114	4.25	85	118972m	1.28	ppb	
6) Vinyl Chloride	4.44	62	37320	1.27	ppb	94
7) Butane	4.53	43	44252	1.23	ppb	95
8) 1,3-butadiene	4.54	39	33974	1.23	ppb	99
9) Bromomethane	4.87	94	40808m	1.29	ppb	
10) Chloroethane	5.05	64	14724	1.20	ppb	# 61
11) Ethanol	5.21	45	11162m	1.16	ppb	
12) Acrolein	5.74	56	8710	0.97	ppb	# 58
13) Vinyl Bromide	5.37	106	38890	1.24	ppb	99
14) Freon 11	5.63	101	108238m	1.27	ppb	
15) Acetone	5.86	58	13578	1.08	ppb	# 1
16) Pentane	5.90	42	28402	1.24	ppb	# 21
17) Isopropyl alcohol	5.98	45	39382	1.04	ppb	# 100
18) 1,1-dichloroethene	6.38	96	42500	0.97	ppb	89
19) Freon 113	6.57	101	95758	1.04	ppb	89
20) t-Butyl alcohol	6.68	59	61393	0.79	ppb	# 92
21) Methylene chloride	6.86	84	40892	1.03	ppb	92
22) Allyl chloride	6.83	41	39193m	0.83	ppb	
23) Carbon disulfide	7.00	76	107910	0.94	ppb	98
24) trans-1,2-dichloroethene	7.78	61	50977	0.95	ppb	82
25) methyl tert-butyl ether	7.82	73	101333	0.91	ppb	93
26) 1,1-dichloroethane	8.20	63	66109	0.95	ppb	96
27) Vinyl acetate	8.20	43	77031	0.86	ppb	92
28) Methyl Ethyl Ketone	8.73	72	15106	0.85	ppb	# 1
29) cis-1,2-dichloroethene	9.13	61	47400	0.92	ppb	# 73
30) Hexane	8.71	57	51265	0.86	ppb	88
31) Ethyl acetate	9.32	43	60774	0.91	ppb	88
32) Chloroform	9.76	83	90173	0.97	ppb	96
33) Tetrahydrofuran	9.97	42	29296	0.80	ppb	95
34) 1,2-dichloroethane	10.87	62	52946	0.99	ppb	92
36) 1,1,1-trichloroethane	10.56	97	90101	0.93	ppb	99
37) Cyclohexane	11.26	56	49432	0.88	ppb	# 63
38) Carbon tetrachloride	11.21	117	90625	0.90	ppb	86
39) Benzene	11.18	78	112214	0.93	ppb	97
40) Methyl methacrylate	12.75	41	36044	0.85	ppb	89
41) 1,4-dioxane	12.83	88	18326	0.85	ppb	83
42) 2,2,4-trimethylpentane	12.02	57	151674	0.91	ppb	91
43) Heptane	12.36	43	50500	0.81	ppb	92
44) Trichloroethene	12.51	130	57644	0.96	ppb	92
45) 1,2-dichloropropane	12.63	63	40356	0.92	ppb	98

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

Data File : C:\HPCHEM\1\DATA\AN052502.D
 Acq On : 25 May 2016 9:49 am
 Sample : A1UG_1.0
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 25 10:14:14 2016

Vial: 2
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.96	83	84848	0.92	ppb	95
47) cis-1,3-dichloropropene	13.73	75	59956	0.82	ppb	90
48) trans-1,3-dichloropropene	14.47	75	53577	0.81	ppb	82
49) 1,1,2-trichloroethane	14.78	97	52905	0.95	ppb	95
51) Toluene	14.52	92	84155	0.95	ppb	98
52) Methyl Isobutyl Ketone	13.67	43	49766	0.93	ppb	94
53) Dibromochloromethane	15.46	129	86013m	0.84	ppb	
54) Methyl Butyl Ketone	14.96	43	37456	0.97	ppb	97
55) 1,2-dibromoethane	15.71	107	86111	0.96	ppb	96
56) Tetrachloroethylene	15.52	164	61536	0.98	ppb	87
57) Chlorobenzene	16.47	112	118303	0.94	ppb	97
58) 1,1,1,2-tetrachloroethane	16.57	131	66632	0.92	ppb	95
59) Ethylbenzene	16.72	91	187854	0.94	ppb	95
60) m&p-xylene	16.91	91	294399	1.92	ppb	99
61) Nonane	17.25	43	77010	0.90	ppb	98
62) Styrene	17.33	104	111116	0.92	ppb	94
63) Bromoform	17.45	173	60673m	0.70	ppb	
64) o-xylene	17.35	91	150370	0.95	ppb	86
65) Cumene	17.88	105	205458	0.93	ppb	94
67) 1,1,2,2-tetrachloroethane	17.79	83	108889	0.97	ppb	97
68) Propylbenzene	18.40	91	247067m	0.95	ppb	
69) 2-Chlorotoluene	18.45	91	144734m	0.94	ppb	
70) 4-ethyltoluene	18.57	105	198418m	0.94	ppb	
71) 1,3,5-trimethylbenzene	18.63	105	169890m	0.92	ppb	
72) 1,2,4-trimethylbenzene	19.06	105	161697	0.93	ppb	95
73) 1,3-dichlorobenzene	19.36	146	116115	0.95	ppb	90
74) benzyl chloride	19.43	91	115608m	0.72	ppb	
75) 1,4-dichlorobenzene	19.49	146	116164	0.95	ppb	94
76) 1,2,3-trimethylbenzene	19.52	105	158892	0.94	ppb	88
77) 1,2-dichlorobenzene	19.80	146	108909	0.94	ppb	95
78) 1,2,4-trichlorobenzene	21.69	180	75137	0.91	ppb	94
79) Naphthalene	21.90	128	171465	0.92	ppb	96
80) Hexachloro-1,3-butadiene	22.01	225	90648	1.12	ppb	92

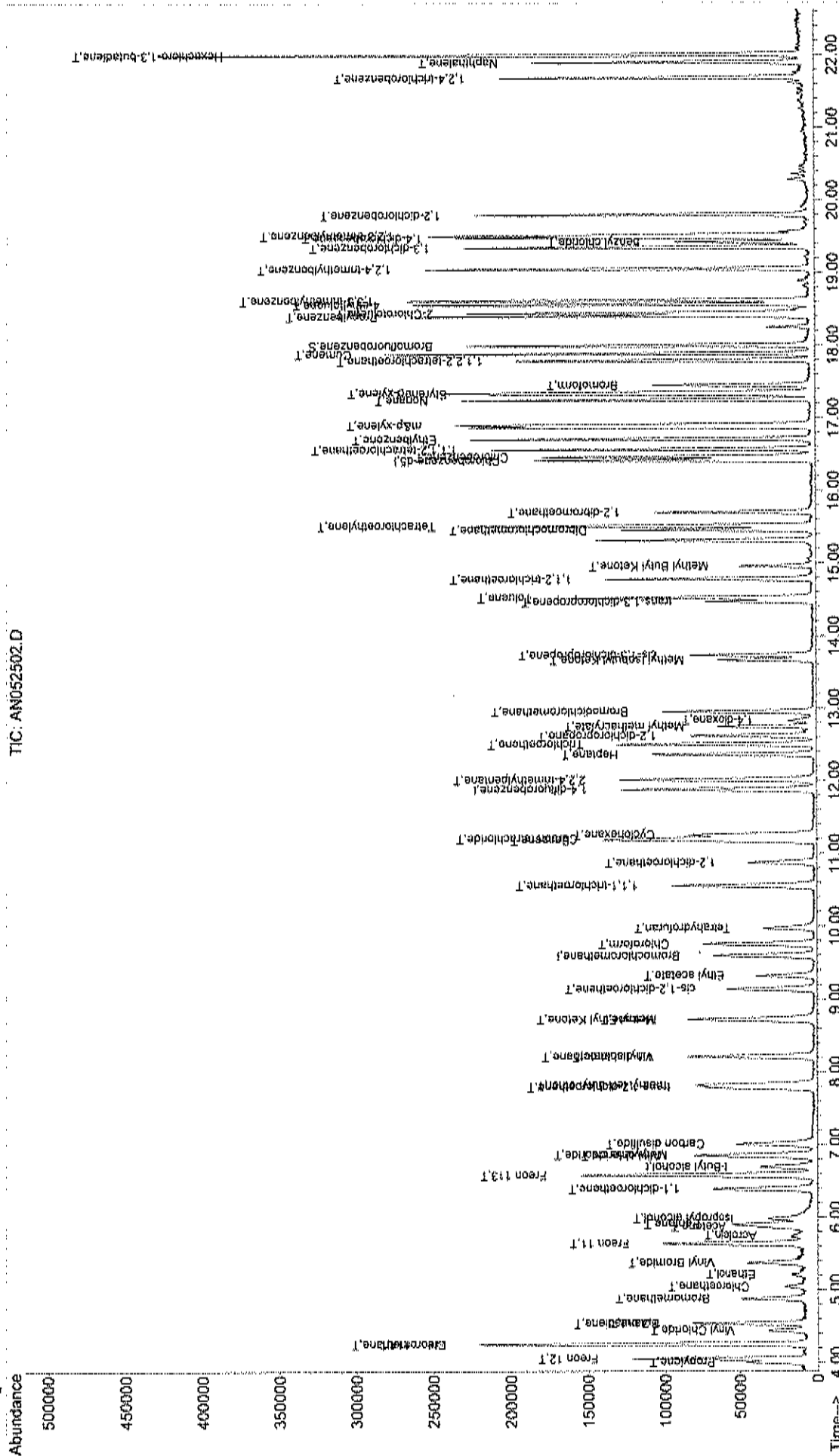
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052502.D
Acq On : 25 May 2016 9:49 am
Sample : A1UG 1.0
Misc : A505 1UG
MS Integration Params: RTEINT.P
Quant Time: May 25 10:19 2016

Quant Results File: A505 1UG.RE5

Method : C:\HPCHEM\1\METHODS\A505 1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration

TIC: AN052502.D



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN052603.D

Vial: 3

Acq On : 26 May 2016 11:20 am

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A505_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Jul 05 08:17:16 2016

Response via : Multiple 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	69	0.02
2 T	Propylene	0.956	0.915	4.3	70	0.00
3 T	Freon 12	4.161	4.475	-7.5	75	0.00
4 T	Chloromethane	0.949	0.951	-0.2	68	0.00
5 T	Freon 114	2.925	3.331	-13.9	74	0.00
6 T	Vinyl Chloride	0.928	0.938	-1.1	69	0.00
7 T	Butane	1.132	1.090	3.7	61	0.01
8 T	1,3-butadiene	0.871	0.760	12.7	57	0.00
9 T	Bromomethane	0.993	1.095	-10.3	74	0.00
10 T	Chloroethane	0.386	0.392	-1.6	64	0.00
11 T	Ethanol	0.302	0.333	-10.3	75	-0.03
12 T	Acrolein	0.282	0.244	13.5	66	0.00
13 T	Vinyl Bromide	0.989	1.072	-8.4	71	0.01
14 T	Freon 11	2.678	3.083	-15.1	73	0.00
15 T	Acetone	0.397	0.372	6.3	65	0.00
16 T	Pentane	0.721	0.819	-13.6	77	0.00
17 T	Isopropyl alcohol	1.190	1.133	4.8	66	-0.02
18 T	1,1-dichloroethene	1.378	1.308	5.1	68	0.00
19 T	Freon 113	2.907	2.998	-3.1	71	0.00
20 t	t-Butyl alcohol	2.434	2.176	10.6	62	-0.02
21 T	Methylene chloride	1.244	1.188	4.5	68	0.00
22 T	Allyl chloride	1.490	1.170	21.5	53	0.00
23 T	Carbon disulfide	3.615	3.440	4.8	68	0.00
24 T	trans-1,2-dichloroethene	1.696	1.582	6.7	65	0.00
25 T	methyl tert-butyl ether	3.520	3.248	7.7	63	0.00
26 T	1,1-dichloroethane	2.182	2.071	5.1	65	0.00
27 T	Vinyl acetate	2.832	2.424	14.4	60	0.00
28 T	Methyl Ethyl Ketone	0.558	0.547	2.0	69	0.00
29 T	cis-1,2-dichloroethene	1.615	1.506	6.7	65	0.01
30 T	Hexane	1.883	1.633	13.3	62	0.00
31 T	Ethyl acetate	2.106	2.004	4.8	65	0.00
32 T	Chloroform	2.911	2.803	3.7	68	0.00
33 T	Tetrahydrofuran	1.157	0.957	17.3	62	-0.01
34 T	1,2-dichloroethane	1.681	1.641	2.4	66	0.00
35 I	1,4-difluorobenzene	1.000	1.000	0.0	65	0.00
36 T	1,1,1-trichloroethane	0.661	0.639	3.3	63	0.00
37 T	Cyclohexane	0.385	0.354	8.1	60	0.00
38 T	Carbon tetrachloride	0.686	0.639	6.9	59	0.00
39 T	Benzene	0.826	0.823	0.4	65	0.00
40 T	Methyl methacrylate	0.289	0.264	8.7	58	0.00
41 T	1,4-dioxane	0.147	0.155	-5.4	68	-0.01
42 T	2,2,4-trimethylpentane	1.142	1.100	3.7	62	0.00
43 T	Heptane	0.427	0.364	14.8	57	0.00
44 T	Trichloroethene	0.411	0.424	-3.2	66	0.00
45 T	1,2-dichloropropane	0.299	0.290	3.0	65	0.00
46 T	Bromodichloromethane	0.632	0.601	4.9	62	0.00
47 T	cis-1,3-dichloropropene	0.499	0.433	13.2	58	0.00
48 T	trans-1,3-dichloropropene	0.453	0.372	17.9	52	0.00
49 T	1,1,2-trichloroethane	0.382	0.388	-1.6	67	0.00

(#) = Out of Range

AN052603.D A505_1UG.M

Tue Jul 05 08:34:18 2016

MSD1

Page 1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN052603.D
 Acq On : 26 May 2016 11:20 am
 Sample : A1UG_1.0
 Misc : A505_1UG
 MS Integration Params: RTEINT.P

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Jul 05 08:17:16 2016
 Response via : Multiple 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	0.692	0.669	3.3	62	0.00
52 T	Methyl Isobutyl Ketone	0.416	0.429	-3.1	68	0.00
53 T	Dibromochloromethane	0.795	0.690	13.2	56	0.00
54 T	Methyl Butyl Ketone	0.301	0.241	19.9	55	0.00
55 T	1,2-dibromoethane	0.697	0.690	1.0	63	0.00
56 T	Tetrachloroethylene	0.488	0.506	-3.7	68	0.00
57 T	Chlorobenzene	0.978	0.981	-0.3	66	0.00
58 T	1,1,1,2-tetrachloroethane	0.566	0.522	7.8	60	0.00
59 T	Ethylbenzene	1.547	1.501	3.0	62	0.00
60 T	m&p-xylene	1.192	1.180	1.0	64	-0.02
61 T	Nonane	0.669	0.596	10.9	59	0.00
62 T	Styrene	0.940	0.905	3.7	62	0.00
63 T	Bromoform	0.672	0.479	28.7	45#	0.00
64 T	o-xylene	1.229	1.275	-3.7	69	0.00
65 T	Cumene	1.711	1.725	-0.8	64	0.00
66 S	Bromofluorobenzene	0.706	0.653	7.5	61	0.00
67 T	1,1,2,2-tetrachloroethane	0.875	0.867	0.9	65	0.00
68 T	Propylbenzene	2.028	1.867	7.9	61	0.00
69 T	2-Chlorotoluene	1.194	1.243	-4.1	64	0.00
70 T	4-ethyltoluene	1.637	1.572	4.0	63	0.00
71 T	1,3,5-trimethylbenzene	1.443	1.425	1.2	65	0.00
72 T	1,2,4-trimethylbenzene	1.355	1.324	2.3	64	0.00
73 T	1,3-dichlorobenzene	0.953	0.938	1.6	64	0.00
74 T	benzyl chloride	1.245	0.936	24.8	47#	0.00
75 T	1,4-dichlorobenzene	0.953	0.922	3.3	63	0.00
76 T	1,2,3-trimethylbenzene	1.317	1.298	1.4	64	0.00
77 T	1,2-dichlorobenzene	0.900	0.888	1.3	65	0.00
78 T	1,2,4-trichlorobenzene	0.641	0.647	-0.9	66	0.00
79 T	Naphthalene	1.447	1.525	-5.4	70	0.00
80 T	Hexachloro-1,3-butadiene	0.629	0.783	-24.5	80	0.00

Data File : C:\HPCHEM\1\DATA\AN052603.D
 Acq On : 26 May 2016 11:20 am
 Sample : A1UG_1.0
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 15:52:06 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu May 26 10:56:15 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.60	128	36716	1.00	ppb	-0.01
35) 1,4-difluorobenzene	11.89	114	162829	1.00	ppb	0.00
50) Chlorobenzene-d5	16.42	117	147852	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.00	95	96539	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
2) Propylene	4.01	41	33586	0.96	ppb	95
3) Freon 12	4.06	85	164306	1.08	ppb	100
4) Chloromethane	4.26	50	34915	1.00	ppb	93
5) Freon 114	4.26	85	122316	1.14	ppb	96
6) Vinyl Chloride	4.45	62	34444	1.01	ppb	97
7) Butane	4.54	43	40022	0.96	ppb	94
8) 1,3-butadiene	4.54	39	27915	0.87	ppb	91
9) Bromomethane	4.88	94	40195	1.10	ppb	84
10) Chloroethane	5.05	64	14377	1.01	ppb	# 57
11) Ethanol	5.18	45	12238	1.10	ppb	92
12) Acrolein	5.73	56	8966	0.87	ppb	# 42
13) Vinyl Bromide	5.38	106	39346	1.08	ppb	99
14) Freon 11	5.64	101	113194	1.15	ppb	98
15) Acetone	5.85	58	13670	0.94	ppb	# 1
16) Pentane	5.90	42	30073	1.14	ppb	# 26
17) Isopropyl alcohol	5.96	45	41609	0.95	ppb	# 100
18) 1,1-dichloroethene	6.39	96	48020	0.95	ppb	89
19) Freon 113	6.58	101	110060	1.03	ppb	88
20) t-Butyl alcohol	6.66	59	79894	0.89	ppb	# 93
21) Methylene chloride	6.87	84	43623	0.95	ppb	90
22) Allyl chloride	6.84	41	42948	0.79	ppb	91
23) Carbon disulfide	7.00	76	126288	0.95	ppb	99
24) trans-1,2-dichloroethene	7.79	61	58071	0.93	ppb	77
25) methyl tert-butyl ether	7.81	73	119260	0.92	ppb	95
26) 1,1-dichloroethane	8.21	63	76047	0.95	ppb	97
27) Vinyl acetate	8.21	43	89017	0.86	ppb	93
28) Methyl Ethyl Ketone	8.73	72	20067	0.98	ppb	# 1
29) cis-1,2-dichloroethene	9.14	61	55305	0.93	ppb	# 70
30) Hexane	8.71	57	59957	0.87	ppb	87
31) Ethyl acetate	9.32	43	73585	0.95	ppb	89
32) Chloroform	9.75	83	102898	0.96	ppb	97
33) Tetrahydrofuran	9.96	42	35130	0.83	ppb	95
34) 1,2-dichloroethane	10.88	62	60233	0.98	ppb	91
36) 1,1,1-trichloroethane	10.56	97	104097	0.97	ppb	98
37) Cyclohexane	11.27	56	57567	0.92	ppb	# 62
38) Carbon tetrachloride	11.21	117	103967	0.93	ppb	87
39) Benzene	11.18	78	134080	1.00	ppb	97
40) Methyl methacrylate	12.75	41	43045	0.91	ppb	# 89
41) 1,4-dioxane	12.82	88	25277	1.05	ppb	80
42) 2,2,4-trimethylpentane	12.02	57	179076	0.96	ppb	89
43) Heptane	12.37	43	59300	0.85	ppb	92
44) Trichloroethene	12.51	130	68989	1.03	ppb	92
45) 1,2-dichloropropane	12.63	63	47295	0.97	ppb	97

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

AN052603.D A505_1UG.M

Tue Jul 05 08:34:21 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN052603.D
 Acq On : 26 May 2016 11:20 am
 Sample : A1UG_1.0
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 15:52:06 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu May 26 10:56:15 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.96	83	97821	0.95	ppb	96
47) cis-1,3-dichloropropene	13.74	75	70488	0.87	ppb	90
48) trans-1,3-dichloropropene	14.48	75	60608	0.82	ppb	78
49) 1,1,2-trichloroethane	14.79	97	63112	1.02	ppb	95
51) Toluene	14.53	92	98932	0.97	ppb	99
52) Methyl Isobutyl Ketone	13.67	43	63381	1.03	ppb	92
53) Dibromochloromethane	15.47	129	102057m <i>P</i>	0.87	ppb	
54) Methyl Butyl Ketone	14.96	43	35690	0.80	ppb	96
55) 1,2-dibromoethane	15.71	107	102001	0.99	ppb	96
56) Tetrachloroethylene	15.52	164	74849	1.04	ppb	87
57) Chlorobenzene	16.48	112	145047	1.00	ppb	98
58) 1,1,1,2-tetrachloroethane	16.58	131	77112	0.92	ppb	96
59) Ethylbenzene	16.72	91	221968	0.97	ppb	95
60) m&p-xylene	16.88	91	348931	1.98	ppb	99
61) Nonane	17.25	43	88099	0.89	ppb	93
62) Styrene	17.33	104	133769	0.96	ppb	98
63) Bromoform	17.46	173	70775m <i>P</i>	0.71	ppb	
64) o-xylene	17.36	91	188582	1.04	ppb	89
65) Cumene	17.89	105	255026	1.01	ppb	93
67) 1,1,2,2-tetrachloroethane	17.80	83	128170	0.99	ppb	97
68) Propylbenzene	18.41	91	276056m	0.92	ppb	
69) 2-Chlorotoluene	18.45	91	183723m	1.04	ppb	
70) 4-ethyltoluene	18.57	105	232466m	0.96	ppb	
71) 1,3,5-trimethylbenzene	18.63	105	210763m	0.99	ppb	
72) 1,2,4-trimethylbenzene	19.06	105	195821	0.98	ppb	94
73) 1,3-dichlorobenzene	19.36	146	138729	0.98	ppb	90
74) benzyl chloride	19.43	91	138458m	0.75	ppb	
75) 1,4-dichlorobenzene	19.49	146	136373	0.97	ppb	95
76) 1,2,3-trimethylbenzene	19.52	105	191972	0.99	ppb	88
77) 1,2-dichlorobenzene	19.81	146	131311	0.99	ppb	95
78) 1,2,4-trichlorobenzene	21.69	180	95686	1.01	ppb	95
79) Naphthalene	21.90	128	225435	1.05	ppb	95
80) Hexachloro-1,3-butadiene	22.01	225	115763	1.24	ppb	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN052603.D A505_1UG.M Tue Jul 05 08:34:21 2016 MSD1

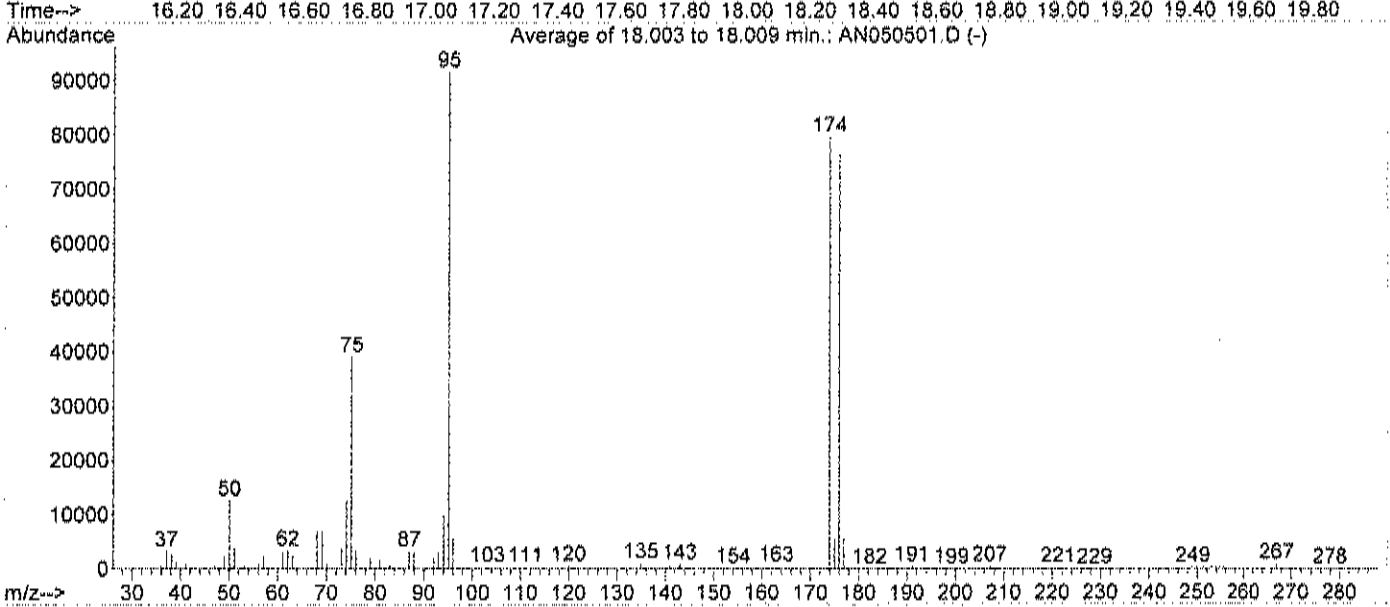
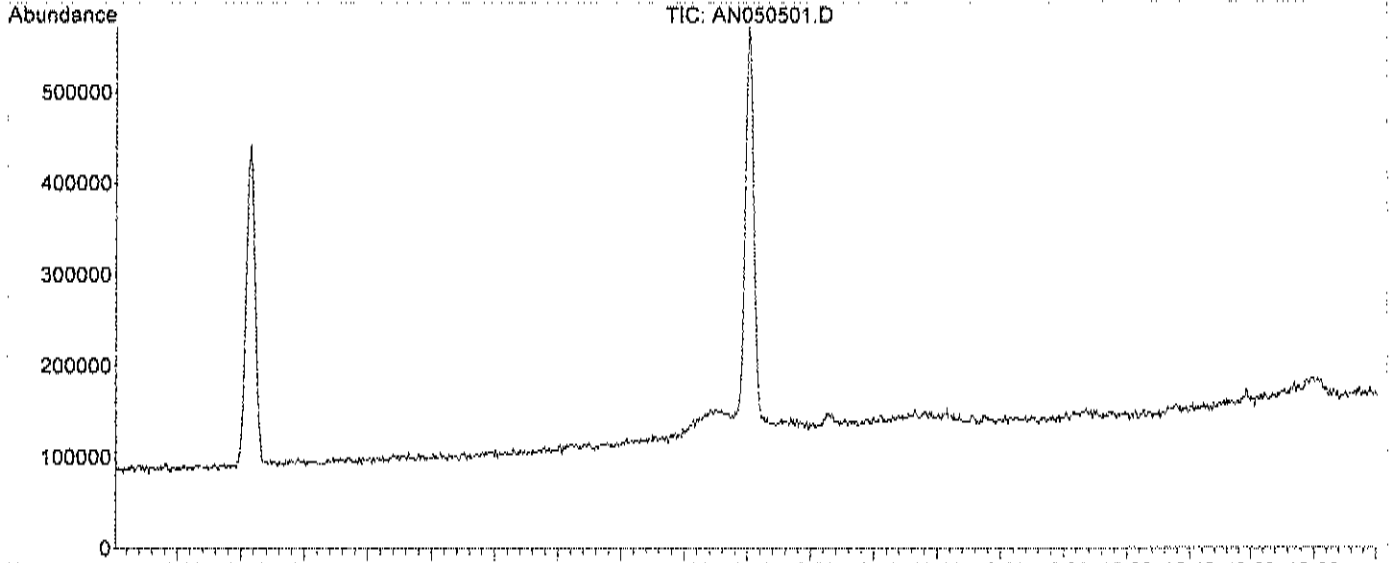
GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW DATA

BFB

Data File : C:\HPCHEM\1\DATA\AN050501.D Vial: 1
 Acq On : 5 May 2016 4:08 pm Operator: RJP
 Sample : BFB1UG Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

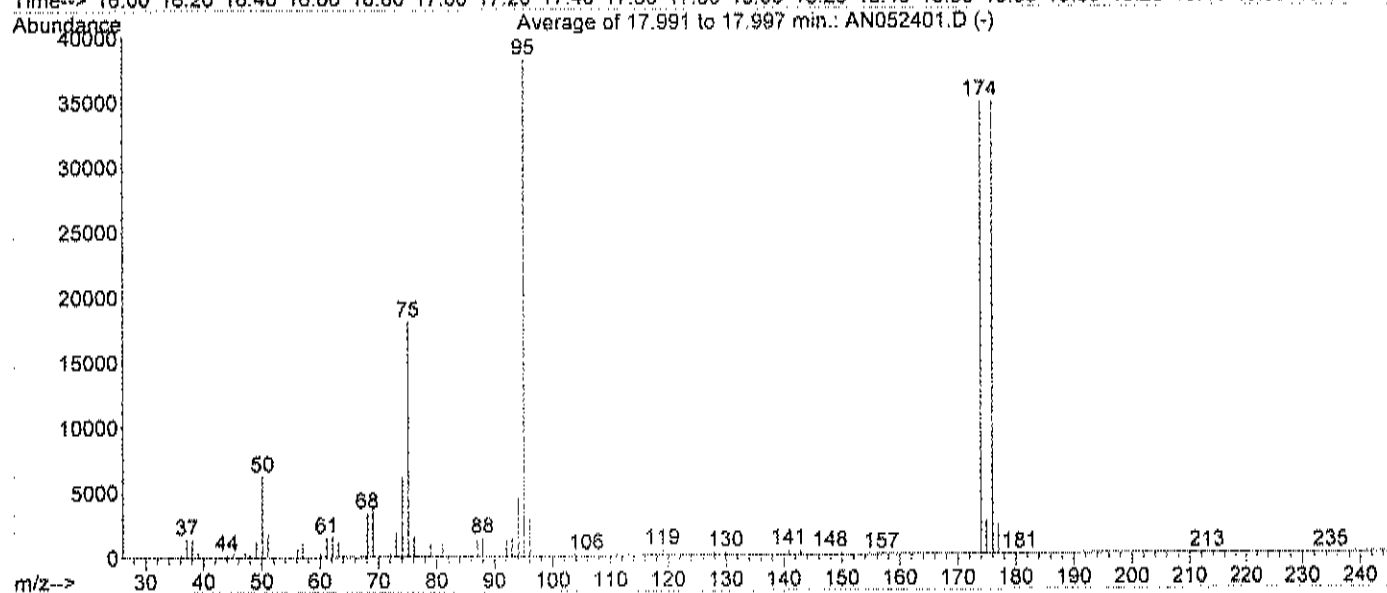
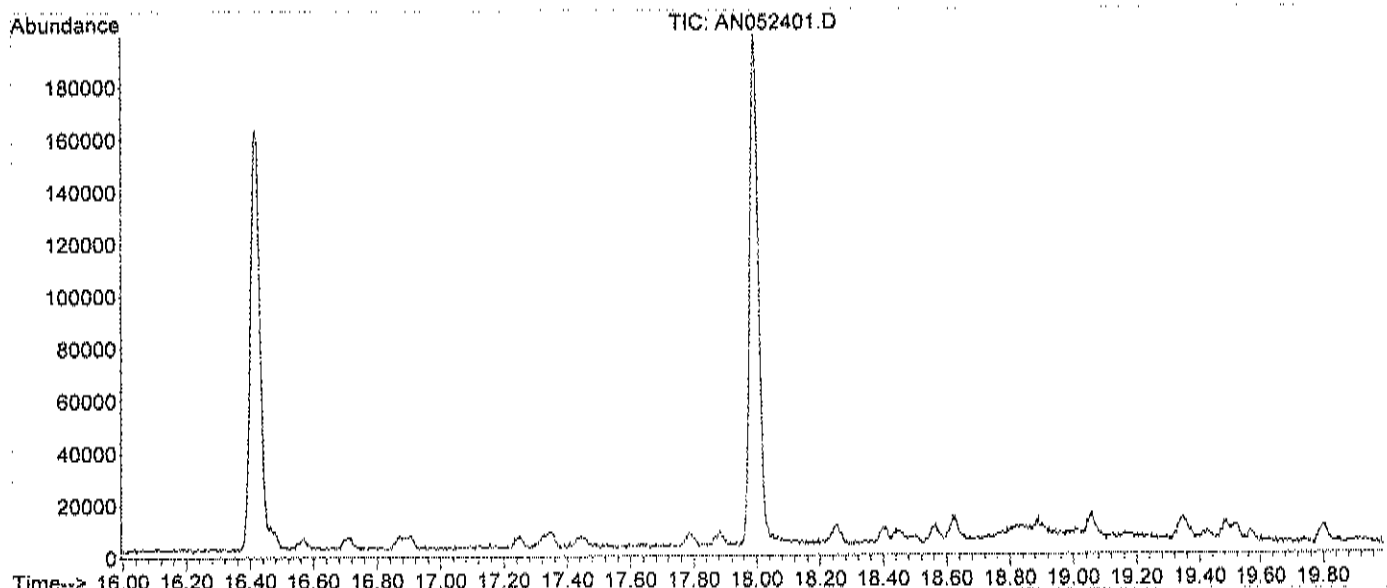


Spectrum Information: Average of 18.003 to 18.009 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.8	12678	PASS
75	95	30	66	42.7	39147	PASS
95	95	100	100	100.0	91710	PASS
96	95	5	9	6.4	5836	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	86.8	79606	PASS
175	174	4	9	6.9	5515	PASS
176	174	95	101	96.2	76554	PASS
177	176	5	9	7.3	5624	PASS

BFB

Data File : C:\HPCHEM\1\DATA\AN052401.D Vial: 1
 Acq On : 24 May 2016 8:19 am Operator: RJP
 Sample : BFBIUG Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

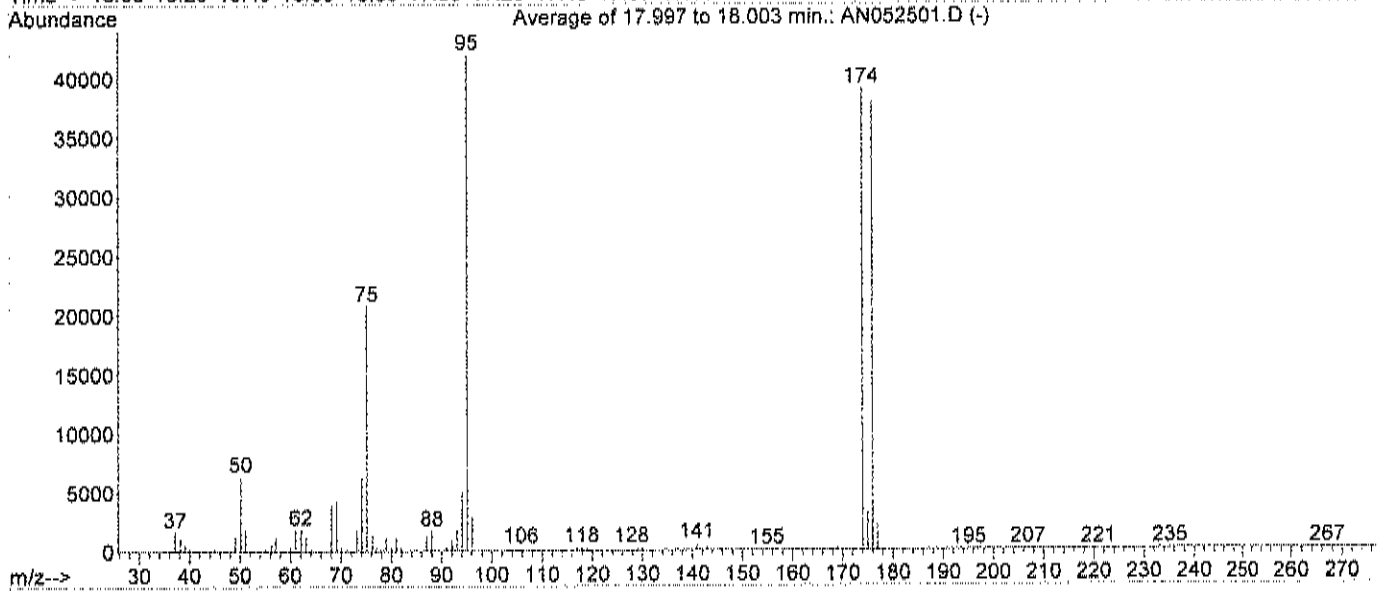
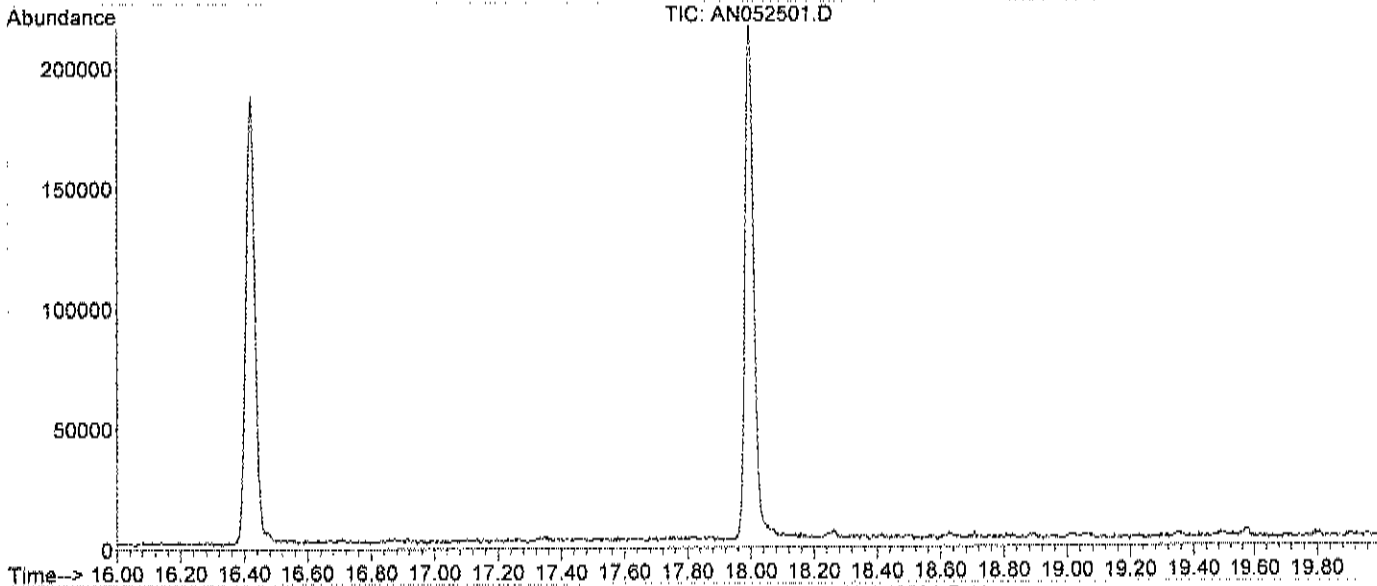


Spectrum Information: Average of 17.991 to 17.997 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.2	6206	PASS
75	95	30	66	47.4	18098	PASS
95	95	100	100	100.0	38210	PASS
96	95	5	9	7.7	2937	PASS
173	174	0.00	2	0.4	131	PASS
174	95	50	120	91.1	34805	PASS
175	174	4	9	7.3	2538	PASS
176	174	95	101	99.8	34725	PASS
177	176	5	9	6.7	2317	PASS

BFB

Data File : C:\HPCHEM\1\DATA\AN052501.D Vial: 1
 Acq On : 25 May 2016 9:06 am Operator: RJP
 Sample : BFB1UG Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration



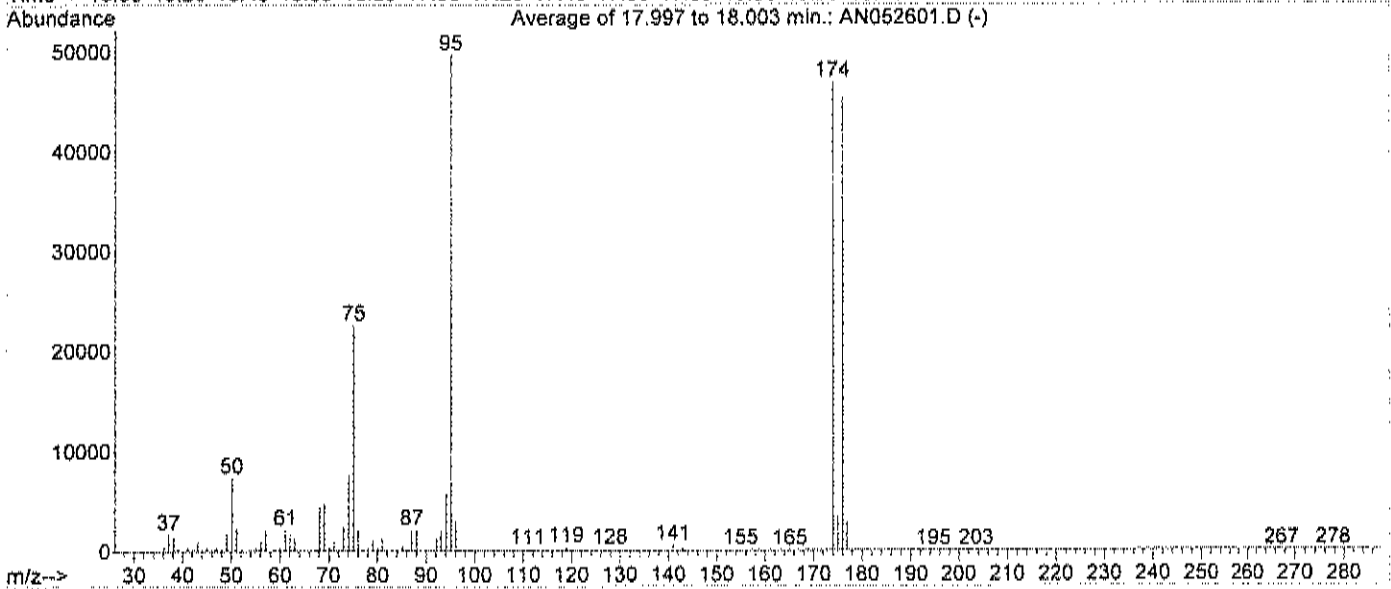
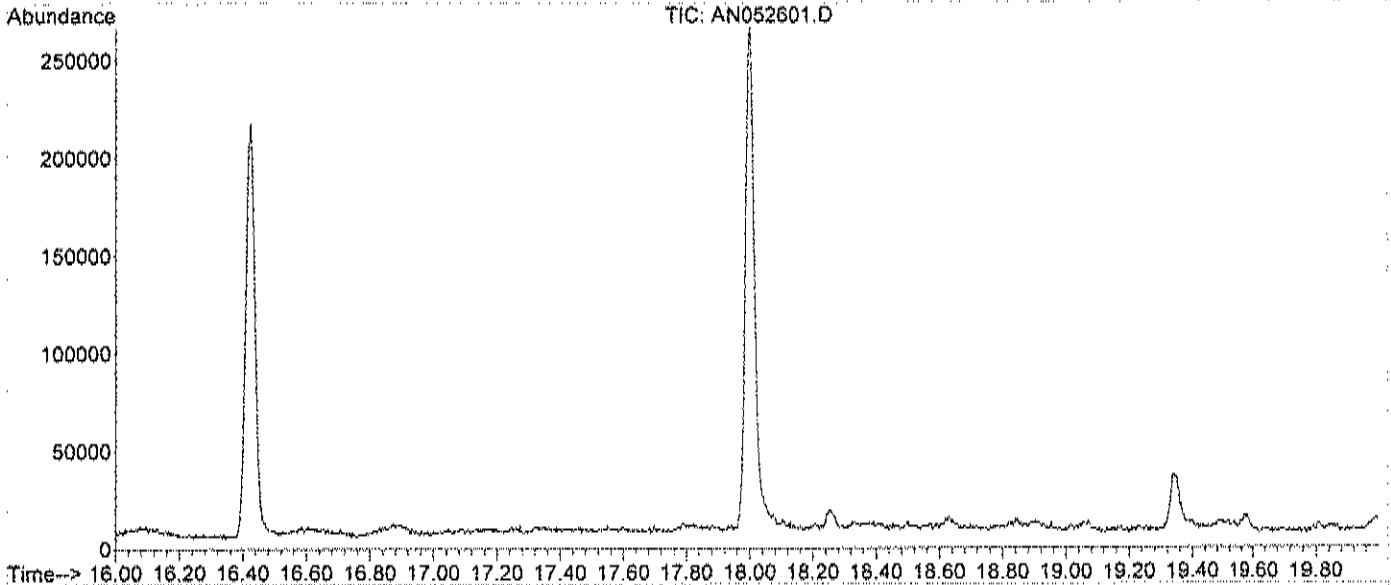
Spectrum Information: Average of 17.997 to 18.003 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.2	6377	PASS
75	95	30	66	49.4	20768	PASS
95	95	100	100	100.0	42024	PASS
96	95	5	9	7.1	2983	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	92.9	39042	PASS
175	174	4	9	7.9	3093	PASS
176	174	95	101	97.3	38005	PASS
177	176	5	9	5.6	2127	PASS

BFB

Data File : C:\HPCHEM\1\DATA\AN052601.D
 Acq On : 26 May 2016 9:53 am
 Sample : BFB1UG
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

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



Spectrum Information: Average of 17.997 to 18.003 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.8	7373	PASS
75	95	30	66	45.5	22605	PASS
95	95	100	100	100.0	49675	PASS
96	95	5	9	6.3	3118	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.4	46906	PASS
175	174	4	9	7.4	3477	PASS
176	174	95	101	96.7	45349	PASS
177	176	5	9	6.2	2821	PASS

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW QC DATA



CENTEK LABORATORIES, LLC

Date: 05-Jul-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-052416	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	10999	
Client ID:	ZZZZZ	Batch ID:	R10999	TestNo:	TO-15	Analysis Date:	5/24/2016	SeqNo:	128924		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15										
1,1-Dichloroethane	< 0.15										
1,1-Dichloroethene	< 0.15										
Chloroethane	< 0.15										
Chloromethane	< 0.15										
cis-1,2-Dichloroethene	< 0.15										
Tetrachloroethylene	< 0.15										
trans-1,2-Dichloroethene	< 0.15										
Trichloroethene	< 0.040										
Vinyl chloride	< 0.040										

Sample ID	AMB1UG-052516	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	11000	
Client ID:	ZZZZZ	Batch ID:	R11000	TestNo:	TO-15	Analysis Date:	5/25/2016	SeqNo:	128943		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15										
1,1-Dichloroethane	< 0.15										
1,1-Dichloroethene	< 0.15										
Chloroethane	< 0.15										
Chloromethane	< 0.15										
cis-1,2-Dichloroethene	< 0.15										
Tetrachloroethylene	< 0.15										
trans-1,2-Dichloroethene	< 0.15										
Trichloroethene	< 0.040										

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: C1605057
 Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID: AMB1UG-052516 SampType: MBLK TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 11000
 Client ID: ZZZZZ Batch ID: R11000 TestNo: TO-15 Analysis Date: 5/25/2016 SeqNo: 128943

Analyte: Vinyl chloride Result: < 0.040 PQL: 0.040 %REC: LowLimit: HighLimit: RPD Ref Val: %RPD: RPDLimit: Qual:

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: C1605057
Project: Emerson Landfill

TestCode: 1ugM3_TO15

Sample ID: AMB1UG-052616 SampType: MBLK TestCode: 1ugM3_TO15 Units: ppbV Prep Date: RuntNo: 11001
 Client ID: ZZZZ Batch ID: R11001 TestNo: TO-15 Analysis Date: 5/26/2016 SeqNo: 128975

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-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	< 0.15	0.15									
Vinyl chloride	< 0.15	0.15									

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

Data File : C:\HPCHEM\1\DATA\AN052404.D Vial: 4
 Acq On : 24 May 2016 10:20 am Operator: RJP
 Sample : AMB1UG-052416 Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 25 08:59:45 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	32220	1.00	ppb	-0.02
35) 1,4-difluorobenzene	11.88	114	142168	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	130938	1.00	ppb	-0.01

System Monitoring Compounds
 66) Bromofluorobenzene 18.00 95 95275 1.03 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 103.00%

Target Compounds Qvalue

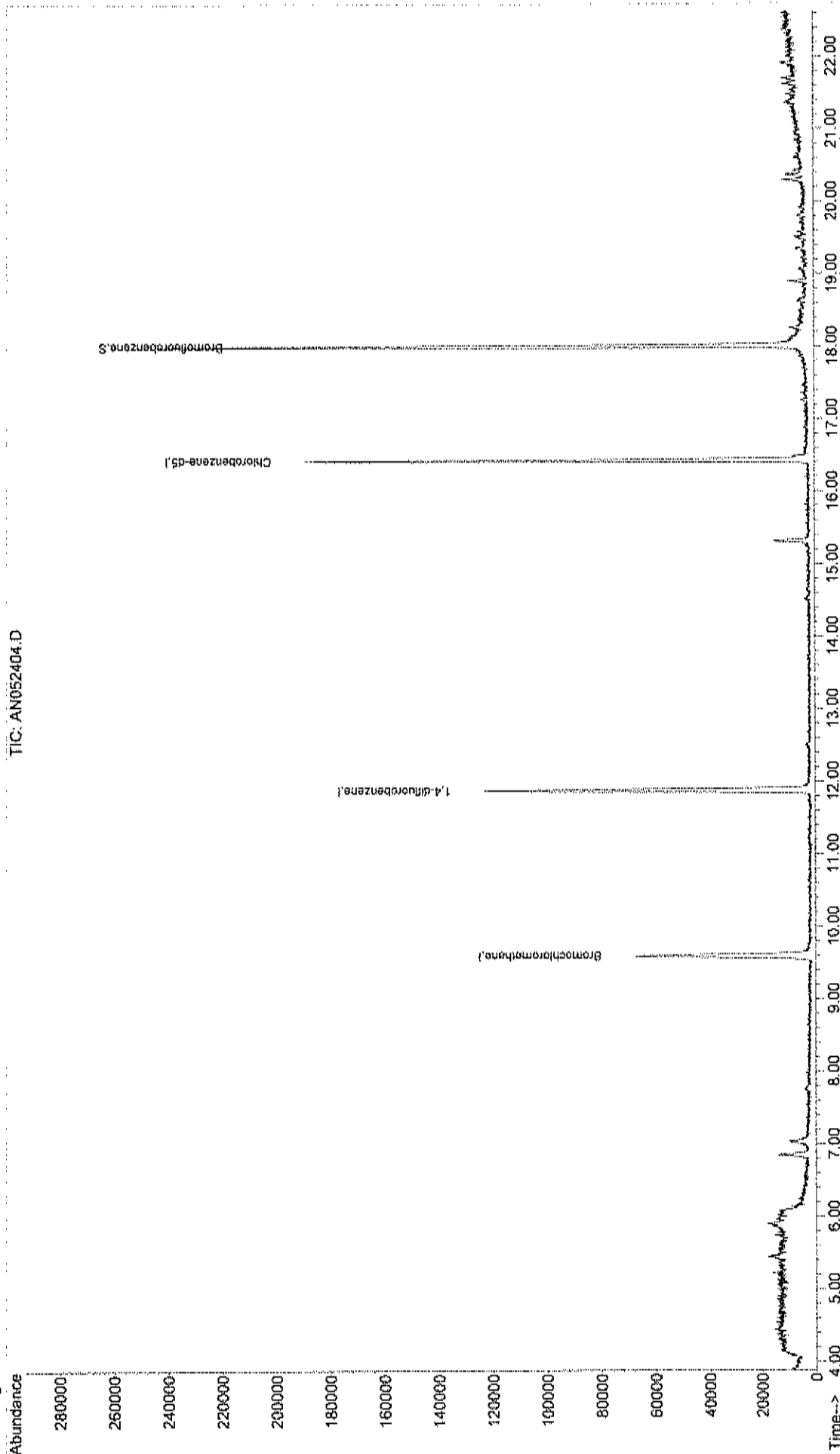
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052404.D
Acq On : 24 May 2016 10:20 am
Sample : AMB1UG-052416
Misc : A505 IUG
MS Integration Params: RTEINT.P
Quant Time: May 25 9:14 2016

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

Quant Results File: A505_IUG.RES

Method : C:\HPCHEM\1\METHODS\A505_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\AN052504.D Vial: 4
 Acq On : 25 May 2016 11:10 am Operator: RJP
 Sample : AMB1UG-052516 Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 26 10:08:00 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.60	128	29901	1.00	ppb	-0.01
35) 1,4-difluorobenzene	11.89	114	138589	1.00	ppb	0.00
50) Chlorobenzene-d5	16.42	117	122793	1.00	ppb	0.00

System Monitoring Compounds
 66) Bromofluorobenzene 18.00 95 78310 0.90 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 90.00%

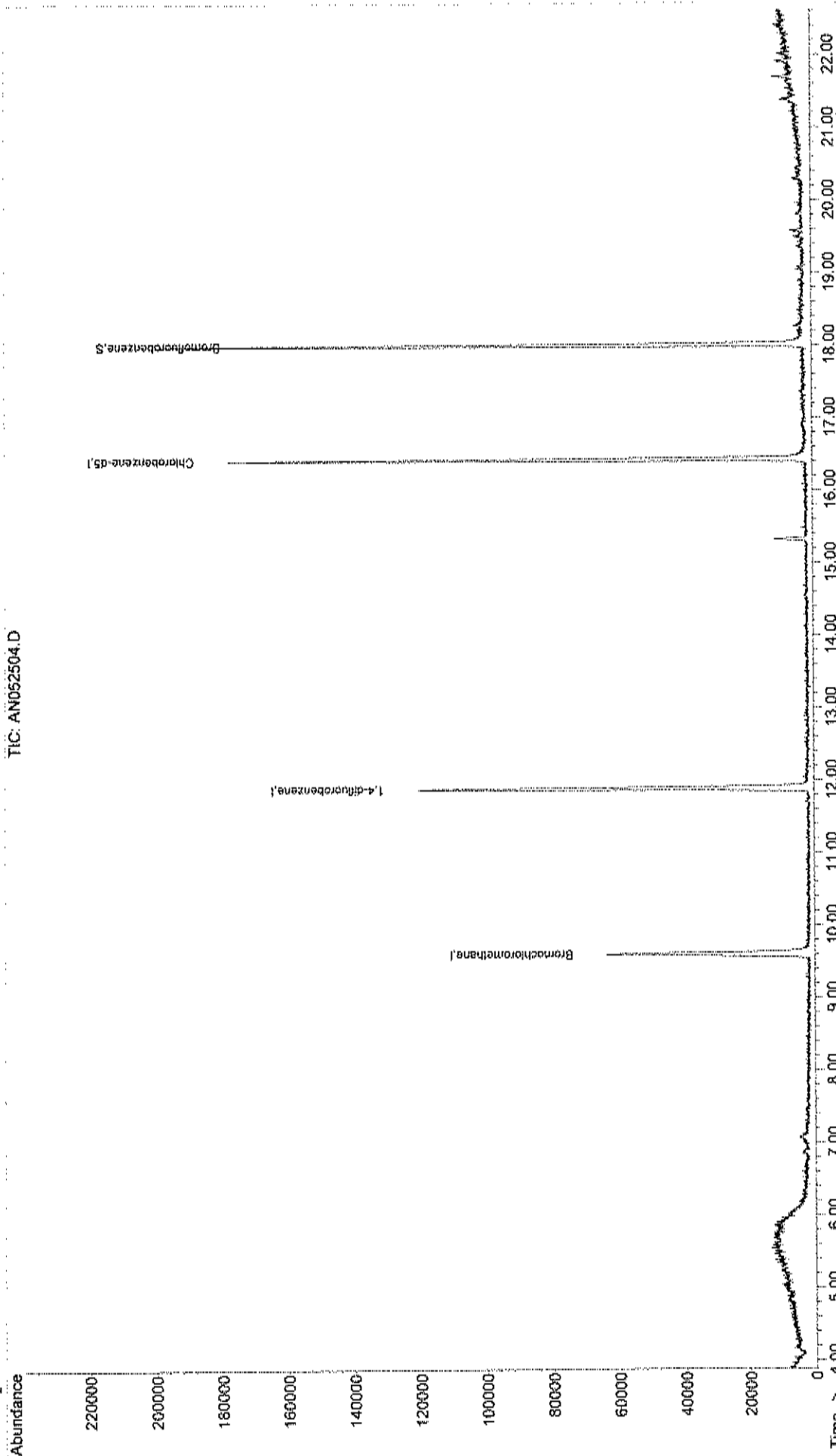
Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA\AN052504.D
Acq On : 25 May 2016 11:10 am
Sample : AMB1UG-052516
Misc : A505 1UG
MS Integration Params: RTEINT.P
Quant Time: May 26 10:08 2016

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

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration



TIC: AN052504.D

Data File : C:\HPCHEM\1\DATA\AN052605.D Vial: 5
 Acq On : 26 May 2016 12:35 pm Operator: RJP
 Sample : AMB1UG-052616 Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 26 15:53:31 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu May 26 10:56:15 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.60	128	35017	1.00	ppb	-0.01
35) 1,4-difluorobenzene	11.89	114	160418	1.00	ppb	0.00
50) Chlorobenzene-d5	16.42	117	141574	1.00	ppb	0.00

System Monitoring Compounds
 66) Bromofluorobenzene 18.00 95 93226 0.93 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 93.00%

Target Compounds Qvalue

Quantitation Report (QT Reviewed)

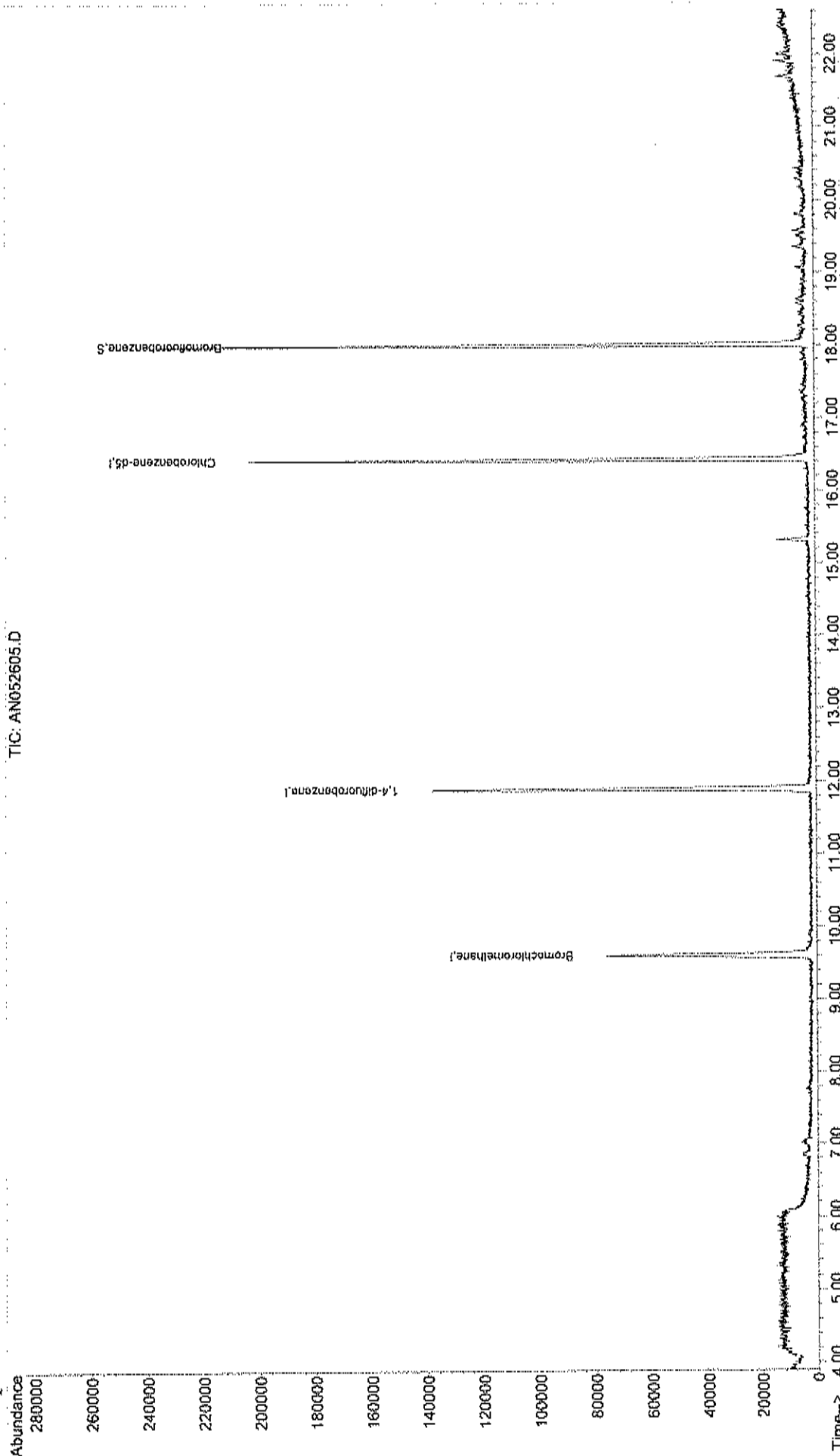
Data File : C:\HPCHEM\1\DATA\AN052605.D
Acq On : 26 May 2016 12:35 pm
Sample : AMB1UG-052616
Misc : A505 1UG
MS Integration Params: RTEINT.P
Quant Time: May 26 15:53 2016

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

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration

TIC: AN052605.D





Date: 05-Jul-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	C1605057-007A MS	MS	SampType:	MS	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	10999
Client ID:	Outdoor Air	Batch ID:	R10999	TestNo:	TO-15	Analysis Date:	5/25/2016	SeqNo:	128941		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9700	0.15	1	0	97.0	70	130				
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130				
1,1-Dichloroethene	1.030	0.15	1	0	103	70	130				
Chloroethane	1.130	0.15	1	0	113	70	130				
Chloromethane	1.290	0.15	1	0.51	78.0	70	130				
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130				
Tetrachloroethylene	1.040	0.15	1	0	104	70	130				
trans-1,2-Dichloroethene	1.020	0.15	1	0	102	70	130				
Trichloroethene	1.150	0.040	1	0	115	70	130				
Vinyl chloride	1.070	0.040	1	0	107	70	130				

Sample ID	C1605057-007A MS	MSD	SampType:	MSD	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	10999
Client ID:	Outdoor Air	Batch ID:	R10999	TestNo:	TO-15	Analysis Date:	5/25/2016	SeqNo:	128942		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.010	0.15	1	0	101	70	130	0.97	4.04	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.02	1.94	30	
1,1-Dichloroethene	1.040	0.15	1	0	104	70	130	1.03	0.966	30	
Chloroethane	1.200	0.15	1	0	120	70	130	1.13	6.01	30	
Chloromethane	1.280	0.15	1	0.51	77.0	70	130	1.29	0.776	30	
cis-1,2-Dichloroethene	1.030	0.15	1	0	103	70	130	1.01	1.96	30	
Tetrachloroethylene	1.080	0.15	1	0	108	70	130	1.04	3.77	30	
trans-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130	1.02	1.94	30	
Trichloroethene	1.180	0.040	1	0	118	70	130	1.15	2.58	30	

Qualifiers: . Results reported are not blank corrected
 / 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: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	C1605057-007A MS	SampType	MSD	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:		RunNo:	10999										
Client ID:	Outdoor Air	Batch ID:	R10999	TestNo:	TO-15			Analysis Date:	5/25/2016	SeqNo:	128942										
Analyte		Result	1.140	PQL	SPK value	SPK RefVal	0	%REC	114	LowLimit	70	HighLimit	130	RPD RefVal	1.07	%RPD	6.33	RPDLimit	30	Qual	

Vinyl chloride

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\AN052429.D Vial: 29
 Acq On : 25 May 2016 7:37 am Operator: RJP
 Sample : C1605057-007A MS Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 25 09:00:10 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	35023	1.00	ppb	-0.03
35) 1,4-difluorobenzene	11.87	114	155307	1.00	ppb	-0.03
50) Chlorobenzene-d5	16.42	117	141397	1.00	ppb	-0.01

System Monitoring Compounds

66) Bromofluorobenzene	17.99	95	95831	0.96	ppb	-0.01
Spiked Amount	1.000	Range 70 - 130	Recovery	=	96.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
4) Chloromethane	4.24	50	42988m ¹	1.29	ppb	
6) Vinyl Chloride	4.43	62	34788	1.07	ppb	94
10) Chloroethane	5.04	64	15333	1.13	ppb	# 52
18) 1,1-dichloroethene	6.38	96	49907	1.03	ppb	88
24) trans-1,2-dichloroethene	7.76	61	60289	1.02	ppb	84
26) 1,1-dichloroethane	8.20	63	78302	1.02	ppb	96
29) cis-1,2-dichloroethene	9.13	61	57256	1.01	ppb	# 72
36) 1,1,1-trichloroethane	10.55	97	99631	0.97	ppb	96
44) Trichloroethene	12.50	130	73599	1.15	ppb	94
56) Tetrachloroethylene	15.52	164	71689	1.04	ppb	88

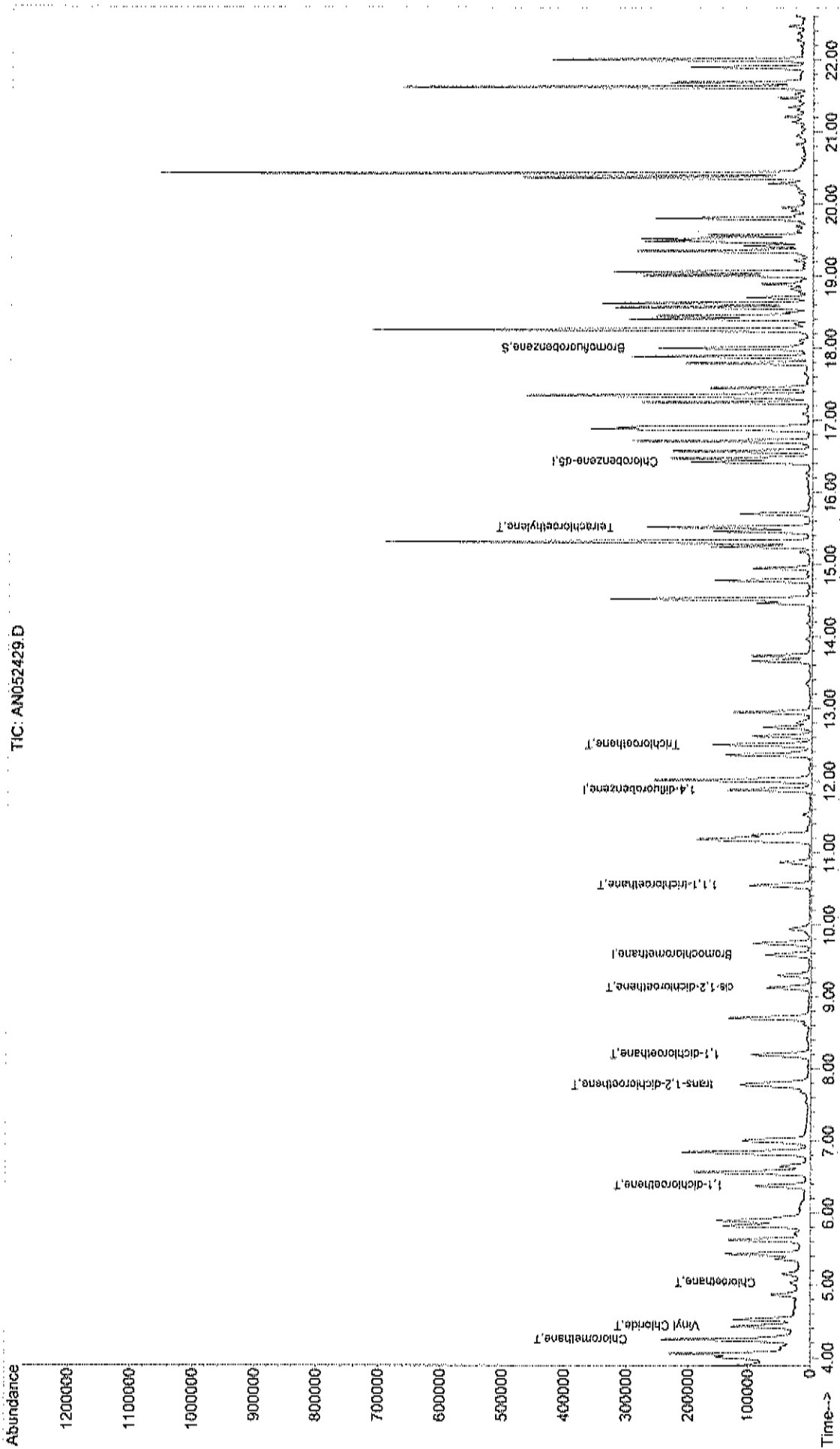
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052429.D
Acq On : 25 May 2016 7:37 am
Sample : C1605057-007A MS
Misc : A505_IUG
MS Integration Params: RTEINT.P
Quant Time: May 25 10:26 2016

Vial: 29
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A505_IUG.RES

Method : C:\HPCHEM\1\METHODS\A505_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration



TIC: AN052429.D

Data File : C:\HPCHEM\1\DATA\AN052430.D Vial: 30
 Acq On : 25 May 2016 8:23 am Operator: RJP
 Sample : C1605057-007A MSD Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 25 09:00:11 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.58	128	33863	1.00	ppb	-0.03
35) 1,4-difluorobenzene	11.88	114	151029	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	134777	1.00	ppb	-0.01

System Monitoring Compounds

66) Bromofluorobenzene	18.00	95	89346	0.94	ppb	-0.01
Spiked Amount	1.000	Range	70 - 130	Recovery	=	94.00%

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
4) Chloromethane	4.24	50	41032m/V	1.28	ppb	
6) Vinyl Chloride	4.43	62	35835	1.14	ppb	96
10) Chloroethane	5.03	64	15668	1.20	ppb	# 60
18) 1,1-dichloroethene	6.38	96	48707	1.04	ppb	90
24) trans-1,2-dichloroethene	7.77	61	59617	1.04	ppb	83
26) 1,1-dichloroethane	8.20	63	76495	1.04	ppb	94
29) cis-1,2-dichloroethene	9.13	61	56553	1.03	ppb	# 70
36) 1,1,1-trichloroethane	10.54	97	101088	1.01	ppb	97
44) Trichloroethene	12.50	130	73172	1.18	ppb	93
56) Tetrachloroethylene	15.51	164	71234	1.08	ppb	88

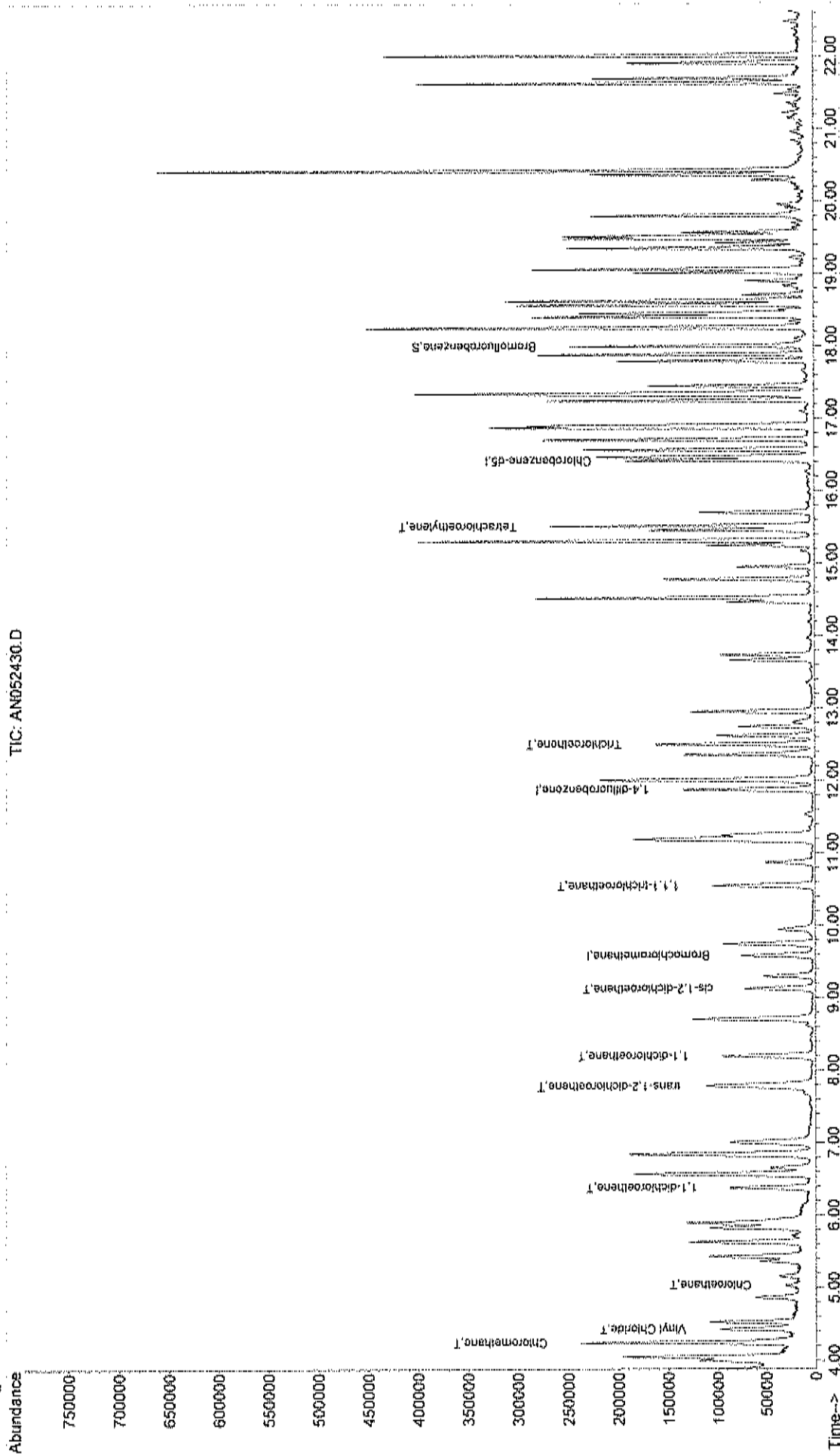
Quantitation Report (QF Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052430.D
Acq On : 25 May 2016 8:23 am
Sample : C1605057-007A MSD
Misc : A505_1UG
MS Integration Params: RTEINT.P
Quant Time: May 25 10:27 2016

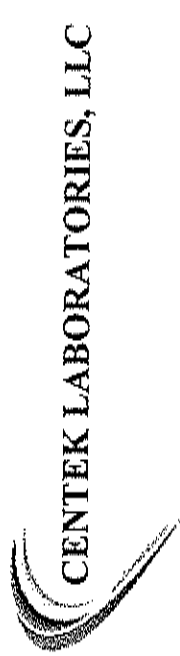
Vial: 30
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration



TIC: AN052430.D



CENTEK LABORATORIES, LLC

Date: 05-Jul-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: CI605057
Project: Emerson Landfill

TestCode: 0.25CT-ICE-VC

Sample ID	ALCS1UG-052416	Batch ID	R10999	Sample Type	LCS	TestCode	0.25CT-ICE	Units	ppbv	Prep Date	RunNo	10999
Client ID	ZZZZ	Batch ID	TO-15	TestCode	0.25CT-ICE	Units	ppbv	Analysis Date	5/24/2016	SeqNo	128925	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1,1-Trichloroethane	0.9900	0.15	1	0	99.0	70	130					
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130					
1,1-Dichloroethene	1.020	0.15	1	0	102	70	130					
Chloroethane	1.140	0.15	1	0	114	70	130					
Chloromethane	1.250	0.15	1	0	125	70	130					
cis-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130					
Tetrachloroethylene	1.040	0.15	1	0	104	70	130					
trans-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130					
Trichloroethene	1.050	0.040	1	0	105	70	130					
Vinyl chloride	1.190	0.040	1	0	119	70	130					

Sample ID	ALCS1UG-052516	Batch ID	R11000	Sample Type	LCS	TestCode	0.25CT-ICE	Units	ppbv	Prep Date	RunNo	11000
Client ID	ZZZZ	Batch ID	TO-15	TestCode	0.25CT-ICE	Units	ppbv	Analysis Date	5/25/2016	SeqNo	128944	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1,1-Trichloroethane	1.010	0.15	1	0	101	70	130					
1,1-Dichloroethane	1.080	0.15	1	0	108	70	130					
1,1-Dichloroethene	1.050	0.15	1	0	105	70	130					
Chloroethane	1.190	0.15	1	0	119	70	130					
Chloromethane	1.220	0.15	1	0	122	70	130					
cis-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130					
Tetrachloroethylene	1.100	0.15	1	0	110	70	130					
trans-1,2-Dichloroethene	1.020	0.15	1	0	102	70	130					
Trichloroethene	1.090	0.040	1	0	109	70	130					

Qualifiers: J Results reported are not blank corrected
 S Analyte detected below quantitation limit
 E Spike Recovery outside accepted recovery limits
 NDD 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: C1605057
 Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-052516	SampleType	LCS	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:		RunNo:	11000
Client ID:	ZZZZZ	Batch ID:	R11000	TestNo:	TO-15			Analysis Date:	5/25/2016	SeqNo:	128944
Analyte		Result	1.180	PQL	0.040	SPK value	1	%REC	118	LowLimit	70
				SPK RefVal	0	HighLimit	130	RPD RefVal		%RPD	
										RPDLimit	Qual

Vinyl chloride

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

CLIENT: LaBella Associates, P.C.
Work Order: CI605057
Project: Emerson Landfill

TestCode: 1ugM3_TO15

Sample ID: ALCS1UG-052616 Batch ID: R11001 Prep Date: RunNo: 11001
 Client ID: ZZZZZ TestCode: 1ugM3_TO15 Units: ppbV Analysis Date: 5/26/2016 SeqNo: 128976

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9500	0.15	1	0	95.0	70	130				
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130				
1,1-Dichloroethene	1.040	0.15	1	0	104	70	130				
Chloroethane	1.200	0.15	1	0	120	70	130				
Chloromethane	1.270	0.15	1	0	127	70	130				
cis-1,2-Dichloroethene	1.000	0.15	1	0	100	70	130				
Tetrachloroethylene	1.060	0.15	1	0	106	70	130				
trans-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
Trichloroethene	1.070	0.15	1	0	107	70	130				
Vinyl chloride	1.280	0.15	1	0	128	70	130				

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

Data File : C:\HPCHEM\1\DATA\AN052403.D
 Acq On : 24 May 2016 9:44 am
 Sample : ALCS1UG-052416
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 25 08:59:44 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.58	128	27568	1.00	ppb	-0.03
35) 1,4-difluorobenzene	11.88	114	121586	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	110436	1.00	ppb	-0.01

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	18.00	95	77141	0.99	ppb	-0.01
Spiked Amount	1.000	Range	70 - 130	Recovery	=	99.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.99	41	30330	1.15	ppb	91
3) Freon 12	4.05	85	145357	1.27	ppb	100
4) Chloromethane	4.25	50	32696m	1.25	ppb	
5) Freon 114	4.25	85	104317	1.29	ppb	99
6) Vinyl Chloride	4.43	62	30330	1.19	ppb	93
7) Butane	4.53	43	39134m	1.25	ppb	
8) 1,3-butadiene	4.54	39	27709	1.15	ppb	97
9) Bromomethane	4.87	94	33530m	1.22	ppb	
10) Chloroethane	5.03	64	12097	1.14	ppb	# 40
11) Ethanol	5.17	45	8899m	1.07	ppb	
12) Acrolein	5.72	56	7357	0.95	ppb	# 56
13) Vinyl Bromide	5.36	106	32947	1.21	ppb	99
14) Freon 11	5.63	101	91461m	1.24	ppb	
15) Acetone	5.83	58	12384	1.13	ppb	# 1
16) Pentane	5.90	42	19590m	0.99	ppb	
17) Isopropyl alcohol	5.95	45	35532	1.08	ppb	# 100
18) 1,1-dichloroethene	6.39	96	38817	1.02	ppb	91
19) Freon 113	6.56	101	89512	1.12	ppb	87
20) t-Butyl alcohol	6.65	59	65526	0.98	ppb	# 92
21) Methylene chloride	6.84	84	41079	1.20	ppb	93
22) Allyl chloride	6.82	41	34586	0.84	ppb	90
23) Carbon disulfide	6.99	76	101242	1.02	ppb	99
24) trans-1,2-dichloroethene	7.77	61	46047	0.98	ppb	81
25) methyl tert-butyl ether	7.81	73	90011	0.93	ppb	93
26) 1,1-dichloroethane	8.20	63	61641	1.02	ppb	96
27) Vinyl acetate	8.19	43	60274	0.77	ppb	94
28) Methyl Ethyl Ketone	8.72	72	16367	1.06	ppb	# 36
29) cis-1,2-dichloroethene	9.12	61	43980	0.99	ppb	# 75
30) Hexane	8.70	57	44967	0.87	ppb	91
31) Ethyl acetate	9.31	43	62740	1.08	ppb	90
32) Chloroform	9.74	83	84157	1.05	ppb	98
33) Tetrahydrofuran	9.96	42	26032	0.82	ppb	95
34) 1,2-dichloroethane	10.87	62	48900	1.06	ppb	91
36) 1,1,1-trichloroethane	10.55	97	79558	0.99	ppb	98
37) Cyclohexane	11.25	56	43256	0.93	ppb	# 61
38) Carbon tetrachloride	11.19	117	83727	1.00	ppb	87
39) Benzene	11.17	78	103004	1.03	ppb	98
40) Methyl methacrylate	12.75	41	36207	1.03	ppb	95
41) 1,4-dioxane	12.81	88	22612	1.26	ppb	84
42) 2,2,4-trimethylpentane	12.01	57	136082	0.98	ppb	91
43) Heptane	12.36	43	45649	0.88	ppb	93
44) Trichloroethene	12.50	130	52395	1.05	ppb	91
45) 1,2-dichloropropane	12.62	63	34860	0.96	ppb	99

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

Data File : C:\HPCHEM\1\DATA\AN052403.D
 Acq On : 24 May 2016 9:44 am
 Sample : ALCS1UG-052416
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 25 08:59:44 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

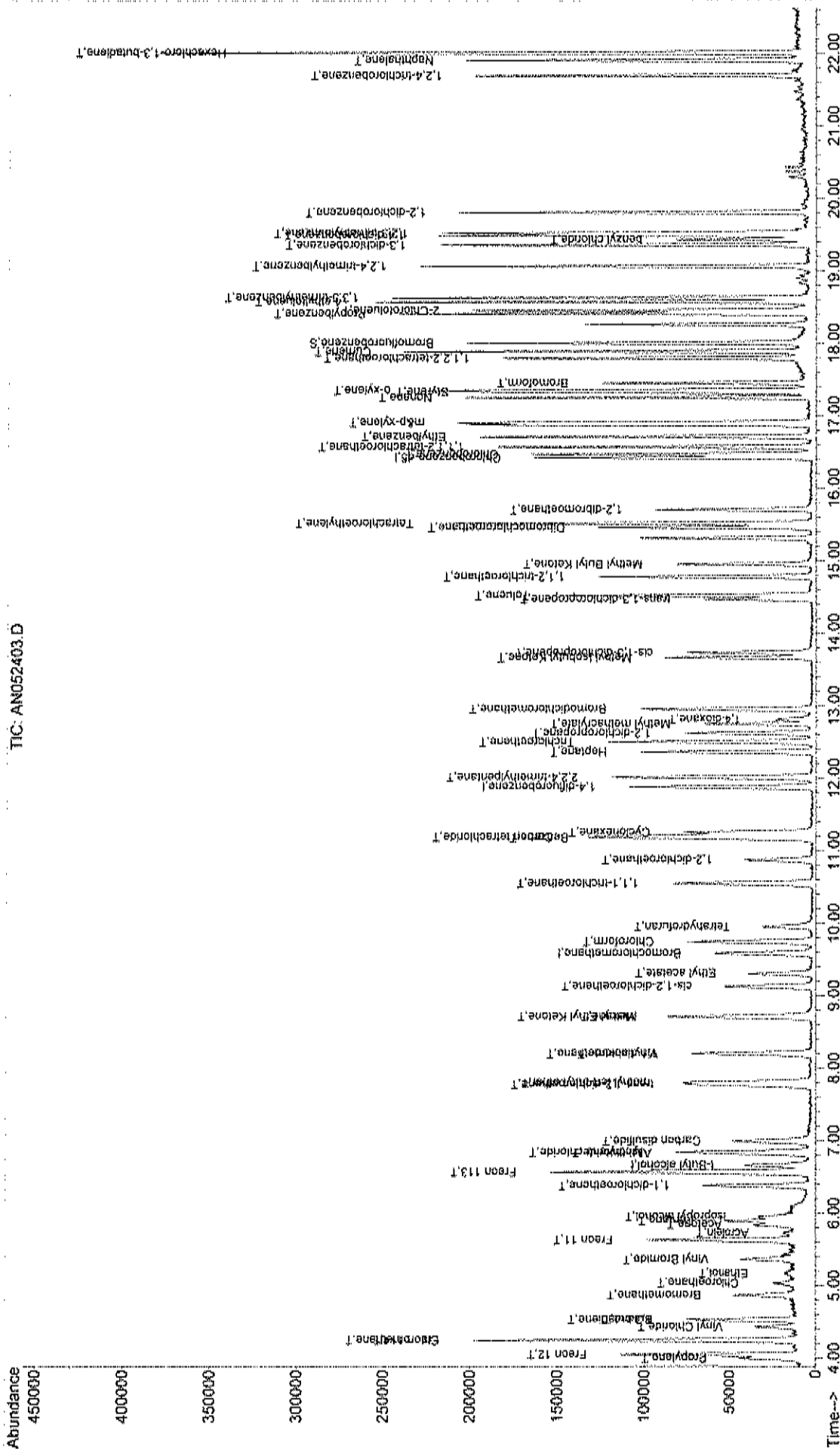
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.95	83	83341	1.08	ppb	96
47) cis-1,3-dichloropropene	13.73	75	54385	0.90	ppb	89
48) trans-1,3-dichloropropene	14.47	75	48694	0.88	ppb	82
49) 1,1,2-trichloroethane	14.78	97	48705	1.05	ppb	96
51) Toluene	14.52	92	75496	0.99	ppb	100
52) Methyl Isobutyl Ketone	13.66	43	59447m	1.29	ppb	
53) Dibromochloromethane	15.46	129	81099m	0.92	ppb	
54) Methyl Butyl Ketone	14.95	43	51522m	1.55	ppb	
55) 1,2-dibromoethane	15.70	107	76812	1.00	ppb	93
56) Tetrachloroethylene	15.51	164	55978	1.04	ppb	91
57) Chlorobenzene	16.47	112	108424	1.00	ppb	98
58) 1,1,1,2-tetrachloroethane	16.57	131	56783	0.91	ppb	94
59) Ethylbenzene	16.71	91	163839	0.96	ppb	93
60) m&p-xylene	16.90	91	264857	2.01	ppb	97
61) Nonane	17.25	43	67915	0.92	ppb	95
62) Styrene	17.32	104	96722	0.93	ppb	92
63) Bromoform	17.45	173	66577	0.90	ppb	99
64) o-xylene	17.35	91	151046	1.11	ppb	94
65) Cumene	17.88	105	174917	0.93	ppb	94
67) 1,1,2,2-tetrachloroethane	17.79	83	95281	0.99	ppb	98
68) Propylbenzene	18.40	91	215608m	0.96	ppb	
69) 2-Chlorotoluene	18.45	91	120675m	0.92	ppb	
70) 4-ethyltoluene	18.56	105	179831m	0.99	ppb	
71) 1,3,5-trimethylbenzene	18.62	105	157485m	0.99	ppb	
72) 1,2,4-trimethylbenzene	19.06	105	143742	0.96	ppb	95
73) 1,3-dichlorobenzene	19.35	146	109379	1.04	ppb	92
74) benzyl chloride	19.43	91	104427m	0.76	ppb	
75) 1,4-dichlorobenzene	19.49	146	107293	1.02	ppb	96
76) 1,2,3-trimethylbenzene	19.52	105	134797	0.93	ppb	88
77) 1,2-dichlorobenzene	19.80	146	99192	1.00	ppb	96
78) 1,2,4-trichlorobenzene	21.69	180	71188	1.01	ppb	93
79) Naphthalene	21.90	128	190399	1.19	ppb	95
80) Hexachloro-1,3-butadiene	22.00	225	81271	1.17	ppb	90

Data File : C:\HPCHEM\1\DATA\AN052403.D
Acq On : 24 May 2016 9:44 am
Sample : ALC51UG-052416
Misc : A505_1UG
MS Integration Params: RTEINT.P
Quant Time: May 25 9:13 2016

Vial: 3
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\AN052503.D
 Acq On : 25 May 2016 10:34 am
 Sample : ALCS1UG-052516
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 10:07:59 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	32260	1.00	ppb	-0.03
35) 1,4-difluorobenzene	11.87	114	144109	1.00	ppb	-0.03
50) Chlorobenzene-d5	16.42	117	128882	1.00	ppb	-0.01

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	18.00	95	86313	0.95	ppb	-0.01
Spiked Amount	1.000	Range 70 - 130	Recovery	=	95.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.99	41	36596	1.19	ppb	94
3) Freon 12	4.05	85	168390m	1.25	ppb	
4) Chloromethane	4.24	50	37353	1.22	ppb	93
5) Freon 114	4.24	85	118681	1.26	ppb	96
6) Vinyl Chloride	4.43	62	35196	1.18	ppb	95
7) Butane	4.52	43	42796	1.17	ppb	97
8) 1,3-butadiene	4.53	39	28797	1.03	ppb	99
9) Bromomethane	4.87	94	40351m	1.26	ppb	
10) Chloroethane	5.03	64	14881	1.19	ppb	# 64
11) Ethanol	5.16	45	12186	1.25	ppb	93
12) Acrolein	5.72	56	8813	0.97	ppb	# 71
13) Vinyl Bromide	5.37	106	40845	1.28	ppb	99
14) Freon 11	5.63	101	117923m	1.36	ppb	
15) Acetone	5.84	58	13418	1.05	ppb	# 1
16) Pentane	5.89	42	29180	1.25	ppb	# 20
17) Isopropyl alcohol	5.94	45	33100	0.86	ppb	# 100
18) 1,1-dichloroethene	6.37	96	46668	1.05	ppb	90
19) Freon 113	6.56	101	106205	1.13	ppb	87
20) t-Butyl alcohol	6.65	59	59404	0.76	ppb	# 93
21) Methylene chloride	6.85	84	45486	1.13	ppb	94
22) Allyl chloride	6.82	41	42683	0.89	ppb	91
23) Carbon disulfide	6.99	76	120691	1.03	ppb	100
24) trans-1,2-dichloroethene	7.77	61	55649	1.02	ppb	81
25) methyl tert-butyl ether	7.81	73	110371	0.97	ppb	93
26) 1,1-dichloroethane	8.20	63	76376	1.08	ppb	97
27) Vinyl acetate	8.19	43	76591	0.84	ppb	95
28) Methyl Ethyl Ketone	8.73	72	17431	0.97	ppb	# 31
29) cis-1,2-dichloroethene	9.13	61	54059	1.04	ppb	# 76
30) Hexane	8.71	57	56393	0.93	ppb	88
31) Ethyl acetate	9.31	43	69932	1.03	ppb	91
32) Chloroform	9.74	83	98119	1.04	ppb	95
33) Tetrahydrofuran	9.95	42	30883	0.83	ppb	93
34) 1,2-dichloroethane	10.87	62	58115	1.07	ppb	89
36) 1,1,1-trichloroethane	10.55	97	96025	1.01	ppb	99
37) Cyclohexane	11.25	56	54641	0.99	ppb	# 63
38) Carbon tetrachloride	11.20	117	103642	1.05	ppb	88
39) Benzene	11.17	78	126329	1.06	ppb	98
40) Methyl methacrylate	12.75	41	39184	0.94	ppb	89
41) 1,4-dioxane	12.81	88	17262	0.81	ppb	80
42) 2,2,4-trimethylpentane	12.01	57	169257	1.03	ppb	91
43) Heptane	12.36	43	55135	0.90	ppb	88
44) Trichloroethene	12.50	130	64337	1.09	ppb	93
45) 1,2-dichloropropane	12.63	63	44758	1.04	ppb	95

(#) = qualifier out of range (m) = manual integration
 AN052503.D A505_1UG.M Tue Jul 05 08:20:19 2016

Data File : C:\HPCHEM\1\DATA\AN052503.D
 Acq On : 25 May 2016 10:34 am
 Sample : ALCS1UG-052516
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 10:07:59 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.95	83	102187	1.12	ppb	96
47) cis-1,3-dichloropropene	13.73	75	67594	0.94	ppb	91
48) trans-1,3-dichloropropene	14.47	75	60136	0.92	ppb	81
49) 1,1,2-trichloroethane	14.78	97	58130	1.06	ppb	99
51) Toluene	14.53	92	93250	1.04	ppb	100
52) Methyl Isobutyl Ketone	13.66	43	54115	1.01	ppb	92
53) Dibromochloromethane	15.46	129	99913m	0.97	ppb	
54) Methyl Butyl Ketone	14.95	43	48272	1.24	ppb	97
55) 1,2-dibromoethane	15.70	107	92672	1.03	ppb	96
56) Tetrachloroethylene	15.52	164	69017	1.10	ppb	94
57) Chlorobenzene	16.47	112	132001	1.05	ppb	96
58) 1,1,1,2-tetrachloroethane	16.57	131	70973	0.97	ppb	96
59) Ethylbenzene	16.71	91	202463	1.02	ppb	95
60) m&p-xylene	16.90	91	317066	2.06	ppb	99
61) Nonane	17.25	43	83485	0.97	ppb	95
62) Styrene	17.32	104	119289	0.99	ppb	93
63) Bromoform	17.45	173	86687	1.00	ppb	98
64) o-xylene	17.35	91	182993	1.16	ppb	94
65) Cumene	17.88	105	212770	0.97	ppb	94
67) 1,1,2,2-tetrachloroethane	17.79	83	117261	1.04	ppb	98
68) Propylbenzene	18.40	91	248627m	0.95	ppb	
69) 2-Chlorotoluene	18.45	91	163947m	1.07	ppb	
70) 4-ethyltoluene	18.57	105	222218m	1.05	ppb	
71) 1,3,5-trimethylbenzene	18.63	105	186142m	1.00	ppb	
72) 1,2,4-trimethylbenzene	19.06	105	172139	0.99	ppb	94
73) 1,3-dichlorobenzene	19.36	146	132357	1.08	ppb	91
74) benzyl chloride	19.43	91	124835m	0.78	ppb	
75) 1,4-dichlorobenzene	19.49	146	127686	1.04	ppb	94
76) 1,2,3-trimethylbenzene	19.52	105	165752	0.98	ppb	89
77) 1,2-dichlorobenzene	19.80	146	119978	1.03	ppb	95
78) 1,2,4-trichlorobenzene	21.69	180	71109	0.86	ppb	95
79) Naphthalene	21.90	128	157074	0.84	ppb	96
80) Hexachloro-1,3-butadiene	22.01	225	90243	1.11	ppb	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN052503.D A505_1UG.M Tue Jul 05 08:20:20 2016 MSD1

Quantitation report (QI reviewed)

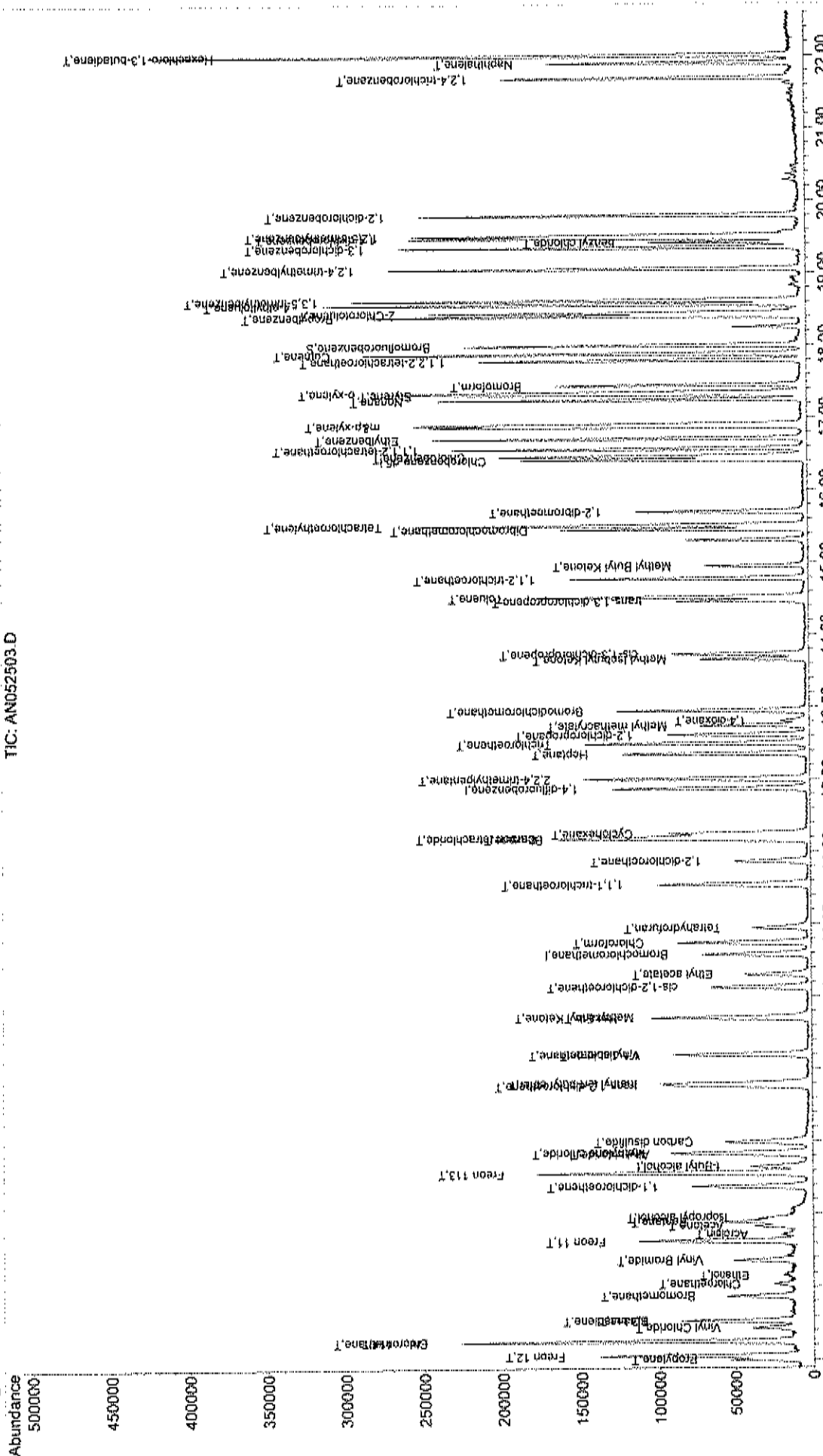
Data File : C:\HPCHEM\1\DATA\AN052503.D
 Acq On : 25 May 2016 10:34 am
 Sample : ALCS1UG-052516
 Misc : A505 1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 10:48 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Jul 05 08:17:16 2016
 Response via : Initial Calibration

TIC: AN052503.D



Data File : C:\HPCHEM\1\DATA\AN052606.D
 Acq On : 26 May 2016 1:15 pm
 Sample : ALCS1UG-052616
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 15:53:36 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu May 26 10:56:15 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.60	128	33909	1.00	ppb	-0.01
35) 1,4-difluorobenzene	11.89	114	160629	1.00	ppb	0.00
50) Chlorobenzene-d5	16.42	117	142992	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	18.00	95	97347	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	4.01	41	35450	1.09	ppb	98
3) Freon 12	4.06	85	174787	1.24	ppb	98
4) Chloromethane	4.25	50	40978m	1.27	ppb	
5) Freon 114	4.26	85	125488m	1.27	ppb	
6) Vinyl Chloride	4.45	62	40190	1.28	ppb	94
7) Butane	4.55	43	47769m	1.24	ppb	
8) 1,3-butadiene	4.54	39	33866	1.15	ppb	95
9) Bromomethane	4.88	94	41505m	1.23	ppb	
10) Chloroethane	5.06	64	15767m	1.20	ppb	
11) Ethanol	5.19	45	11840	1.16	ppb	87
12) Acrolein	5.74	56	9462	0.99	ppb	# 51
13) Vinyl Bromide	5.38	106	41596m	1.24	ppb	
14) Freon 11	5.65	101	124284m	1.37	ppb	
15) Acetone	5.86	58	15399	1.14	ppb	# 1
16) Pentane	5.90	42	27987	1.14	ppb	# 1
17) Isopropyl alcohol	5.96	45	33777	0.84	ppb	# 100
18) 1,1-dichloroethene	6.39	96	48795	1.04	ppb	89
19) Freon 113	6.58	101	112999	1.15	ppb	87
20) t-Butyl alcohol	6.68	59	46685	0.57	ppb	# 92
21) Methylene chloride	6.86	84	44624	1.06	ppb	90
22) Allyl chloride	6.84	41	43289	0.86	ppb	93
23) Carbon disulfide	7.00	76	124947	1.02	ppb	99
24) trans-1,2-dichloroethene	7.78	61	57104	0.99	ppb	# 78
25) methyl tert-butyl ether	7.82	73	115499	0.97	ppb	94
26) 1,1-dichloroethane	8.21	63	77076	1.04	ppb	95
27) Vinyl acetate	8.20	43	78575	0.82	ppb	93
28) Methyl Ethyl Ketone	8.74	72	18582	0.98	ppb	# 36
29) cis-1,2-dichloroethene	9.14	61	55031	1.00	ppb	# 70
30) Hexane	8.72	57	59145	0.93	ppb	88
31) Ethyl acetate	9.32	43	71038	0.99	ppb	88
32) Chloroform	9.76	83	103490	1.05	ppb	96
33) Tetrahydrofuran	9.96	42	31320	0.80	ppb	95
34) 1,2-dichloroethane	10.88	62	59402	1.04	ppb	89
36) 1,1,1-trichloroethane	10.57	97	100364	0.95	ppb	99
37) Cyclohexane	11.26	56	56404	0.91	ppb	# 61
38) Carbon tetrachloride	11.21	117	110110	1.00	ppb	87
39) Benzene	11.19	78	134741	1.02	ppb	97
40) Methyl methacrylate	12.76	41	42547	0.92	ppb	# 91
41) 1,4-dioxane	12.83	88	15620m	0.66	ppb	
42) 2,2,4-trimethylpentane	12.02	57	180733	0.99	ppb	89
43) Heptane	12.36	43	59014	0.86	ppb	89
44) Trichloroethene	12.51	130	70421	1.07	ppb	93
45) 1,2-dichloropropane	12.63	63	46847	0.98	ppb	97

(#) = qualifier out of range (m) = manual integration
 AN052606.D A505_1UG.M Tue Jul 05 08:20:32 2016

Data File : C:\HPCHEM\1\DATA\AN052606.D

Vial: 6

Acq On : 26 May 2016 1:15 pm

Operator: RJP

Sample : ALCSIUG-052616

Inst : MSD #1

Misc : A505_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 26 15:53:36 2016

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu May 26 10:56:15 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

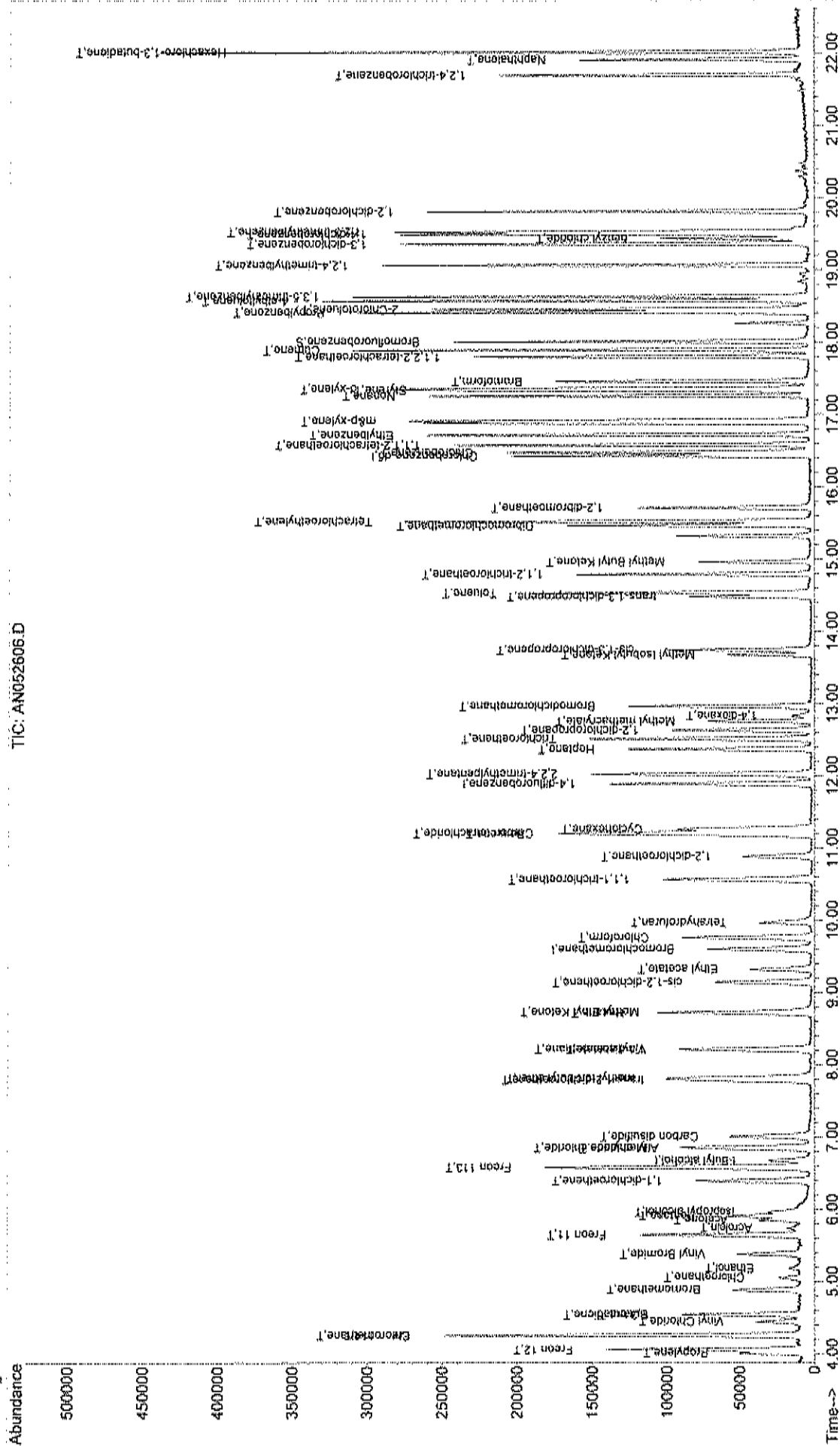
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.96	83	106771	1.05	ppb	97
47) cis-1,3-dichloropropene	13.74	75	72785	0.91	ppb	91
48) trans-1,3-dichloropropene	14.48	75	63319	0.87	ppb	80
49) 1,1,2-trichloroethane	14.79	97	63259	1.03	ppb	98
51) Toluene	14.53	92	101927	1.03	ppb	99
52) Methyl Isobutyl Ketone	13.67	43	45243	0.76	ppb	93
53) Dibromochloromethane	15.46	129	111087m	0.98	ppb	
54) Methyl Butyl Ketone	14.96	43	50655m	1.18	ppb	
55) 1,2-dibromoethane	15.71	107	100910	1.01	ppb	94
56) Tetrachloroethylene	15.52	164	74198	1.06	ppb	91
57) Chlorobenzene	16.47	112	139951	1.00	ppb	97
58) 1,1,1,2-tetrachloroethane	16.57	131	78358	0.97	ppb	95
59) Ethylbenzene	16.72	91	222432	1.01	ppb	94
60) m&p-xylene	16.91	91	349785	2.05	ppb	100
61) Nonane	17.25	43	90055	0.94	ppb	95
62) Styrene	17.33	104	132200	0.98	ppb	94
63) Bromoform	17.46	173	99573	1.04	ppb	99
64) o-xylene	17.36	91	180299	1.03	ppb	85
65) Cumene	17.89	105	240322	0.98	ppb	93
67) 1,1,2,2-tetrachloroethane	17.80	83	126183	1.01	ppb	96
68) Propylbenzene	18.41	91	282680m	0.97	ppb	
69) 2-Chlorotoluene	18.45	91	176933m	1.04	ppb	
70) 4-ethyltoluene	18.57	105	243636m	1.04	ppb	
71) 1,3,5-trimethylbenzene	18.63	105	204057m	0.99	ppb	
72) 1,2,4-trimethylbenzene	19.06	105	191779	0.99	ppb	94
73) 1,3-dichlorobenzene	19.36	146	142815	1.05	ppb	90
74) benzyl chloride	19.43	91	135861m	0.76	ppb	
75) 1,4-dichlorobenzene	19.49	146	140628	1.03	ppb	94
76) 1,2,3-trimethylbenzene	19.52	105	185113	0.98	ppb	90
77) 1,2-dichlorobenzene	19.81	146	131978	1.03	ppb	96
78) 1,2,4-trichlorobenzene	21.70	180	77266	0.84	ppb	94
79) Naphthalene	21.91	128	151612	0.73	ppb	95
80) Hexachloro-1,3-butadiene	22.01	225	95974	1.07	ppb	91

Data File : C:\HPCHEM\1\DATA\AN052606.D
 Acq On : 26 May 2016 1:15 pm
 Sample : ALCS1UG-052616
 Misc : A505 1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 15:55 2016

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

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Jul 05 08:17:16 2016
 Response via : Initial Calibration



ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-FCE-VC

Sample ID	ALCS1UGD-052416	SampleType:	LCSD	TestCode:	0.25CT-FCE-	Units:	ppbv	Prep Date:	RunNo:	10999	
Client ID:	ZZZZ	Batch ID:	R10999	TestNo:	TO-15	Analysis Date:	5/25/2016	SeqNo:	128926		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.080	0.15	1	0	108	70	130	0.99	8.70	30	
1,1-Dichloroethane	1.110	0.15	1	0	111	70	130	1.02	8.45	30	
1,1-Dichloroethene	1.090	0.15	1	0	109	70	130	1.02	6.64	30	
Chloroethane	1.200	0.15	1	0	120	70	130	1.14	5.13	30	
Chloromethane	1.270	0.15	1	0	127	70	130	1.25	1.59	30	
cis-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130	0.99	4.93	30	
Tetrachloroethylene	1.110	0.15	1	0	111	70	130	1.04	6.51	30	
trans-1,2-Dichloroethene	1.050	0.15	1	0	105	70	130	0.98	6.90	30	
Trichloroethene	1.100	0.040	1	0	110	70	130	1.05	4.65	30	
Vinyl chloride	1.220	0.040	1	0	122	70	130	1.19	2.49	30	

Sample ID	ALCS1UGD-052516	SampleType:	LCSD	TestCode:	0.25CT-FCE-	Units:	ppbv	Prep Date:	RunNo:	11000	
Client ID:	ZZZZ	Batch ID:	R11000	TestNo:	TO-15	Analysis Date:	5/26/2016	SeqNo:	128945		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.110	0.15	1	0	111	70	130	1.01	9.43	30	
1,1-Dichloroethane	1.090	0.15	1	0	109	70	130	1.08	0.922	30	
1,1-Dichloroethene	1.080	0.15	1	0	108	70	130	1.05	2.82	30	
Chloroethane	1.230	0.15	1	0	123	70	130	1.19	3.31	30	
Chloromethane	1.160	0.15	1	0	116	70	130	1.22	5.04	30	
cis-1,2-Dichloroethene	1.030	0.15	1	0	103	70	130	1.04	0.966	30	
Tetrachloroethylene	1.120	0.15	1	0	112	70	130	1.1	1.80	30	
trans-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130	1.02	1.94	30	
Trichloroethene	1.140	0.040	1	0	114	70	130	1.09	4.48	30	

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

CLIENT: LaBella Associates, P.C.
 Work Order: C1605057
 Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UGD-052516	Sample Type	LCSD	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:		RunNo:	11000
Client ID:	ZZZZZ	Batch ID:	R11000	TestNo:	TO-15			Analysis Date:	5/26/2016	SeqNo:	128945
Analyte		Result	1.230	PQL	SPK value	SPK RefVal	0	%REC	123	LowLimit	70
				0.040			1			HighLimit	130
										RPD Ref Val	1.18
										%RPD	4.15
										RPDLimit	30

Vinyl chloride

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

CLIENT: LaBella Associates, P.C.
 Work Order: CI605057
 Project: Emerson Landfill

TestCode: 1ugM3_TO15

Sample ID	ALCS1UGD-052616	SampType: LCSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 11001				
Client ID: ZZZZ	Batch ID: R11001	Result	TestNo: TO-15	Analysis Date: 5/27/2016	SeqNo: 128977					
Analyte	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.15	1	0	98.0	70	130	0.95	3.11	30	
1,1-Dichloroethane	0.15	1	0	108	70	130	1.04	3.77	30	
1,1-Dichloroethene	0.15	1	0	107	70	130	1.04	2.84	30	
Chloroethane	0.15	1	0	117	70	130	1.2	2.53	30	
Chloromethane	0.15	1	0	121	70	130	1.27	4.84	30	
cis-1,2-Dichloroethene	0.15	1	0	102	70	130	1	1.98	30	
Tetrachloroethylene	0.15	1	0	106	70	130	1.06	0	30	
trans-1,2-Dichloroethene	0.15	1	0	102	70	130	0.99	2.99	30	
Trichloroethene	0.15	1	0	108	70	130	1.07	0.930	30	
Vinyl chloride	0.15	1	0	114	70	130	1.28	11.6	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

Data File : C:\HPCHEM\1\DATA\AN052424.D
 Acq On : 25 May 2016 4:05 am
 Sample : ALCS1UGD-052416
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 25 09:00:05 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	30886	1.00	ppb	-0.02
35) 1,4-difluorobenzene	11.88	114	136888	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	122919	1.00	ppb	-0.01

System Monitoring Compounds

66) Bromofluorobenzene	18.00	95	85000	0.98	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	98.00%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.99	41	37202	1.26	ppb	100
3) Freon 12	4.05	85	165998m	1.29	ppb	
4) Chloromethane	4.25	50	37180	1.27	ppb	93
5) Freon 114	4.25	85	107209m	1.19	ppb	
6) Vinyl Chloride	4.43	62	34834	1.22	ppb	93
7) Butane	4.53	43	44715	1.28	ppb	97
8) 1,3-butadiene	4.53	39	30464	1.13	ppb	94
9) Bromomethane	4.88	94	39902m	1.30	ppb	
10) Chloroethane	5.04	64	14260m	1.20	ppb	
11) Ethanol	5.16	45	11762m	1.26	ppb	
12) Acrolein	5.72	56	9549	1.10	ppb	79
13) Vinyl Bromide	5.37	106	37337m	1.22	ppb	
14) Freon 11	5.63	101	138515	1.67	ppb	97
15) Acetone	5.84	58	14934	1.22	ppb	# 1
16) Pentane	5.90	42	21288m	0.96	ppb	
17) Isopropyl alcohol	5.95	45	44777m	1.22	ppb	
18) 1,1-dichloroethene	6.39	96	46416	1.09	ppb	92
19) Freon 113	6.57	101	105994	1.18	ppb	90
20) t-Butyl alcohol	6.66	59	83023	1.10	ppb	# 88
21) Methylene chloride	6.84	84	41050	1.07	ppb	94
22) Allyl chloride	6.82	41	41608	0.90	ppb	91
23) Carbon disulfide	6.99	76	118864	1.06	ppb	95
24) trans-1,2-dichloroethene	7.76	61	54858	1.05	ppb	82
25) methyl tert-butyl ether	7.80	73	111056	1.02	ppb	92
26) 1,1-dichloroethane	8.20	63	74597	1.11	ppb	96
27) Vinyl acetate	8.20	43	76089	0.87	ppb	94
28) Methyl Ethyl Ketone	8.72	72	20197	1.17	ppb	# 1
29) cis-1,2-dichloroethene	9.13	61	51926	1.04	ppb	# 74
30) Hexane	8.71	57	56292	0.97	ppb	90
31) Ethyl acetate	9.31	43	73600	1.13	ppb	90
32) Chloroform	9.75	83	99219	1.10	ppb	98
33) Tetrahydrofuran	9.95	42	32618	0.91	ppb	94
34) 1,2-dichloroethane	10.87	62	57919	1.12	ppb	91
36) 1,1,1-trichloroethane	10.55	97	97974	1.08	ppb	95
37) Cyclohexane	11.26	56	51566	0.98	ppb	# 59
38) Carbon tetrachloride	11.21	117	102873	1.10	ppb	89
39) Benzene	11.17	78	122694	1.09	ppb	99
40) Methyl methacrylate	12.74	41	44658	1.13	ppb	98
41) 1,4-dioxane	12.80	88	23963m	1.19	ppb	
42) 2,2,4-trimethylpentane	12.01	57	168699	1.06	ppb	90
43) Heptane	12.36	43	54890	0.94	ppb	92
44) Trichloroethene	12.50	130	62082	1.10	ppb	92
45) 1,2-dichloropropane	12.62	63	44249	1.08	ppb	96

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

Data File : C:\HPCHEM\1\DATA\AN052424.D
 Acq On : 25 May 2016 4:05 am
 Sample : ALCS1UGD-052416
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 25 09:00:05 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.96	83	99895	1.15	ppb	96
47) cis-1,3-dichloropropene	13.73	75	65154	0.95	ppb	91
48) trans-1,3-dichloropropene	14.47	75	58407	0.94	ppb	80
49) 1,1,2-trichloroethane	14.79	97	57430	1.10	ppb	98
51) Toluene	14.52	92	90798	1.07	ppb	99
52) Methyl Isobutyl Ketone	13.66	43	100379	1.96	ppb	94
53) Dibromochloromethane	15.46	129	100316m	1.03	ppb	
54) Methyl Butyl Ketone	14.95	43	104059	2.81	ppb	96
55) 1,2-dibromoethane	15.70	107	90387	1.06	ppb	96
56) Tetrachloroethylene	15.52	164	66396	1.11	ppb	92
57) Chlorobenzene	16.47	112	127244	1.06	ppb	96
58) 1,1,1,2-tetrachloroethane	16.57	131	69372	1.00	ppb	95
59) Ethylbenzene	16.71	91	200706	1.06	ppb	94
60) m&p-xylene	16.91	91	314547	2.15	ppb	99
61) Nonane	17.25	43	83793	1.02	ppb	96
62) Styrene	17.33	104	117273	1.02	ppb	92
63) Bromoform	17.45	173	89554	1.08	ppb	99
64) o-xylene	17.35	91	178548	1.18	ppb	92
65) Cumene	17.88	105	211407	1.01	ppb	94
67) 1,1,2,2-tetrachloroethane	17.79	83	118232	1.10	ppb	97
68) Propylbenzene	18.40	91	273082m	1.10	ppb	
69) 2-Chlorotoluene	18.45	91	144574m	0.99	ppb	
70) 4-ethyltoluene	18.57	105	222947m	1.11	ppb	
71) 1,3,5-trimethylbenzene	18.62	105	193428m	1.09	ppb	
72) 1,2,4-trimethylbenzene	19.06	105	180098	1.08	ppb	93
73) 1,3-dichlorobenzene	19.35	146	134307	1.15	ppb	91
74) benzyl chloride	19.43	91	113755	0.74	ppb	95
75) 1,4-dichlorobenzene	19.49	146	129474	1.11	ppb	94
76) 1,2,3-trimethylbenzene	19.52	105	179719	1.11	ppb	88
77) 1,2-dichlorobenzene	19.80	146	125395	1.13	ppb	96
78) 1,2,4-trichlorobenzene	21.69	180	98901	1.25	ppb	93
79) Naphthalene	21.90	128	284483	1.60	ppb	95
80) Hexachloro-1,3-butadiene	22.01	225	113474	1.47	ppb	92

Data File : C:\HPCHEM\1\DATA\AN052526.D Vial: 24
 Acq On : 26 May 2016 1:17 am Operator: RJP
 Sample : ALCS1UGD-052516 Inst : MSD #1
 Misc : A505_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 26 10:08:22 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	9.59	128	28173	1.00	ppb	-0.02
35) 1,4-difluorobenzene	11.88	114	119863	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	110297	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)
66) Bromofluorobenzene	18.00	95	76222	0.98	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	98.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.00	41	32782	1.22	ppb	92
3) Freon 12	4.05	85	147939m	1.26	ppb	
4) Chloromethane	4.24	50	31122m	1.16	ppb	
5) Freon 114	4.25	85	100622m	1.22	ppb	
6) Vinyl Chloride	4.43	62	32113	1.23	ppb	98
7) Butane	4.54	43	39590m	1.24	ppb	
8) 1,3-butadiene	4.53	39	28187	1.15	ppb	100
9) Bromomethane	4.87	94	37866m	1.35	ppb	
10) Chloroethane	5.04	64	13392m	1.23	ppb	
11) Ethanol	5.17	45	10119	1.19	ppb	98
12) Acrolein	5.72	56	8048	1.01	ppb	# 70
13) Vinyl Bromide	5.37	106	34207m	1.23	ppb	
14) Freon 11	5.63	101	124405	1.65	ppb	98
15) Acetone	5.84	58	12498	1.12	ppb	# 1
16) Pentane	5.89	42	25004m	1.23	ppb	
17) Isopropyl alcohol	5.96	45	28399	0.85	ppb	# 100
18) 1,1-dichloroethene	6.38	96	41858	1.08	ppb	91
19) Freon 113	6.57	101	98535	1.20	ppb	91
20) t-Butyl alcohol	6.66	59	34122	0.50	ppb	# 88
21) Methylene chloride	6.85	84	37040	1.06	ppb	94
22) Allyl chloride	6.82	41	37057	0.88	ppb	89
23) Carbon disulfide	6.99	76	106430	1.04	ppb	98
24) trans-1,2-dichloroethene	7.77	61	49587	1.04	ppb	83
25) methyl tert-butyl ether	7.81	73	91024	0.92	ppb	90
26) 1,1-dichloroethane	8.21	63	67212	1.09	ppb	96
27) Vinyl acetate	8.20	43	63822	0.80	ppb	94
28) Methyl Ethyl Ketone	8.72	72	13830	0.88	ppb	# 18
29) cis-1,2-dichloroethene	9.14	61	46853	1.03	ppb	# 75
30) Hexane	8.71	57	46118	0.87	ppb	92
31) Ethyl acetate	9.31	43	55564	0.94	ppb	88
32) Chloroform	9.75	83	90315	1.10	ppb	96
33) Tetrahydrofuran	9.95	42	25273	0.78	ppb	94
34) 1,2-dichloroethane	10.87	62	53714	1.13	ppb	88
36) 1,1,1-trichloroethane	10.56	97	88208	1.11	ppb	96
37) Cyclohexane	11.26	56	44484	0.97	ppb	# 56
38) Carbon tetrachloride	11.20	117	94021	1.14	ppb	86
39) Benzene	11.18	78	111127	1.12	ppb	99
40) Methyl methacrylate	12.75	41	32968	0.95	ppb	98
41) 1,4-dioxane	12.81	88	10284m	0.58	ppb	
42) 2,2,4-trimethylpentane	12.02	57	146937	1.07	ppb	92
43) Heptane	12.37	43	48445	0.95	ppb	94
44) Trichloroethene	12.51	130	56072	1.14	ppb	93
45) 1,2-dichloropropane	12.62	63	39119	1.09	ppb	97

(#) = qualifier out of range (m) = manual integration
 AN052526.D A505_1UG.M Tue Jul 05 08:20:26 2016

Data File : C:\HPCHEM\1\DATA\AN052526.D
 Acq On : 26 May 2016 1:17 am
 Sample : ALCS1UGD-052516
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 10:08:22 2016

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

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Fri May 06 07:26:12 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.95	83	92125	1.22	ppb	98
47) cis-1,3-dichloropropene	13.74	75	57159	0.96	ppb	91
48) trans-1,3-dichloropropene	14.47	75	51494	0.95	ppb	81
49) 1,1,2-trichloroethane	14.78	97	51518	1.13	ppb	98
51) Toluene	14.53	92	78927	1.03	ppb	99
52) Methyl Isobutyl Ketone	13.67	43	35013m	0.76	ppb	
53) Dibromochloromethane	15.46	129	93635m	1.07	ppb	
54) Methyl Butyl Ketone	14.95	43	25455	0.77	ppb	94
55) 1,2-dibromoethane	15.71	107	81304	1.06	ppb	95
56) Tetrachloroethylene	15.52	164	60463	1.12	ppb	91
57) Chlorobenzene	16.48	112	112134	1.04	ppb	97
58) 1,1,1,2-tetrachloroethane	16.57	131	63530	1.02	ppb	97
59) Ethylbenzene	16.72	91	172110	1.01	ppb	94
60) m&p-xylene	16.91	91	275071	2.09	ppb	99
61) Nonane	17.25	43	71913	0.97	ppb	97
62) Styrene	17.33	104	100744	0.97	ppb	92
63) Bromoform	17.45	173	80394	1.08	ppb	99
64) o-xylene	17.35	91	144882	1.07	ppb	84
65) Cumene	17.89	105	184170	0.98	ppb	95
67) 1,1,2,2-tetrachloroethane	17.79	83	101444	1.05	ppb	97
68) Propylbenzene	18.41	91	219804m	0.98	ppb	
69) 2-Chlorotoluene	18.45	91	126739m	0.96	ppb	
70) 4-ethyltoluene	18.57	105	188422m	1.04	ppb	
71) 1,3,5-trimethylbenzene	18.63	105	162565m	1.02	ppb	
72) 1,2,4-trimethylbenzene	19.06	105	144298	0.97	ppb	94
73) 1,3-dichlorobenzene	19.35	146	113090	1.08	ppb	91
74) benzyl chloride	19.43	91	103584m	0.75	ppb	
75) 1,4-dichlorobenzene	19.49	146	110026	1.05	ppb	93
76) 1,2,3-trimethylbenzene	19.52	105	142747	0.98	ppb	90
77) 1,2-dichlorobenzene	19.80	146	101953	1.03	ppb	97
78) 1,2,4-trichlorobenzene	21.69	180	54617	0.77	ppb	94
79) Naphthalene	21.91	128	94829	0.59	ppb	96
80) Hexachloro-1,3-butadiene	22.01	225	73293	1.06	ppb	91

Quantitation Report (QT Reviewed)

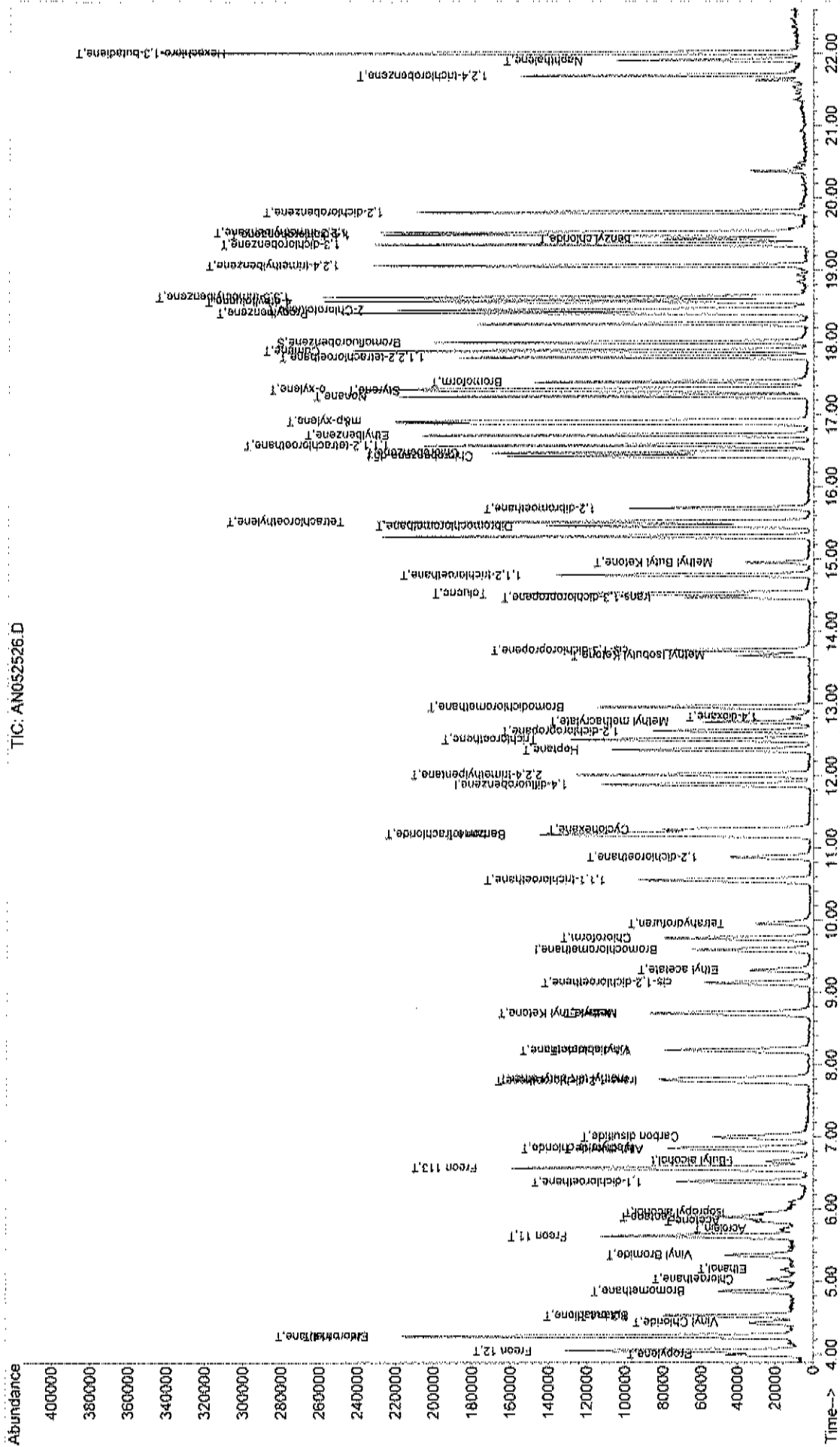
Data File : C:\HPCHEM\1\DATA\AN052526.D
 Acq On : 26 May 2016 1:17 am
 Sample : ALC51UGD-052516
 Misc : A505 1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 26 10:51 2016

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

Quant Results File: A505_1UG.REB

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Jul 05 08:17:16 2016
 Response via : Initial Calibration

TIC: AN052526.D



Data File : C:\HPCHEM\1\DATA\AN052628.D
 Acq On : 27 May 2016 4:04 am
 Sample : ALCS1UGD-052616
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 27 09:32:50 2016

Vial: 20
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu May 26 10:56:15 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.59	128	33398	1.00	ppb	-0.02
35) 1,4-difluorobenzene	11.88	114	153762	1.00	ppb	-0.01
50) Chlorobenzene-d5	16.42	117	138123	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.00	95	93028	0.95	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	95.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.00	41	36660	1.15	ppb	99
3) Freon 12	4.05	85	177354	1.28	ppb	98
4) Chloromethane	4.25	50	38208	1.21	ppb	94
5) Freon 114	4.25	85	118541	1.21	ppb	94
6) Vinyl Chloride	4.43	62	35410	1.14	ppb	98
7) Butane	4.53	43	43647	1.15	ppb	97
8) 1,3-butadiene	4.53	39	29194	1.00	ppb	91
9) Bromomethane	4.88	94	42795m ^p	1.29	ppb	
10) Chloroethane	5.04	64	15116	1.17	ppb	# 41
11) Ethanol	5.17	45	11890	1.18	ppb	89
12) Acrolein	5.72	56	8774	0.93	ppb	# 35
13) Vinyl Bromide	5.37	106	40803	1.24	ppb	100
14) Freon 11	5.63	101	113741m ⁿ	1.27	ppb	
15) Acetone	5.84	58	12905	0.97	ppb	# 1
16) Pentane	5.90	42	26134	1.08	ppb	# 13
17) Isopropyl alcohol	5.95	45	31156	0.78	ppb	# 100
18) 1,1-dichloroethene	6.39	96	49417	1.07	ppb	88
19) Freon 113	6.57	101	111309	1.15	ppb	87
20) t-Butyl alcohol	6.67	59	39032	0.48	ppb	# 79
21) Methylene chloride	6.86	84	45457	1.09	ppb	90
22) Allyl chloride	6.83	41	42671	0.86	ppb	92
23) Carbon disulfide	7.00	76	124917	1.03	ppb	100
24) trans-1,2-dichloroethene	7.77	61	57633	1.02	ppb	80
25) methyl tert-butyl ether	7.81	73	111859	0.95	ppb	93
26) 1,1-dichloroethane	8.21	63	79034	1.08	ppb	96
27) Vinyl acetate	8.20	43	76068	0.80	ppb	93
28) Methyl Ethyl Ketone	8.73	72	17425	0.94	ppb	# 29
29) cis-1,2-dichloroethene	9.14	61	54995	1.02	ppb	# 71
30) Hexane	8.71	57	58098	0.92	ppb	88
31) Ethyl acetate	9.31	43	65612	0.93	ppb	88
32) Chloroform	9.75	83	102442	1.05	ppb	97
33) Tetrahydrofuran	9.96	42	30955	0.80	ppb	93
34) 1,2-dichloroethane	10.88	62	60176	1.07	ppb	91
36) 1,1,1-trichloroethane	10.55	97	99123	0.98	ppb	97
37) Cyclohexane	11.26	56	55771	0.94	ppb	# 62
38) Carbon tetrachloride	11.20	117	109181	1.03	ppb	89
39) Benzene	11.18	78	135371	1.07	ppb	97
40) Methyl methacrylate	12.75	41	57874	1.30	ppb	# 80
41) 1,4-dioxane	12.82	88	10697	0.47	ppb	71
42) 2,2,4-trimethylpentane	12.02	57	181867	1.04	ppb	89
43) Heptane	12.37	43	57490	0.88	ppb	89
44) Trichloroethene	12.50	130	68111	1.08	ppb	93
45) 1,2-dichloropropane	12.63	63	46420	1.01	ppb	96

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

Data File : C:\HPCHEM\1\DATA\AN052628.D
 Acq On : 27 May 2016 4:04 am
 Sample : ALCS1UGD-052616
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Quant Time: May 27 09:32:50 2016

Vial: 20
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu May 26 10:56:15 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.96	83	102734	1.06	ppb	94
47) cis-1,3-dichloropropene	13.74	75	70091	0.91	ppb	90
48) trans-1,3-dichloropropene	14.47	75	60860	0.87	ppb	80
49) 1,1,2-trichloroethane	14.79	97	61396	1.05	ppb	99
51) Toluene	14.53	92	100582	1.05	ppb	98
52) Methyl Isobutyl Ketone	13.67	43	30478	0.53	ppb	93
53) Dibromochloromethane	15.46	129	108862m	0.99	ppb	
54) Methyl Butyl Ketone	14.96	43	21697	0.52	ppb	96
55) 1,2-dibromoethane	15.71	107	97916	1.02	ppb	96
56) Tetrachloroethylene	15.52	164	71707	1.06	ppb	86
57) Chlorobenzene	16.47	112	135331	1.00	ppb	96
58) 1,1,1,2-tetrachloroethane	16.57	131	75595	0.97	ppb	95
59) Ethylbenzene	16.72	91	215245	1.01	ppb	96
60) m&p-xylene	16.91	91	338253	2.05	ppb	99
61) Nonane	17.25	43	86423	0.94	ppb	93
62) Styrene	17.33	104	125598	0.97	ppb	94
63) Bromoform	17.46	173	91668	0.99	ppb	97
64) o-xylene	17.35	91	173143	1.02	ppb	85
65) Cumene	17.89	105	226496	0.96	ppb	92
67) 1,1,2,2-tetrachloroethane	17.80	83	118419	0.98	ppb	98
68) Propylbenzene	18.41	91	262090m	0.94	ppb	
69) 2-Chlorotoluene	18.45	91	165410m	1.00	ppb	
70) 4-ethyltoluene	18.57	105	233453m	1.03	ppb	
71) 1,3,5-trimethylbenzene	18.63	105	193108m	0.97	ppb	
72) 1,2,4-trimethylbenzene	19.06	105	179013	0.96	ppb	94
73) 1,3-dichlorobenzene	19.36	146	136178	1.03	ppb	91
74) benzyl chloride	19.43	91	97562m	0.57	ppb	
75) 1,4-dichlorobenzene	19.49	146	132385	1.01	ppb	95
76) 1,2,3-trimethylbenzene	19.52	105	166825	0.92	ppb	88
77) 1,2-dichlorobenzene	19.80	146	119990	0.97	ppb	96
78) 1,2,4-trichlorobenzene	21.70	180	70782	0.80	ppb	93
79) Naphthalene	21.91	128	115664	0.58	ppb	95
80) Hexachloro-1,3-butadiene	22.01	225	87260	1.00	ppb	92

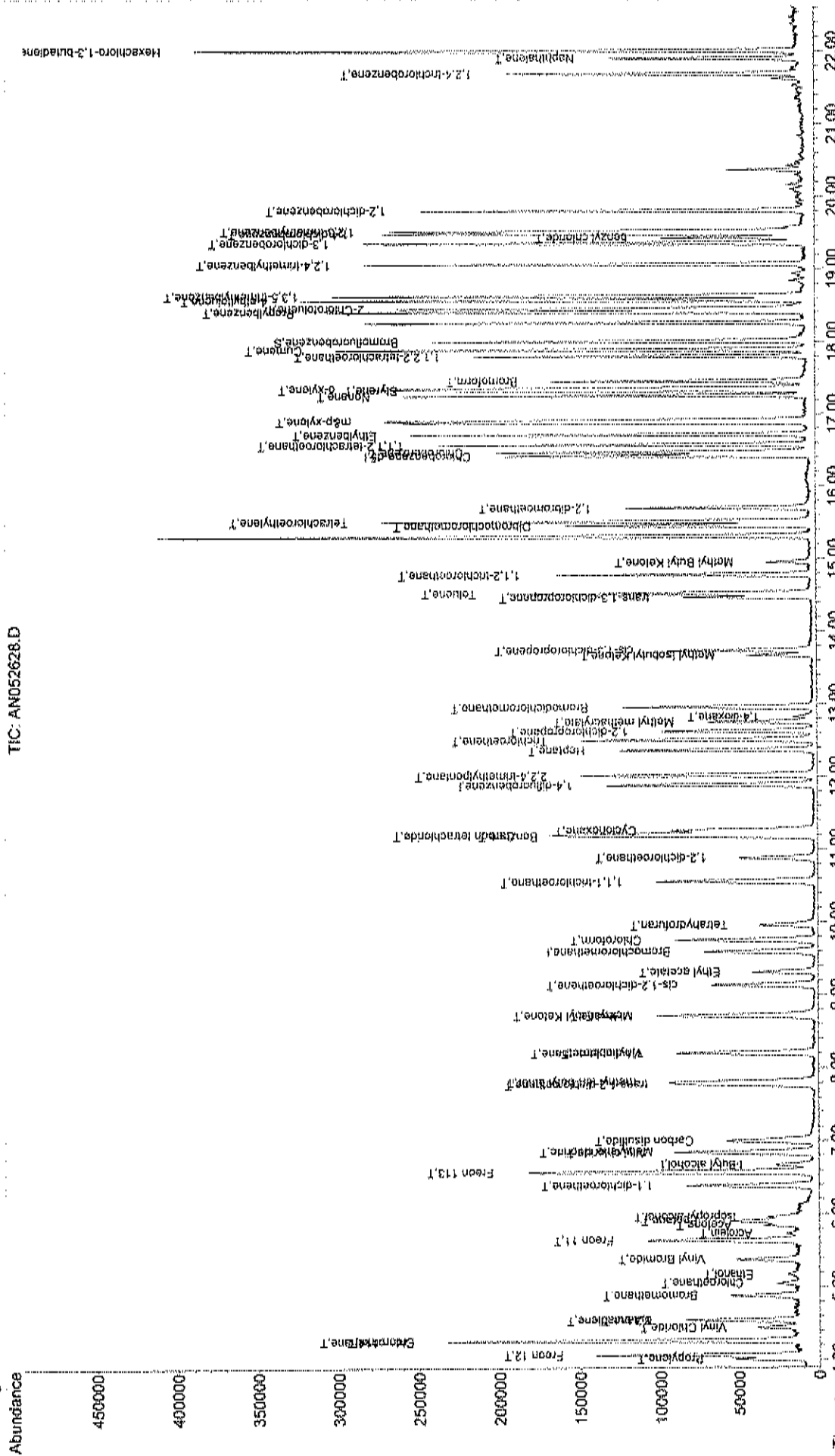
(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN052628.D A505_1UG.M Wed Jul 06 09:41:38 2016 MSD1

Data File : C:\HPCHEM\1\DATA\AN052628.D
Acq On : 27 May 2016 4:04 am
Sample : ALC51UGD-052616
Misc : A505_1UG
MS Integration Params: RTEINT.P
Quant Time: Jul 6 9:41 2016

Vial: 20
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A505_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu May 26 10:56:05 2016
Response via : Initial Calibration



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INJECTION LOG

Injection Log

Directory: C:\HPCHEM\1\DATA2

Instrument # 1
 Internal Standard Stock # A1431
 Standard Stock # 1432
 LCS Stock # 1433
 Method Ref: EPA TO-15 / Jan 1999

ie	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
6	5	An052310.d	1.	C1605046-001A 9X	A505_1UG	23 May 2016 15:40
7	6	An052311.d	1.	C1605046-001A 90X	A505_1UG	23 May 2016 16:17
8	7	An052312.d	1.	C1605046-002A 20X	A505_1UG	23 May 2016 16:54
9	8	An052313.d	1.	C1605046-003A 10X	A505_1UG	23 May 2016 17:30
0	9	An052314.d	1.	C1605046	A505_1UG -003A 20X	23 May 2016 18:07
1	10	An052315.d	1.	C1605046-004A 10X	A505_1UG	23 May 2016 18:43
2	11	An052316.d	1.	C1605045-001A 90X	A505_1UG	23 May 2016 19:20
3	12	An052317.d	1.	C1605045-002A 270X	A505_1UG	23 May 2016 19:57
4	13	An052318.d	1.	C1605043-001A 810X	A505_1UG	23 May 2016 20:33
5	14	An052319.d	1.	C1605043-002A 90X	A505_1UG	23 May 2016 21:10
6	15	An052320.d	1.	C1605040-001A 270X	A505_1UG	23 May 2016 21:46
7	16	An052321.d	1.	C1605040-002A 90X	A505_1UG	23 May 2016 22:23
8	17	An052322.d	1.	C1605040-003A 90X	A505_1UG	23 May 2016 22:59
9	18	An052323.d	1.	ALCS1UGD-052316	A505_1UG	23 May 2016 23:38
0		An052324.d	1.	No MS or GC data present		
1	1	An052401.d	1.	BFB1UG	A505_1UG	24 May 2016 08:19
2	2	An052402.d	1.	A1UG_1.0	A505_1UG	24 May 2016 09:01
3	3	An052403.d	1.	ALCS1UG-052416	A505_1UG	24 May 2016 09:44
4	4	An052404.d	1.	AMB1UG-052416	A505_1UG	24 May 2016 10:20
5	5	An052405.d	1.	C1605056-003A	A505_1UG	24 May 2016 11:04
6	6	An052406.d	1.	C1605056-001A	A505_1UG	24 May 2016 11:48
7	7	An052407.d	1.	C1605056-002A	A505_1UG	24 May 2016 12:29
8	8	An052408.d	1.	C1605056-003A 10X	A505_1UG	24 May 2016 13:06
9	9	An052409.d	1.	C1605056-001A 9X	A505_1UG	24 May 2016 13:46
0	10	An052410.d	1.	C1605056-001A 90X	A505_1UG	24 May 2016 14:23
1	11	An052411.d	1.	C1605056-002A 9X	A505_1UG	24 May 2016 15:03
2	12	An052412.d	1.	C1605056-002A 90X	A505_1UG	24 May 2016 15:40
3	13	An052413.d	1.	C1605054-002A	A505_1UG	24 May 2016 20:27
4	14	An052414.d	1.	C1605054-004A	A505_1UG	24 May 2016 21:08
5	15	An052415.d	1.	C1605054-006A	A505_1UG	24 May 2016 21:51
6	16	An052416.d	1.	C1605054-008A	A505_1UG	24 May 2016 22:33
7	17	An052417.d	1.	C1605054-010A	A505_1UG	24 May 2016 23:15
8	18	An052418.d	1.	C1605054-011A	A505_1UG	24 May 2016 23:57
9	19	An052419.d	1.	C1605055-002A	A505_1UG	25 May 2016 00:39
0	20	An052420.d	1.	C1605055-004A	A505_1UG	25 May 2016 01:21
1	21	An052421.d	1.	C1605055-006A	A505_1UG	25 May 2016 02:02
2	22	An052422.d	1.	C1605055-008A	A505_1UG	25 May 2016 02:43
3	23	An052423.d	1.	C1605055	A505_1UG	25 May 2016 03:26
4	24	An052424.d	1.	ALCS1UGD-052416	A505_1UG	25 May 2016 04:05
5	25	An052425.d	1.	C1605057-002A	A505_1UG	25 May 2016 04:47
6	26	An052426.d	1.	C1605057-004A	A505_1UG	25 May 2016 05:28
7	27	An052427.d	1.	C1605057-006A	A505_1UG	25 May 2016 06:10
8	28	An052428.d	1.	C1605057-007A	A505_1UG	25 May 2016 06:51
9	29	An052429.d	1.	C1605057-007A MS	A505_1UG	25 May 2016 07:37
0	30	An052430.d	1.	C1605057-007A MSD	A505_1UG	25 May 2016 08:23
1		An052431.d	1.	No MS or GC data present		
2	1	An052501.d	1.	BFB1UG	A505_1UG	25 May 2016 09:06
3	2	An052502.d	1.	A1UG_1.0	A505_1UG	25 May 2016 09:49
4	3	An052503.d	1.	ALCS1UG-052516	A505_1UG	25 May 2016 10:34
5	4	An052504.d	1.	AMB1UG-052516	A505_1UG	25 May 2016 11:10
6	5	An052505.d	1.	WAC052516A	A505_1UG	25 May 2016 11:47
7	6	An052506.d	1.	WAC052516B	A505_1UG	25 May 2016 12:25
8	7	An052507.d	1.	WAC052516C	A505_1UG	25 May 2016 13:02
9	8	An052508.d	1.	WAC052516D	A505_1UG	25 May 2016 13:46
0	9	An052509.d	1.	WAC052516E	A505_1UG	25 May 2016 14:24

Injection Log

Directory: C:\HPCHEM\1\DATA2

 Instrument # 1
 Internal Standard Check # A1431
 Start Date 1431
 LCS # 1433
 Method Injection

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Time
1	10	An052510.d	1.	WAC052516F	A505_1UG	25 May 2016 15:02
2	11	An052511.d	1.	C1605057-008A	A505_1UG	25 May 2016 15:45
3	12	An052512.d	1.	C1605055-010A	A505_1UG	25 May 2016 16:27
4	13	An052513.d	1.	C1605055-011A	A505_1UG	25 May 2016 17:10
5	12	An052514.d	1.	C1605054-002A 10X	A505_1UG	25 May 2016 17:48
6	13	An052515.d	1.	C1605054-004A 10X	A505_1UG	25 May 2016 18:25
7	14	An052516.d	1.	C1605054-006A 10X	A505_1UG	25 May 2016 19:02
8	15	An052517.d	1.	C1605054-008A 10X	A505_1UG	25 May 2016 19:39
9	16	An052518.d	1.	C1605054-010A 10X	A505_1UG	25 May 2016 20:16
0	17	An052519.d	1.	C1605054-011A 10X	A505_1UG	25 May 2016 20:54
1	18	An052520.d	1.	C1605055-002A 10X	A505_1UG	25 May 2016 21:31
2	19	An052521.d	1.	C1605055-004A 10X	A505_1UG	25 May 2016 22:08
3	20	An052522.d	1.	C1605055-006A 10X	A505_1UG	25 May 2016 22:45
4	21	An052523.d	1.	C1605055-008A 10X	A505_1UG	25 May 2016 23:22
5	22	An052524.d	1.	C1605055-010A 10X	A505_1UG	25 May 2016 23:59
6	23	An052525.d	1.	C1605055-011A 10X	A505_1UG	26 May 2016 00:38
7	24	An052526.d	1.	ALCS1UGD-052516	A505_1UG	26 May 2016 01:17
8	25	An052527.d	1.	C1605054-001A	A505_1UG	26 May 2016 02:00
9	26	An052528.d	1.	C1605054-003A	A505_1UG	26 May 2016 02:42
0	27	An052529.d	1.	C1605054-005A	A505_1UG	26 May 2016 03:25
1	28	An052530.d	1.	C1605054-007A	A505_1UG	26 May 2016 04:07
2	29	An052531.d	1.	C1605054-009A	A505_1UG	26 May 2016 04:48
3	30	An052532.d	1.	C1605055-001A	A505_1UG	26 May 2016 05:31
4	31	An052533.d	1.	C1605055-003A	A505_1UG	26 May 2016 06:13
5	32	An052534.d	1.	C1605055-005A	A505_1UG	26 May 2016 06:56
6	33	An052535.d	1.	C1605055-007A	A505_1UG	26 May 2016 07:37
7	34	An052536.d	1.	C1605055-009A	A505_1UG	26 May 2016 08:20
8	35	An052537.d	1.	C1605057-001A	A505_1UG	26 May 2016 09:02
9		An052538.d	1.	No MS or GC data present		
0	1	An052601.d	1.	BFB1UG	A505_1UG	26 May 2016 09:53
1	2	An052602.d	1.	A1UG	A505_1UG	26 May 2016 10:40
2	3	An052603.d	1.	A1UG_1.0	A505_1UG	26 May 2016 11:20
3	4	An052604.d	1.	ALCS1UG	A505_1UG	26 May 2016 11:59
4	5	An052605.d	1.	AMB1UG-052616	A505_1UG	26 May 2016 12:35
5	6	An052606.d	1.	ALCS1UG-052616	A505_1UG	26 May 2016 13:15
6	7	An052607.d	1.	C1605057-003A	A505_1UG	26 May 2016 13:56
7	8	An052608.d	1.	C1605057-005A	A505_1UG	26 May 2016 14:36
8	1	An052609.d	1.	C1605055-011A 40X	A505_1UG	26 May 2016 16:03
9	2	An052610.d	1.	C1605054-001A 9X	A505_1UG	26 May 2016 16:43
0	3	An052611.d	1.	C1605054-001A 90X	A505_1UG	26 May 2016 17:20
1	4	An052612.d	1.	C1605054-003A 20X	A505_1UG	26 May 2016 17:57
2	5	An052613.d	1.	C1605054-005A 10X	A505_1UG	26 May 2016 18:34
3	6	An052614.d	1.	C1605054-005A 40X	A505_1UG	26 May 2016 19:11
4	7	An052615.d	1.	C1605054-007A 20X	A505_1UG	26 May 2016 19:48
5	8	An052616.d	1.	C1605054-009A 20X	A505_1UG	26 May 2016 20:24
3	9	An052617.d	1.	C1605055-001A 10X	A505_1UG	26 May 2016 21:02
7	10	An052618.d	1.	C1605055-003A 9X	A505_1UG	26 May 2016 21:42
3	11	An052619.d	1.	C1605055-003A 90X	A505_1UG	26 May 2016 22:19
9	12	An052620.d	1.	C1605055-003A 180X	A505_1UG	26 May 2016 22:56
0	13	An052621.d	1.	C1605055-005A 9X	A505_1UG	26 May 2016 23:37
1	14	An052622.d	1.	C1605055-005A 90X	A505_1UG	27 May 2016 00:14
2	15	An052623.d	1.	C1605055-007A 9X	A505_1UG	27 May 2016 00:54
3	16	An052624.d	1.	C1605055-007A 90X	A505_1UG	27 May 2016 01:31
4	17	An052625.d	1.	C1605055-007A 180X	A505_1UG	27 May 2016 02:07
5	19	An052626.d	1.	C1605055-009A 10X	A505_1UG	27 May 2016 02:44

Injection Log

Directory: C:\HPCHEM\1\DATA2

Instrument	1
Internal Sta.	A1431
Standard No.	1432
LCS Serial	1433
Method	...
Misc Info	...
Injected	...

ie	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
6	20	An052627.d	1.	C1605057-003A 2X	A505_1UG	27 May 2016 03:24
7	20	An052628.d	1.	ALCS1UGD-052616	A505_1UG	27 May 2016 04:04
8	21	An052629.d	1.	C1605064-001A	A505_1UG	27 May 2016 04:44
9	22	An052630.d	1.	C1605065-001A	A505_1UG	27 May 2016 05:25
0	23	An052631.d	1.	C1605051-005A	A505_1UG	27 May 2016 06:05
1	24	An052632.d	1.	C1605051-001A	A505_1UG	27 May 2016 06:46
2	25	An052633.d	1.	C1605051-002A	A505_1UG	27 May 2016 07:27
3	26	An052634.d	1.	C1605051-003A	A505_1UG	27 May 2016 08:07
4		An052635.d	1.	No MS or GC data present		
5	1	An052701.d	1.	BFB1UG	A505_1UG	27 May 2016 08:50
6	2	An052702.d	1.	A1UG_1.0	A505_1UG	27 May 2016 09:47
7	3	An052703.d	1.	ALCS1UG	A505_1UG	27 May 2016 10:26
8	4	An052704.d	1.	ALCS1UG-052716	A505_1UG	27 May 2016 11:05
9	4	An052705.d	1.	AMB1UG-052716	A505_1UG	27 May 2016 11:41
0	5	An052706.d	1.	C1605053-001A	A505_1UG	27 May 2016 12:24
1	6	An052707.d	1.	C1605053-002A	A505_1UG	27 May 2016 13:07
2	7	An052708.d	1.	C1605051-004A	A505_1UG	27 May 2016 14:24
3	8	An052709.d	1.	C1605059-001A	A505_1UG	27 May 2016 15:06
4	9	An052710.d	1.	C1605059-002A	A505_1UG	27 May 2016 15:49
5	10	An052711.d	1.	C1605061-001A	A505_1UG	27 May 2016 16:31
6	11	An052712.d	1.	C1605061-002A	A505_1UG	27 May 2016 17:12
7	12	An052713.d	1.	C1605053-001A 10X	A505_1UG	27 May 2016 17:50
8	13	An052714.d	1.	C1605053-001A 40X	A505_1UG	27 May 2016 18:27
9	14	An052715.d	1.	C1605053-002A 10X	A505_1UG	27 May 2016 19:04
0	15	An052716.d	1.	C1605053	A505_1UG -002A 40X	27 May 2016 19:41
1	16	An052717.d	1.	C1605068-001A	A505_1UG	27 May 2016 20:20
2	17	An052718.d	1.	C1605068-002A	A505_1UG	27 May 2016 21:02
3	18	An052719.d	1.	C1605068-003A	A505_1UG	27 May 2016 21:43
4	19	An052720.d	1.	ALCS1UGD-052716	A505_1UG	27 May 2016 22:23
5	20	An052721.d	1.	C1605070-001A	A505_1UG	27 May 2016 23:05
6	21	An052722.d	1.	C1605070-002A	A505_1UG	27 May 2016 23:48
7	22	An052723.d	1.	C1605070-003A	A505_1UG	28 May 2016 00:28
8	23	An052724.d	1.	C1605070-004A	A505_1UG	28 May 2016 01:09
9	24	An052725.d	1.	C1605070-005A	A505_1UG	28 May 2016 01:52
0	25	An052726.d	1.	C1605070-006A	A505_1UG	28 May 2016 02:35
1	26	An052727.d	1.	C1605070-007A	A505_1UG	28 May 2016 03:16
2	27	An052728.d	1.	C1605070-008A	A505_1UG	28 May 2016 03:58
3	28	An052729.d	1.	C1605051-005A 5X	A505_1UG	28 May 2016 04:36
4	29	An052730.d	1.	C1605051	A505_1UG -001A 10X	28 May 2016 05:13
5	30	An052731.d	1.	C1605051-002A 10X	A505_1UG	28 May 2016 05:49
6	31	An052732.d	1.	C1605051	A505_1UG -002A 40X	28 May 2016 06:26
7	32	An052733.d	1.	C1605051-003A 9X	A505_1UG	28 May 2016 07:06
8	33	An052734.d	1.	C1605051-003A 90X	A505_1UG	28 May 2016 07:43
9	34	An052735.d	1.	C1605051	A505_1UG -003A ...	28 May 2016 08:20
0		An052736.d	1.	No MS or GC data present		
1	37	An052801.d	1.	BFB1UG	A505_1UG	28 May 2016 08:57
2	38	An052802.d	1.	A1UG_1.0	A505_1UG	28 May 2016 09:38
3	39	An052803.d	1.	ALCS1UG-052816	A505_1UG	28 May 2016 10:18
4	1	An052804.d	1.	AMB1UG-052816	A505_1UG	28 May 2016 11:21
5	2	An052805.d	1.	C1605070	A505_1UG -001A 10X	28 May 2016 11:58
6	3	An052806.d	1.	C1605070-002A 9X	A505_1UG	28 May 2016 12:38
7	4	An052807.d	1.	C1605070	A505_1UG -002A 90X	28 May 2016 13:15
8	5	An052808.d	1.	C1605070	A505_1UG -003A 10X	28 May 2016 13:52
9	6	An052809.d	1.	C1605070	A505_1UG -003A 40X	28 May 2016 14:29
0	7	An052810.d	1.	C1605070-004A 10X	A505_1UG	28 May 2016 15:06

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-0546	12/1/14	12/8/14	TO15 IUG LCS	A0537	50ppb	0.9	45	1	Z.L.	
A-0547	12/5/14	12/11/15	TO15 IS	FF-8519		LINDE	2200 psig	1 ppm	Z.L.	
A-0548	12/5/14	2/13/15	LCS TO15	"A0098		STD IS NOW LCS"		1 ppm	Z.L.	
A-0549	12/8/14	12/15/14	TO15 IS	A0547	1 ppm	1.5	30	50	WD	
A-0550			STD	A0534						
A-0551			LCS	A0548						
A-0552			4PCH	9519						
A-0553			4PCHS	A0552	50 ppb	3.0	30	5		
A-0554			FORMSD	9520	8.9 ppm	0.25	45	50		
A-0555			SILOX	9584	500 ppb	3.0	30	50		
A-0556			SULF	A0270	1 ppm	1.5	30	50		
A-0557			H2S	9667	10 ppm	1.5	30	500		
A-0558			TO15 IUG IS	A0549	50 ppb	0.9	45	1		
A-0559			STD	A0550						
A-0560			LCS	A0551						
A-0561	12/11/14	12/11/15	HYDROGEN STD	Lot # 975229		MSA	30 1000 psia	0.8 %	WD	
A-0562	12/15/14	12/25/14	TO15 IS	A0547 FF-8519	1 ppm	3.0	50	50		
A-0563			STD	A0534	1 ppm	1.5	30	50		
A-0564			LCS	A0548						
A-0565			4PCH	9519						
A-0566			↓	A0535	50000	3.0	30	5		

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1201	1/15/16	1/23/16	TO15 APH	A1188	1ppm	1.5	30	50	MP	
A-1202	↓	↓	TO15106 APH	A1201	50ppm	0.9	45	↓	↓	
A-1203	1/15/16	1/15/17	TO15 MIX	↓	1ppm	LINDE TO15 MIX		1ppm	MP	
A-1204	1/18/16	1/18/17	LCS TO15	LL	A0534	STD IS NOW LCS		1ppm	Z.L.	
A-1205	1/18/16	1/25/16	TO15 JS	A1174	1ppm	1.5	30	50ppb	MP	
A-1206	↓	↓	LCS	A1204	↓	↓	↓	↓	↓	
A-1207	↓	↓	STD	A1203	↓	↓	↓	↓	↓	
A-1208	↓	↓	TO15 FORM	A0974	11.5ppm	0.20	45	↓	↓	
A-1209	↓	↓	SILOX	A1204	1ppm	3.0	30	↓	↓	
A-1210	↓	↓	GULF	A0276	1ppm	1.5	↓	↓	↓	
A-1211	↓	↓	H2S	A0265	10ppm	↓	↓	500ppb	↓	
A-1212	↓	↓	TO15 4PCH	9519	1ppm	1.5	30	50ppb	↓	
A-1213	↓	↓	4PCH5	A1212	50ppm	3.0	↓	5ppb	↓	
A-1214	↓	↓	TO15106 JS	A1205	↓	0.9	45	1ppb	↓	
A-1215	↓	↓	STD	A1207	↓	↓	↓	↓	↓	
A-1216	↓	↓	LCS	A1206	↓	↓	↓	↓	↓	
A-1217	1/25/16	2/1/16	TO15 JS	A1174	1ppm	1.5	30	50ppb	WD	
A-1218	↓	↓	STD	A1203	↓	↓	↓	↓	↓	
A-1219	↓	↓	LCS	A1204	↓	↓	↓	↓	↓	
A-1220	↓	↓	4PCH	9519	↓	↓	↓	↓	↓	
A-1221	↓	↓	4PCH5	A1220	50ppb	3.0	30	5	↓	

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1285	2/24/16	3/7/16	TO15 H2S	A0269	10 ppm	1.5	30	500	WD	
A-1286			TO15 146 IS	A1277	50 ppb	0.9	45	1		
A-1287			↓	A1278	↓	↓	↓	↓	↓	
A-1288			↓	A1279	↓	↓	↓	↓	↓	
A-1289	3/1/16	3/1/17	TO15 IS	FF-4909	LINDE		2100 psig	1 ppm	WD	
A-1290	3/7/16	3/14/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1291			↓	A1203	↓	↓	↓	↓	↓	
A-1292			LCS	A1204	↓	↓	↓	↓	↓	
A-1293			4PCH	9519	↓	↓	↓	↓	↓	
A-1294			4PCHS	A1293	50 ppb	3.0	30	5		
A-1295			FORM	A0974	11.5 ppm	0.20	45	50		
A-1296			S10X	A1088 A1089	500 ppb	3.0	30	50		
A-1297			↓	A0270	1 ppm	1.5	30	50		
A-1298			↓	A0269	10 ppm	1.5	30	500		
A-1299			TO15 146 IS	A1290	50 ppb	0.9	45	1		
A-1300			↓	A1291	↓	↓	↓	↓	↓	
A-1301			↓	A1292	↓	↓	↓	↓	↓	
A-1302	3/14/16	3/21/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1303			↓	A1203	↓	↓	↓	↓	↓	
A-1304			LCS	A1204	↓	↓	↓	↓	↓	
A-1305			↓	9519	↓	↓	↓	↓	↓	

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1411	5/16/16	5/23/16	TO15	A1203	1 ppm	1.5	30	50	WD	
A-1412			LCS	A1204	↓	↓	↓	↓		
A-1413			4PCH	9519	↓	↓	↓	↓		
A-1414			4PCHS	A1413	50 ppb	3.0	30	5		
A-1415			FORM	A0974	11.5 ppm	0.20	45	50		
A-1416			5ILOX	A1088 A1089	500 ppb	3.0	30	50		
A-1417			SOLF	A0270	1 ppm	1.5	30	50		
A-1418			H ₂ S	A0269	10 ppm	1.5	30	500		
A-1419			TO15 146 IS	A1410	50 ppb	0.9	45	1		
A-1420			STD	A1411	↓	↓	↓	↓		
A-1421			LCS	A1412	↓	↓	↓	↓		
A-1422	5/23/16	5/30/16	TO15	A1289	1 ppm	1.5	30	50	WD	
A-1423			STD	A1203	↓	↓	↓	↓		
A-1424			LCS	A1204	↓	↓	↓	↓		
A-1425			4PCH	9519	↓	↓	↓	↓		
A-1426			4PCHS	A1425	50 ppb	3.0	30	5		
A-1427			FORM	A0974	11.5 ppm	0.20	45	50		
A-1428			5ILOX	A1088 A1089	500 ppb	3.0	30	50		
A-1429			SOLF	A0270	1 ppm	1.5	30	50		
A-1430			H ₂ S	A0269	10 ppm	1.5	30	500		
A-1431			TO15 146 IS	A1422	50 ppb	0.9	45	1		

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1432	5/23/16	5/20/16	TD15 146 STD	A1423	50 ppb	0.9	45	1	WD	
A-1433	↓	↓	LCS	A1424	↓	↓	↓	↓	↓	
A-1434	5/31/16	6/7/16	TD15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1435	↓	↓	STD	A1203	↓	↓	↓	↓	↓	
A-1436	↓	↓	LCS	A1204	↓	↓	↓	↓	↓	
A-1437	↓	↓	4ACT	9519	↓	↓	↓	↓	↓	
A-1438	↓	↓	4ACT	A1437	50 ppb	3.0	30	5	↓	
A-1439	↓	↓	FORM	A0974	11.5 ppm	0.20	45	50	↓	
A-1440	↓	↓	514X	A1068 A1089	50 ppb	3.0	30	50	↓	
A-1441	↓	↓	SOLF	A0220	1 ppm	1.5	30	50	↓	
A-1442	↓	↓	H2S	A0269	10 ppm	1.5	30	500	↓	
A-1443	↓	↓	TD15 146 IS	A1434	50 ppb	0.9	45	1	↓	
A-1444	↓	↓	STD	A1435	↓	↓	↓	↓	↓	
A-1445	↓	↓	LCS	A1436	↓	↓	↓	↓	↓	
A-										
A-										
A-										
A-										
A-										
A-										
A-										

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig stir/sip)
275	352	20	4/23/16	WACO42816A	1ppm ± 0.25	+ 30
193						+ +
550						+ +
1174						+ +
352						+ +
553	359			B		+ +
285						+ +
241						+ +
170						+ +
359						+ +
98	368			E		+ +
142						+ +
138						+ +
229						+ +
368						+ +
1185	237			D		+ +
562						+ +
1191						+ +
569						+ +
237						+ +
556	202			E		+ +
101						+ +
243						+ +
357						+ +
202						+ +

Cleaned by: MP Form C151 Page # 175

Data File : C:\HPCHEM\1\DATA2\2016MAR\AN032808.D Vial: 8
 Acq On : 28 Mar 2016 6:11 pm Operator: RJP
 Sample : WAC032816D Inst : MSD #1
 Misc : A316_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: May 12 15:00:47 2016 Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed May 11 08:43:39 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.85	128	27148m	1.00	ppb	0.03
35) 1,4-difluorobenzene	12.09	114	66396	1.00	ppb	0.03
50) Chlorobenzene-d5	16.58	117	61840	1.00	ppb	0.02

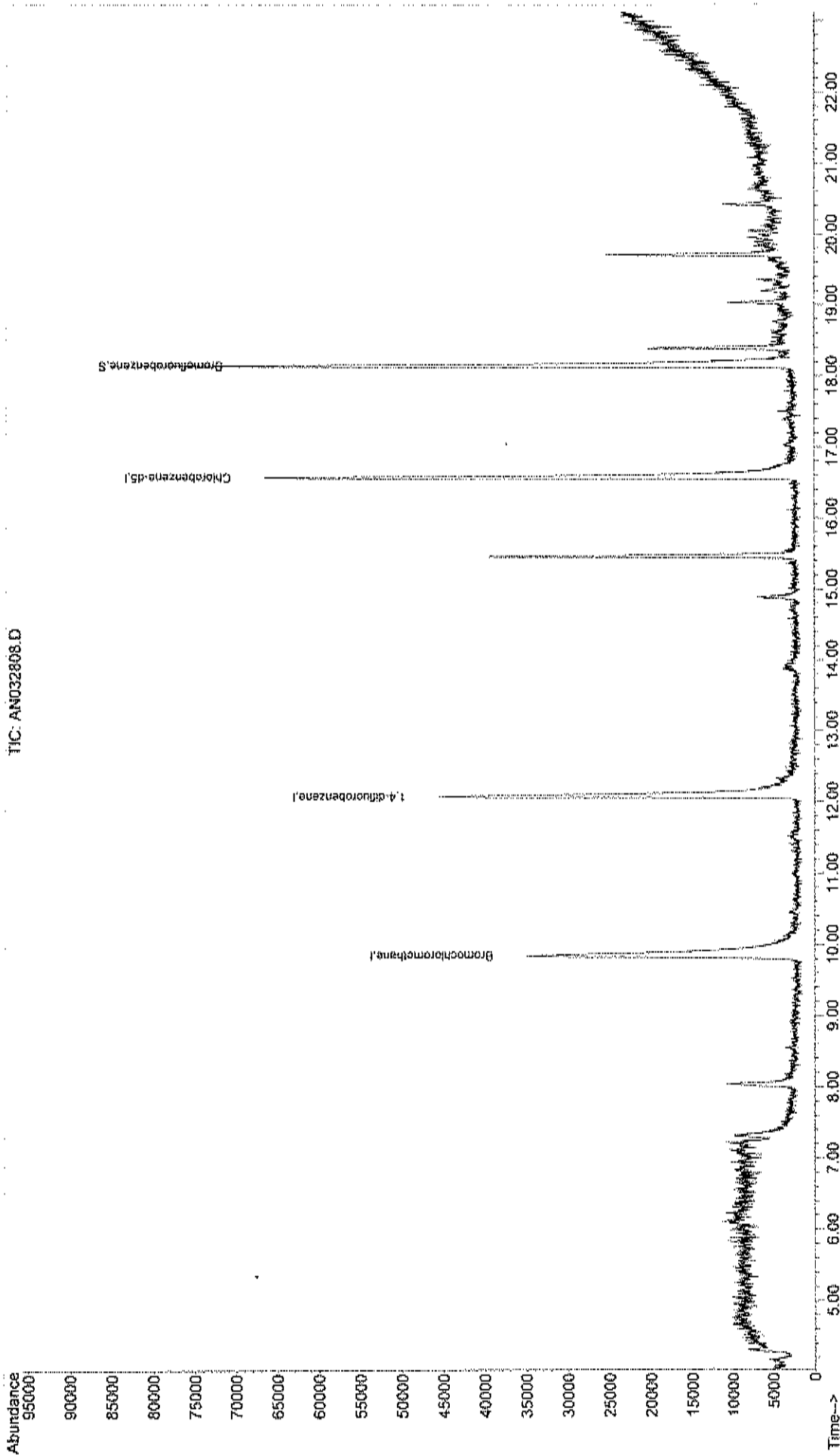
System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	42018	1.06	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	106.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\2016MAR\AN032808.D Vial: 8
 Acq On : 28 Mar 2016 6:11 pm Operator: RJP
 Sample : WAC032816D Inst : MSD #1
 Misc : A316_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 6 9:56 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu May 26 10:56:05 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\DATA2\2016APR\BL042811.D Vial: 31
 Acq On : 28 Apr 2016 8:28 pm Operator: LL
 Sample : WAC042816A Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Apr 29 09:34:16 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Apr 12 13:49:09 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UGRUN2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.86	128	14384	1.00	ppb	0.03
35) 1,4-difluorobenzene	10.10	114	34834	1.00	ppb	0.02
50) Chlorobenzene-d5	14.83	117	34634	1.00	ppb	0.00

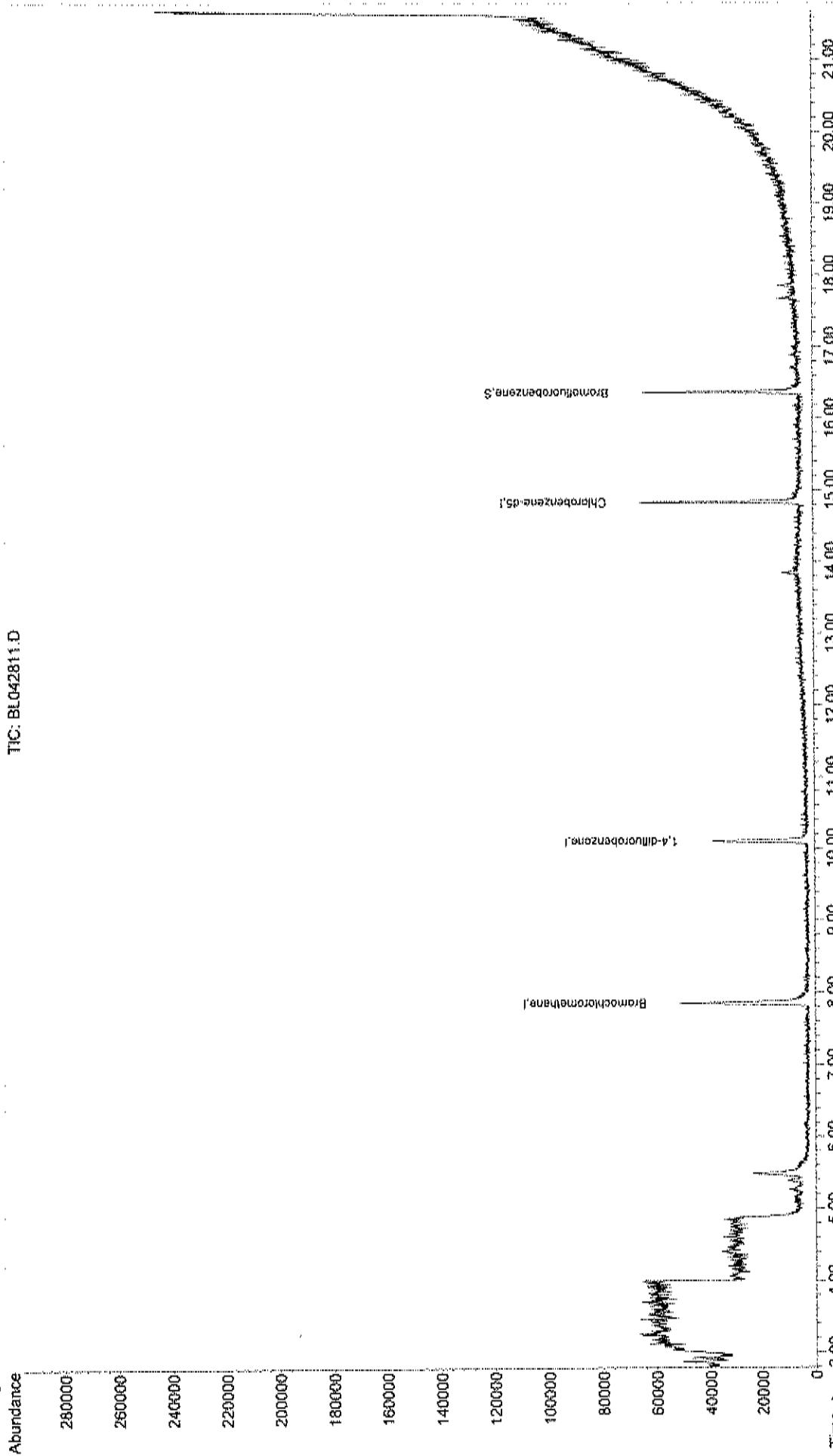
System Monitoring Compounds
 65) Bromofluorobenzene 16.36 95 16826 0.76 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 76.00%

Target Compounds Qvalue

Data File : C:\MSDCHEM\DATA2\2016APR\BL042811.D Vial: 31
 Acq On : 28 Apr 2016 8:28 pm Operator: LL
 Sample : WAC042816A Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 6 9:59 2016 Quant Results File: B02041UG.RES

Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue May 24 12:00:33 2016
 Response via : Initial Calibration

TIC: BL042811.D



Data File : C:\MSDCHEM\DATA2\2016APR\BL042812.D Vial: 32
 Acq On : 28 Apr 2016 9:06 pm Operator: LL
 Sample : WAC042816B Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Apr 29 09:00:24 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Apr 12 13:49:09 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UGRUN2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.86	128	14334	1.00	ppb	0.04
35) 1,4-difluorobenzene	10.11	114	33231	1.00	ppb	0.03
50) Chlorobenzene-d5	14.83	117	31953	1.00	ppb	0.00

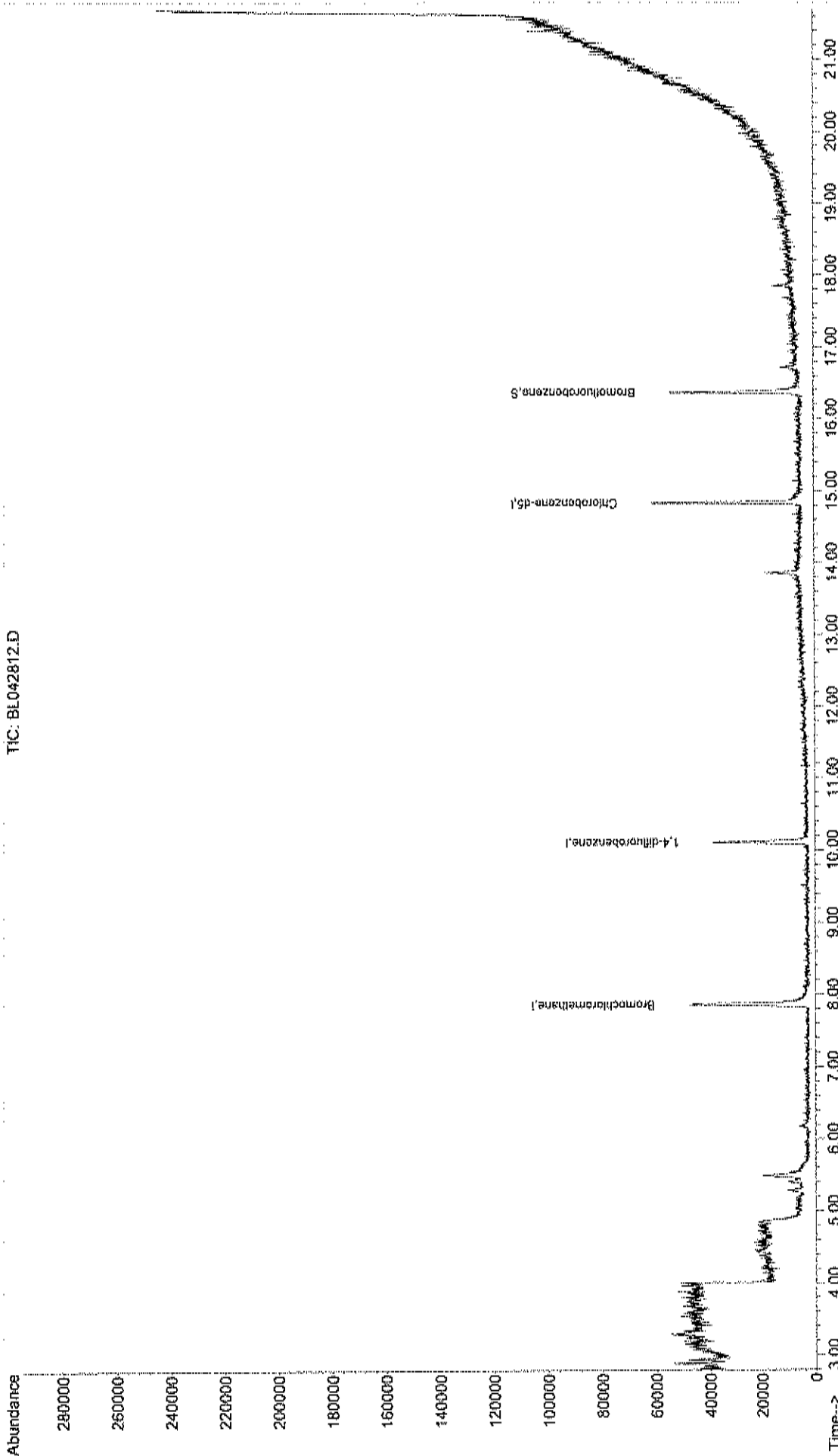
System Monitoring Compounds
 65) Bromofluorobenzene 16.36 95 15880 0.78 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 78.00%

Target Compounds Qvalue

Data File : C:\MSDCHEM\DATA2\2016APR\BL042812.D
 Acq On : 28 Apr 2016 9:06 pm
 Sample : WAC042816B
 Misc : B02041UG.M QC Can
 MS Integration Params: RTEINT.P
 Quant Time: Jul 6 10:01 2016
 Quant Results File: B02041UG.RES

Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue May 24 12:00:33 2016
 Response via : Initial Calibration

File: BL042812.D



Data File : C:\MSDCHEM\DATA2\2016APR\BL042813.D Vial: 33
 Acq On : 28 Apr 2016 9:44 pm Operator: LL
 Sample : WAC042816C Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Apr 29 09:00:32 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Apr 12 13:49:09 2016
 Response via : Initial Calibration
 DataAcq Meth : LUGRUN2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	7.86	128	16771	1.00	ppb	0.04
35) 1,4-difluorobenzene	10.11	114	35413	1.00	ppb	0.03
50) Chlorobenzene-d5	14.83	117	34880	1.00	ppb	0.00

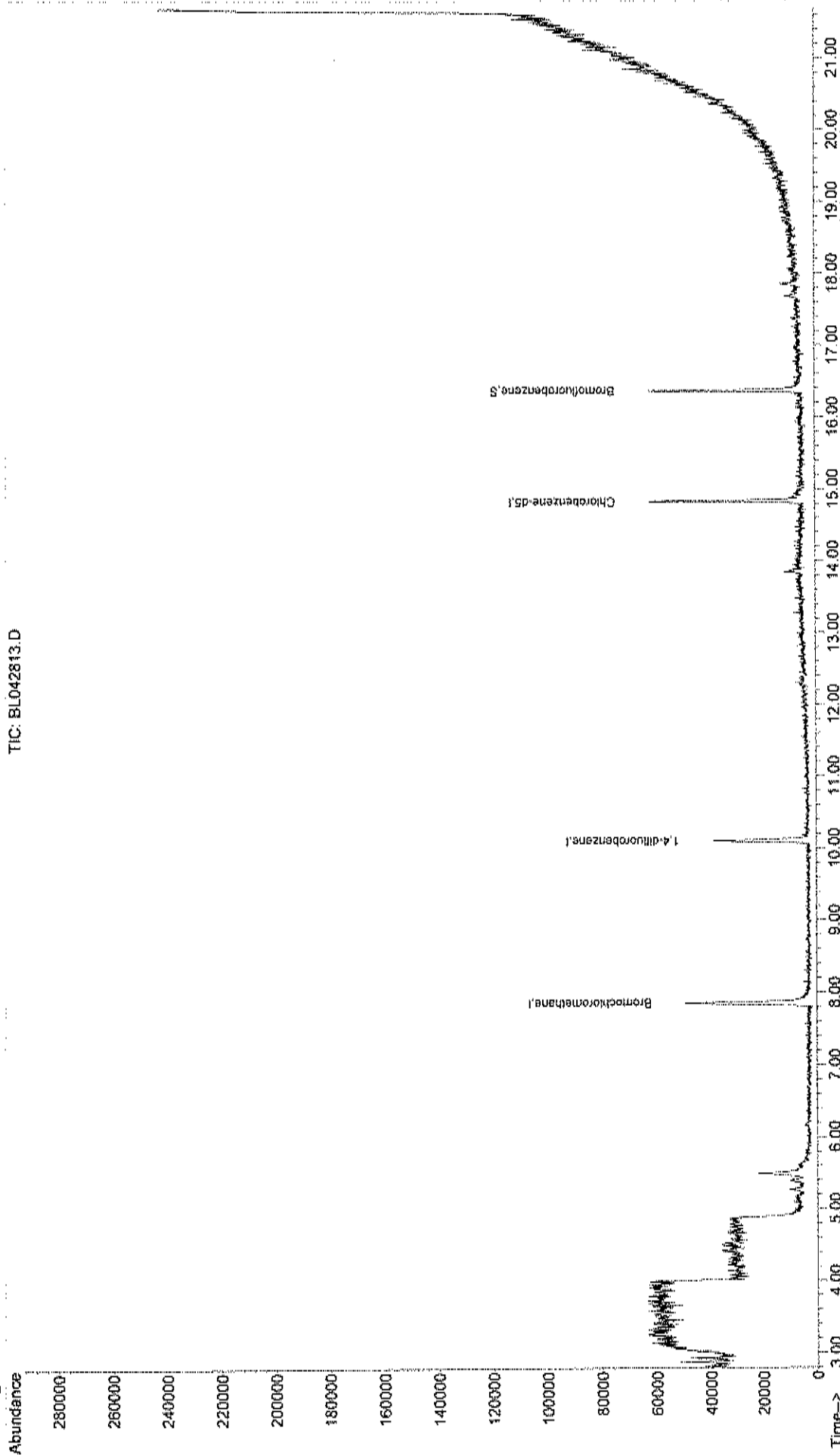
System Monitoring Compounds
 65) Bromofluorobenzene 16.36 95 17418 0.79 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 79.00%

Target Compounds Qvalue

Data File : C:\MSDCHEM\DATA2\2016APR\BL042813.D Vial: 33
 Acq On : 28 Apr 2016 9:44 pm Operator: LL
 Sample : WAC042816C Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 6 10:02 2016 Quant Results File: B02041UG.RES

Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue May 24 12:00:33 2016
 Response via : Initial Calibration

TIC: BL042813.D



Data File : C:\MSDCHEM\DATA2\2016APR\BL042814.D Vial: 34
 Acq On : 28 Apr 2016 10:22 pm Operator: LL
 Sample : WAC042816D Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Apr 29 09:00:43 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Apr 12 13:49:09 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UGRUN2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.86	128	15403	1.00	ppb	0.04
35) 1,4-difluorobenzene	10.11	114	34212	1.00	ppb	0.03
50) Chlorobenzene-d5	14.83	117	32652	1.00	ppb	0.00

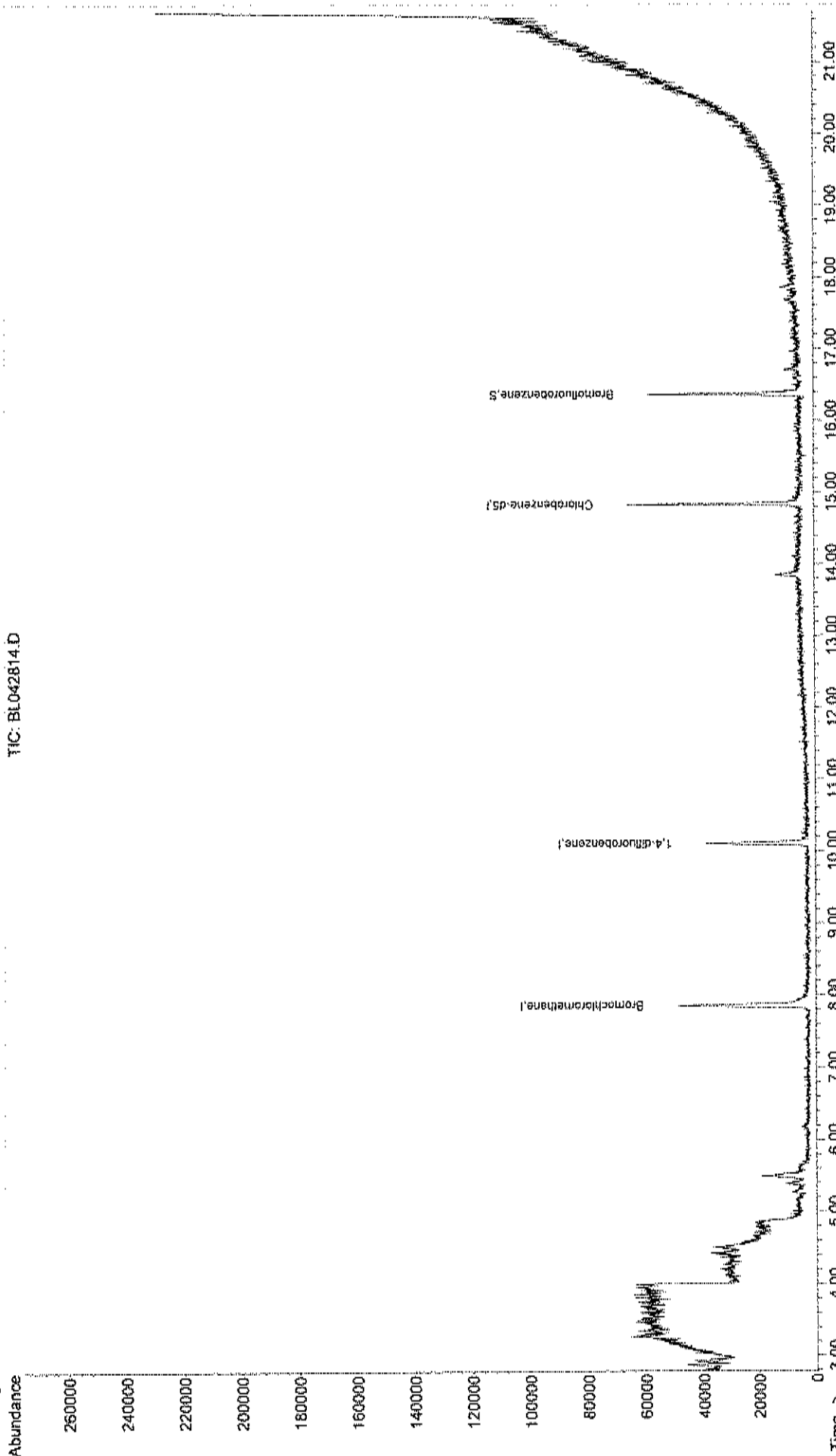
System Monitoring Compounds
 65) Bromofluorobenzene 16.36 95 17001 0.82 ppb 0.00
 Spiked Amount 1.000 Range 70 ~ 130 Recovery = 82.00%

Target Compounds Qvalue

Data File : C:\MSDCHEM\DATA2\2016APR\BL042814.D Vial: 34
Acq On : 28 Apr 2016 10:22 pm Operator: LL
Sample : WAC042816D Inst : MSD #2
Misc : B02041UG.M QC Can Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jul 6 10:05 2016 Quant Results File: B02041UG.RES

Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue May 24 12:00:33 2016
Response via : Initial Calibration

YIC: BL042814.D



Data File : C:\MSDCHEM\DATA2\2016APR\BL042815.D Vial: 35
 Acq On : 28 Apr 2016 11:00 pm Operator: LL
 Sample : WAC042816E Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Apr 29 09:01:42 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Apr 12 13:49:09 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UGRUN2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.88	128	14932	1.00	ppb	0.05
35) 1,4-difluorobenzene	10.11	114	33372	1.00	ppb	0.04
50) Chlorobenzene-d5	14.84	117	32326	1.00	ppb	0.00

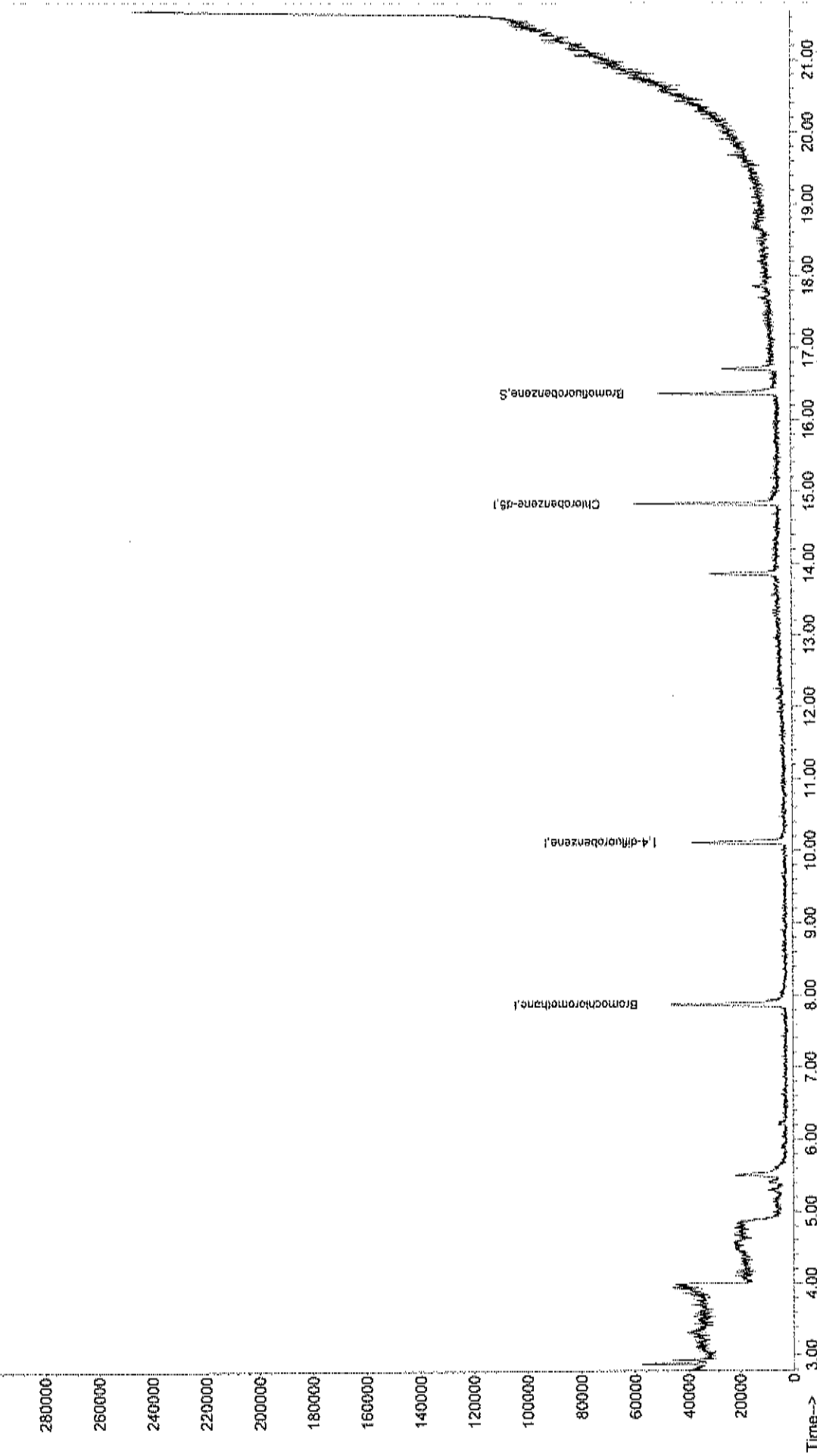
System Monitoring Compounds
 65) Bromofluorobenzene 16.36 95 15217 0.74 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 74.00%

Target Compounds Qvalue

Data File : C:\MSDCHEM\DATA2\2016APR\BL042815.D Vial: 35
 Acq On : 28 Apr 2016 11:00 pm Operator: LL
 Sample : WAC042816E Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 6 10:06 2016 Quant Results File: B02041UG.RES

Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue May 24 12:00:33 2016
 Response via : Initial Calibration

Abundance TIC: BL042815.D



Data File : C:\MSDCHEM\DATA2\2016APR\BL042816.D Vial: 36
 Acq On : 28 Apr 2016 11:38 pm Operator: LL
 Sample : WAC042816F Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Apr 29 09:06:09 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Apr 12 13:49:09 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UGRUN2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.85	128	16730	1.00	ppb	0.02
35) 1,4-difluorobenzene	10.11	114	33794	1.00	ppb	0.03
50) Chlorobenzene-d5	14.83	117	33221	1.00	ppb	0.00

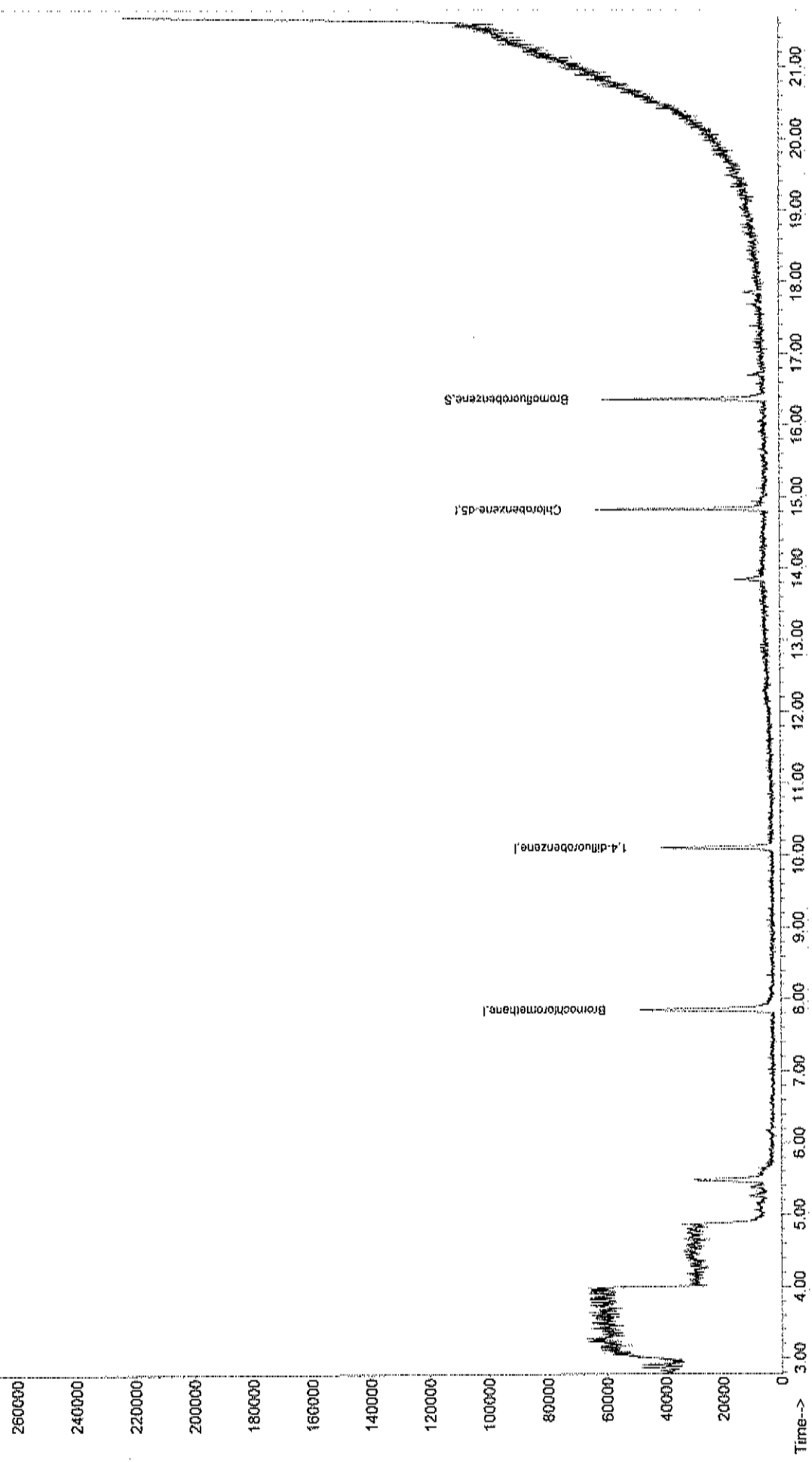
System Monitoring Compounds
 65) Bromofluorobenzene 16.36 95 16688 0.79 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 79.00%

Target Compounds Qvalue

Data File : C:\MSDCHEM\DATA2\2016APR\BL042816.D
 Acq On : 28 Apr 2016 11:38 pm
 Sample : WAC042816F
 Misc : B02041UG.M QC Can
 MS Integration Params: RTEINT.P
 Quant Time: Jul 6 10:08 2016
 Quant Results File: B02041UG.RES

Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue May 24 12:00:33 2016
 Response via : Initial Calibration

Abundance
 TIC: BL042816.D



Data File : C:\MSDCHEM\DATA2\2016APR\BL042817.D Vial: 37
 Acq On : 29 Apr 2016 12:16 am Operator: LL
 Sample : WAC042816G Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Apr 29 09:06:21 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Apr 12 13:49:09 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UGRUN2

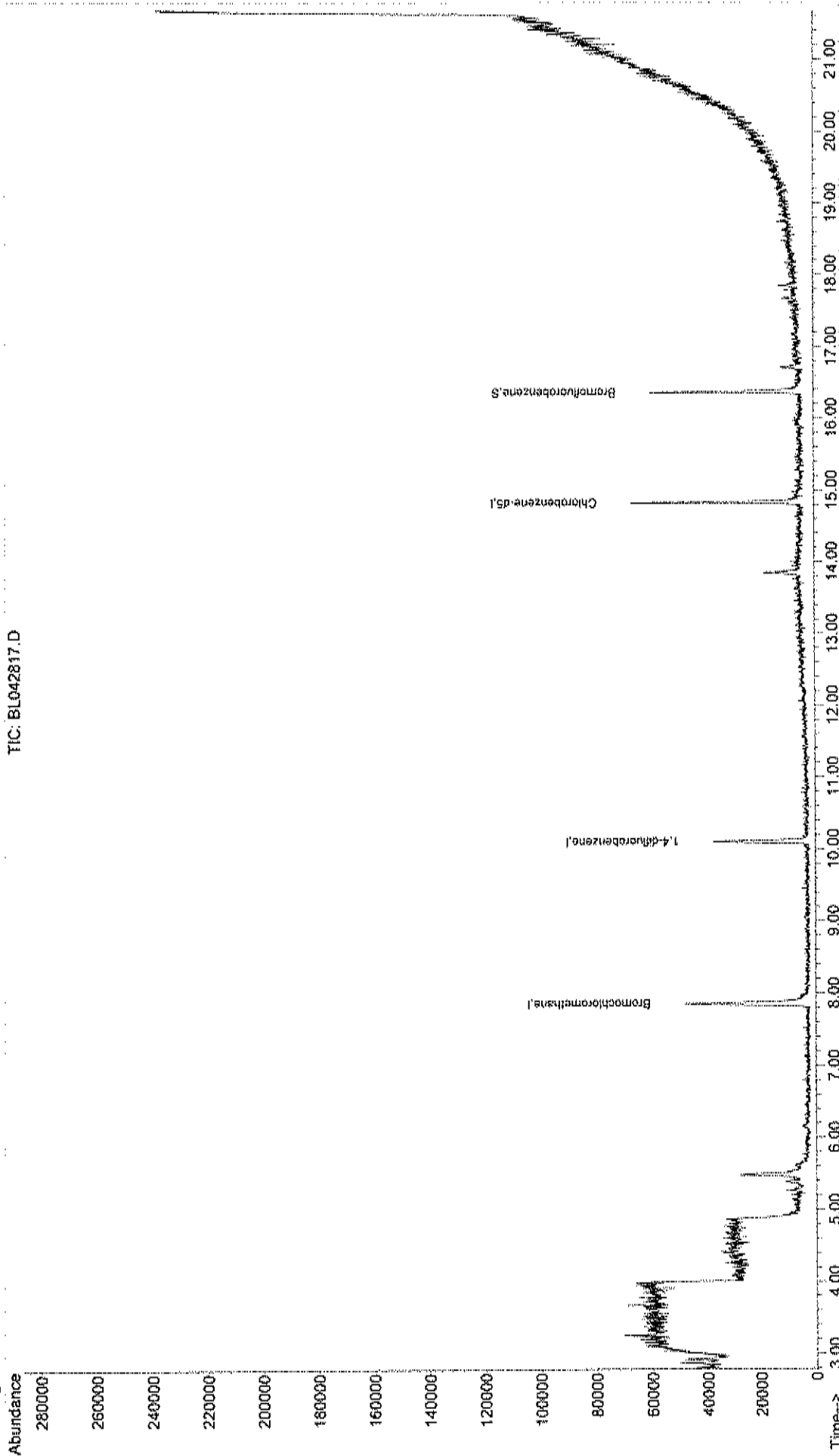
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.85	128	15869	1.00	ppb	0.03
35) 1,4-difluorobenzene	10.10	114	33160	1.00	ppb	0.03
50) Chlorobenzene-d5	14.83	117	32064	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 16.36 95 16334 0.80 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 80.00%

Target Compounds Qvalue

Data File : C:\MSDCHEM\DATA2\2016APR\BL042817.D Vial: 37
 Acq On : 29 Apr 2016 12:16 am Operator: LL
 Sample : WAC042816G Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 6 10:11 2016 Quant Results File: B02041UG.RES

Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue May 24 12:00:33 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\DATA2\2016APR\BL042818.D Vial: 38
 Acq On : 29 Apr 2016 12:54 am Operator: LL
 Sample : WAC042816H Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Apr 29 09:06:35 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Apr 12 13:49:09 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UGRUN2

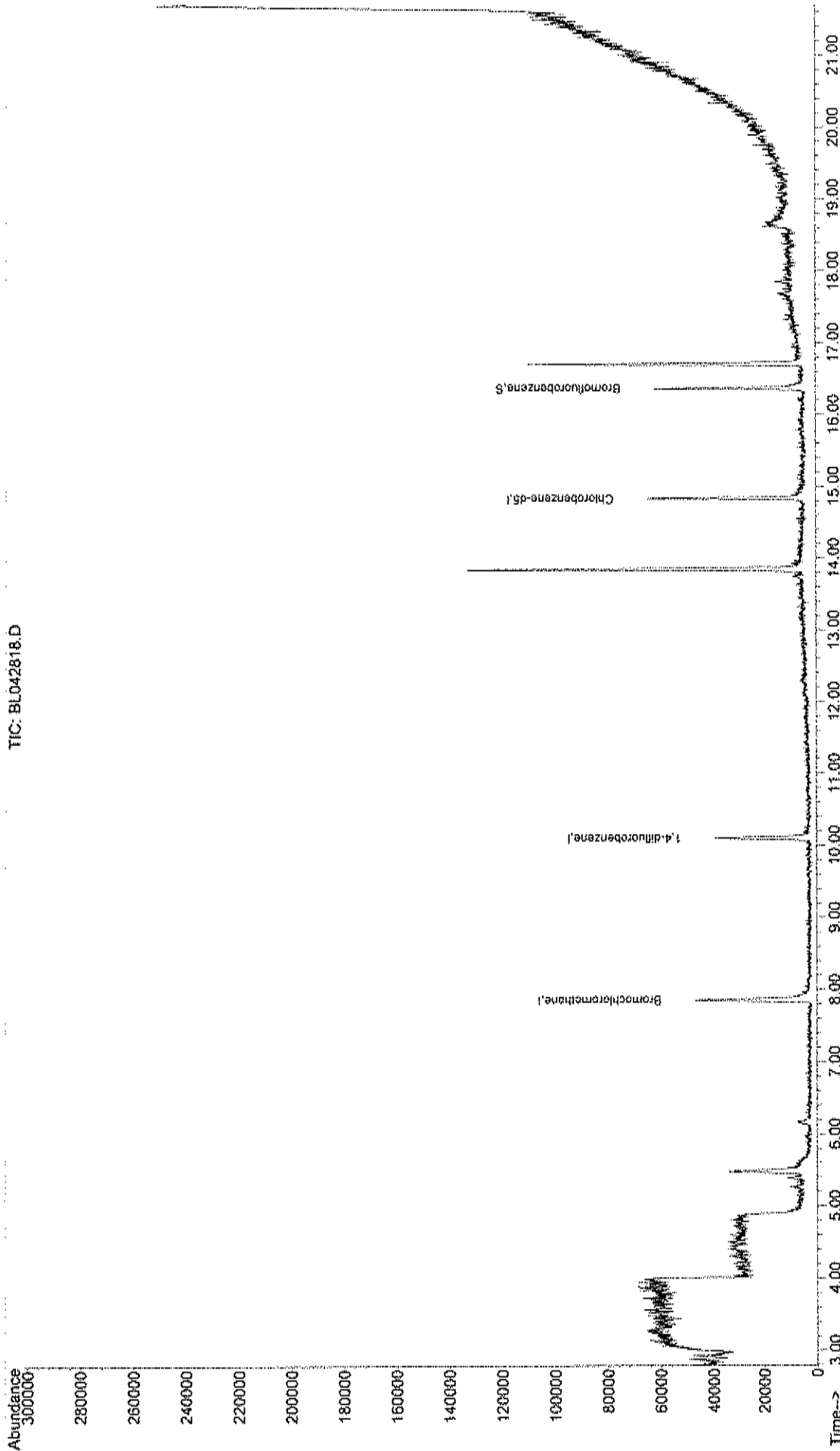
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.85	128	14911	1.00	ppb	0.03
35) 1,4-difluorobenzene	10.11	114	34624	1.00	ppb	0.03
50) Chlorobenzene-d5	14.83	117	33831	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 16.36 95 16866 0.78 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 78.00%

Target Compounds Qvalue

Data File : C:\MSDCHEM\DATA2\2016APR\BL042818.D Vial: 38
 Acq On : 29 Apr 2016 12:54 am Operator: LL
 Sample : WAC042816H Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 6 10:12 2016 Quant Results File: B02041UG.RES

Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue May 24 12:00:33 2016
 Response via : Initial Calibration



MS2

Wed Jul 06 10:16:53 2016

BL042818.D B02041UG.M

Data File : C:\MSDCHEM\DATA2\2016APR\BL042819.D Vial: 39
 Acq On : 29 Apr 2016 1:32 am Operator: LL
 Sample : WAC042816I Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Apr 29 09:06:46 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue Apr 12 13:49:09 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UGRUN2

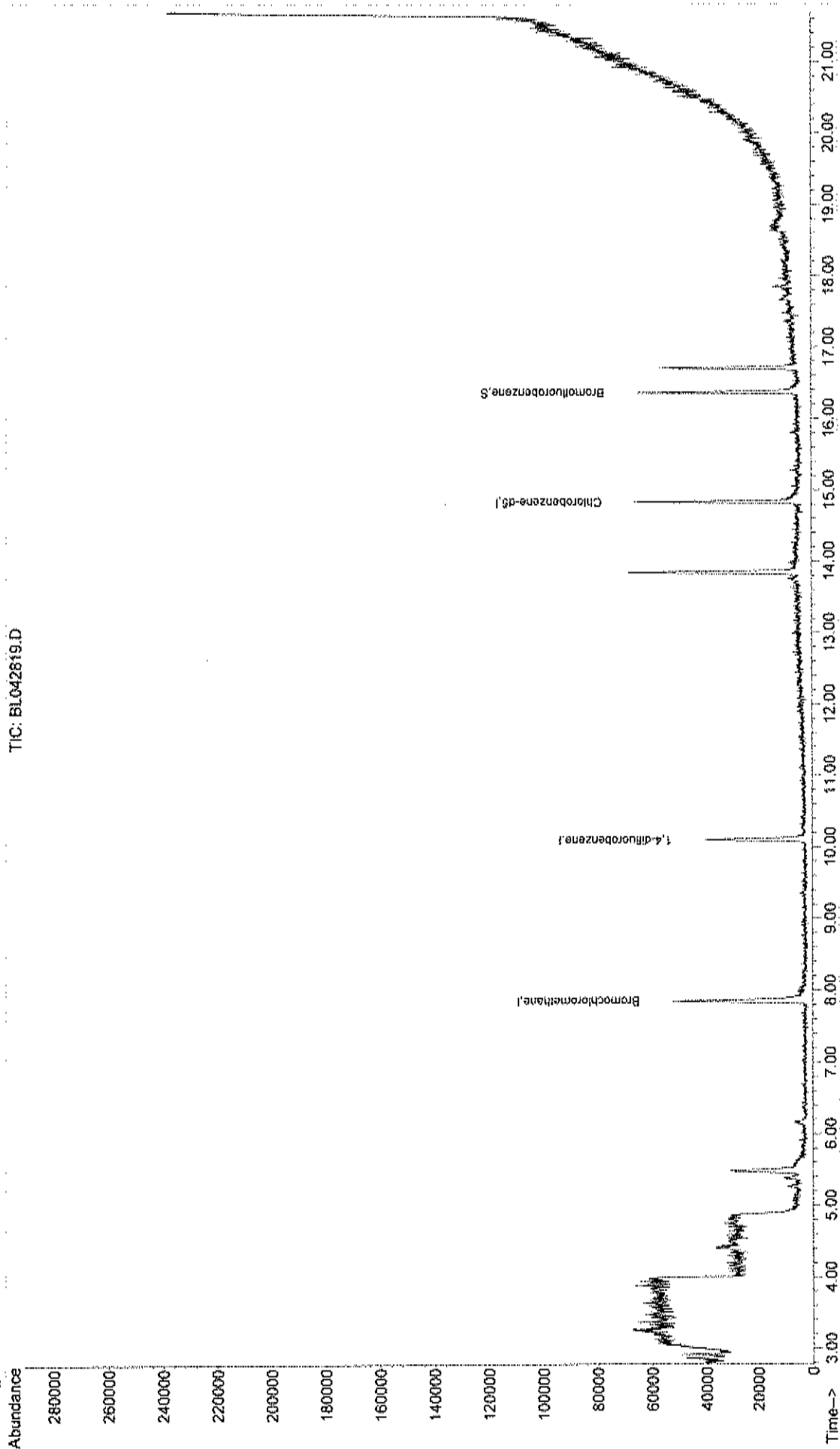
Internal Standards	R.T.	QI on	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	7.85	128	16400	1.00	ppb	0.03
35) 1,4-difluorobenzene	10.10	114	33589	1.00	ppb	0.03
50) Chlorobenzene-d5	14.83	117	33371	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 16.36 95 15924 0.75 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 75.00%

Target Compounds Qvalue

Data File : C:\MSDCHEM\DATA2\2016APR\BL042819.D Vial: 39
 Acq On : 29 Apr 2016 1:32 am Operator: LL
 Sample : WAC042816I Inst : MSD #2
 Misc : B02041UG.M QC Can Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 6 10:15 2016 Quant Results File: B02041UG.RES

Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Tue May 24 12:00:33 2016
 Response via : Initial Calibration



TO-15 Package Review Checklist

Client: La Bella Project: 1740 Emerson SDG: 01611040

		<u>YES</u>	<u>NO</u>	<u>NA</u>
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: <u>* SEE CASE NARRATIVE</u>				

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

TO-15 Package Review Checklist

Client: LaBella Project: 1740 Emerson SDG: C16/1040

		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: _____

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: Walt Delli Date: 1-3-17

QC Supervisor: [Signature] Date: 1/3/17



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, November 29, 2016
Order No.: C1611040

TEL: (585) 454-6110
FAX (585) 454-3066
RE: 1740 Emerson Street

Dear Ann Aquilina:

Centek Laboratories, LLC received 8 sample(s) on 11/23/2016 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.

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 - b. IS Summary Report
 - c. MB Summary Report
 - d. LCS Summary Report
 - e. MSD Summary Report
 - f. IDL's
 - g. Calculation
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 - b. Quantitation Report with Spectra
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 - a. Initial Calibration with Quant Report
 - b. Continuing Calibration with Quant Report
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 - b. Standards Log Book
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CEN TEK LABORATORIES, LLC

Date: 03-Jan-17

CLIENT: LaBella Associates, P.C.

Project: 1740 Emerson Street

Lab Order: C1611040

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.

See Corrective Action: [3442] MS/MSD did not meet criteria.

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 27-Nov-16

Corrective Action Report ID: 3442

Initiated By: Russell Pellegrino

Department: MSVOA

Corrective Action Description

CAR Summary: MS/MSD did not meet criteria.

Description of Nonconformance Root/Cause(s): MS/MSD did not meet criteria for a several compounds for samples C1611040-003A MS/MSD. Based on the chromatographic evidence this is most likely due to servere matrix interference.

Description of Corrective Action w/Proposed C.A.: Since MS/MSD show similar results at this time no further corrective action taken. All other QC meets criteria. The samples show many hits in the matrix which will interfere with spike results. All sets of data submitted

Performed By: Russell Pellegrino

Completion Date: 28-Nov-16

Client Notification

Client Notification Required: No

Notified By:

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action required by QA: Monitor all quality control for sample matrix interference. At this time no further corrective action taken. All sets of data submitted

Approval and Closure

Technical Director / Deputy Tech. Dir.:

William Dobbin

Close Date: 01-Dec-16

William Dobbin

QA Officer Approval:

Nick Scala

QA Date: 01-Dec-16

Nick Scala

Centek Labs - Chain of Custody

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

Site Name: Former Emerson St Laboratory
Project: 1740 Emerson St
PO#: 210173
Quote # 0-SN 306188
Canister Order #:

Detection Limit
5ppbv
1ug/M3
1ug/M3 + TCE. 251

Report Level
Level I
Level II
Cat "B" Like
Level II BDN

Company: LABELLA - ROCHESTER
Check Here if Same: Same
Invoice to: SAME
Address: 300 State St
City, State, Zip: Rochester NY 14614
Email: emma.guilina@labella-pl.com
Phone: 585-454-6110

Company: LABELLA - ROCHESTER
Report to:
Address: 300 State St
City, State, Zip: Rochester NY 14614
Email: emma.guilina@labella-pl.com
Phone: 585-454-6110

Turnaround Time:
5 Business Days
4 Business Days
3 Business Days
2 Business Days
*Next Day by 5pm
*Next Day by Noon
*Same Day

Sample ID	Date Sampled	Canister Number	Regulator Number	Analysis Request	Field Vacuum		Labs Vacuum**		Comments
					Start / Stop	RecV/Analysis	Start / Stop	RecV/Analysis	
1740-SVI-1	11/22/16	419	343	Select test to 15 min	3012		-21		
1740-IAQ-1		193	867		3014		531		
1740-SVI-2		483	249		3016		-41		
1740-IAQ-2		168	337		29514		-31		
1740-SVI-3		243	342		3014		-31		
1740-IAQ-3		171	344		3015		-41		
1740-Outside Air		542	259		298139		-21		
1740-Blind dup		1190	343		3012		-21		
					1		1		
					1		1		
					1		1		
					1		1		
					1		1		
					1		1		
					1		1		
					1		1		
					1		1		

Chain of Custody
Sampled by: Alex Brett
Relinquished by: Alex Brett
Received at Lab by: R. PELLEGRINO

Signature: Alex Brett
Signature: Alex Brett
Signature: R. PELLEGRINO

Date/Time: 11/23/16/8:00
Date/Time: 11/23/16/8:32
Date/Time: 11/23/16

Courier: CIRCLE ONE
FEDEX UPS Pickup/Dropoff
**For LAB USE ONLY
Work Order # C1611040

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


CENTEK LABORATORIES, LLC
Date: 03-Jan-17

CLIENT: LaBella Associates, P.C.
Project: 1740 Emerson Street
Lab Order: C1611040

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1611040-001A	1740-SVI-1	419,343	11/22/2016	11/23/2016
C1611040-002A	1740-IAQ-1	193,267	11/22/2016	11/23/2016
C1611040-003A	1740-SVI-2	483,249	11/22/2016	11/23/2016
C1611040-004A	1740-IAQ-2	168,337	11/22/2016	11/23/2016
C1611040-005A	1740-SVI-3	243,342	11/22/2016	11/23/2016
C1611040-006A	1740-IAQ-3	171,344	11/22/2016	11/23/2016
C1611040-007A	1740-Outdoor Air	542,259	11/22/2016	11/23/2016

CLIENT: LaBella Associates, P.C.
Project: 1740 Emerson Street
Lab Order: C1611040

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1611040-008A	1740-Blind Dup	1190,343	11/22/2016	11/23/2016



CEN TEK LABORATORIES, LLC

Sample Receipt Checklist

Client Name LABELLA - ROCHESTER

Date and Time Receive 11/23/2016

Work Order Number C1611040

Received by JDS

Checklist completed by

[Signature]
Signature Date

11-23-16

Reviewed by

[Initials] *[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 b _____

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

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Lab Order: C1611040
Client: LaBella Associates, P.C.
Project: 1740 Emerson Street

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C1611040-001A	1740-SVF-1	11/22/2016	Air	lug/M3 by Method TO15			11/28/2016
C1611040-002A	1740-IAQ-1			lug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2016
C1611040-003A	1740-SVF-2			lug/M3 by Method TO15			11/28/2016
C1611040-004A	1740-IAQ-2			lug/M3 by Method TO15			11/28/2016
C1611040-005A	1740-SVF-3			lug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2016
C1611040-006A	1740-IAQ-3			lug/M3 by Method TO15			11/28/2016
C1611040-007A	1740-Outdoor Air			lug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/27/2016
C1611040-008A	1740-Blind Dup			lug/m3 w/ 0.25ug/M3 CT-TCE-VC			11/28/2016
				lug/M3 by Method TO15			11/28/2016

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

6188

03-Jan-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: 11/18/2016
 VIA: FedEx Ground
 Due Date: 11/21/2016

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
168	1L Mini-Can - 1138 VI
171	1L Mini-Can - 1142 VI
193	1L Mini-Can - 1148 VI
243	1L Mini-Can - 1175 VI
249	Time-Set Reg - 687 VI
259	Time-Set Reg - 697 VI
267	Time-Set Reg - 705 VI
337	Time-Set Reg - 734 VI
342	Time-Set Reg - 739 VI
343	Time-Set Reg - 740 VI
344	Time-Set Reg - 741 VI
419	1L Mini-Can - 1343 VI
483	1.4L Mini-Can - 1365 VI
542	1L Mini-Can - 110 VI
1190	1L Mini-Can - 1257 VI

Comments: (7) 1L @ 6hrs, (1) 1.4L MS/MSD @ 6hrs + T for dupe (Select List see email)WAC 110316C-G

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories, LLC

Date: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-001A

Client Sample ID: 1740-SVI-1
 Tag Number: 419,343
 Collection Date: 11/22/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-2			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
Tetrachloroethylene	0.58	0.15		ppbV	1	11/28/2016 12:40:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
Trichloroethene	0.19	0.15		ppbV	1	11/28/2016 12:40:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
Surr: Bromofluorobenzene	89.0	70-130		%REC	1	11/28/2016 12:40:00 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
 NID Not Detected at the Limit of Detection

Centek Laboratories, LLC

Date: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-001A

Client Sample ID: 1740-SVI-1
Tag Number: 419,343
Collection Date: 11/22/2016
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	11/28/2016 12:40:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 12:40:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:40:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 12:40:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 12:40:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:40:00 AM
Tetrachloroethylene	3.9	1.0		ug/m3	1	11/28/2016 12:40:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:40:00 AM
Trichloroethene	1.0	0.81		ug/m3	1	11/28/2016 12:40:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	11/28/2016 12:40:00 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: 28-Dec-16

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	1740-IAQ-1
Lab Order:	C1611040	Tag Number:	193,267
Project:	1740 Emerson Street	Collection Date:	11/22/2016
Lab ID:	C1611040-002A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-3			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
Chloromethane	0.70	0.15		ppbV	1	11/27/2016 10:04:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
Tetrachloroethylene	0.38	0.15		ppbV	1	11/27/2016 10:04:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
Trichloroethene	0.14	0.040		ppbV	1	11/27/2016 10:04:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2016 10:04:00 PM
Surr: Bromofluorobenzene	95.0	70-130		%REC	1	11/27/2016 10:04:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-002A

Client Sample ID: 1740-IAQ-1
 Tag Number: 193,267
 Collection Date: 11/22/2016
 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	11/27/2016 10:04:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/27/2016 10:04:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:04:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2016 10:04:00 PM
Chloromethane	1.4	0.31		ug/m3	1	11/27/2016 10:04:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:04:00 PM
Tetrachloroethylene	2.6	1.0		ug/m3	1	11/27/2016 10:04:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:04:00 PM
Trichloroethene	0.75	0.21		ug/m3	1	11/27/2016 10:04:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2016 10:04:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-003A

Client Sample ID: 1740-SVI-2
Tag Number: 483,249
Collection Date: 11/22/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-4			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 BY METHOD TO15						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.20	0.15		ppbV	1	11/28/2016 11:42:00 AM
1,1-Dichloroethane	0.35	0.15		ppbV	1	11/28/2016 11:42:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 11:42:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/28/2016 11:42:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	11/28/2016 11:42:00 AM
cis-1,2-Dichloroethene	4.4	1.5		ppbV	10	11/28/2016 9:54:00 PM
Tetrachloroethylene	22	1.5		ppbV	10	11/28/2016 9:54:00 PM
trans-1,2-Dichloroethene	0.27	0.15		ppbV	1	11/28/2016 11:42:00 AM
Trichloroethene	17	1.5		ppbV	10	11/28/2016 9:54:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/28/2016 11:42:00 AM
Surr: Bromofluorobenzene	95.0	70-130		%REC	1	11/28/2016 11:42:00 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
	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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-003A

Client Sample ID: 1740-SVI-2
Tag Number: 483,249
Collection Date: 11/22/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	1.1	0.82		ug/m3	1	11/28/2016 11:42:00 AM
1,1-Dichloroethane	1.4	0.61		ug/m3	1	11/28/2016 11:42:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 11:42:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 11:42:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 11:42:00 AM
cis-1,2-Dichloroethene	17	5.9		ug/m3	10	11/28/2016 9:54:00 PM
Tetrachloroethylene	150	10		ug/m3	10	11/28/2016 9:54:00 PM
trans-1,2-Dichloroethene	1.1	0.59		ug/m3	1	11/28/2016 11:42:00 AM
Trichloroethene	92	8.1		ug/m3	10	11/28/2016 9:54:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	11/28/2016 11:42:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-004A

Client Sample ID: 1740-1AQ-2
Tag Number: 168,337
Collection Date: 11/22/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-3			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
Tetrachloroethylene	0.37	0.15		ppbV	1	11/27/2016 10:43:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
Trichloroethane	0.19	0.040		ppbV	1	11/27/2016 10:43:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2016 10:43:00 PM
Surr: Bromofluorobenzene	95.0	70-130		%REC	1	11/27/2016 10:43:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-004A

Client Sample ID: 1740-IAQ-2
 Tag Number: 168,337
 Collection Date: 11/22/2016
 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	11/27/2016 10:43:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/27/2016 10:43:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:43:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2016 10:43:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	11/27/2016 10:43:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:43:00 PM
Tetrachloroethylene	2.5	1.0		ug/m3	1	11/27/2016 10:43:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:43:00 PM
Trichloroethane	1.0	0.21		ug/m3	1	11/27/2016 10:43:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2016 10:43:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-005A

Client Sample ID: 1740-SVI-3
 Tag Number: 243,342
 Collection Date: 11/22/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-3			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 BY METHOD TO15						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
Trichloroethene	1.9	0.15		ppbV	1	11/28/2016 3:31:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
Surr: Bromofluorobenzene	114	70-130		%REC	1	11/28/2016 3:31:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-005A

Client Sample ID: 1740-SVI-3
 Tag Number: 243,342
 Collection Date: 11/22/2016
 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	11/28/2016 3:31:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 3:31:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 3:31:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 3:31:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/28/2016 3:31:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Trichloroethene	10	0.81		ug/m3	1	11/28/2016 3:31:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	11/28/2016 3:31:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-006A

Client Sample ID: 1740-1AQ-3
 Tag Number: 171,344
 Collection Date: 11/22/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-4			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
Tetrachloroethylene	0.18	0.15		ppbV	1	11/27/2016 11:22:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
Trichloroethene	0.15	0.040		ppbV	1	11/27/2016 11:22:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2016 11:22:00 PM
Surr: Bromofluorobenzene	95.0	70-130		%REC	1	11/27/2016 11:22:00 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: 28-Dec-16

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	1740-IAQ-3
Lab Order:	C1611040	Tag Number:	171,344
Project:	1740 Emerson Street	Collection Date:	11/22/2016
Lab ID:	C1611040-006A	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	11/27/2016 11:22:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/27/2016 11:22:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 11:22:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2016 11:22:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	11/27/2016 11:22:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 11:22:00 PM
Tetrachloroethylene	1.2	1.0		ug/m3	1	11/27/2016 11:22:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 11:22:00 PM
Trichloroethene	0.81	0.21		ug/m3	1	11/27/2016 11:22:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2016 11:22:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-007A

Client Sample ID: 1740-Outdoor Air
 Tag Number: 542,259
 Collection Date: 11/22/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-2			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
Chloromethane	0.48	0.15		ppbV	1	11/28/2016 12:01:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	11/28/2016 12:01:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/28/2016 12:01:00 AM
Surr: Bromofluorobenzene	94.0	70-130		%REC	1	11/28/2016 12:01:00 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: 28-Dec-16

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	1740-Outdoor Air
Lab Order:	C1611040	Tag Number:	542,259
Project:	1740 Emerson Street	Collection Date:	11/22/2016
Lab ID:	C1611040-007A	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	11/28/2016 12:01:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 12:01:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 12:01:00 AM
Chloromethane	0.99	0.31		ug/m3	1	11/28/2016 12:01:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/28/2016 12:01:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	11/28/2016 12:01:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/28/2016 12:01:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-008A

Client Sample ID: 1740-Blind Dup
 Tag Number: 1190,343
 Collection Date: 11/22/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-2			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
Tetrachloroethylene	0.49	0.15		ppbV	1	11/28/2016 4:10:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
Trichloroethene	0.17	0.15		ppbV	1	11/28/2016 4:10:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
Surr: Bromofluorobenzene	94.0	70-130		%REC	1	11/28/2016 4:10:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-008A

Client Sample ID: 1740-Blind Dup
 Tag Number: 1190,343
 Collection Date: 11/22/2016
 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	11/28/2016 4:10:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 4:10:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 4:10:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 4:10:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 4:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 4:10:00 AM
Tetrachloroethylene	3.3	1.0		ug/m3	1	11/28/2016 4:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 4:10:00 AM
Trichloroethene	0.91	0.81		ug/m3	1	11/28/2016 4:10:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	11/28/2016 4:10:00 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

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

QUALITY CONTROL SUMMARY

Date: 28-Dec-16



CENTEK LABORATORIES, LLC

**QC SUMMARY REPORT
SURROGATE RECOVERIES**

CLIENT: LaBella Associates, P.C.
Work Order: C1611040
Project: 1740 Emerson Street
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ						
ALCSIUG-112716	98.0						
ALCSIUG-112816	96.0						
ALCSIUGD-112716	95.0						
ALCSIUGD-112816	101						
AMBIUG-112716	90.0						
AMBIUG-112816	91.0						
C1611040-001A	89.0						
C1611040-002A	95.0						
C1611040-003A	95.0						
C1611040-003A MS	98.0						
C1611040-003A MSD	96.0						
C1611040-004A	95.0						
C1611040-005A	114						
C1611040-006A	95.0						
C1611040-007A	94.0						
C1611040-008A	94.0						

Acronym	Surrogate	QC Limits
BR4FBZ	= Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA2\AN112703.D

Tune Time : 27 Nov 2016 1:55 pm

Daily Calibration File : C:\HPCHEM\1\DATA2\AN112703.D

File	Sample	(BFB)	Internal Standard Responses		
			(IS1)	(IS2)	(IS3)
AN112704.D	ALCS1UG-112716	98	27668	127234	111596
AN112705.D	AMB1UG-112716	90	27752	124751	107782
AN112715.D	C1611040-002A	95	20444	94783	81389
AN112716.D	C1611040-004A	95	21277	97087	85898
AN112717.D	C1611040-006A	95	22463	99701	86559
AN112718.D	C1611040-007A	94	20718	98544	81376
AN112719.D	C1611040-001A	89	20374	92370	81682
AN112723.D	C1611040-005A	114	22033	110343	103314
AN112724.D	C1611040-008A	94	27945	125984	106358
AN112725.D	ALCS1UGD-112716	95	26130	114607	99370

t - fails 24hr time check * - fails criteria

Created: Wed Dec 28 15:49:57 2016 MSD #1/

Centek Laboratories, LLC

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA2\AN112802.D

Tune Time : 28 Nov 2016 9:30 am

Daily Calibration File : C:\HPCHEM\1\DATA2\AN112802.D

File	Sample	DL	Surrogate Recovery %	(BFB)	(IS1)	(IS2)	(IS3)
					19537	89779	78295
Internal Standard Responses							
AN112803.D	ALCS1UG-112816		96		19643	87844	79321
AN112804.D	AMB1UG-112816		91		19032	84899	71392
AN112805.D	C1611040-003A		95		17900	82328	74025
AN112806.D	C1611040-003A MS		98		19945	88940	83101
AN112807.D	C1611040-003A MSD		96		21009	91248	85630
AN112808.D	C1611040-005A 9x		133*		20887	99038	89367
AN112809.D	C1611040-005A 90x		96		21099	94551	79844
AN112819.D	ALCS1UGD-112816		101		15560	71068	62512
AN112821.D	C1611040-003A 10x		90		15575	67352	59215

t - fails 24hr time check * - fails criteria

Created: Wed Dec 28 15:51:20 2016 MSD #1/

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1611040
Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-112716	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11704					
Client ID:	ZZZZZ	Batch ID: R11704	TestNo: TO-15		Analysis Date: 11/27/2016	SeqNo: 137004					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.9000	0.15	1	0	90.0	70	130				
1,1-Dichloroethane	0.9500	0.15	1	0	95.0	70	130				
1,1-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
Chloroethane	0.9700	0.15	1	0	97.0	70	130				
Chloromethane	0.9800	0.15	1	0	98.0	70	130				
cis-1,2-Dichloroethene	0.9600	0.15	1	0	96.0	70	130				
Tetrachloroethylene	1.010	0.15	1	0	101	70	130				
trans-1,2-Dichloroethene	0.9700	0.15	1	0	97.0	70	130				
Trichloroethene	0.9200	0.040	1	0	92.0	70	130				
Vinyl chloride	0.9200	0.040	1	0	92.0	70	130				

Sample ID	ALCS1UG-112816	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11705					
Client ID:	ZZZZZ	Batch ID: R11705	TestNo: TO-15		Analysis Date: 11/28/2016	SeqNo: 137026					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.9300	0.15	1	0	93.0	70	130				
1,1-Dichloroethane	1.010	0.15	1	0	101	70	130				
1,1-Dichloroethene	0.9600	0.15	1	0	96.0	70	130				
Chloroethane	1.070	0.15	1	0	107	70	130				
Chloromethane	1.070	0.15	1	0	107	70	130				
cis-1,2-Dichloroethene	0.9700	0.15	1	0	97.0	70	130				
Tetrachloroethylene	0.9900	0.15	1	0	99.0	70	130				
trans-1,2-Dichloroethene	1.000	0.15	1	0	100	70	130				
Trichloroethene	0.9500	0.040	1	0	95.0	70	130				

Qualifiers:

- J Results reported are not blank corrected
- K 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: C1611040
 Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-112816	SampType:	LCS	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:		RunNo:	11705
Client ID:	ZZZZZ	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137026
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.040	0.040	1	0	104	70	130				

Sample ID	ALCS1UGD-112716	SampType:	LCS	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:		RunNo:	11704
Client ID:	ZZZZZ	Batch ID:	R11704	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137005
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	1	0	79.0	70	130	0.9	13.0	30	
1,1-Dichloroethane	0.9200	0.15	1	0	92.0	70	130	0.95	3.21	30	
1,1-Dichloroethene	0.9800	0.15	1	0	98.0	70	130	0.98	0	30	
Chloroethane	0.9500	0.15	1	0	95.0	70	130	0.97	2.08	30	
Chloromethane	0.9200	0.15	1	0	92.0	70	130	0.98	6.32	30	
cis-1,2-Dichloroethene	0.9500	0.15	1	0	95.0	70	130	0.96	1.05	30	
Tetrachloroethylene	0.9600	0.15	1	0	96.0	70	130	1.01	5.08	30	
trans-1,2-Dichloroethene	0.9300	0.15	1	0	93.0	70	130	0.97	4.21	30	
Trichloroethene	0.9100	0.040	1	0	91.0	70	130	0.92	1.09	30	
Vinyl chloride	0.9500	0.040	1	0	95.0	70	130	0.92	3.21	30	

Sample ID	ALCS1UGD-112816	SampType:	LCS	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:		RunNo:	11705
Client ID:	ZZZZZ	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137027
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9300	0.15	1	0	93.0	70	130	0.93	0	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.01	2.93	30	
1,1-Dichloroethene	0.9500	0.15	1	0	95.0	70	130	0.96	1.05	30	
Chloroethane	1.120	0.15	1	0	112	70	130	1.07	4.57	30	
Chloromethane	1.150	0.15	1	0	115	70	130	1.07	7.21	30	
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	0.97	4.04	30	
Tetrachloroethylene	1.020	0.15	1	0	102	70	130	0.99	2.99	30	
trans-1,2-Dichloroethene	1.030	0.15	1	0	103	70	130	1	2.96	30	
Trichloroethene	0.9500	0.040	1	0	95.0	70	130	0.95	0	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: C1611040
Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UGD-112816	Sample Type	LCSD	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:		RunNo:	11705		
Client ID:	ZZZZZ	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137027		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride		1.100		0.040	1	0	110	70	130	1.04	5.61	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

CEN TEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1611040
Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-112716	SampType: MBLK	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11704					
Client ID:	ZZZZZ	Batch ID: R11704	TestNo: TO-15		Analysis Date: 11/27/2016	SeqNo: 137003					
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-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									

Sample ID	AMB1UG-112816	SampType: MBLK	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11705					
Client ID:	ZZZZZ	Batch ID: R11705	TestNo: TO-15		Analysis Date: 11/28/2016	SeqNo: 137025					
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-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									

Qualifiers:

- J Results reported are not blank corrected
- K 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
- F Holding times for preparation of analysis exceeded
- R RPD outside accepted recovery limits

CLIENT: LaBella Associates, P.C.
 Work Order: C1611040
 Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID: AMB1UG-112816	Sample Type: MBLK	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 11705
Client ID: ZZZZZ	Batch ID: R11705	TestNo: TO-15		Analysis Date: 11/28/2016	SeqNo: 137025
Analyte: Vinyl chloride	Result: < 0.040	PQL: 0.040	SPK value: 0.040	LowLimit: 0.040	%RPD: 0.040
		SPK Ref Val: 0.040	%REC: 0.040	HighLimit: 0.040	RPDLimit: 0.040
				RPD Ref Val: 0.040	Qual: 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: 28-Dec-16

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1611040
Project: 1740 Emerson Street

TestCode: 1ugM3_TO15

Sample ID	C1611040-003A MS	SampType:	MS	TestCode:	1ugM3_TO15	Units:	ppbv	Prep Date:		RunNo:	11705
Client ID:	1740-SVI-2	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137035

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.150	0.15	1	0.2	95.0	70	130				
1,1-Dichloroethane	1.290	0.15	1	0.35	94.0	70	130				
1,1-Dichloroethene	1.030	0.15	1	0	103	70	130				
Chloroethane	1.120	0.15	1	0	112	70	130				
Chloromethane	1.140	0.15	1	0	114	70	130				
cis-1,2-Dichloroethene	4.500	0.15	1	3.69	81.0	70	130				
Tetrachloroethylene	18.34	0.15	1	18.84	-50.0	70	130				S
trans-1,2-Dichloroethene	1.260	0.15	1	0.27	99.0	70	130				
Trichloroethene	14.22	0.15	1	13.76	46.0	70	130				S
Vinyl chloride	1.090	0.15	1	0	109	70	130				

Sample ID	C1611040-003A MS	SampType:	MSD	TestCode:	1ugM3_TO15	Units:	ppbv	Prep Date:		RunNo:	11705
Client ID:	1740-SVI-2	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137036

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.160	0.15	1	0.2	96.0	70	130	1.15	0.866	30	
1,1-Dichloroethane	1.240	0.15	1	0.35	89.0	70	130	1.29	3.95	30	
1,1-Dichloroethene	0.9800	0.15	1	0	98.0	70	130	1.03	4.98	30	
Chloroethane	1.030	0.15	1	0	103	70	130	1.12	8.37	30	
Chloromethane	1.050	0.15	1	0	105	70	130	1.14	8.22	30	
cis-1,2-Dichloroethene	4.070	0.15	1	3.69	38.0	70	130	4.5	10.0	30	S
Tetrachloroethylene	16.02	0.15	1	18.84	-282	70	130	18.34	13.5	30	S
trans-1,2-Dichloroethene	1.190	0.15	1	0.27	92.0	70	130	1.26	5.71	30	
Trichloroethene	12.78	0.15	1	13.76	-96.0	70	130	14.22	10.7	30	S

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 NID 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: C1611040
 Project: 1740 Emerson Street

TestCode: 1ugM3_TO15

Sample ID	C1611040-003A MS	SampType	MSD	TestCode	1ugM3_TO15	Units	ppbV	Prep Date:		RunNo:	11705
Client ID:	1740-SVI-2	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137036
Analyte		Result	0.9900	PQL	0.15	SPK value	1	SPK RefVal	0	%REC	99.0
				LowLimit	70	HighLimit	130	RPD RefVal	1.09	%RPD	9.62
				RPDLimit	30						

Vinyl chloride

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

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	0.066
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	0.186	0.022	80.8	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	89.7	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	86.8	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	89.7	0.076

Confidential

1/8/2016

Centek Laboratories
IDL Study

Method TO-15A
Units=ppb

1ug/M3 Detection Limit
January 2016

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
Bromodichloromethane	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	0.16	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	0.164	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	0.008	122.1	0.024
Bromoform	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	0.026
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	129.6	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

Method TO-15A
Units=ppb

0.25ug/M3 Detection Limit
January 2016

Centek Laboratories
IDL Study

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	0.09	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)

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

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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-001A

Client Sample ID: 1740-SVI-1
 Tag Number: 419,343
 Collection Date: 11/22/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-2			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 BY METHOD TO15			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
Tetrachloroethylene	0.58	0.15		ppbV	1	11/28/2016 12:40:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
Trichloroethene	0.19	0.15		ppbV	1	11/28/2016 12:40:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/28/2016 12:40:00 AM
Surr: Bromofluorobenzene	89.0	70-130		%REC	1	11/28/2016 12:40:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-001A

Client Sample ID: 1740-SVI-1
 Tag Number: 419,343
 Collection Date: 11/22/2016
 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	11/28/2016 12:40:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 12:40:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:40:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 12:40:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 12:40:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:40:00 AM
Tetrachloroethylene	3.9	1.0		ug/m3	1	11/28/2016 12:40:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:40:00 AM
Trichloroethene	1.0	0.81		ug/m3	1	11/28/2016 12:40:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	11/28/2016 12:40:00 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\DATA2\AN112719.D
 Acq On : 28 Nov 2016 12:40 am
 Sample : C1611040-001A
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:53 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	20374	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	92370	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.33	117	81682	1.00	ppb	-0.05
System Monitoring Compounds						
66) Bromofluorobenzene	17.92	95	55092	0.89	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	89.00%
Target Compounds						
44) Trichloroethene	12.41	130	6291	0.19	ppb	Qvalue 84
56) Tetrachloroethylene	15.43	164	19782	0.58	ppb	83

Quantitation Report (QT Reviewed)

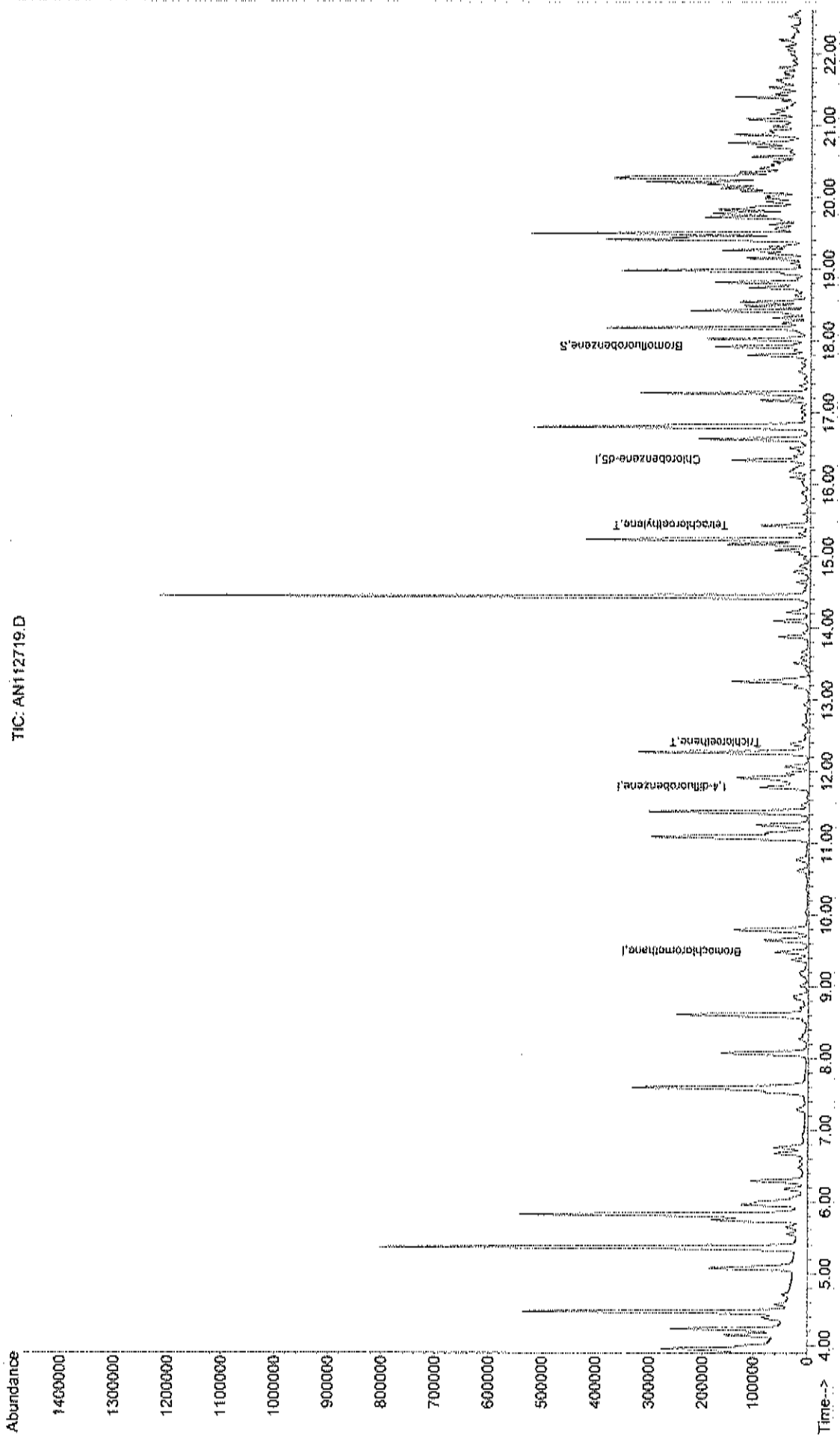
Data File : C:\HPCHEM\1\DATA2\AN112719.D
Acq On : 28 Nov 2016 12:40 am
Sample : C1611040-001A
Misc : AN23_LUG
MS Integration Params: RTEINT.P
Quant Time: Nov 29 7:54 2016

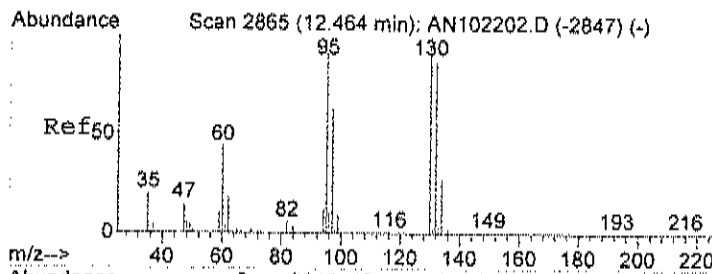
Vial: 5
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AN23_LUG.RES

Method : C:\HPCHEM\1\METHODS\AN23_LUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration

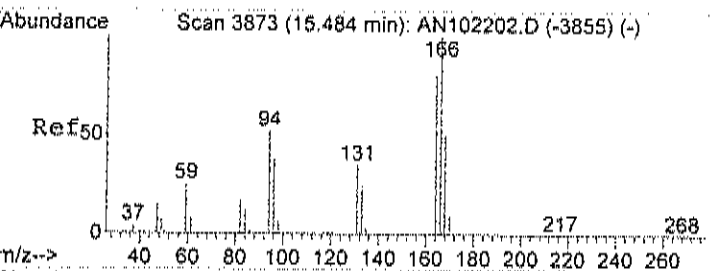
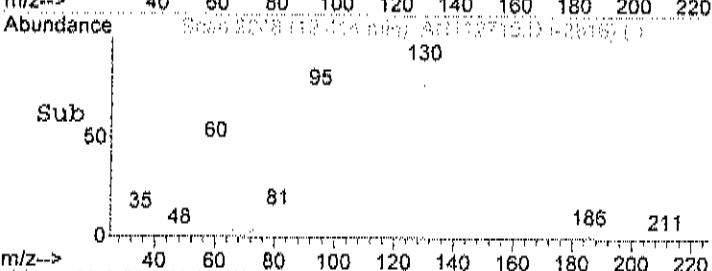
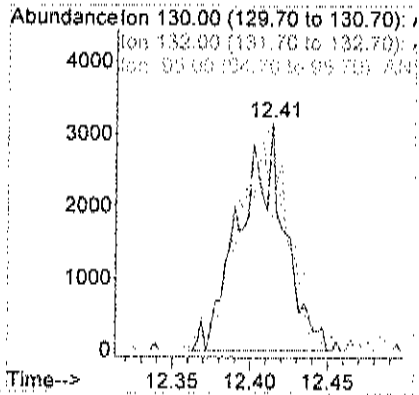
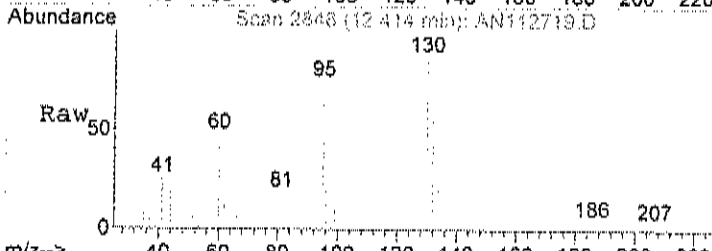
Abundance
TIC: AN112719.D





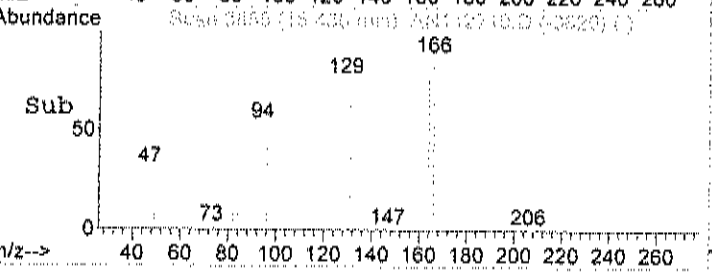
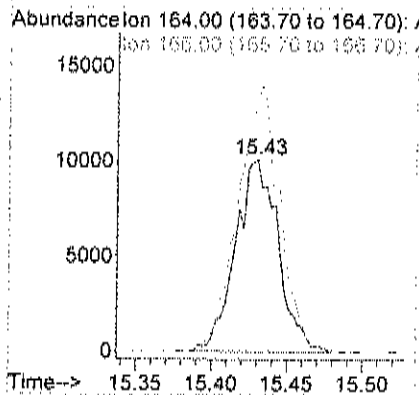
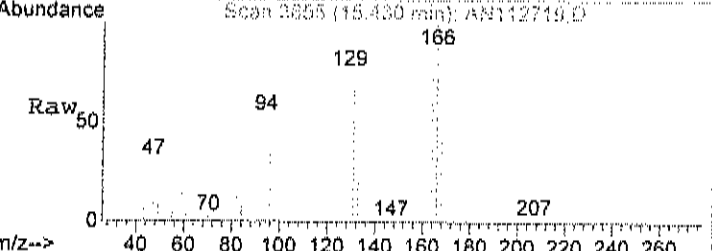
#44
 Trichloroethene
 Concen: 0.19 ppb
 RT: 12.41 min Scan# 2848
 Delta R.T. -0.05 min
 Lab File: AN112719.D
 Acq: 28 Nov 2016 12:40 am

Tgt Ion	Resp	Lower	Upper
130	6291		
130	100		
132	101.7	63.3	103.3
95	111.4	78.5	118.5



#56
 Tetrachloroethylene
 Concen: 0.58 ppb
 RT: 15.43 min Scan# 3855
 Delta R.T. -0.04 min
 Lab File: AN112719.D
 Acq: 28 Nov 2016 12:40 am

Tgt Ion	Resp	Lower	Upper
164	19782		
164	100		
166	134.6	96.0	136.0



Centek Laboratories, LLC

Date: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-002A

Client Sample ID: 1740-IAQ-1
Tag Number: 193,267
Collection Date: 11/22/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-3			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
Chloromethane	0.70	0.15		ppbV	1	11/27/2016 10:04:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
Tetrachloroethylene	0.38	0.15		ppbV	1	11/27/2016 10:04:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:04:00 PM
Trichloroethene	0.14	0.040		ppbV	1	11/27/2016 10:04:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2016 10:04:00 PM
Surr: Bromofluorobenzene	95.0	70-130		%REC	1	11/27/2016 10:04:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-002A

Client Sample ID: 1740-IAQ-1
 Tag Number: 193,267
 Collection Date: 11/22/2016
 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	11/27/2016 10:04:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/27/2016 10:04:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:04:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2016 10:04:00 PM
Chloromethane	1.4	0.31		ug/m3	1	11/27/2016 10:04:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:04:00 PM
Tetrachloroethylene	2.6	1.0		ug/m3	1	11/27/2016 10:04:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:04:00 PM
Trichloroethene	0.75	0.21		ug/m3	1	11/27/2016 10:04:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2016 10:04:00 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

Data File : C:\HPCHEM\1\DATA2\AN112715.D
 Acq On : 27 Nov 2016 10:04 pm
 Sample : C1611040-002A
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:49 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	20444	1.00	ppb	-0.08
35) 1,4-difluorobenzene	11.78	114	94783	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.34	117	81389	1.00	ppb	-0.05

System Monitoring Compounds						
66) Bromofluorobenzene	17.91	95	58147	0.95	ppb	-0.05
Spiked Amount	1.000	Range	70 - 130	Recovery	=	95.00%

Target Compounds						Qvalue
4) Chloromethane	4.18	50	12319	0.70	ppb	86
44) Trichloroethene	12.40	130	4743	0.14	ppb	86
56) Tetrachloroethylene	15.43	164	12974	0.38	ppb	93

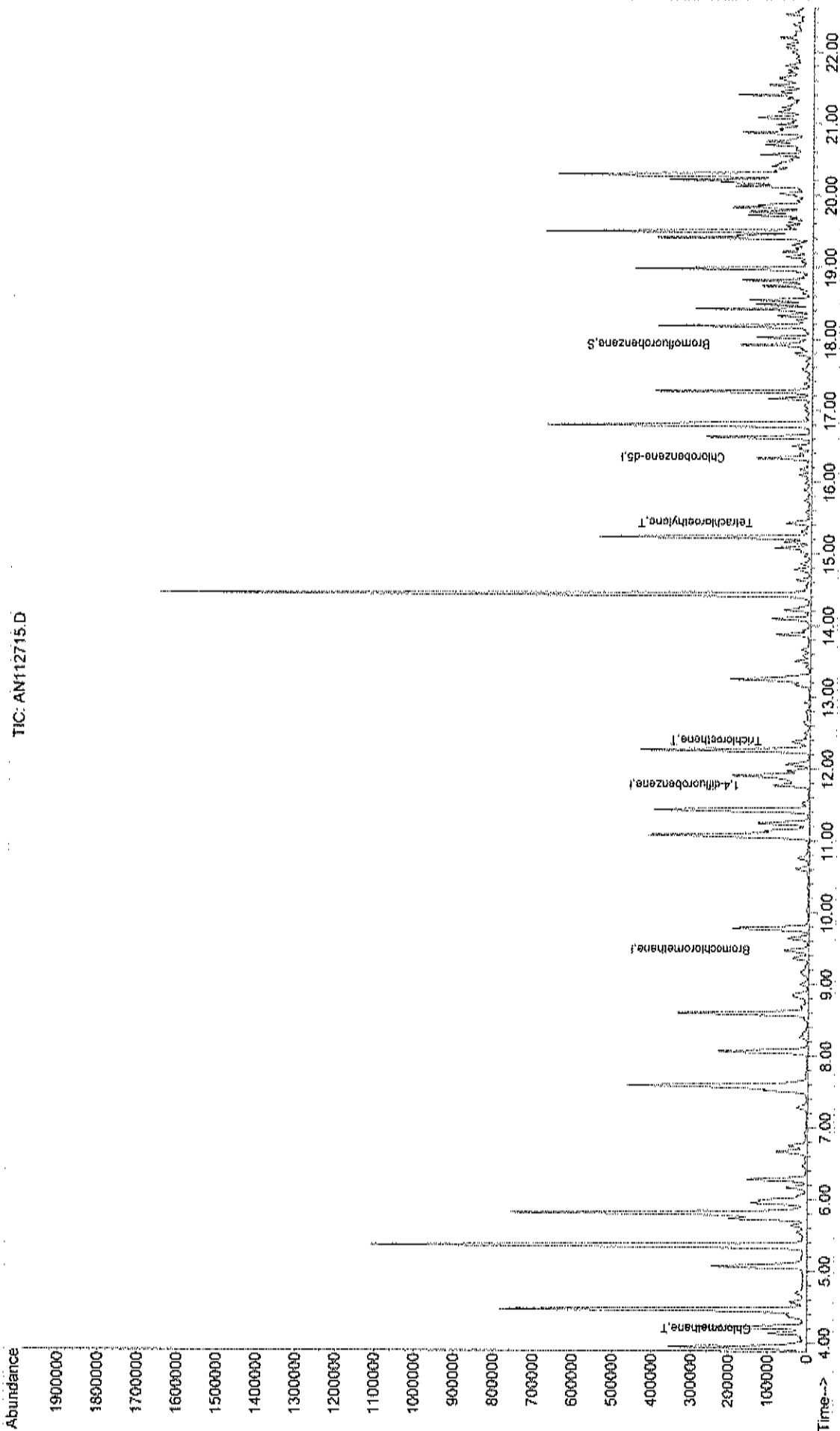
Quantitation Report (QF Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112715.D
Acq On : 27 Nov 2016 10:04 pm
Sample : C1611040-002A
Misc : AN23_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 29 7:50 2016

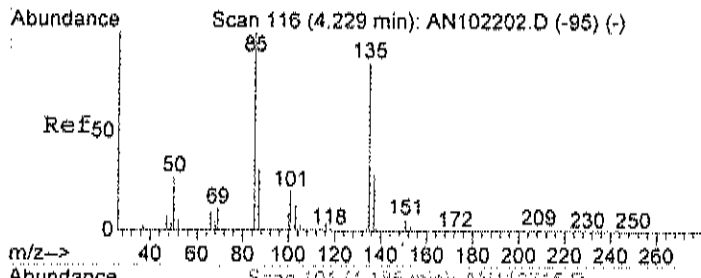
Vial: 1
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AN23_1UG.RES

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration

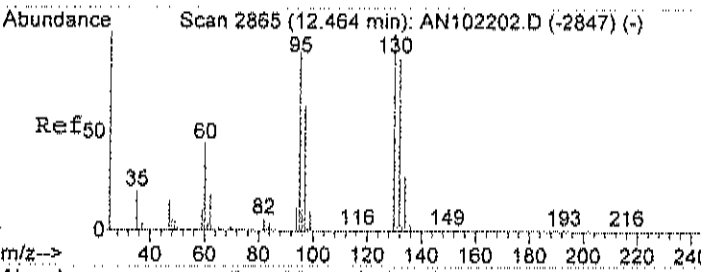
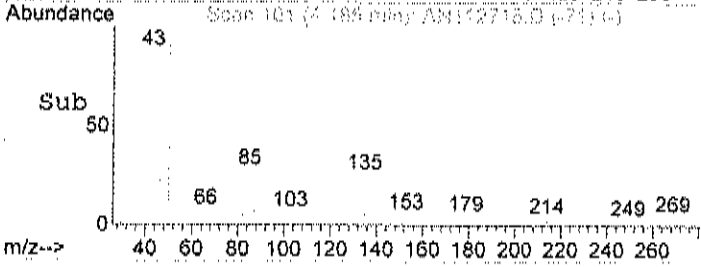
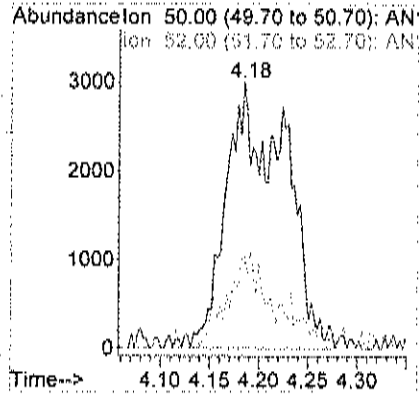
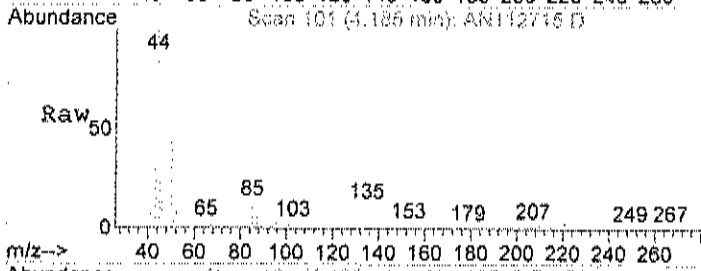


TIC: AN112715.D



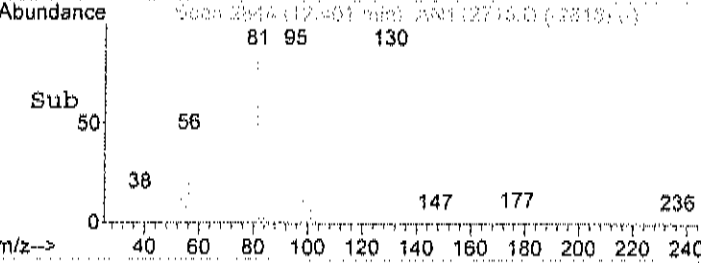
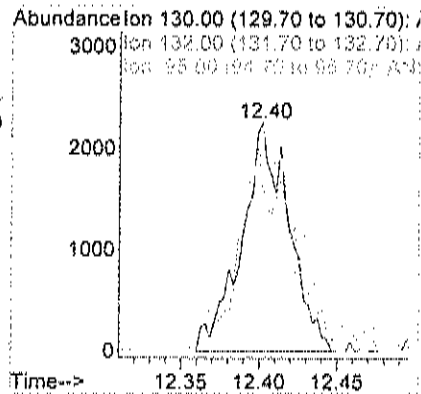
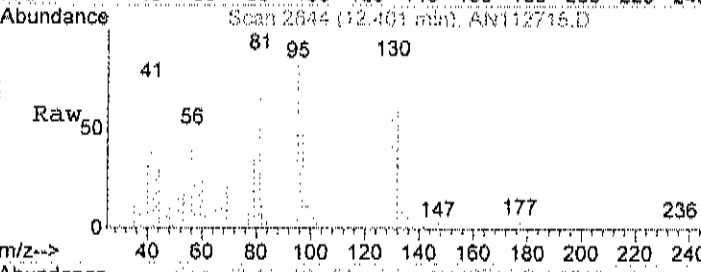
#4
 Chloromethane
 Concen: 0.70 ppb
 RT: 4.18 min Scan# 101
 Delta R.T. -0.06 min
 Lab File: AN112715.D
 Acq: 27 Nov 2016 10:04 pm

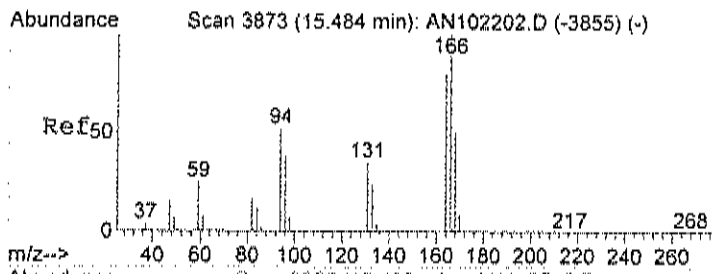
Tgt Ion	Resp	Lower	Upper
50	12319		
52	29.4	2.5	42.5



#44
 Trichloroethene
 Concen: 0.14 ppb
 RT: 12.40 min Scan# 2844
 Delta R.T. -0.07 min
 Lab File: AN112715.D
 Acq: 27 Nov 2016 10:04 pm

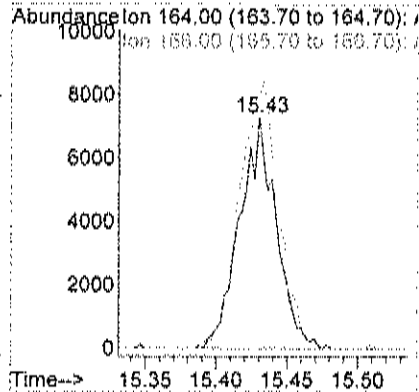
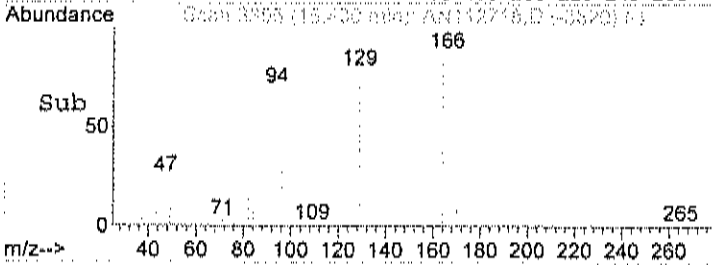
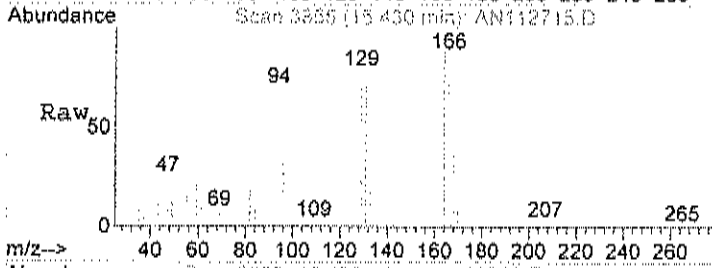
Tgt Ion	Resp	Lower	Upper
130	4743		
132	91.9	63.3	103.3
95	116.0	78.5	118.5





#56
 Tetrachloroethylene
 Concen: 0.38 ppb
 RT: 15.43 min Scan# 3855
 Delta R.T. -0.05 min
 Lab File: AN112715.D
 Acq: 27 Nov 2016 10:04 pm

Tgt Ion	Resp	Lower	Upper
164	12974		
166	123.5	96.0	136.0



Centek Laboratories, LLC

Date: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-003A

Client Sample ID: 1740-SVI-2
 Tag Number: 483,249
 Collection Date: 11/22/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-4			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 BY METHOD TO15						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.20	0.15		ppbV	1	11/28/2016 11:42:00 AM
1,1-Dichloroethane	0.35	0.15		ppbV	1	11/28/2016 11:42:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 11:42:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/28/2016 11:42:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	11/28/2016 11:42:00 AM
cis-1,2-Dichloroethene	4.4	1.5		ppbV	10	11/28/2016 9:54:00 PM
Tetrachloroethylene	22	1.5		ppbV	10	11/28/2016 9:54:00 PM
trans-1,2-Dichloroethene	0.27	0.15		ppbV	1	11/28/2016 11:42:00 AM
Trichloroethene	17	1.5		ppbV	10	11/28/2016 9:54:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/28/2016 11:42:00 AM
Surr: Bromofluorobenzene	95.0	70-130		%REC	1	11/28/2016 11:42:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-003A

Client Sample ID: 1740-SV1-2
Tag Number: 483,249
Collection Date: 11/22/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15			TO-15			Analyst: RJP
1,1,1-Trichloroethane	1.1	0.82		ug/m3	1	11/28/2016 11:42:00 AM
1,1-Dichloroethane	1.4	0.61		ug/m3	1	11/28/2016 11:42:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 11:42:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 11:42:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 11:42:00 AM
cis-1,2-Dichloroethene	17	5.9		ug/m3	10	11/28/2016 9:54:00 PM
Tetrachloroethylene	150	10		ug/m3	10	11/28/2016 9:54:00 PM
trans-1,2-Dichloroethene	1.1	0.59		ug/m3	1	11/28/2016 11:42:00 AM
Trichloroethene	92	8.1		ug/m3	10	11/28/2016 9:54:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	11/28/2016 11:42:00 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\DATA2\AN112805.D
 Acq On : 28 Nov 2016 11:42 am
 Sample : C1611040-003A
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 13:01:11 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	17900	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.79	114	82328	1.00	ppb	-0.04
50) Chlorobenzene-d5	16.34	117	74025	1.00	ppb	-0.04

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	53168	0.95	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	95.00%

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
24) trans-1,2-dichloroethene	7.68	61	6594	0.27	ppb	90
26) 1,1-dichloroethane	8.12	63	10913	0.35	ppb	93
29) cis-1,2-dichloroethene	9.04	61	89266	3.69	ppb	87
36) 1,1,1-trichloroethane	10.45	97	10257	0.20	ppb	98
44) Trichloroethene	12.42	130	397797	13.76	ppb	91
56) Tetrachloroethylene	15.44	164	580050	18.84	ppb	89

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112805.D AN23_1UG.M Wed Dec 28 15:46:31 2016 MSD1

Quantitation Report (QT Reviewed)

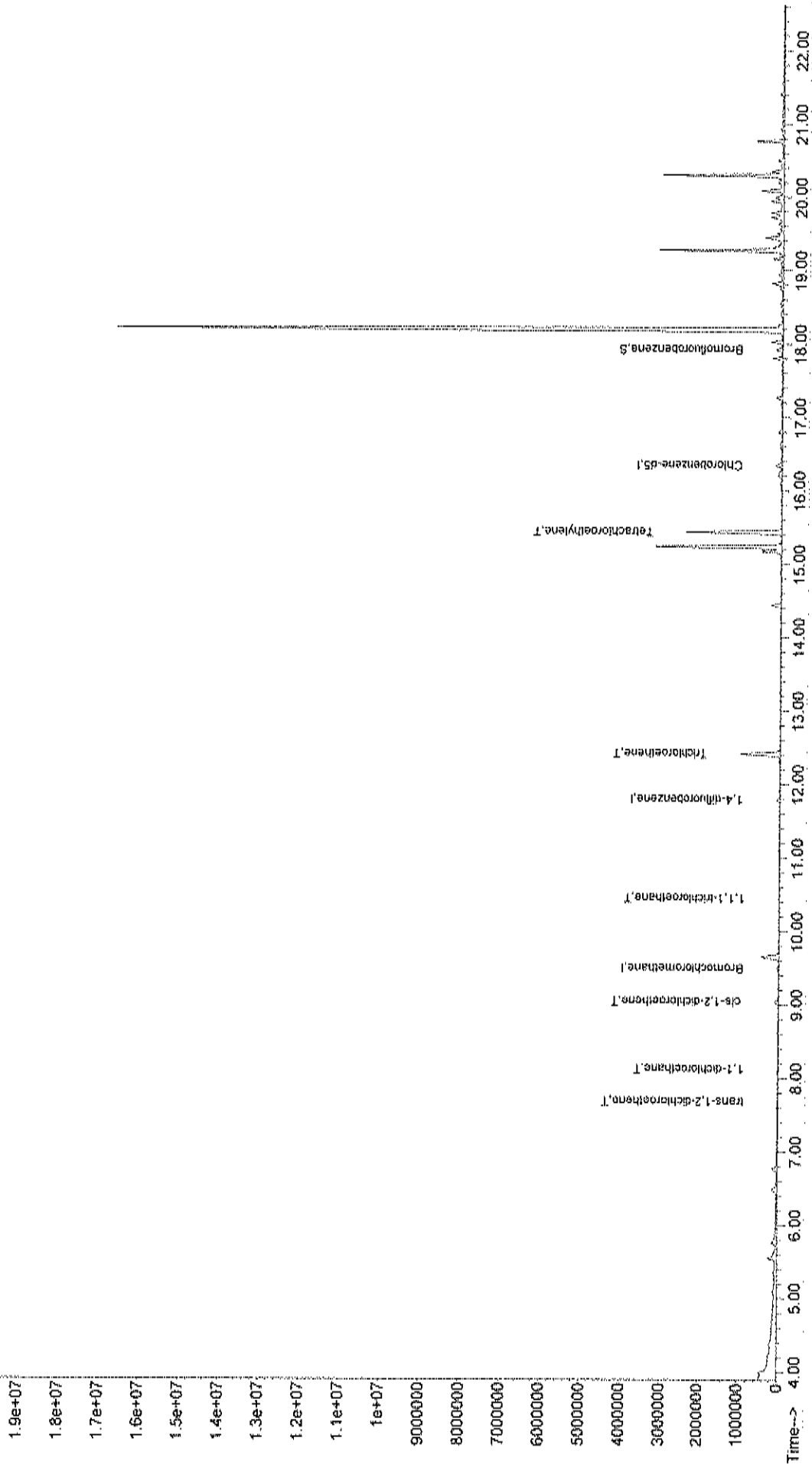
Data File : C:\HPCHEM\1\DATA2\AN112805.D
Acq On : 28 Nov 2016 11:42 am
Sample : C1611040-003A
Misc : AN23_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 29 7:59 2016

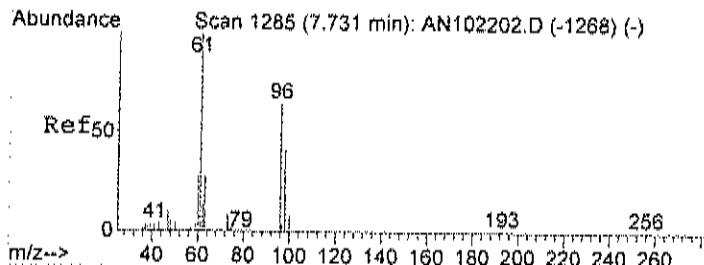
Vial: 5
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AN23_1UG.RES

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration

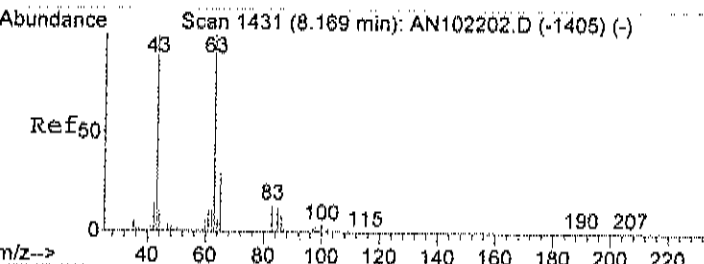
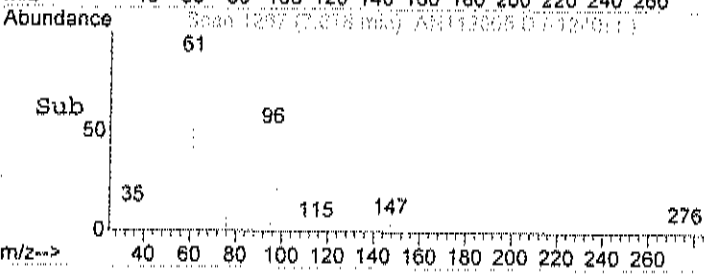
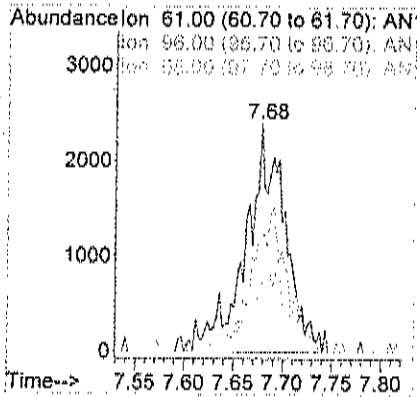
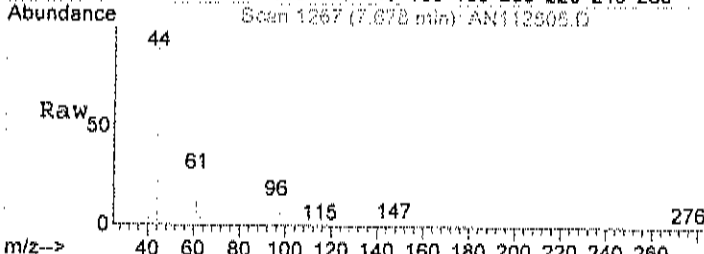
Abundance
2e+07
TIC: AN112805.D





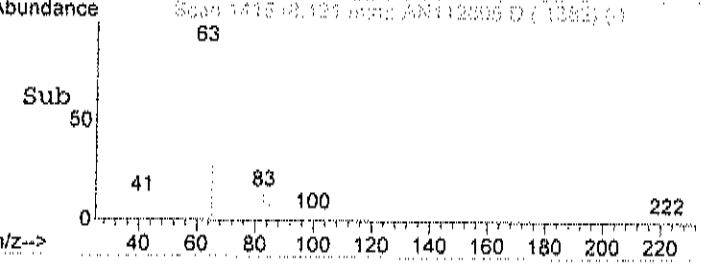
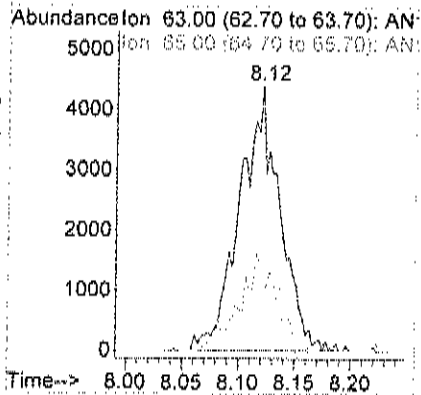
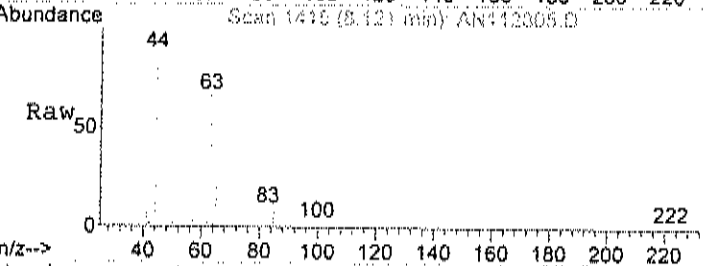
#24
 trans-1,2-dichloroethene
 Concen: 0.27 ppb
 RT: 7.68 min Scan# 1267
 Delta R.T. -0.07 min
 Lab File: AN112805.D
 Acq: 28 Nov 2016 11:42 am

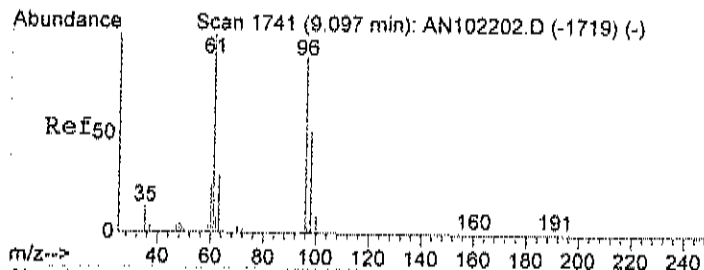
Tgt Ion	Resp	Lower	Upper
61	100		
96	55.9	41.1	81.1
98	33.6	22.1	62.1



#26
 1,1-dichloroethane
 Concen: 0.35 ppb
 RT: 8.12 min Scan# 1415
 Delta R.T. -0.05 min
 Lab File: AN112805.D
 Acq: 28 Nov 2016 11:42 am

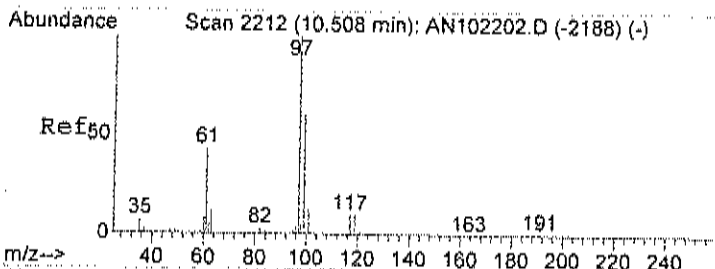
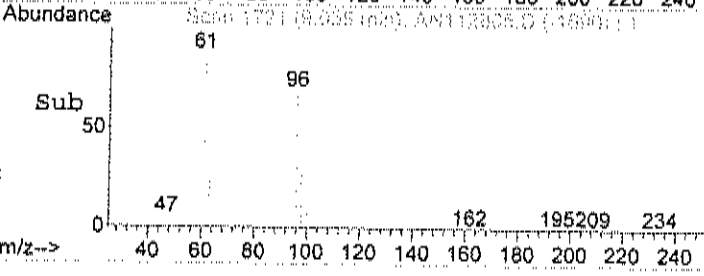
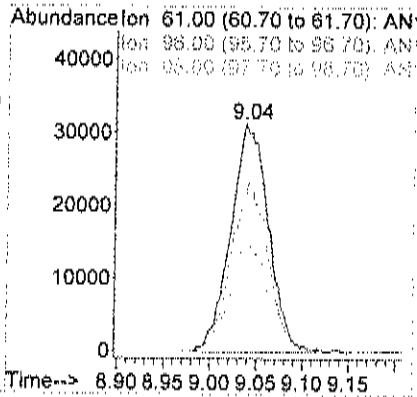
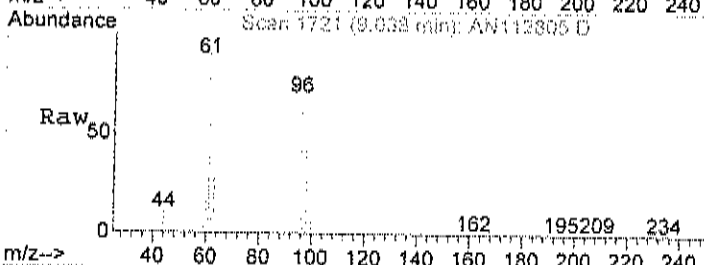
Tgt Ion	Resp	Lower	Upper
63	100		
65	34.0	10.4	50.4





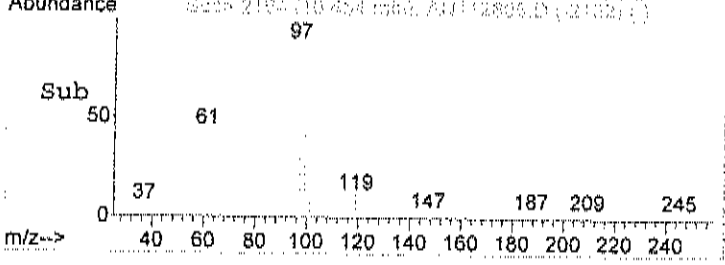
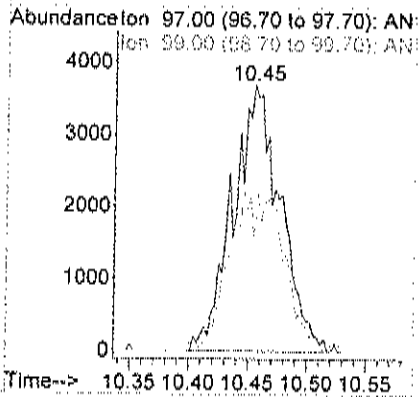
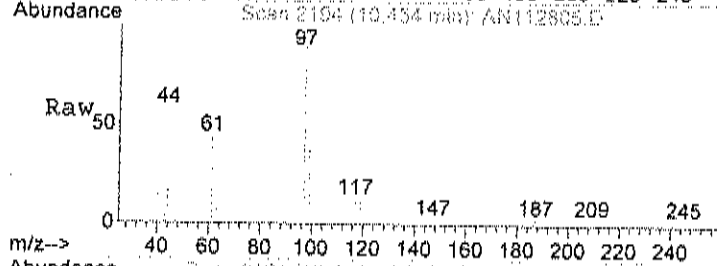
#29
 cis-1,2-dichloroethene
 Concen: 3.69 ppb
 RT: 9.04 min Scan# 1721
 Delta R.T. -0.06 min
 Lab File: AN112805.D
 Acq: 28 Nov 2016 11:42 am

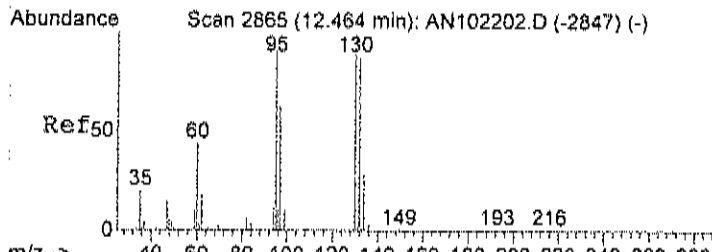
Tgt Ion	Resp	Lower	Upper
61	89266		
96	73.7	41.2	81.2
98	47.6	21.8	61.8



#36
 1,1,1-trichloroethane
 Concen: 0.20 ppb
 RT: 10.45 min Scan# 2194
 Delta R.T. -0.05 min
 Lab File: AN112805.D
 Acq: 28 Nov 2016 11:42 am

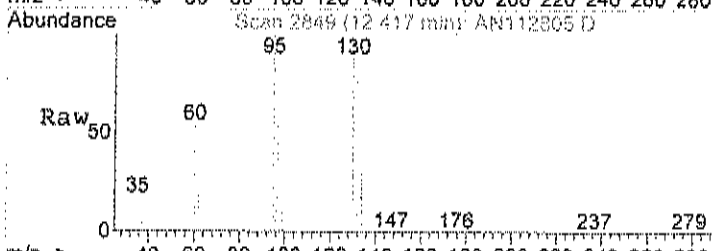
Tgt Ion	Resp	Lower	Upper
97	10257		
99	68.3	47.1	87.1



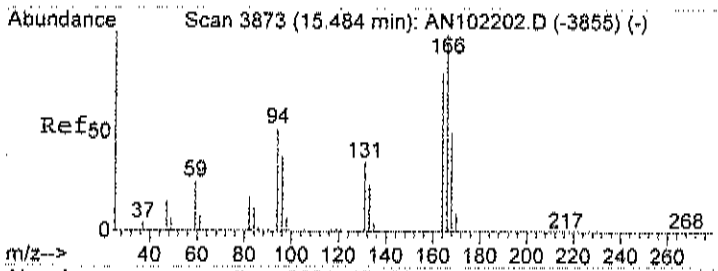
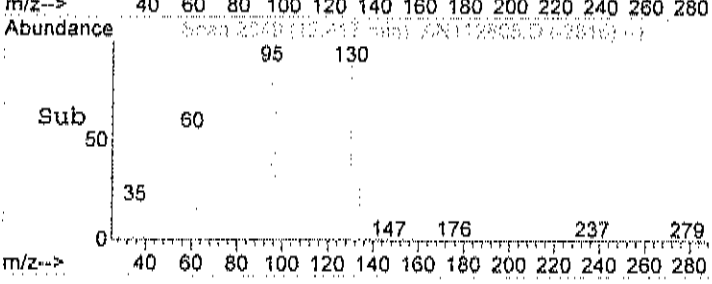
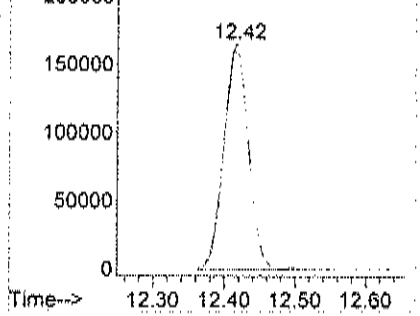


#44
 Trichloroethene
 Concen: 13.76 ppb
 RT: 12.42 min Scan# 2849
 Delta R.T. -0.05 min
 Lab File: AN112805.D
 Acq: 28 Nov 2016 11:42 am

Tgt Ion	Resp	Lower	Upper
130	397797		
130	100		
132	97.3	63.3	103.3
95	102.7	78.5	118.5

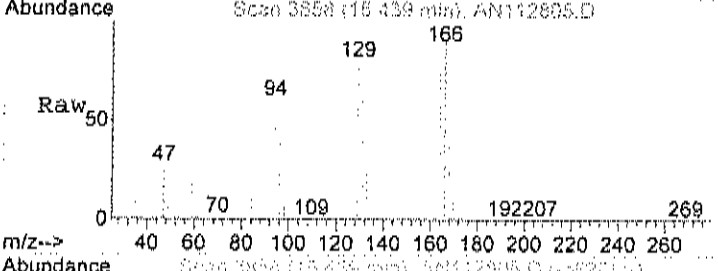


Abundance Ion 130.00 (129.70 to 130.70);
 Ion 132.00 (131.70 to 132.70);
 Ion 95.00 (94.70 to 95.70); AN

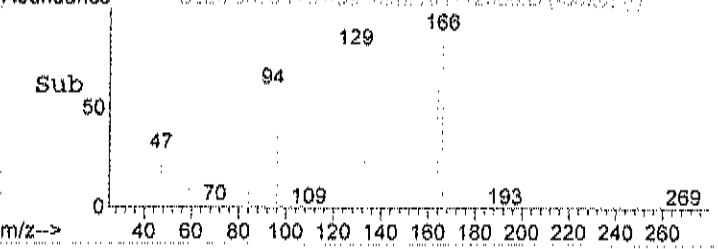
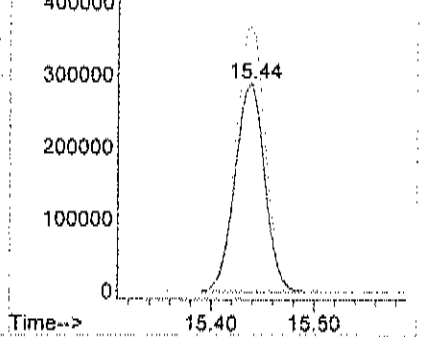


#56
 Tetrachloroethylene
 Concen: 18.84 ppb
 RT: 15.44 min Scan# 3858
 Delta R.T. -0.04 min
 Lab File: AN112805.D
 Acq: 28 Nov 2016 11:42 am

Tgt Ion	Resp	Lower	Upper
164	580050		
164	100		
166	127.7	96.0	136.0



Abundance Ion 164.00 (163.70 to 164.70);
 Ion 166.00 (165.70 to 166.70);



Centek Laboratories, LLC

Date: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-004A

Client Sample ID: 1740-JAQ-2
Tag Number: 168,337
Collection Date: 11/22/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
				FLD		Analyst:
Lab Vacuum In	-3			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
				TO-15		Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
Tetrachloroethylene	0.37	0.15		ppbV	1	11/27/2016 10:43:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 10:43:00 PM
Trichloroethene	0.19	0.040		ppbV	1	11/27/2016 10:43:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2016 10:43:00 PM
Surr: Bromofluorobenzene	95.0	70-130		%REC	1	11/27/2016 10:43:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-004A

Client Sample ID: 1740-1AQ-2
Tag Number: 168,337
Collection Date: 11/22/2016
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	11/27/2016 10:43:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/27/2016 10:43:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:43:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2016 10:43:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	11/27/2016 10:43:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:43:00 PM
Tetrachloroethylene	2.5	1.0		ug/m3	1	11/27/2016 10:43:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:43:00 PM
Trichloroethene	1.0	0.21		ug/m3	1	11/27/2016 10:43:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2016 10:43:00 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\DATA2\AN112716.D Vial: 2
 Acq On : 27 Nov 2016 10:43 pm Operator: RJP
 Sample : C1611040-004A Inst : MSD #1
 Misc : AN23_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:50 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	21277	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	97087	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.33	117	85898	1.00	ppb	-0.05

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	61642	0.95	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	95.00%

Target Compounds

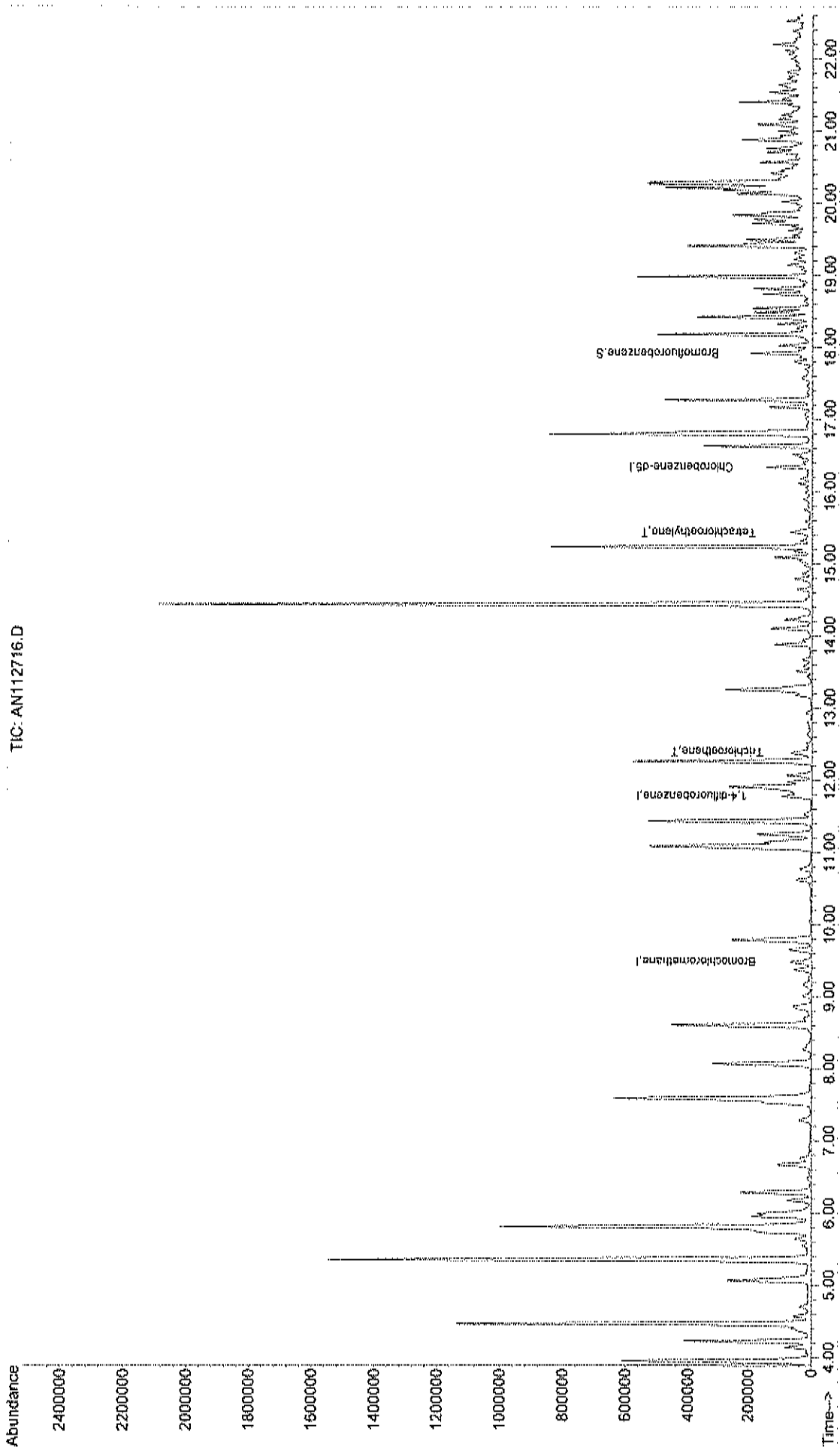
	R.T.	QIon	Response	Conc	Units	Qvalue
44) Trichloroethene	12.40	130	6323	0.19	ppb	84
56) Tetrachloroethylene	15.43	164	13371	0.37	ppb	92

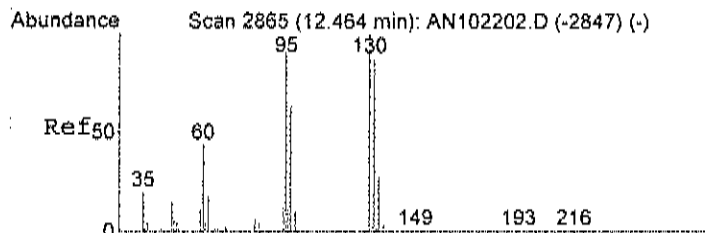
Data File : C:\HPCHEM\1\DATA2\AN112716.D
Acq On : 27 Nov 2016 10:43 pm
Sample : C1611040-004A
Misc : AN23_IUG
MS Integration Params: RTEINT.P
Quant Time: Nov 29 7:51 2016

Vial: 2
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: AN23_IUG.RES

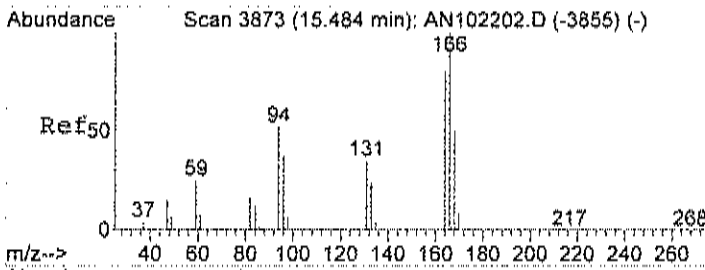
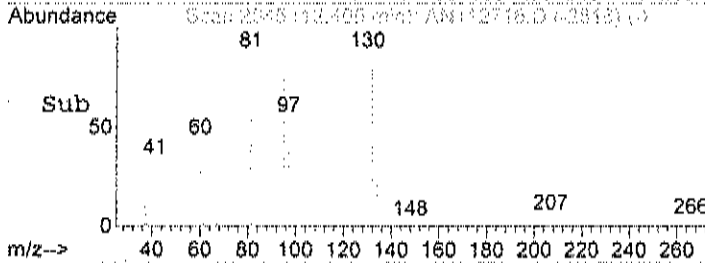
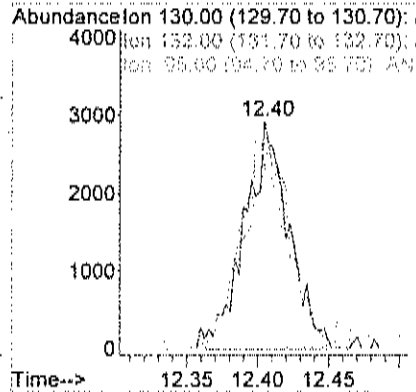
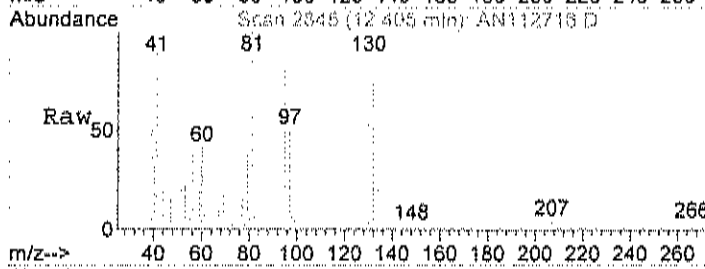
Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for_5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration





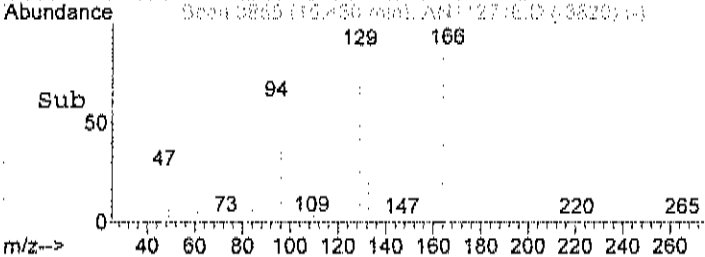
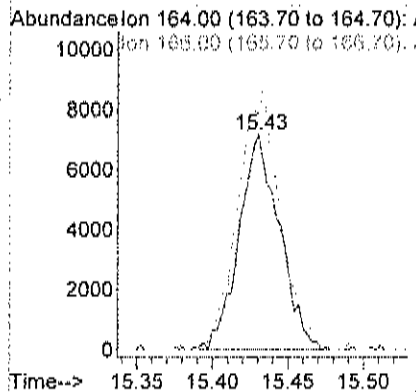
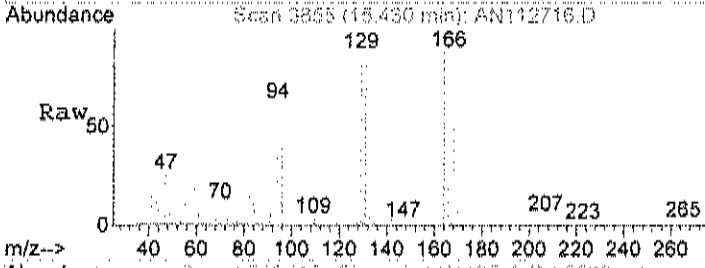
#44
 Trichloroethene
 Concen: 0.19 ppb
 RT: 12.40 min Scan# 2845
 Delta R.T. -0.06 min
 Lab File: AN112716.D
 Acq: 27 Nov 2016 10:43 pm

Tgt Ion	Resp	Lower	Upper
130	6323		
130	100		
132	98.5	63.3	103.3
95	113.9	78.5	118.5



#56
 Tetrachloroethylene
 Concen: 0.37 ppb
 RT: 15.43 min Scan# 3855
 Delta R.T. -0.04 min
 Lab File: AN112716.D
 Acq: 27 Nov 2016 10:43 pm

Tgt Ion	Resp	Lower	Upper
164	13371		
164	100		
166	124.5	96.0	136.0



Centek Laboratories, LLC

Date: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-005A

Client Sample ID: 1740-SVI-3
 Tag Number: 243,342
 Collection Date: 11/22/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:	
Lab Vacuum In	-3			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP	
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
Trichloroethene	1.9	0.15		ppbV	1	11/28/2016 3:31:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/28/2016 3:31:00 AM
Surr: Bromofluorobenzene	114	70-130		%REC	1	11/28/2016 3:31:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-005A

Client Sample ID: 1740-SVI-3
Tag Number: 243,342
Collection Date: 11/22/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15						Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	11/28/2016 3:31:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 3:31:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 3:31:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 3:31:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/28/2016 3:31:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Trichloroethene	10	0.81		ug/m3	1	11/28/2016 3:31:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	11/28/2016 3:31:00 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\DATA2\AN112723.D
 Acq On : 28 Nov 2016 3:31 am
 Sample : C1611040-005A
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:57 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	22033	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.79	114	110343	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	103314	1.00	ppb	-0.04

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	88801m	1.14	ppb	-0.04
Spiked Amount	1.000	Range 70 - 130	Recovery	=	114.00%	

Target Compounds

44) Trichloroethene	12.42	130	74517	1.92	ppb	Qvalue # 74
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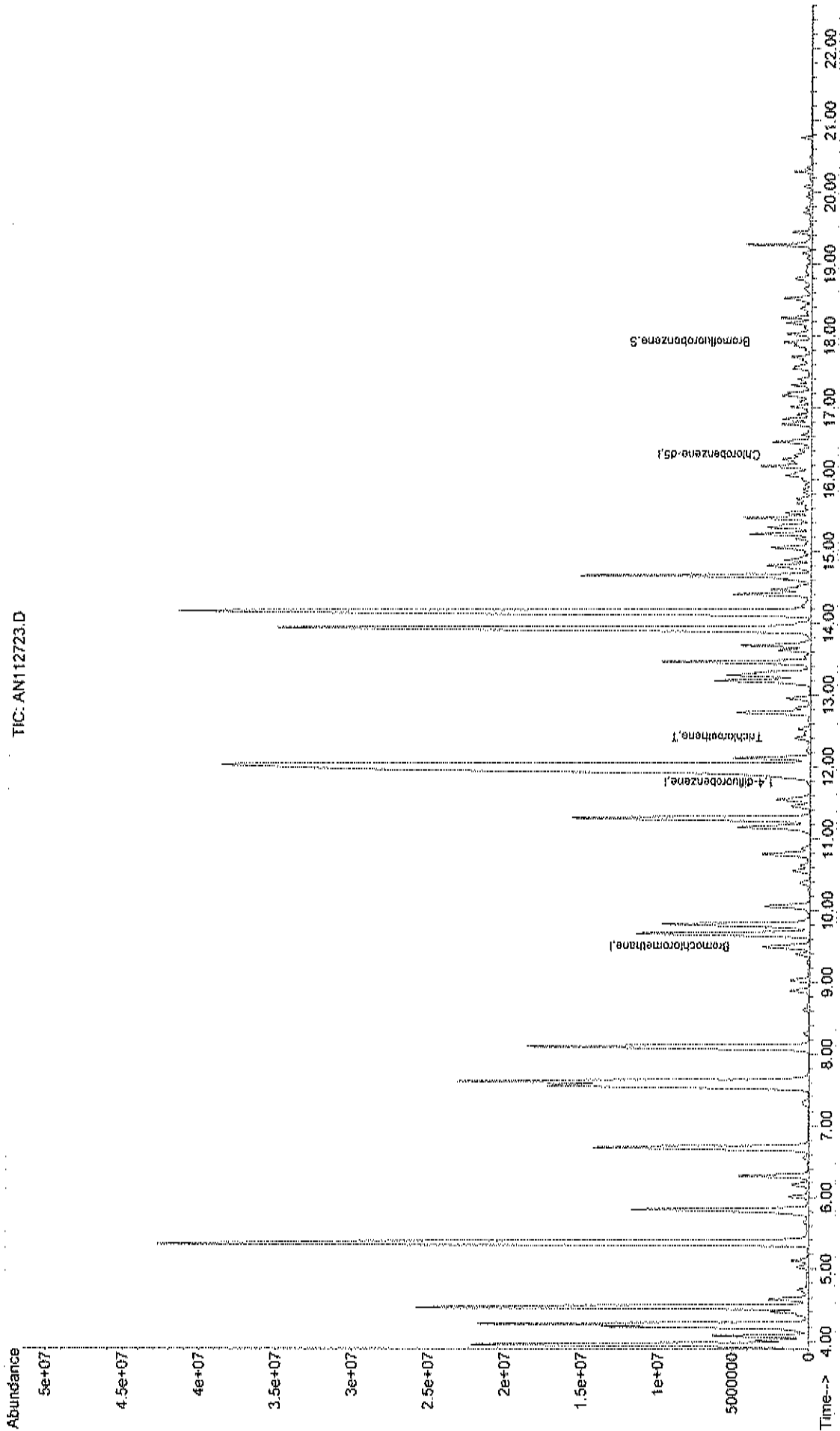
Quantitation Report (QT Reviewed)

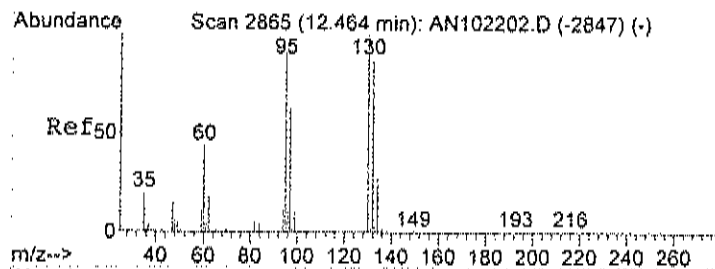
Data File : C:\HPCHEM\1\DATA2\AN112723.D
Acq On : 28 Nov 2016 3:31 am
Sample : C1611040-005A
Misc : AN23_IUG
MS Integration Params: RTEINT.P
Quant Time: Nov 29 7:56 2016

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

Quant Results File: AN23_IUG.RES

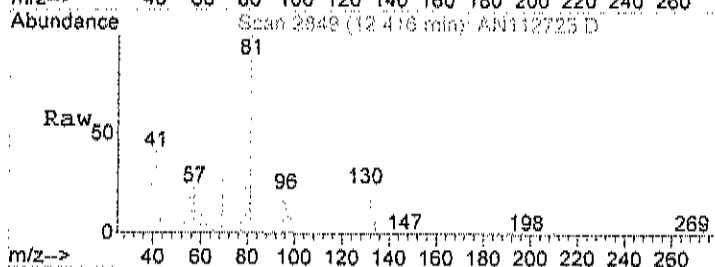
Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration



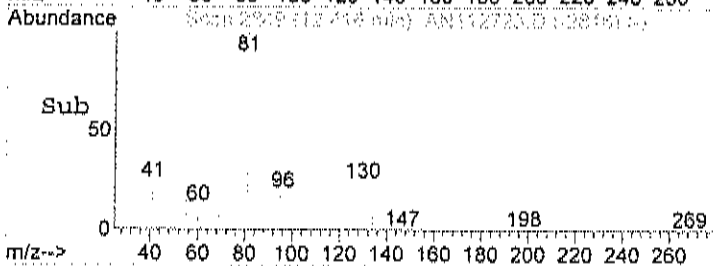
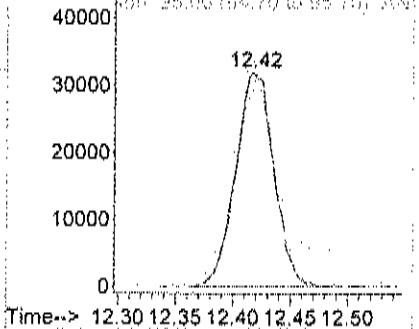


#44
 Trichloroethene
 Concen: 1.92 ppb
 RT: 12.42 min Scan# 2849
 Delta R.T. -0.05 min
 Lab File: AN112723.D
 Acq: 28 Nov 2016 3:31 am

Tgt Ion	Resp	Lower	Upper
130	100		
132	96.3	63.3	103.3
95	134.5	78.5	118.5



Abundance on 130.00 (129.70 to 130.70):
 Ion 132.00 (131.70 to 132.70):
 Ion 95.00 (94.70 to 95.70): AN



Centek Laboratories, LLC

Date: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-006A

Client Sample ID: 1740-1AQ-3
Tag Number: 171,344
Collection Date: 11/22/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-4			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
Tetrachloroethylene	0.18	0.15		ppbV	1	11/27/2016 11:22:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/27/2016 11:22:00 PM
Trichloroethene	0.15	0.040		ppbV	1	11/27/2016 11:22:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/27/2016 11:22:00 PM
Surr: Bromoffluorobenzene	95.0	70-130		%REC	1	11/27/2016 11:22:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-006A

Client Sample ID: 1740-IAQ-3
Tag Number: 171,344
Collection Date: 11/22/2016
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	11/27/2016 11:22:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/27/2016 11:22:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 11:22:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2016 11:22:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	11/27/2016 11:22:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 11:22:00 PM
Tetrachloroethylene	1.2	1.0		ug/m3	1	11/27/2016 11:22:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 11:22:00 PM
Trichloroethene	0.81	0.21		ug/m3	1	11/27/2016 11:22:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2016 11:22:00 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

Data File : C:\HPCHEM\1\DATA2\AN112717.D
 Acq On : 27 Nov 2016 11:22 pm
 Sample : C1611040-006A
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:51 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	22463	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	99701	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.34	117	86559	1.00	ppb	-0.04

System Monitoring Compounds						
66) Bromofluorobenzene	17.92	95	62329	0.95	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	95.00%

Target Compounds						Qvalue
44) Trichloroethene	12.40	130	5222	0.15	ppb	# 81
56) Tetrachloroethylene	15.43	164	6611	0.18	ppb	84

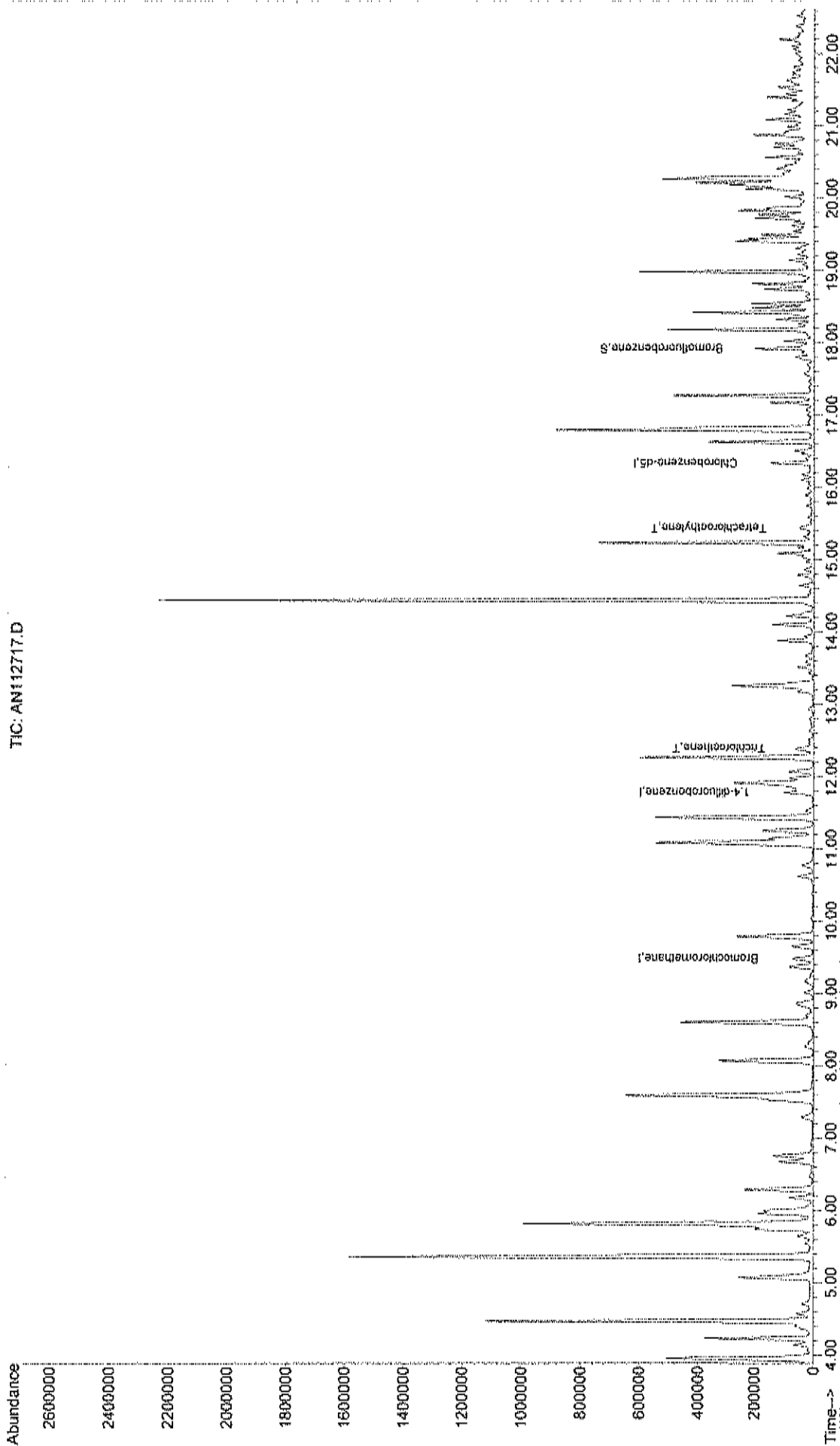
Quantitation Report (Q1 Reviewed)

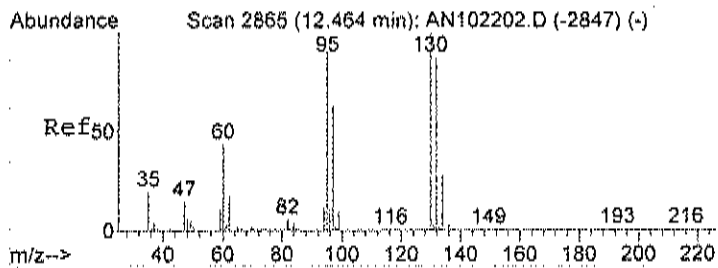
Data File : C:\HPCHEM\1\DATA2\AN112717.D
Acq On : 27 Nov 2016 11:22 pm
Sample : C1611040-006A
Misc : AN23_IUG
MS Integration Params: RTEINT.P
Quant Time: Nov 29 7:52 2016

Vial: 3
Operator: RJP
Inst : MSD #1
Multiplx: 1.00

Quant Results File: AN23_IUG.RES

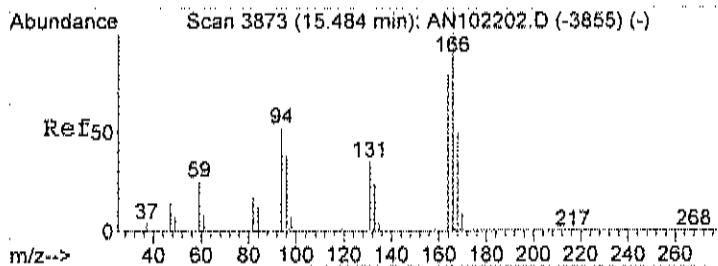
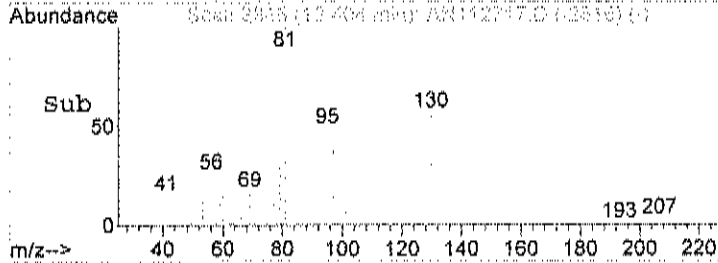
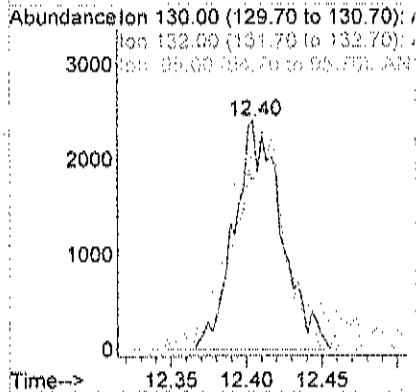
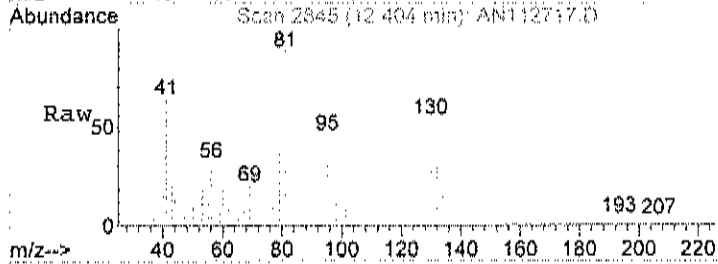
Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration





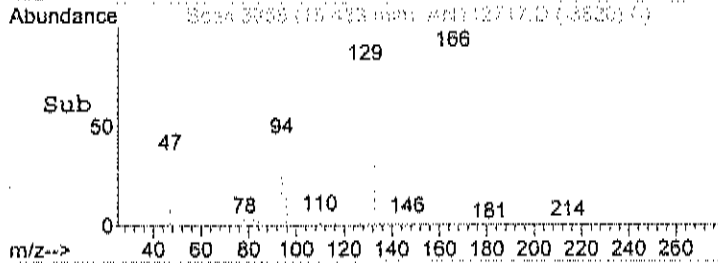
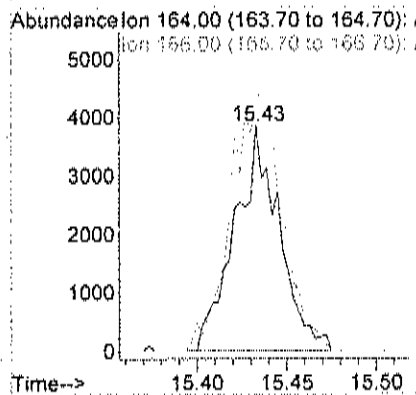
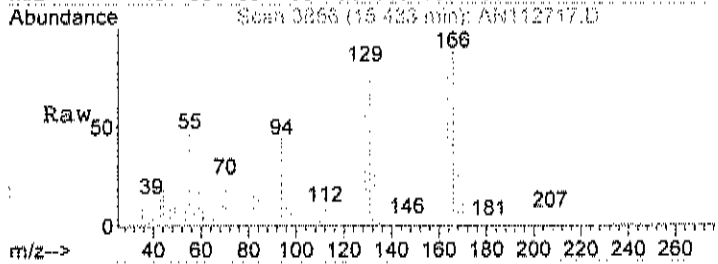
#44
 Trichloroethene
 Concen: 0.15 ppb
 RT: 12.40 min Scan# 2845
 Delta R.T. -0.06 min
 Lab File: AN112717.D
 Acq: 27 Nov 2016 11:22 pm

Tgt Ion	Resp	Lower	Upper
130	100		
132	94.4	63.3	103.3
95	122.9	78.5	118.5#



#56
 Tetrachloroethylene
 Concen: 0.18 ppb
 RT: 15.43 min Scan# 3856
 Delta R.T. -0.04 min
 Lab File: AN112717.D
 Acq: 27 Nov 2016 11:22 pm

Tgt Ion	Resp	Lower	Upper
164	100		
166	133.4	96.0	136.0



Centek Laboratories, LLC

Date: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-007A

Client Sample ID: 1740-Outdoor Air
Tag Number: 542,259
Collection Date: 11/22/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-2			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
Chloromethane	0.48	0.15		ppbV	1	11/28/2016 12:01:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 12:01:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	11/28/2016 12:01:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	11/28/2016 12:01:00 AM
Surr: Bromofluorobenzene	94.0	70-130		%REC	1	11/28/2016 12:01:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-007A

Client Sample ID: 1740-Outdoor Air
Tag Number: 542,259
Collection Date: 11/22/2016
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	11/28/2016 12:01:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 12:01:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 12:01:00 AM
Chloromethane	0.99	0.31		ug/m3	1	11/28/2016 12:01:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/28/2016 12:01:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	11/28/2016 12:01:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/28/2016 12:01:00 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\DATA2\AN112718.D
 Acq On : 28 Nov 2016 12:01 am
 Sample : C1611040-007A
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:52 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	20718	1.00	ppb	-0.08
35) 1,4-difluorobenzene	11.78	114	98544	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.33	117	81376	1.00	ppb	-0.05

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	57553	0.94	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	94.00%

Target Compounds

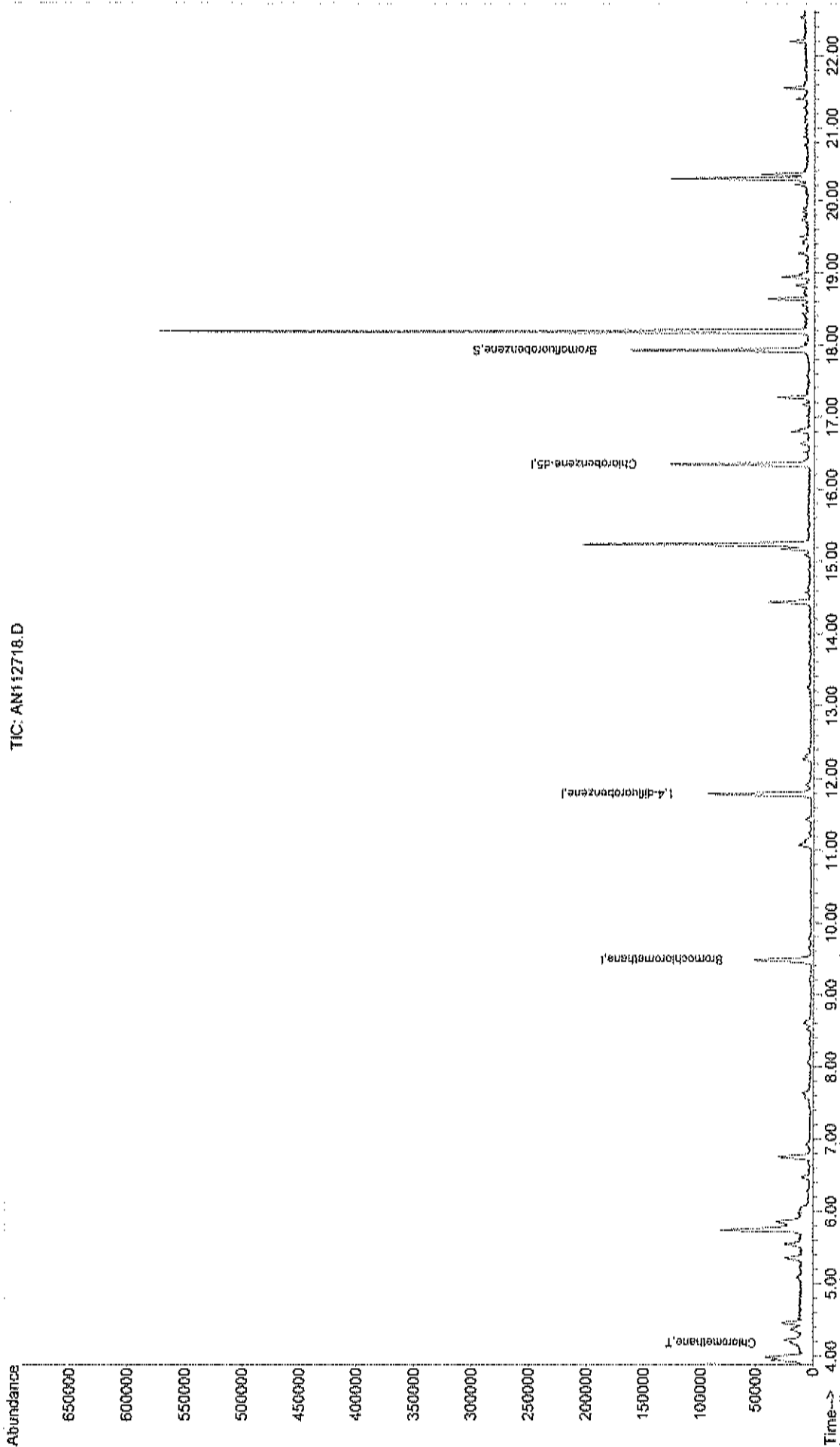
4) Chloromethane	4.18	50	8609	0.48	ppb	Qvalue 70
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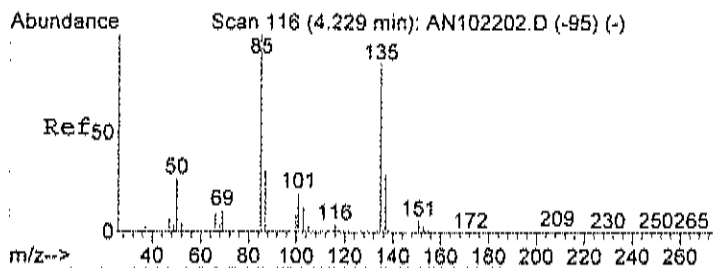
Data File : C:\HPCHEM\1\DATA2\AN112718.D
Acq On : 28 Nov 2016 12:01 am
Sample : C1611040-007A
Misc : AN23_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 29 7:53 2016

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

Quant Results File: AN23_1UG.RES

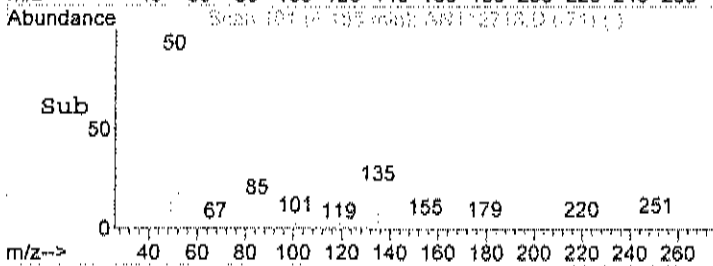
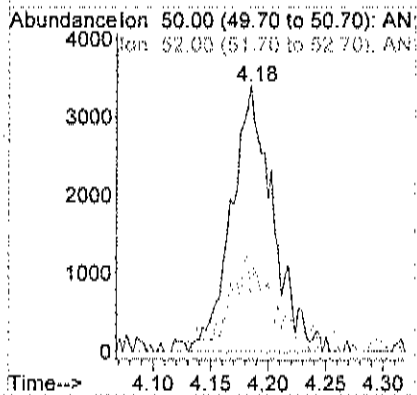
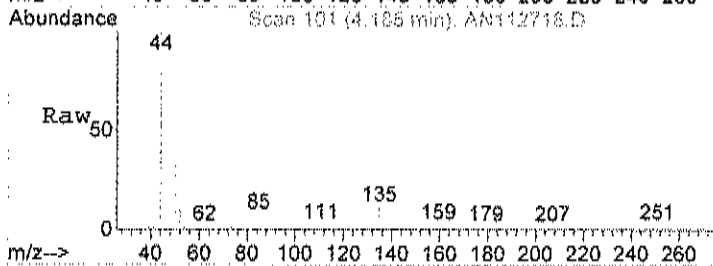
Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration





#4
 Chloromethane
 Concen: 0.48 ppb
 RT: 4.18 min Scan# 101
 Delta R.T. -0.06 min
 Lab File: AN112718.D
 Acq: 28 Nov 2016 12:01 am

Tgt Ion	50	Resp	8609
Ion Ratio	Lower	Upper	
50	100		
52	36.7	2.5	42.5



Centek Laboratories, LLC

Date: 28-Dec-16

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	1740-Blind Dup
Lab Order:	C1611040	Tag Number:	1190,343
Project:	1740 Emerson Street	Collection Date:	11/22/2016
Lab ID:	C1611040-008A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-2			"Hg		11/23/2016
Lab Vacuum Out	-30			"Hg		11/23/2016
1UG/M3 BY METHOD TO15						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
Tetrachloroethylene	0.49	0.15		ppbV	1	11/28/2016 4:10:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
Trichloroethene	0.17	0.15		ppbV	1	11/28/2016 4:10:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	11/28/2016 4:10:00 AM
Surr: Bromofluorobenzene	94.0	70-130		%REC	1	11/28/2016 4:10:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-008A

Client Sample ID: 1740-Blind Dup
Tag Number: 1190,343
Collection Date: 11/22/2016
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	11/28/2016 4:10:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 4:10:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 4:10:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 4:10:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 4:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 4:10:00 AM
Tetrachloroethylene	3.3	1.0		ug/m3	1	11/28/2016 4:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 4:10:00 AM
Trichloroethene	0.91	0.81		ug/m3	1	11/28/2016 4:10:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	11/28/2016 4:10:00 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		

Data File : C:\HPCHEM\1\DATA2\AN112724.D
 Acq On : 28 Nov 2016 4:10 am
 Sample : C1611040-008A
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:58 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	27945	1.00	ppb	-0.08
35) 1,4-difluorobenzene	11.78	114	125984	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.34	117	106358	1.00	ppb	-0.04

System Monitoring Compounds						
66) Bromofluorobenzene	17.92	95	75621	0.94	ppb	-0.04
Spiked Amount	1.000	Range 70 - 130	Recovery	=	94.00%	

Target Compounds						Qvalue
44) Trichloroethene	12.40	130	7524	0.17	ppb	83
56) Tetrachloroethylene	15.43	164	21719	0.49	ppb	90

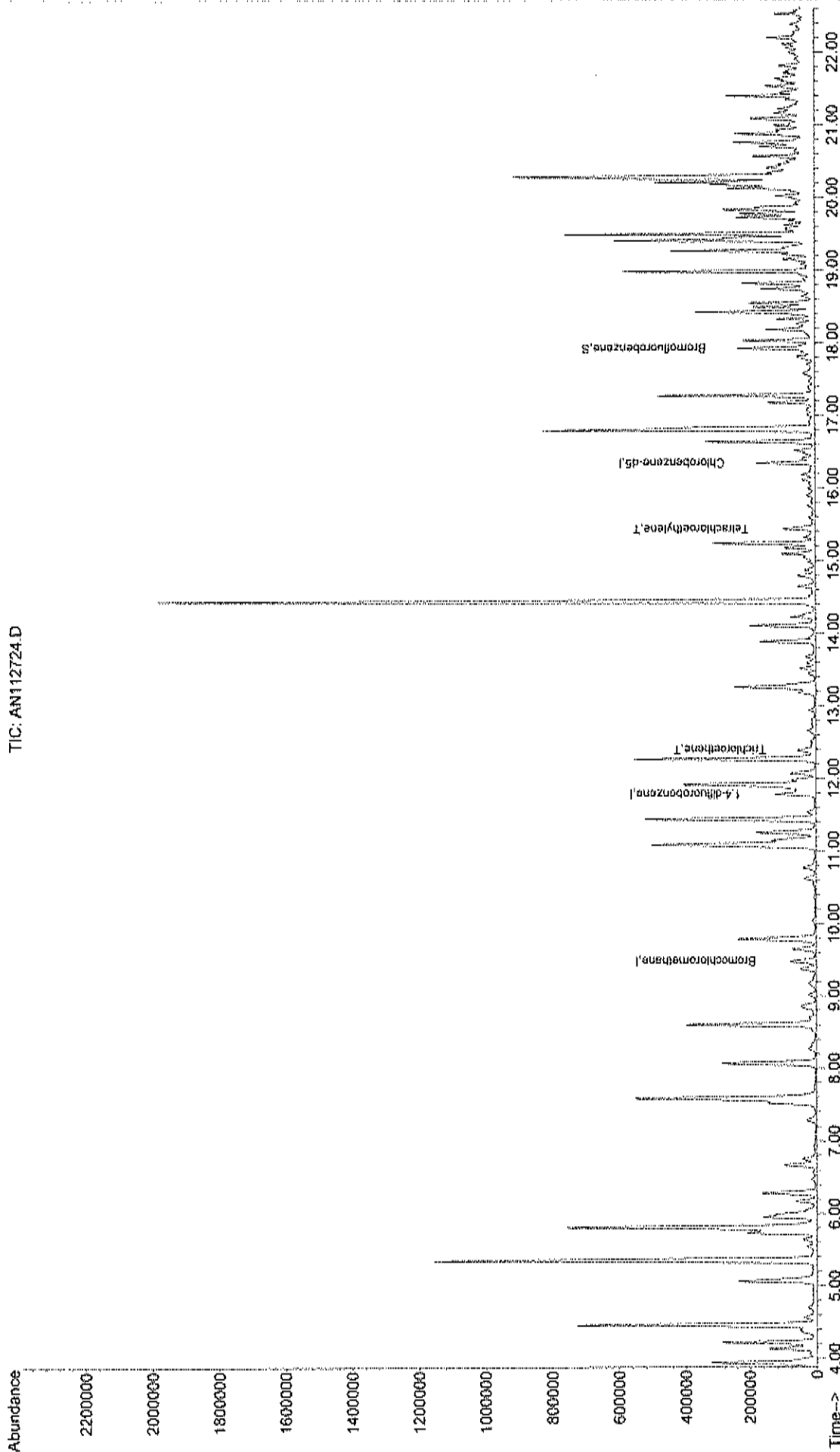
Quantitation Report (QT Reviewed)

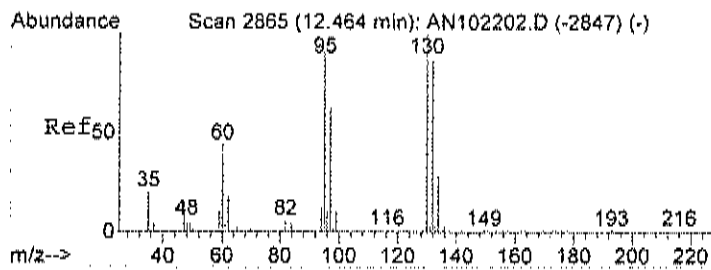
Data File : C:\HPCHEM\1\DATA2\AN112724.D
Acq On : 28 Nov 2016 4:10 am
Sample : C1611040-008A
Misc : AN23_IUG
MS Integration Params: RTEINT.P
Quant Time: Nov 29 7:57 2016

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

Quant Results File: AN23_IUG.RES

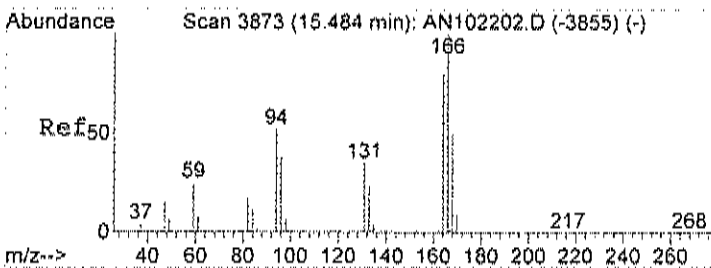
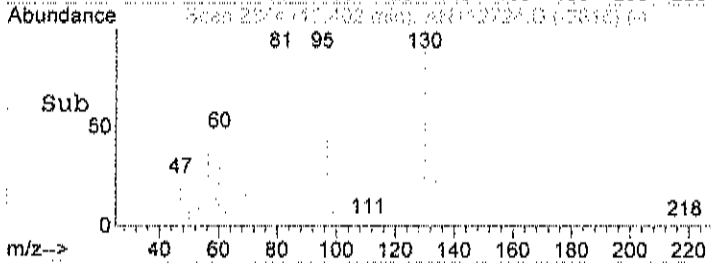
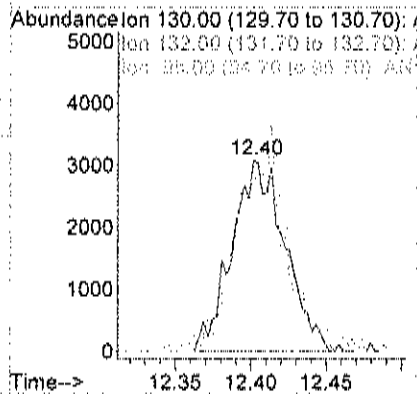
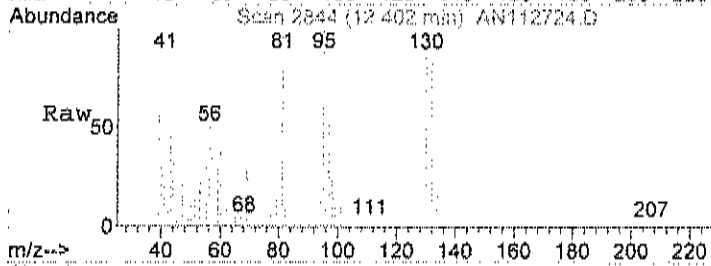
Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration





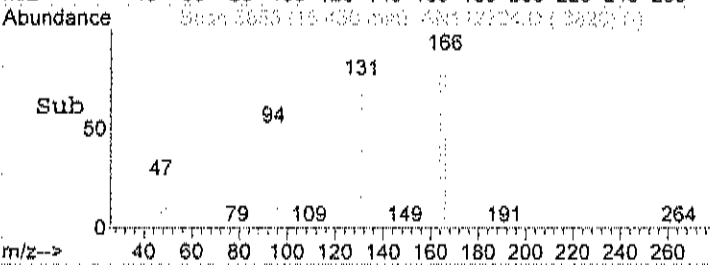
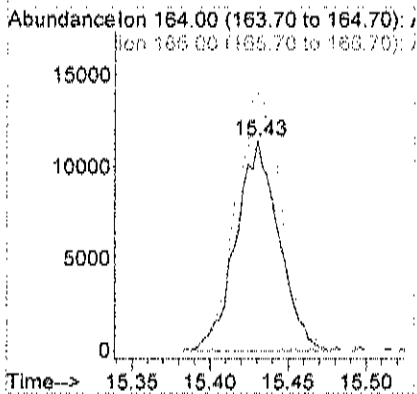
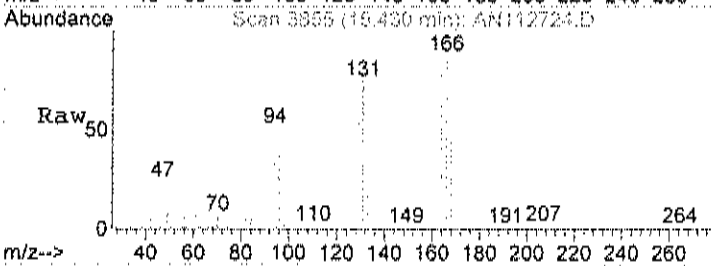
#44
 Trichloroethene
 Concen: 0.17 ppb
 RT: 12.40 min Scan# 2844
 Delta R.T. -0.07 min
 Lab File: AN112724.D
 Acq: 28 Nov 2016 4:10 am

Tgt Ion	Ratio	Resp	Lower	Upper
130	100	7524		
132	99.7	63.3	103.3	
95	115.1	78.5	118.5	



#56
 Tetrachloroethylene
 Concen: 0.49 ppb
 RT: 15.43 min Scan# 3855
 Delta R.T. -0.04 min
 Lab File: AN112724.D
 Acq: 28 Nov 2016 4:10 am

Tgt Ion	Ratio	Resp	Lower	Upper
164	100	21719		
166	127.3	96.0	136.0	



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\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration

Calibration Files

.04 =AN112315.D 0.10 =AN112314.D 0.15 =AN112313.D
 0.30 =AN112312.D 0.50 =AN112311.D 0.75 =AN112310.D

Compound	.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
1) I Bromochloromethane	-----ISTD-----							
2) T Propylene			0.791	0.769	0.852	0.663	0.723	11.02
3) T Freon 12			4.601	3.859	3.825	3.701	3.741	10.42
4) T Chloromethane			1.032	0.945	0.909	0.802	0.859	11.11
5) T Freon 114			3.103	2.784	2.515	2.451	2.500	12.07
6) T Vinyl Chloride	1.062	0.812	0.943	0.796	0.723	0.689	0.770	17.84
7) T Butane			1.050	1.134	1.033	0.869	0.966	10.08
8) T 1,3-butadiene			0.914	0.802	0.878	0.708	0.755	13.08
9) T Bromomethane			1.017	0.997	0.964	0.875	0.879	11.67
10) T Chloroethane			0.419	0.341	0.308	0.319	0.318	14.50
11) T Ethanol			0.388	0.343	0.298	0.340	0.317	12.49
12) T Acrolein				0.318	0.317	0.243	0.260	15.51
13) T Vinyl Bromide			1.173	1.024	0.937	0.858	0.919	13.41
14) T Freon 11			3.440	3.227	3.008	2.823	2.896	11.00
15) T Acetone			0.922	0.724	0.639	0.571	0.614	24.11
16) T Pentane			0.732	1.001	0.907	0.814	0.808	13.19
17) T Isopropyl alcoh			1.476	1.394	1.152	1.155	1.213	12.07
18) T 1,1-dichloroeth			1.087	1.007	0.928	0.922	0.952	7.08
19) T Freon 113			2.577	2.380	2.287	2.176	2.251	7.15
20) t t-Butyl alcohol			2.920	2.550	2.288	2.062	2.332	11.87
21) T Methylene chlor			2.954	2.614	2.143	2.030	2.093	22.34
22) T Allyl chloride			1.548	1.140	1.059	1.018	1.103	16.88
23) T Carbon disulfid			2.910	2.619	2.512	2.407	2.502	7.46
24) T trans-1,2-dichl			1.466	1.428	1.396	1.366	1.378	3.70
25) T methyl tert-but			3.820	3.253	3.058	2.982	3.119	9.73
26) T 1,1-dichloroeth			1.905	1.828	1.751	1.721	1.736	5.27
27) T Vinyl acetate			2.195	2.067	2.093	2.011	2.136	3.47
28) T Methyl Ethyl Ke			0.398	0.397	0.368	0.382	0.396	3.62
29) T cis-1,2-dichlor			1.576	1.390	1.335	1.315	1.350	7.40
30) T Hexane			1.467	1.345	1.360	1.291	1.327	4.82
31) T Ethyl acetate			1.786	1.760	1.754	1.636	1.722	3.20
32) T Chloroform			2.897	2.667	2.561	2.438	2.535	6.88
33) T Tetrahydrofuran			0.960	0.851	0.820	0.828	0.832	6.87
34) T 1,2-dichloroeth			2.074	1.908	1.852	1.813	1.824	6.96
35) I 1,4-difluorobenzene	-----ISTD-----							
36) T 1,1,1-trichloro			0.654	0.592	0.613	0.626	0.616	3.00
37) T Cyclohexane			0.347	0.285	0.289	0.281	0.286	8.99
38) T Carbon tetrachl	0.589	0.509	0.527	0.479	0.533	0.553	0.558	7.96
39) T Benzene			0.688	0.616	0.629	0.585	0.605	6.37
40) T Methyl methacry			0.235	0.244	0.255	0.249	0.246	2.22
41) T 1,4-dioxane			0.177	0.142	0.131	0.123	0.136	12.75
42) T 2,2,4-trimethyl			0.983	0.874	0.857	0.856	0.861	6.04
43) T Heptane			0.379	0.330	0.332	0.318	0.322	8.01
44) T Trichloroethene	0.513	0.390	0.382	0.314	0.328	0.316	0.351	18.11
45) T 1,2-dichloropro			0.227	0.221	0.216	0.212	0.211	4.53
46) T Bromodichlorome			0.480	0.468	0.485	0.509	0.499	3.90
47) T cis-1,3-dichlor			0.370	0.340	0.360	0.353	0.358	2.37
48) T trans-1,3-dichl			0.398	0.333	0.367	0.354	0.365	4.99
49) T 1,1,2-trichloro			0.318	0.278	0.279	0.275	0.279	5.89
50) I Chlorobenzene-d5	-----ISTD-----							
51) T Toluene			0.592	0.532	0.518	0.507	0.518	6.30

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration

Calibration Files

.04 =AN112315.D 0.10 =AN112314.D 0.15 =AN112313.D
 0.30 =AN112312.D 0.50 =AN112311.D 0.75 =AN112310.D

Compound	.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
52) T Methyl Isobutyl			0.676	0.531	0.484	0.453	0.498	15.40
53) T Dibromochlorome			0.497	0.477	0.519	0.549	0.555	9.58
54) T Methyl Butyl Ke			0.559	0.580	0.489	0.411	0.468	14.36
55) T 1,2-dibromoetha			0.567	0.516	0.522	0.517	0.523	3.52
56) T Tetrachloroethy			0.460	0.429	0.417	0.408	0.416	5.07
57) T Chlorobenzene			0.864	0.782	0.756	0.741	0.759	6.09
58) T 1,1,1,2-tetrach			0.405	0.388	0.405	0.398	0.419	5.33
59) T Ethylbenzene			1.453	1.280	1.269	1.242	1.258	6.78
60) T m&p-xylene			1.147	1.036	1.003	1.003	1.012	5.95
61) T Nonane			0.651	0.577	0.554	0.548	0.547	9.25
62) T Styrene			0.765	0.722	0.719	0.706	0.716	3.30
63) T Bromoform			0.424	0.423	0.441	0.474	0.487	11.03
64) T o-xylene			1.301	1.046	1.101	1.101	1.111	7.34
65) T Cumene			1.573	1.480	1.411	1.388	1.419	5.18
66) S Bromofluorobenz	0.749	0.728	0.759	0.741	0.741	0.753	0.754	2.06
67) T 1,1,2,2-tetrach			0.643	0.600	0.594	0.606	0.604	2.64
68) T Propylbenzene			1.858	1.651	1.642	1.562	1.635	6.23
69) T 2-Chlorotoluene			1.235	1.182	1.110	0.988	1.057	10.65
70) T 4-ethyltoluene			1.440	1.308	1.306	1.307	1.312	4.33
71) T 1,3,5-trimethyl			1.480	1.261	1.225	1.195	1.238	8.30
72) T 1,2,4-trimethyl			1.314	1.181	1.144	1.145	1.156	5.87
73) T 1,3-dichloroben			0.844	0.774	0.764	0.763	0.769	4.27
74) T benzyl chloride			0.883	0.805	0.816	0.726	0.800	6.19
75) T 1,4-dichloroben			0.868	0.793	0.755	0.732	0.763	6.19
76) T 1,2,3-trimethyl			1.239	1.151	1.095	1.113	1.111	5.40
77) T 1,2-dichloroben			0.803	0.738	0.734	0.710	0.720	5.41
78) T 1,2,4-trichloro			0.456	0.437	0.443	0.464	0.475	5.90
79) T Naphthalene			1.527	1.297	1.284	1.275	1.335	6.03
80) T Hexachloro-1,3-			0.694	0.645	0.623	0.632	0.642	3.54

Data File : C:\HPCHEM\1\DATA2\AN112306.D
 Acq On : 23 Nov 2016 7:00 pm
 Sample : A1UG_2.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 23 21:47:01 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.50	128	41329	1.00	ppb	-0.06
35) 1,4-difluorobenzene	11.79	114	188707	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	169426	1.00	ppb	-0.04

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	17.92	95	132406	1.01	ppb	-0.04
Spiked Amount	1.000	Range 70 - 130	Recovery	=	101.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.94	41	51702	1.86	ppb	78
3) Freon 12	4.00	85	274471	1.85	ppb	99
4) Chloromethane	4.18	50	64146m	1.82	ppb	
5) Freon 114	4.19	85	182209	1.87	ppb	98
6) Vinyl Chloride	4.38	62	52816	1.84	ppb	94
7) Butane	4.47	43	79022m	2.08	ppb	
8) 1,3-butadiene	4.47	39	53477	1.87	ppb	96
9) Bromomethane	4.81	94	60832	1.77	ppb	83
10) Chloroethane	4.97	64	22298	1.75	ppb	# 66
11) Ethanol	5.08	45	23018	1.77	ppb	88
12) Acrolein	5.64	56	19532	1.98	ppb	# 59
13) Vinyl Bromide	5.29	106	65926	1.85	ppb	98
14) Freon 11	5.55	101	204577	1.73	ppb	98
15) Acetone	5.75	58	40291m	1.76	ppb	
16) Pentane	5.82	42	56124	1.78	ppb	# 25
17) Isopropyl alcohol	5.85	45	96565m	1.93	ppb	
18) 1,1-dichloroethene	6.30	96	71326	1.83	ppb	86
19) Freon 113	6.48	101	171339	1.89	ppb	82
20) t-Butyl alcohol	6.56	59	179702	1.91	ppb	93
21) Methylene chloride	6.76	84	134158m	1.70	ppb	
22) Allyl chloride	6.74	41	81049	1.86	ppb	84
23) Carbon disulfide	6.90	76	193796	1.92	ppb	95
24) trans-1,2-dichloroethene	7.68	61	107467	1.90	ppb	93
25) methyl tert-butyl ether	7.71	73	237559	1.92	ppb	95
26) 1,1-dichloroethane	8.11	63	133448	1.91	ppb	95
27) Vinyl acetate	8.10	43	179221	1.96	ppb	97
28) Methyl Ethyl Ketone	8.62	72	33315	1.99	ppb	# 1
29) cis-1,2-dichloroethene	9.03	61	102783	1.90	ppb	81
30) Hexane	8.61	57	106740	1.99	ppb	97
31) Ethyl acetate	9.21	43	138784	1.90	ppb	91
32) Chloroform	9.65	83	195624	1.89	ppb	96
33) Tetrahydrofuran	9.85	42	63466	1.86	ppb	95
34) 1,2-dichloroethane	10.77	62	138348	1.84	ppb	90
36) 1,1,1-trichloroethane	10.45	97	229387	2.01	ppb	97
37) Cyclohexane	11.15	56	102619	2.04	ppb	# 54
38) Carbon tetrachloride	11.10	117	230227	2.11	ppb	87
39) Benzene	11.07	78	217624	1.97	ppb	97
40) Methyl methacrylate	12.67	41	92800	1.99	ppb	93
41) 1,4-dioxane	12.72	88	48797	1.99	ppb	75
42) 2,2,4-trimethylpentane	11.92	57	313597	2.01	ppb	94
43) Heptane	12.27	43	112778	1.95	ppb	97
44) Trichloroethene	12.41	130	119214	2.03	ppb	92
45) 1,2-dichloropropane	12.53	63	76298	1.96	ppb	95

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

Data File : C:\HPCHEM\1\DATA2\AN112306.D
 Acq On : 23 Nov 2016 7:00 pm
 Sample : A1UG_2.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 23 21:47:01 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.87	83	196375	2.07	ppb	96
47) cis-1,3-dichloropropene	13.65	75	136412	2.01	ppb	91
48) trans-1,3-dichloropropene	14.39	75	139992	2.07	ppb	82
49) 1,1,2-trichloroethane	14.70	97	102213	2.02	ppb	95
51) Toluene	14.44	92	166255	1.93	ppb	99
52) Methyl Isobutyl Ketone	13.58	43	155143	1.92	ppb	96
53) Dibromochloromethane	15.38	129	210049m	2.21	ppb	
54) Methyl Butyl Ketone	14.88	43	140368	1.87	ppb	93
55) 1,2-dibromoethane	15.62	107	172595	1.95	ppb	95
56) Tetrachloroethylene	15.44	164	133130	1.91	ppb	90
57) Chlorobenzene	16.39	112	245038	1.94	ppb	95
58) 1,1,1,2-tetrachloroethane	16.49	131	149857	2.04	ppb	99
59) Ethylbenzene	16.63	91	400154	1.93	ppb	94
60) m&p-xylene	16.80	91	647394	3.80	ppb	95
61) Nonane	17.18	43	168786	1.84	ppb	97
62) Styrene	17.25	104	233257	1.92	ppb	81
63) Bromoform	17.38	173	188602	2.19	ppb	99
64) o-xylene	17.28	91	358587	1.89	ppb	96
65) Cumene	17.81	105	459811	1.93	ppb	95
67) 1,1,2,2-tetrachloroethane	17.72	83	201708	1.98	ppb	96
68) Propylbenzene	18.33	91	516178m	1.93	ppb	
69) 2-Chlorotoluene	18.37	91	328073m	1.83	ppb	
70) 4-ethyltoluene	18.49	105	421330m	1.88	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	395583m	1.92	ppb	
72) 1,2,4-trimethylbenzene	18.99	105	374337	1.96	ppb	96
73) 1,3-dichlorobenzene	19.28	146	252314	1.93	ppb	92
74) benzyl chloride	19.35	91	283369m	2.22	ppb	
75) 1,4-dichlorobenzene	19.41	146	247827	1.95	ppb	93
76) 1,2,3-trimethylbenzene	19.45	105	355733	1.92	ppb	90
77) 1,2-dichlorobenzene	19.73	146	230642	1.92	ppb	97
78) 1,2,4-trichlorobenzene	21.61	180	172746	2.08	ppb	93
79) Naphthalene	21.82	128	445959	1.98	ppb	95
80) Hexachloro-1,3-butadiene	21.92	225	211766	1.93	ppb	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112306.D AN23_1UG.M Wed Dec 28 15:44:02 2016 MSD1

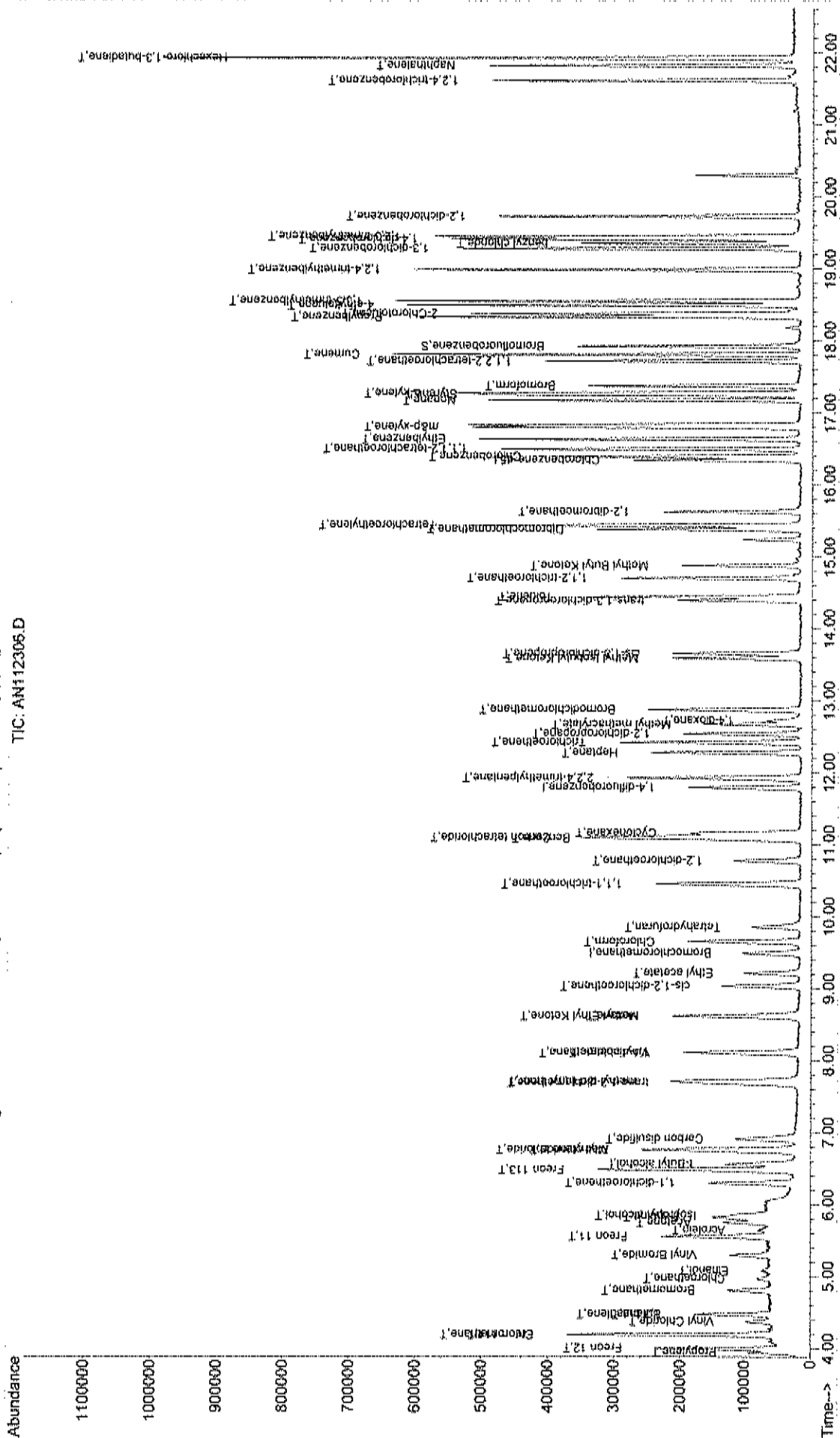
Data File : C:\HPCHEM\1\DATA2\AN112306.D
 Acq On : 23 Nov 2016 7:00 pm
 Sample : ALUG_2.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 27 12:04 2016

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

Quant Results File: AN23_1UG.RES

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

TIC: AN112306.D



Data File : C:\HPCHEM\1\DATA2\AN112307.D
 Acq On : 23 Nov 2016 7:40 pm
 Sample : A1UG_1.50
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 23 21:46:35 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	38501	1.00	ppb	-0.06
35) 1,4-difluorobenzene	11.79	114	179791	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	160510	1.00	ppb	-0.04

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	17.93	95	121263	0.98	ppb	-0.04
Spiked Amount	1.000	Range 70 - 130	Recovery	=	98.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.96	41	43608	1.69	ppb	96
3) Freon 12	4.00	85	201100	1.46	ppb	98
4) Chloromethane	4.19	50	44310m	1.35	ppb	
5) Freon 114	4.19	85	132772	1.47	ppb	98
6) Vinyl Chloride	4.37	62	38425	1.44	ppb	95
7) Butane	4.47	43	51823	1.47	ppb	97
8) 1,3-butadiene	4.47	39	41696	1.56	ppb	94
9) Bromomethane	4.80	94	45928	1.43	ppb	86
10) Chloroethane	4.97	64	17242m	1.45	ppb	
11) Ethanol	5.08	45	15593	1.29	ppb	80
12) Acrolein	5.65	56	13878m	1.51	ppb	
13) Vinyl Bromide	5.29	106	48716	1.46	ppb	97
14) Freon 11	5.56	101	151025	1.37	ppb	98
15) Acetone	5.75	58	28214	1.32	ppb	# 1
16) Pentane	5.82	42	42038	1.44	ppb	# 24
17) Isopropyl alcohol	5.86	45	61767	1.33	ppb	# 100
18) 1,1-dichloroethene	6.30	96	53116	1.46	ppb	89
19) Freon 113	6.48	101	125316	1.49	ppb	83
20) t-Butyl alcohol	6.57	59	125662	1.43	ppb	93
21) Methylene chloride	6.76	84	98399	1.34	ppb	96
22) Allyl chloride	6.74	41	57582	1.42	ppb	# 84
23) Carbon disulfide	6.90	76	139689	1.48	ppb	96
24) trans-1,2-dichloroethene	7.68	61	78201	1.48	ppb	95
25) methyl tert-butyl ether	7.71	73	171977	1.49	ppb	94
26) 1,1-dichloroethane	8.11	63	97604	1.50	ppb	96
27) Vinyl acetate	8.10	43	123074	1.44	ppb	96
28) Methyl Ethyl Ketone	8.63	72	22963	1.47	ppb	# 1
29) cis-1,2-dichloroethene	9.04	61	75387	1.50	ppb	82
30) Hexane	8.61	57	73537	1.47	ppb	96
31) Ethyl acetate	9.21	43	99286	1.46	ppb	92
32) Chloroform	9.65	83	138997	1.44	ppb	96
33) Tetrahydrofuran	9.86	42	46279	1.46	ppb	95
34) 1,2-dichloroethane	10.77	62	98398	1.41	ppb	88
36) 1,1,1-trichloroethane	10.45	97	164858	1.52	ppb	98
37) Cyclohexane	11.16	56	73810	1.54	ppb	# 56
38) Carbon tetrachloride	11.10	117	162899	1.57	ppb	86
39) Benzene	11.08	78	156997	1.49	ppb	97
40) Methyl methacrylate	12.67	41	66029	1.48	ppb	93
41) 1,4-dioxane	12.72	88	35436	1.52	ppb	76
42) 2,2,4-trimethylpentane	11.92	57	224887	1.51	ppb	95
43) Heptane	12.27	43	83127	1.51	ppb	98
44) Trichloroethene	12.41	130	86993	1.55	ppb	93
45) 1,2-dichloropropane	12.53	63	54156	1.46	ppb	95

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

Data File : C:\HPCHEM\1\DATA2\AN112307.D

Vial: 7

Acq On : 23 Nov 2016 7:40 pm

Operator: RJP

Sample : AIUG_1.50

Inst : MSD #1

Misc : AN23_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 23 21:46:35 2016

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.87	83	140702	1.56	ppb	96
47) cis-1,3-dichloropropene	13.65	75	97121	1.50	ppb	92
48) trans-1,3-dichloropropene	14.39	75	98197	1.52	ppb	80
49) 1,1,2-trichloroethane	14.70	97	74600	1.55	ppb	95
51) Toluene	14.45	92	117833	1.45	ppb	98
52) Methyl Isobutyl Ketone	13.58	43	108925	1.43	ppb	97
53) Dibromochloromethane	15.38	129	144509m	1.61	ppb	
54) Methyl Butyl Ketone	14.88	43	102399	1.44	ppb	91
55) 1,2-dibromoethane	15.62	107	125624	1.50	ppb	95
56) Tetrachloroethylene	15.44	164	96188	1.46	ppb	89
57) Chlorobenzene	16.39	112	176903	1.48	ppb	94
58) 1,1,1,2-tetrachloroethane	16.49	131	106555	1.53	ppb	99
59) Ethylbenzene	16.63	91	288947	1.47	ppb	92
60) m&p-xylene	16.80	91	465799	2.88	ppb	95
61) Nonane	17.18	43	121838	1.40	ppb	98
62) Styrene	17.25	104	166442	1.44	ppb	81
63) Bromoform	17.37	173	131110	1.60	ppb	98
64) o-xylene	17.28	91	254347	1.42	ppb	95
65) Cumene	17.81	105	328350	1.45	ppb	95
67) 1,1,2,2-tetrachloroethane	17.72	83	144312	1.50	ppb	96
68) Propylbenzene	18.33	91	399990m	1.58	ppb	
69) 2-Chlorotoluene	18.37	91	219045m	1.29	ppb	
70) 4-ethyltoluene	18.49	105	307322m	1.44	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	284886m	1.46	ppb	
72) 1,2,4-trimethylbenzene	18.99	105	268752	1.49	ppb	98
73) 1,3-dichlorobenzene	19.28	146	177308	1.43	ppb	91
74) benzyl chloride	19.35	91	194504m	1.61	ppb	
75) 1,4-dichlorobenzene	19.41	146	176840	1.47	ppb	94
76) 1,2,3-trimethylbenzene	19.45	105	258972	1.48	ppb	91
77) 1,2-dichlorobenzene	19.73	146	167088	1.47	ppb	97
78) 1,2,4-trichlorobenzene	21.62	180	121349	1.54	ppb	95
79) Naphthalene	21.82	128	322714	1.52	ppb	96
80) Hexachloro-1,3-butadiene	21.93	225	152710	1.47	ppb	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112307.D AN23_1UG.M Wed Dec 28 15:44:06 2016 MSD1

Quantitation Report (QI Reviewed)

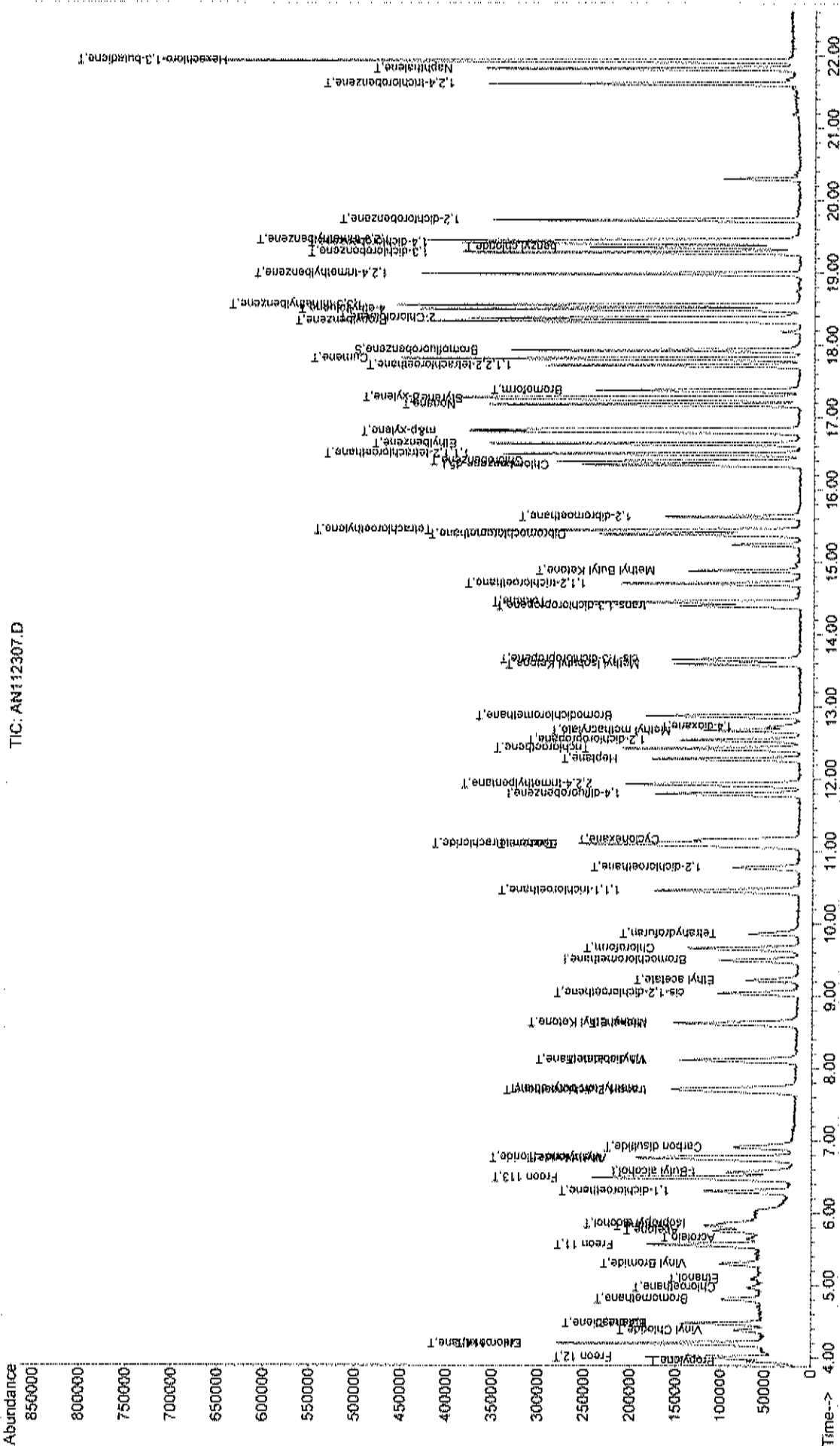
Data File : C:\HPCHEM\1\DATA2\AN112307.D
 Acq On : 23 Nov 2016 7:40 pm
 Sample : AUG_1.50
 Misc : AN23_IUG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 27 12:07 2016

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

Quant Results File: AN23_IUG.RES

Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

TIC: AN112307.D



Data File : C:\HPCHEM\1\DATA2\AN112308.D
 Acq On : 23 Nov 2016 8:20 pm
 Sample : A1UG_1.25
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 23 21:46:10 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	36490	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	171140	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	150842	1.00	ppb	-0.04

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	17.92	95	114992	0.99	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	99.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.95	41	30046	1.23	ppb	89
3) Freon 12	4.00	85	162157	1.24	ppb	100
4) Chloromethane	4.19	50	35850m	1.15	ppb	
5) Freon 114	4.19	85	104663	1.22	ppb	98
6) Vinyl Chloride	4.37	62	30686	1.21	ppb	96
7) Butane	4.48	43	39513	1.18	ppb	95
8) 1,3-butadiene	4.47	39	30696	1.21	ppb	94
9) Bromomethane	4.80	94	37240m	1.23	ppb	
10) Chloroethane	4.97	64	12911m	1.15	ppb	
11) Ethanol	5.09	45	13330	1.16	ppb	# 66
12) Acrolein	5.65	56	10180m	1.17	ppb	
13) Vinyl Bromide	5.29	106	39174	1.24	ppb	97
14) Freon 11	5.55	101	124193	1.19	ppb	99
15) Acetone	5.75	58	23858	1.18	ppb	# 1
16) Pentane	5.82	42	38522	1.39	ppb	# 24
17) Isopropyl alcohol	5.86	45	49145	1.11	ppb	# 100
18) 1,1-dichloroethene	6.29	96	42978	1.25	ppb	89
19) Freon 113	6.49	101	98233	1.23	ppb	84
20) t-Butyl alcohol	6.57	59	100695	1.21	ppb	# 85
21) Methylene chloride	6.76	84	80738	1.16	ppb	96
22) Allyl chloride	6.74	41	46925	1.22	ppb	82
23) Carbon disulfide	6.91	76	107768	1.21	ppb	96
24) trans-1,2-dichloroethene	7.68	61	61539	1.23	ppb	93
25) methyl tert-butyl ether	7.72	73	136221	1.24	ppb	92
26) 1,1-dichloroethane	8.11	63	77112	1.25	ppb	98
27) Vinyl acetate	8.10	43	100946	1.25	ppb	98
28) Methyl Ethyl Ketone	8.63	72	18867	1.27	ppb	# 9
29) cis-1,2-dichloroethene	9.03	61	60699	1.27	ppb	86
30) Hexane	8.61	57	58784	1.24	ppb	91
31) Ethyl acetate	9.21	43	76068	1.18	ppb	89
32) Chloroform	9.65	83	111375	1.22	ppb	97
33) Tetrahydrofuran	9.85	42	36706	1.22	ppb	93
34) 1,2-dichloroethane	10.77	62	79878	1.21	ppb	88
36) 1,1,1-trichloroethane	10.45	97	131670	1.27	ppb	96
37) Cyclohexane	11.15	56	58296	1.28	ppb	# 54
38) Carbon tetrachloride	11.10	117	127122	1.28	ppb	86
39) Benzene	11.07	78	123563	1.23	ppb	95
40) Methyl methacrylate	12.67	41	52630	1.24	ppb	91
41) 1,4-dioxane	12.73	88	26931	1.21	ppb	80
42) 2,2,4-trimethylpentane	11.92	57	176989	1.25	ppb	95
43) Heptane	12.27	43	65487	1.25	ppb	98
44) Trichloroethene	12.41	130	67987	1.27	ppb	92
45) 1,2-dichloropropane	12.53	63	43590	1.23	ppb	95

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

Data File : C:\HPCHEM\1\DATA2\AN112308.D
 Acq On : 23 Nov 2016 8:20 pm
 Sample : ALUG_1.25
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 23 21:46:10 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.87	83	108582	1.26	ppb	94
47) cis-1,3-dichloropropene	13.65	75	76169	1.24	ppb	92
48) trans-1,3-dichloropropene	14.39	75	79144	1.29	ppb	87
49) 1,1,2-trichloroethane	14.70	97	56971	1.24	ppb	99
51) Toluene	14.44	92	96016	1.25	ppb	99
52) Methyl Isobutyl Ketone	13.58	43	85462	1.19	ppb	97
53) Dibromochloromethane	15.38	129	114136m	1.35	ppb	
54) Methyl Butyl Ketone	14.88	43	80430	1.20	ppb	91
55) 1,2-dibromoethane	15.62	107	96410	1.22	ppb	97
56) Tetrachloroethylene	15.44	164	76855	1.24	ppb	92
57) Chlorobenzene	16.39	112	137071	1.22	ppb	92
58) 1,1,1,2-tetrachloroethane	16.49	131	82866	1.27	ppb	99
59) Ethylbenzene	16.63	91	229567	1.24	ppb	94
60) m&p-xylene	16.83	91	368240	2.43	ppb	96
61) Nonane	17.18	43	94770	1.16	ppb	95
62) Styrene	17.25	104	134923	1.25	ppb	81
63) Bromoform	17.38	173	98245	1.28	ppb	98
64) o-xylene	17.28	91	208133	1.23	ppb	98
65) Cumene	17.81	105	258657	1.22	ppb	95
67) 1,1,2,2-tetrachloroethane	17.72	83	112413	1.24	ppb	96
68) Propylbenzene	18.33	91	303882m	1.28	ppb	
69) 2-Chlorotoluene	18.37	91	187562m	1.18	ppb	
70) 4-ethyltoluene	18.49	105	245045m	1.23	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	220609m	1.20	ppb	
72) 1,2,4-trimethylbenzene	18.99	105	210952	1.24	ppb	98
73) 1,3-dichlorobenzene	19.28	146	142572	1.23	ppb	92
74) benzyl chloride	19.35	91	147189m	1.30	ppb	
75) 1,4-dichlorobenzene	19.41	146	138864	1.22	ppb	94
76) 1,2,3-trimethylbenzene	19.45	105	202037	1.22	ppb	91
77) 1,2-dichlorobenzene	19.72	146	130578	1.22	ppb	97
78) 1,2,4-trichlorobenzene	21.61	180	92572	1.25	ppb	94
79) Naphthalene	21.82	128	247776	1.24	ppb	96
80) Hexachloro-1,3-butadiene	21.92	225	120127	1.23	ppb	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112308.D AN23_1UG.M Wed Dec 28 15:44:10 2016 MSD1

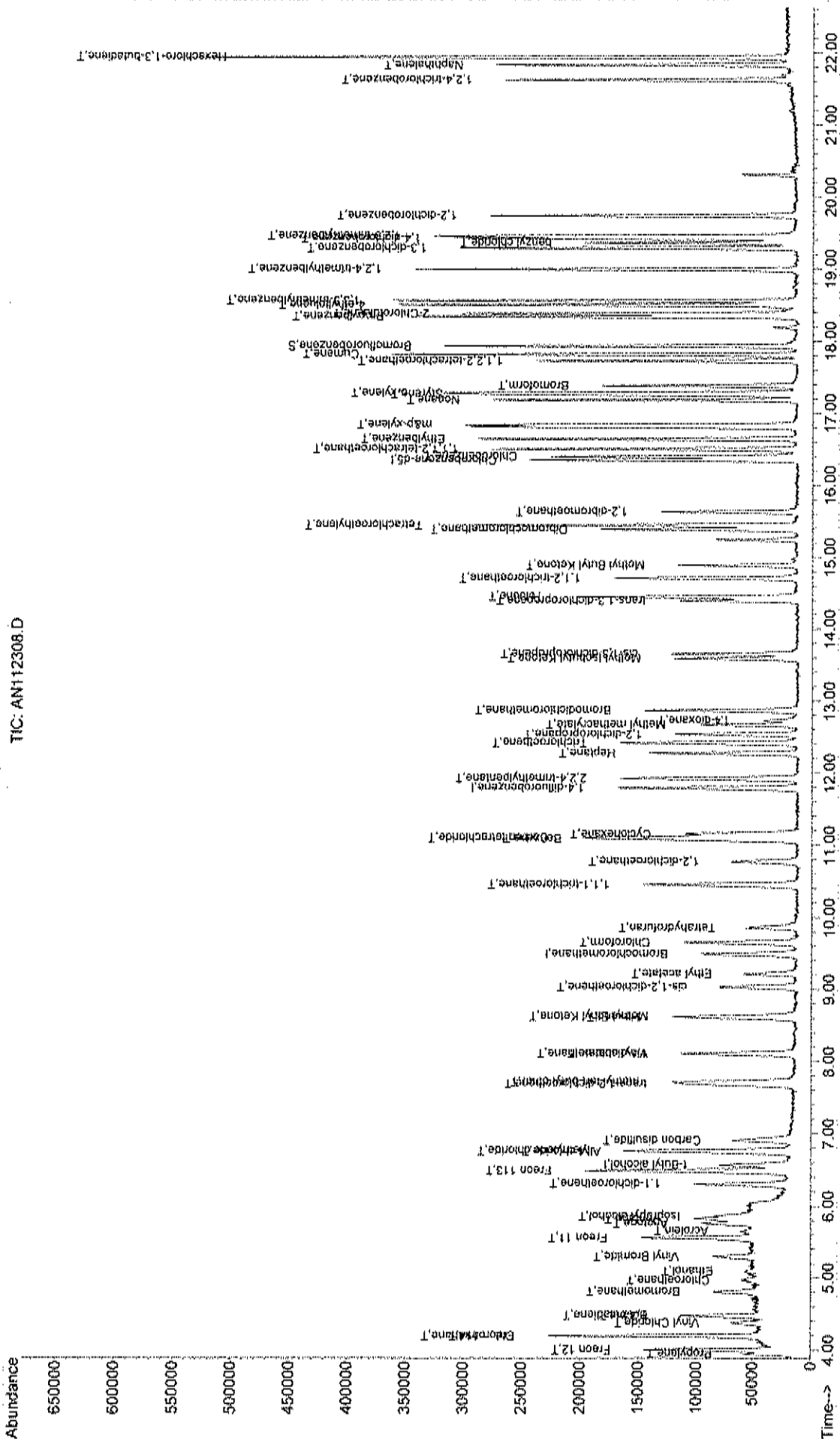
Data File : C:\HPCHEM\1\DATA2\AN112308.D
 Acq On : 23 Nov 2016 8:20 pm
 Sample : A1UG_1.25
 Misc : AN23_1UG
 MS Integration Params: RPRINT.P
 Quant Time: Nov 27 12:06 2016

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

Quant Results File: AN23_1UG.RES

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

TIC: AN112308.D



Data File : C:\HPCHEM\1\DATA2\AN112309.D
 Acq On : 23 Nov 2016 8:58 pm
 Sample : A1UG_1.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 23 21:45:58 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	34430	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	161930	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.34	117	140398	1.00	ppb	-0.04

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	17.93	95	108167	1.00	ppb	-0.04
Spiked Amount	1.000	Range 70 - 130	Recovery	=	100.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.95	41	23105	1.00	ppb	89
3) Freon 12	4.00	85	123480	1.00	ppb	99
4) Chloromethane	4.19	50	29417	1.00	ppb	87
5) Freon 114	4.19	85	81025	1.00	ppb	97
6) Vinyl Chloride	4.38	62	23933	1.00	ppb	94
7) Butane	4.47	43	31602	1.00	ppb	95
8) 1,3-butadiene	4.47	39	23870	1.00	ppb	96
9) Bromomethane	4.80	94	28661	1.00	ppb	84
10) Chloroethane	4.98	64	10624	1.00	ppb	# 50
11) Ethanol	5.10	45	11120m ¹	1.03	ppb	
12) Acrolein	5.64	56	8216	1.00	ppb	# 65
13) Vinyl Bromide	5.30	106	29742	1.00	ppb	98
14) Freon 11	5.55	101	98337	1.00	ppb	97
15) Acetone	5.75	58	19048	1.00	ppb	# 1
16) Pentane	5.82	42	26195	1.00	ppb	# 22
17) Isopropyl alcohol	5.86	45	41684	1.00	ppb	# 100
18) 1,1-dichloroethene	6.30	96	32526	1.00	ppb	87
19) Freon 113	6.48	101	75462	1.00	ppb	84
20) t-Butyl alcohol	6.57	59	78494	1.00	ppb	# 76
21) Methylene chloride	6.76	84	65632	1.00	ppb	97
22) Allyl chloride	6.74	41	36323	1.00	ppb	# 82
23) Carbon disulfide	6.90	76	84209	1.00	ppb	92
24) trans-1,2-dichloroethene	7.68	61	47120	1.00	ppb	93
25) methyl tert-butyl ether	7.72	73	103277	1.00	ppb	91
26) 1,1-dichloroethane	8.11	63	58112	1.00	ppb	94
27) Vinyl acetate	8.11	43	76187	1.00	ppb	99
28) Methyl Ethyl Ketone	8.62	72	13975	1.00	ppb	# 17
29) cis-1,2-dichloroethene	9.03	61	45003	1.00	ppb	84
30) Hexane	8.61	57	44674	1.00	ppb	93
31) Ethyl acetate	9.21	43	60977	1.00	ppb	90
32) Chloroform	9.65	83	86031	1.00	ppb	99
33) Tetrahydrofuran	9.85	42	28351	1.00	ppb	94
34) 1,2-dichloroethane	10.77	62	62536	1.00	ppb	92
36) 1,1,1-trichloroethane	10.45	97	97898	1.00	ppb	98
37) Cyclohexane	11.16	56	43150	1.00	ppb	# 52
38) Carbon tetrachloride	11.10	117	93613	1.00	ppb	89
39) Benzene	11.07	78	94896	1.00	ppb	95
40) Methyl methacrylate	12.66	41	40080	1.00	ppb	89
41) 1,4-dioxane	12.73	88	21030	1.00	ppb	74
42) 2,2,4-trimethylpentane	11.92	57	133895	1.00	ppb	96
43) Heptane	12.27	43	49664	1.00	ppb	98
44) Trichloroethene	12.41	130	50472	1.00	ppb	93
45) 1,2-dichloropropane	12.53	63	33412	1.00	ppb	96

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

Data File : C:\HPCHEM\1\DATA2\AN112309.D
 Acq On : 23 Nov 2016 8:58 pm
 Sample : A1UG_1.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 23 21:45:58 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.87	83	81315	1.00	ppb	94
47) cis-1,3-dichloropropene	13.65	75	58355	1.00	ppb	89
48) trans-1,3-dichloropropene	14.39	75	58160	1.00	ppb	81
49) 1,1,2-trichloroethane	14.70	97	43467	1.00	ppb	97
51) Toluene	14.44	92	71253	1.00	ppb	99
52) Methyl Isobutyl Ketone	13.58	43	66820	1.00	ppb	97
53) Dibromochloromethane	15.38	129	79875m	1.02	ppb	
54) Methyl Butyl Ketone	14.88	43	62229	1.00	ppb	91
55) 1,2-dibromoethane	15.62	107	73301	1.00	ppb	96
56) Tetrachloroethylene	15.43	164	57760	1.00	ppb	92
57) Chlorobenzene	16.39	112	104602	1.00	ppb	93
58) 1,1,1,2-tetrachloroethane	16.50	131	60961	1.00	ppb	98
59) Ethylbenzene	16.63	91	172014	1.00	ppb	94
60) m&p-xylene	16.80	91	282637	2.00	ppb	94
61) Nonane	17.18	43	75990	1.00	ppb	97
62) Styrene	17.25	104	100821	1.00	ppb	80
63) Bromoform	17.37	173	71468	1.00	ppb	100
64) o-xylene	17.28	91	156870	1.00	ppb	95
65) Cumene	17.81	105	197522	1.00	ppb	96
67) 1,1,2,2-tetrachloroethane	17.72	83	84397	1.00	ppb	96
68) Propylbenzene	18.33	91	221035m	1.00	ppb	
69) 2-Chlorotoluene	18.37	91	149523m	1.01	ppb	
70) 4-ethyltoluene	18.49	105	185318m	1.00	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	171643m	1.00	ppb	
72) 1,2,4-trimethylbenzene	18.99	105	158164	1.00	ppb	96
73) 1,3-dichlorobenzene	19.27	146	108149	1.00	ppb	93
74) benzyl chloride	19.35	91	104768m	0.99	ppb	
75) 1,4-dichlorobenzene	19.41	146	105541	1.00	ppb	94
76) 1,2,3-trimethylbenzene	19.44	105	153509	1.00	ppb	91
77) 1,2-dichlorobenzene	19.73	146	99663	1.00	ppb	97
78) 1,2,4-trichlorobenzene	21.61	180	68950	1.00	ppb	95
79) Naphthalene	21.82	128	186262	1.00	ppb	94
80) Hexachloro-1,3-butadiene	21.92	225	90781	1.00	ppb	94

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112309.D AN23_1UG.M Wed Dec 28 15:44:14 2016 MSD1

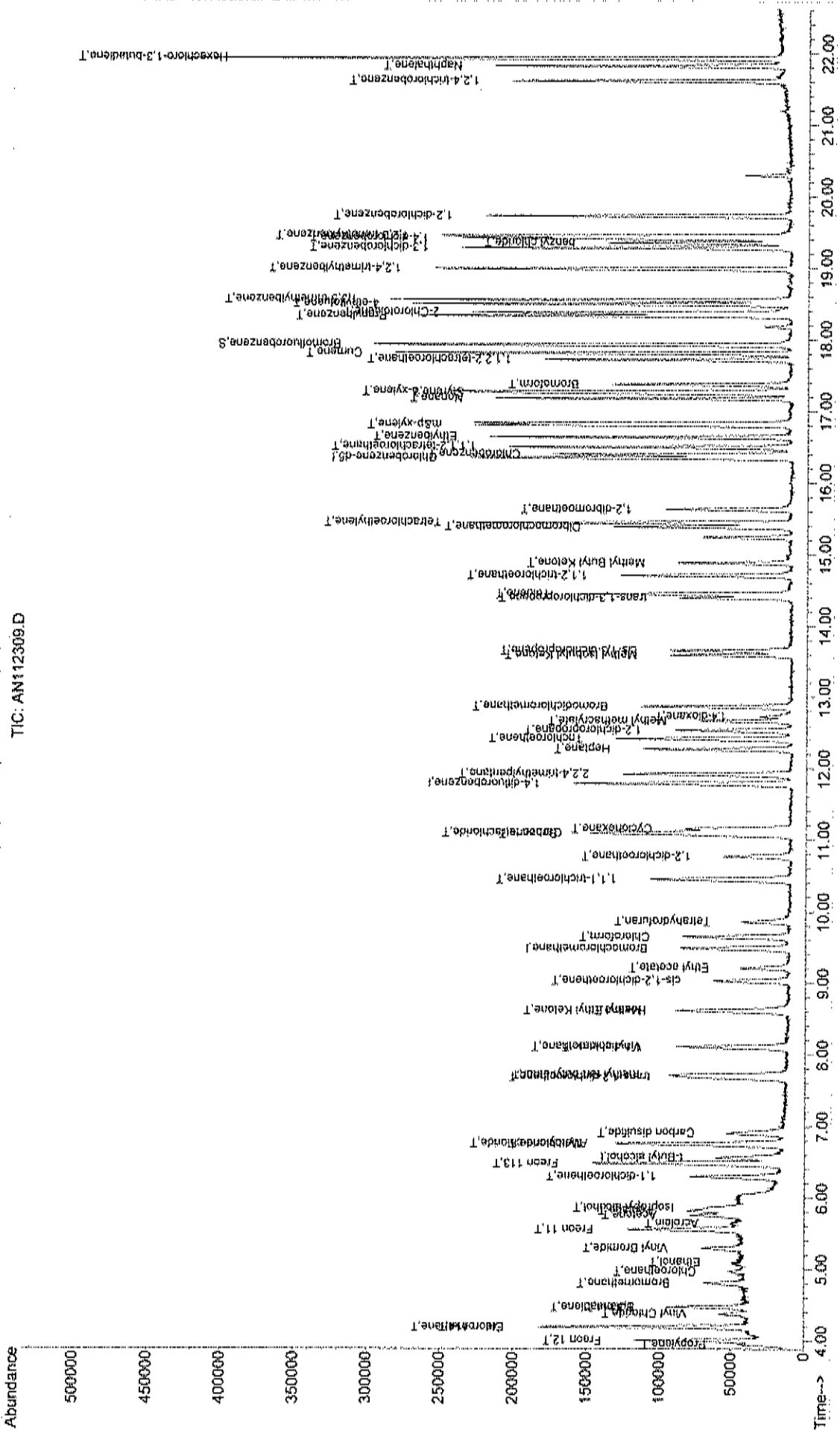
Data File : C:\HPCHEM\1\DATA2\AN112309.D
 Acq On : 23 Nov 2016 8:58 pm
 Sample : AUG_1.0
 Misc : AN23_IUG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 27 12:08 2016

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

Quant Results File: AN23_IUG.RES

Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

TIC: AN112309.D



Data File : C:\HPCHEM\1\DATA2\AN112310.D
 Acq On : 23 Nov 2016 9:35 pm
 Sample : A1UG_0.75
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 24 11:37:10 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	33394	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	151976	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.34	117	134017	1.00	ppb	-0.04

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	17.92	95	100890	0.98	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	98.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.95	41	16596	0.74	ppb	# 54
3) Freon 12	4.00	85	92684	0.77	ppb	99
4) Chloromethane	4.19	50	20095	0.70	ppb	90
5) Freon 114	4.19	85	61378	0.78	ppb	96
6) Vinyl Chloride	4.37	62	17250	0.74	ppb	94
7) Butane	4.47	43	21770	0.71	ppb	92
8) 1,3-butadiene	4.48	39	17733m β	0.77	ppb	
9) Bromomethane	4.80	94	21925	0.79	ppb	83
10) Chloroethane	4.97	64	7988	0.78	ppb	# 35
11) Ethanol	5.10	45	8519	0.81	ppb	95
12) Acrolein	5.65	56	6095	0.76	ppb	# 30
13) Vinyl Bromide	5.29	106	21500	0.75	ppb	97
14) Freon 11	5.55	101	70707	0.74	ppb	99
15) Acetone	5.75	58	14307	0.77	ppb	# 1
16) Pentane	5.81	42	20385m β	0.80	ppb	
17) Isopropyl alcohol	5.87	45	28930	0.72	ppb	# 100
18) 1,1-dichloroethene	6.29	96	23090	0.73	ppb	# 85
19) Freon 113	6.48	101	54487	0.74	ppb	83
20) t-Butyl alcohol	6.56	59	51635	0.68	ppb	# 85
21) Methylene chloride	6.76	84	50838	0.80	ppb	96
22) Allyl chloride	6.74	41	25506	0.72	ppb	81
23) Carbon disulfide	6.90	76	60277	0.74	ppb	96
24) trans-1,2-dichloroethene	7.68	61	34220	0.75	ppb	95
25) methyl tert-butyl ether	7.71	73	74686	0.75	ppb	91
26) 1,1-dichloroethane	8.11	63	43096	0.76	ppb	96
27) Vinyl acetate	8.11	43	50378	0.68	ppb	97
28) Methyl Ethyl Ketone	8.64	72	9556	0.71	ppb	# 1
29) cis-1,2-dichloroethene	9.03	61	32928	0.75	ppb	85
30) Hexane	8.61	57	32346	0.75	ppb	91
31) Ethyl acetate	9.22	43	40968	0.69	ppb	89
32) Chloroform	9.65	83	61059	0.73	ppb	97
33) Tetrahydrofuran	9.86	42	20749	0.75	ppb	92
34) 1,2-dichloroethane	10.77	62	45411	0.75	ppb	89
36) 1,1,1-trichloroethane	10.45	97	71320	0.78	ppb	97
37) Cyclohexane	11.16	56	32081	0.79	ppb	# 56
38) Carbon tetrachloride	11.10	117	62993	0.72	ppb	87
39) Benzene	11.07	78	66639	0.75	ppb	91
40) Methyl methacrylate	12.66	41	28380	0.75	ppb	89
41) 1,4-dioxane	12.73	88	14008m β	0.71	ppb	
42) 2,2,4-trimethylpentane	11.92	57	97550	0.78	ppb	96
43) Heptane	12.27	43	36234	0.78	ppb	98
44) Trichloroethene	12.41	130	35998	0.76	ppb	91
45) 1,2-dichloropropane	12.53	63	24131	0.77	ppb	98

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

Data File : C:\HPCHEM\1\DATA2\AN112310.D
 Acq On : 23 Nov 2016 9:35 pm
 Sample : A1UG_0.75
 Misc : AN23_1UG

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

MS Integration Params: RTEINT.P

Quant Time: Nov 24 11:37:10 2016

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.86	83	58028	0.76	ppb	99
47) cis-1,3-dichloropropene	13.65	75	40271	0.74	ppb	91
48) trans-1,3-dichloropropene	14.39	75	40376	0.74	ppb	78
49) 1,1,2-trichloroethane	14.70	97	31353	0.77	ppb	97
51) Toluene	14.44	92	51008	0.75	ppb	98
52) Methyl Isobutyl Ketone	13.59	43	45562	0.71	ppb	95
53) Dibromochloromethane	15.38	129	55144m	0.74	ppb	
54) Methyl Butyl Ketone	14.88	43	41263	0.69	ppb	88
55) 1,2-dibromoethane	15.63	107	51936	0.74	ppb	96
56) Tetrachloroethylene	15.43	164	41043	0.74	ppb	89
57) Chlorobenzene	16.39	112	74508	0.75	ppb	90
58) 1,1,1,2-tetrachloroethane	16.49	131	40051	0.69	ppb	96
59) Ethylbenzene	16.63	91	124816	0.76	ppb	93
60) m&p-xylene	16.83	91	201546	1.49	ppb	96
61) Nonane	17.18	43	55035	0.76	ppb	97
62) Styrene	17.25	104	70914	0.74	ppb	78
63) Bromoform	17.37	173	47617	0.70	ppb	99
64) o-xylene	17.27	91	110640	0.74	ppb	96
65) Cumene	17.81	105	139477	0.74	ppb	95
67) 1,1,2,2-tetrachloroethane	17.72	83	60939	0.76	ppb	97
68) Propylbenzene	18.33	91	157015m	0.74	ppb	
69) 2-Chlorotoluene	18.37	91	99265m	0.70	ppb	
70) 4-ethyltoluene	18.49	105	131379m	0.74	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	120119m	0.74	ppb	
72) 1,2,4-trimethylbenzene	18.98	105	115103	0.76	ppb	97
73) 1,3-dichlorobenzene	19.28	146	76654	0.74	ppb	93
74) benzyl chloride	19.35	91	73022m	0.72	ppb	
75) 1,4-dichlorobenzene	19.41	146	73592	0.73	ppb	92
76) 1,2,3-trimethylbenzene	19.44	105	111887	0.76	ppb	91
77) 1,2-dichlorobenzene	19.73	146	71362	0.75	ppb	100
78) 1,2,4-trichlorobenzene	21.61	180	46612	0.71	ppb	97
79) Naphthalene	21.82	128	128112	0.72	ppb	95
80) Hexachloro-1,3-butadiene	21.93	225	63482	0.73	ppb	94

Data File : C:\HPCHEM\1\DATA2\AN112311.D
 Acq On : 23 Nov 2016 10:12 pm
 Sample : AIUG_0.50
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 24 11:37:38 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	31597	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.79	114	145556	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	129171	1.00	ppb	-0.04

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
66) Bromofluorobenzene	17.93	95	95697	0.96	ppb	-0.04
Spiked Amount	1.000	Range 70 - 130	Recovery	=	96.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.95	41	13468	0.64	ppb	95
3) Freon 12	4.00	85	60427	0.53	ppb	99
4) Chloromethane	4.19	50	14364	0.53	ppb	74
5) Freon 114	4.19	85	39733	0.53	ppb	93
6) Vinyl Chloride	4.37	62	11416	0.52	ppb	94
7) Butane	4.47	43	16321	0.56	ppb	89
8) 1,3-butadiene	4.48	39	13874	0.63	ppb	82
9) Bromomethane	4.81	94	15236	0.58	ppb	87
10) Chloroethane	4.96	64	4870	0.50	ppb	# 30
11) Ethanol	5.10	45	4705	0.47	ppb	# 42
12) Acrolein	5.64	56	5013m	0.66	ppb	
13) Vinyl Bromide	5.30	106	14798	0.54	ppb	95
14) Freon 11	5.55	101	47525	0.53	ppb	100
15) Acetone	5.76	58	10092	0.58	ppb	# 1
16) Pentane	5.82	42	14329	0.60	ppb	# 26
17) Isopropyl alcohol	5.87	45	18206	0.48	ppb	# 100
18) 1,1-dichloroethene	6.29	96	14655	0.49	ppb	# 83
19) Freon 113	6.48	101	36127	0.52	ppb	85
20) t-Butyl alcohol	6.57	59	36151	0.50	ppb	# 89
21) Methylene chloride	6.76	84	33864m	0.56	ppb	
22) Allyl chloride	6.74	41	16736	0.50	ppb	# 77
23) Carbon disulfide	6.91	76	39691	0.51	ppb	89
24) trans-1,2-dichloroethene	7.68	61	22048	0.51	ppb	93
25) methyl tert-butyl ether	7.72	73	48313	0.51	ppb	89
26) 1,1-dichloroethane	8.11	63	27656	0.52	ppb	95
27) Vinyl acetate	8.10	43	33070	0.47	ppb	98
28) Methyl Ethyl Ketone	8.64	72	5821	0.45	ppb	# 1
29) cis-1,2-dichloroethene	9.03	61	21094	0.51	ppb	85
30) Hexane	8.61	57	21482	0.52	ppb	94
31) Ethyl acetate	9.22	43	27718	0.50	ppb	91
32) Chloroform	9.64	83	40463	0.51	ppb	98
33) Tetrahydrofuran	9.87	42	12957	0.50	ppb	94
34) 1,2-dichloroethane	10.76	62	29266	0.51	ppb	87
36) 1,1,1-trichloroethane	10.45	97	44627	0.51	ppb	97
37) Cyclohexane	11.14	56	21006	0.54	ppb	# 56
38) Carbon tetrachloride	11.10	117	38771	0.46	ppb	91
39) Benzene	11.07	78	45763	0.54	ppb	96
40) Methyl methacrylate	12.67	41	18540m	0.51	ppb	
41) 1,4-dioxane	12.74	88	9515	0.50	ppb	71
42) 2,2,4-trimethylpentane	11.92	57	62337	0.52	ppb	98
43) Heptane	12.27	43	24158	0.54	ppb	96
44) Trichloroethene	12.41	130	23900	0.53	ppb	94
45) 1,2-dichloropropane	12.53	63	15693	0.52	ppb	97

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

Data File : C:\HPCHEM\1\DATA2\AN112311.D
 Acq On : 23 Nov 2016 10:12 pm
 Sample : ALUG_0.50
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 24 11:37:38 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.86	83	35308	0.48	ppb	94
47) cis-1,3-dichloropropene	13.65	75	26170	0.50	ppb	90
48) trans-1,3-dichloropropene	14.39	75	26701	0.51	ppb	81
49) 1,1,2-trichloroethane	14.70	97	20296	0.52	ppb	92
51) Toluene	14.44	92	33466	0.51	ppb	99
52) Methyl Isobutyl Ketone	13.58	43	31240	0.51	ppb	97
53) Dibromochloromethane	15.38	129	33529m	0.46	ppb	
54) Methyl Butyl Ketone	14.88	43	31558	0.55	ppb	88
55) 1,2-dibromoethane	15.62	107	33705	0.50	ppb	94
56) Tetrachloroethylene	15.44	164	26947	0.51	ppb	92
57) Chlorobenzene	16.39	112	48827	0.51	ppb	92
58) 1,1,1,2-tetrachloroethane	16.49	131	26174	0.47	ppb	96
59) Ethylbenzene	16.64	91	81946	0.52	ppb	92
60) m&p-xylene	16.83	91	129584	1.00	ppb	95
61) Nonane	17.17	43	35791	0.51	ppb	96
62) Styrene	17.25	104	46406	0.50	ppb	78
63) Bromoform	17.37	173	28484	0.43	ppb	96
64) o-xylene	17.28	91	71132	0.49	ppb	96
65) Cumene	17.81	105	91143	0.50	ppb	96
67) 1,1,2,2-tetrachloroethane	17.72	83	38390	0.49	ppb	96
68) Propylbenzene	18.33	91	106043m	0.52	ppb	
69) 2-Chlorotoluene	18.37	91	71695m	0.52	ppb	
70) 4-ethyltoluene	18.49	105	84319m	0.49	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	79120m	0.50	ppb	
72) 1,2,4-trimethylbenzene	18.99	105	73862	0.51	ppb	97
73) 1,3-dichlorobenzene	19.28	146	49358	0.50	ppb	91
74) benzyl chloride	19.35	91	52712	0.54	ppb	96
75) 1,4-dichlorobenzene	19.41	146	48773	0.50	ppb	93
76) 1,2,3-trimethylbenzene	19.44	105	70726	0.50	ppb	89
77) 1,2-dichlorobenzene	19.73	146	47398	0.52	ppb	96
78) 1,2,4-trichlorobenzene	21.61	180	28602	0.45	ppb	96
79) Naphthalene	21.82	128	82902	0.48	ppb	95
80) Hexachloro-1,3-butadiene	21.92	225	40216	0.48	ppb	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112311.D AN23_1UG.M Wed Dec 28 15:44:22 2016 MSD1

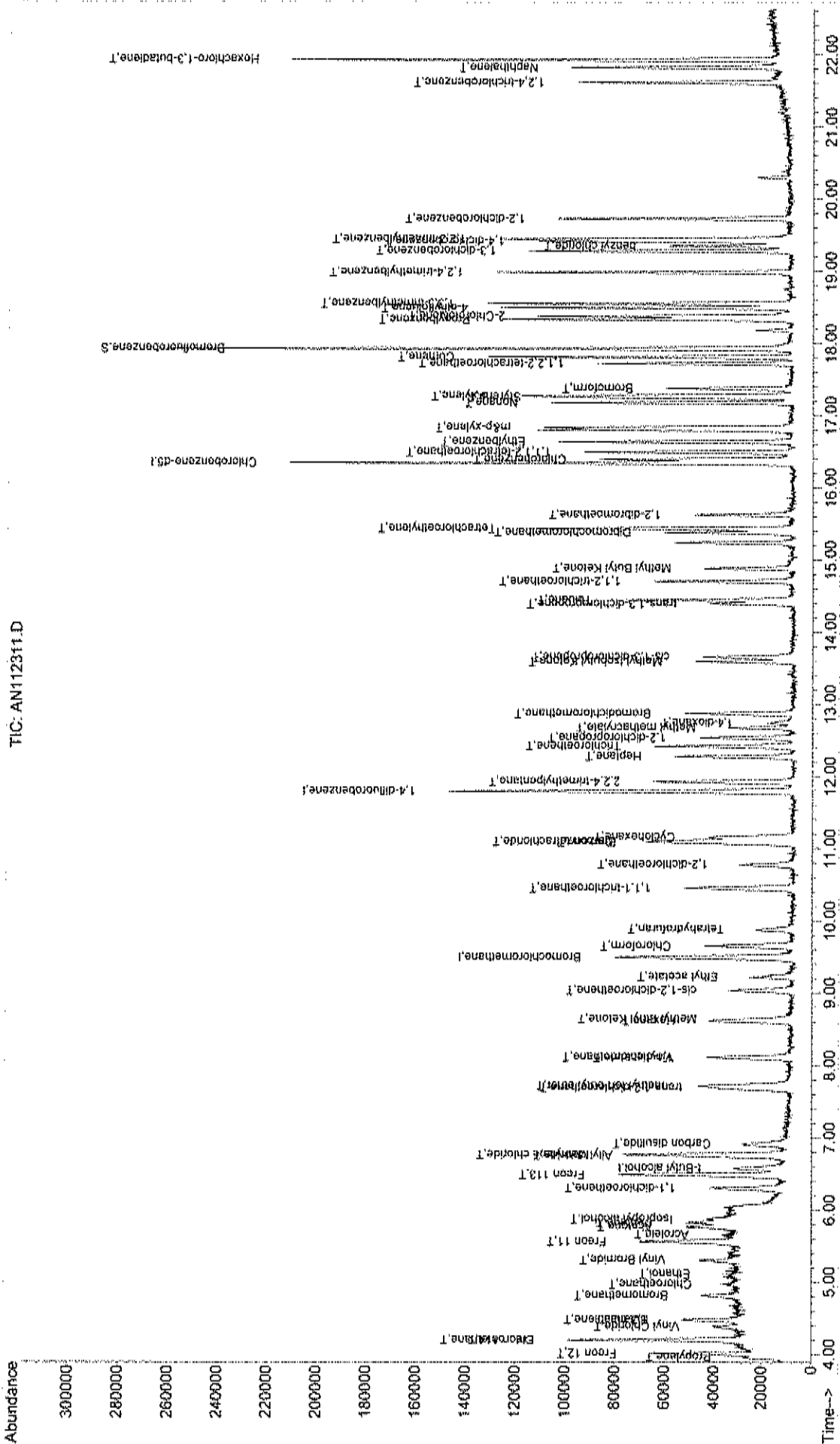
Data File : C:\HPCHEM\1\DATA2\AN112311.D
 Acq On : 23 Nov 2016 10:12 pm
 Sample : ALUG_0.50
 Misc : AN23_IUG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 27 12:24 2016

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

Quant Results File: AN23_IUG.RES

Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

TIC: AN112311.D



Data File : C:\HPCHEM\1\DATA\AN112312.D
 Acq On : 23 Nov 2016 10:49 pm
 Sample : A1UG_0.30
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 24 11:38:06 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	30242	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.79	114	142145	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	124607	1.00	ppb	-0.04

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	92335	0.96	ppb	-0.04
Spiked Amount	1.000	Range 70 - 130	Recovery	=	96.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.95	41	6977m	0.34	ppb	
3) Freon 12	4.01	85	35011	0.32	ppb	97
4) Chloromethane	4.20	50	8574m	0.33	ppb	
5) Freon 114	4.19	85	25262	0.35	ppb	97
6) Vinyl Chloride	4.39	62	7226	0.34	ppb	93
7) Butane	4.48	43	10289	0.37	ppb	98
8) 1,3-butadiene	4.48	39	7278	0.35	ppb	95
9) Bromomethane	4.82	94	9044	0.36	ppb	# 75
10) Chloroethane	4.97	64	3093	0.33	ppb	# 33
11) Ethanol	5.09	45	3108m	0.33	ppb	
12) Acrolein	5.65	56	2889m	0.40	ppb	
13) Vinyl Bromide	5.30	106	9286	0.36	ppb	94
14) Freon 11	5.56	101	29278	0.34	ppb	96
15) Acetone	5.76	58	6568	0.39	ppb	# 1
16) Pentane	5.82	42	9083	0.39	ppb	# 23
17) Isopropyl alcohol	5.87	45	12648	0.35	ppb	# 100
18) 1,1-dichloroethene	6.30	96	9134	0.32	ppb	87
19) Freon 113	6.48	101	21597	0.33	ppb	85
20) t-Butyl alcohol	6.57	59	23138	0.34	ppb	# 93
21) Methylene chloride	6.76	84	23717m	0.41	ppb	
22) Allyl chloride	6.73	41	10342	0.32	ppb	80
23) Carbon disulfide	6.91	76	23758	0.32	ppb	85
24) trans-1,2-dichloroethene	7.68	61	12954	0.31	ppb	92
25) methyl tert-butyl ether	7.72	73	29513	0.33	ppb	86
26) 1,1-dichloroethane	8.11	63	16584	0.32	ppb	97
27) Vinyl acetate	8.10	43	18757	0.28	ppb	99
28) Methyl Ethyl Ketone	8.65	72	3604	0.29	ppb	# 1
29) cis-1,2-dichloroethene	9.04	61	12608	0.32	ppb	87
30) Hexane	8.61	57	12207	0.31	ppb	89
31) Ethyl acetate	9.22	43	15972	0.30	ppb	94
32) Chloroform	9.65	83	24196	0.32	ppb	97
33) Tetrahydrofuran	9.87	42	7719	0.31	ppb	87
34) 1,2-dichloroethane	10.77	62	17313	0.32	ppb	90
36) 1,1,1-trichloroethane	10.45	97	25235	0.29	ppb	96
37) Cyclohexane	11.16	56	12164	0.32	ppb	# 57
38) Carbon tetrachloride	11.10	117	20440m	0.25	ppb	
39) Benzene	11.07	78	26277	0.32	ppb	92
40) Methyl methacrylate	12.67	41	10389	0.30	ppb	86
41) 1,4-dioxane	12.75	88	6062	0.33	ppb	77
42) 2,2,4-trimethylpentane	11.92	57	37275	0.32	ppb	98
43) Heptane	12.27	43	14055	0.32	ppb	98
44) Trichloroethene	12.41	130	13402	0.30	ppb	86
45) 1,2-dichloropropane	12.53	63	9437	0.32	ppb	99

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

Data File : C:\HPCHEM\1\DATA2\AN112312.D

Vial: 12

Acq On : 23 Nov 2016 10:49 pm

Operator: RJP

Sample : A1UG_0.30

Inst : MSD #1

Misc : AN23_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 24 11:38:06 2016

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.87	83	19964	0.28	ppb	94
47) cis-1,3-dichloropropene	13.65	75	14511	0.28	ppb	84
48) trans-1,3-dichloropropene	14.40	75	14206	0.28	ppb	77
49) 1,1,2-trichloroethane	14.70	97	11857	0.31	ppb	100
51) Toluene	14.45	92	19891	0.31	ppb	99
52) Methyl Isobutyl Ketone	13.59	43	19838	0.33	ppb	96
53) Dibromochloromethane	15.37	129	17838m	0.26	ppb	
54) Methyl Butyl Ketone	14.88	43	21678m	0.39	ppb	
55) 1,2-dibromoethane	15.62	107	19295	0.30	ppb	93
56) Tetrachloroethylene	15.44	164	16041	0.31	ppb	92
57) Chlorobenzene	16.39	112	29248	0.32	ppb	88
58) 1,1,1,2-tetrachloroethane	16.50	131	14510	0.27	ppb	96
59) Ethylbenzene	16.63	91	47851	0.31	ppb	94
60) m&p-xylene	16.83	91	77431	0.62	ppb	94
61) Nonane	17.17	43	21578	0.32	ppb	95
62) Styrene	17.25	104	27003	0.30	ppb	76
63) Bromoform	17.37	173	15817	0.25	ppb	97
64) o-xylene	17.28	91	39119	0.28	ppb	89
65) Cumene	17.81	105	55314	0.32	ppb	96
67) 1,1,2,2-tetrachloroethane	17.72	83	22442	0.30	ppb	93
68) Propylbenzene	18.33	91	61708m	0.31	ppb	
69) 2-Chlorotoluene	18.38	91	44200m	0.34	ppb	
70) 4-ethyltoluene	18.49	105	48885m	0.30	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	47128m	0.31	ppb	
72) 1,2,4-trimethylbenzene	18.99	105	44160	0.31	ppb	96
73) 1,3-dichlorobenzene	19.28	146	28916	0.30	ppb	92
74) benzyl chloride	19.35	91	30111	0.32	ppb	93
75) 1,4-dichlorobenzene	19.41	146	29633	0.32	ppb	94
76) 1,2,3-trimethylbenzene	19.45	105	43040	0.32	ppb	91
77) 1,2-dichlorobenzene	19.72	146	27583	0.31	ppb	96
78) 1,2,4-trichlorobenzene	21.62	180	16353	0.27	ppb	99
79) Naphthalene	21.82	128	48484	0.29	ppb	94
80) Hexachloro-1,3-butadiene	21.92	225	24112	0.30	ppb	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112312.D AN23_1UG.M Wed Dec 28 15:44:26 2016 MSD1

Data File : C:\HPCHEM\1\DATA2\AN112312.D
Acq On : 23 Nov 2016 10:49 pm
Sample : A1UG.0.30
Misc : AN23_1UG

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

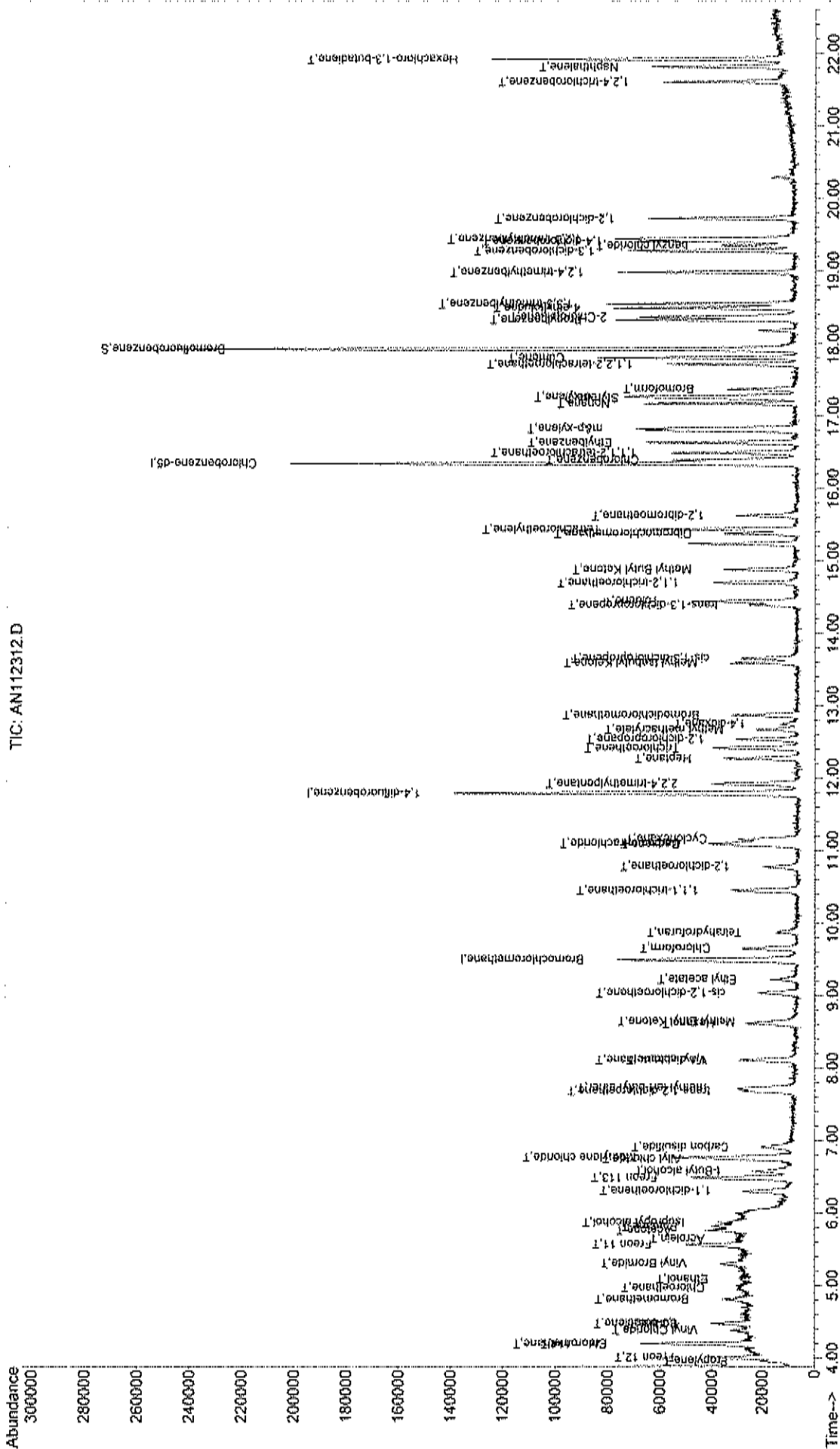
MS Integration Params: RTEINT.P

Quant Time: Nov 27 12:24 2016

Quant Results File: AN23_1UG.RES

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

TIC: AN112312.D



Data File : C:\HPCHEM\1\DATA2\AN112313.D
 Acq On : 23 Nov 2016 11:24 pm
 Sample : A1UG_0.15
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 24 11:38:33 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	9.50	128	29694	1.00	ppb	-0.06
35) 1,4-difluorobenzene	11.78	114	137007	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	119871	1.00	ppb	-0.04

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)
66) Bromofluorobenzene	17.93	95	91017	0.99	ppb	-0.04
Spiked Amount	1.000	Range 70 - 130	Recovery	=	99.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.96	41	3522m	0.18	ppb	
3) Freon 12	4.00	85	20492	0.19	ppb	99
4) Chloromethane	4.19	50	4597m	0.18	ppb	
5) Freon 114	4.20	85	13819	0.20	ppb	97
6) Vinyl Chloride	4.38	62	4198	0.20	ppb	97
7) Butane	4.48	43	4679m	0.17	ppb	
8) 1,3-butadiene	4.48	39	4071m	0.20	ppb	
9) Bromomethane	4.81	94	4528m	0.18	ppb	
10) Chloroethane	4.98	64	1868	0.20	ppb	# 1
11) Ethanol	5.09	45	1728	0.18	ppb	# 45
13) Vinyl Bromide	5.30	106	5223	0.20	ppb	88
14) Freon 11	5.56	101	15320	0.18	ppb	96
15) Acetone	5.76	58	4107m	0.25	ppb	
16) Pentane	5.83	42	3260m	0.14	ppb	
17) Isopropyl alcohol	5.87	45	6575	0.18	ppb	# 100
18) 1,1-dichloroethene	6.30	96	4841	0.17	ppb	87
19) Freon 113	6.48	101	11479	0.18	ppb	83
20) t-Butyl alcohol	6.59	59	13007	0.19	ppb	# 68
21) Methylene chloride	6.76	84	13158m	0.23	ppb	
22) Allyl chloride	6.74	41	6897	0.22	ppb	# 63
23) Carbon disulfide	6.91	76	12962	0.18	ppb	82
24) trans-1,2-dichloroethene	7.68	61	6529	0.16	ppb	88
25) methyl tert-butyl ether	7.73	73	17016	0.19	ppb	89
26) 1,1-dichloroethane	8.11	63	8484	0.17	ppb	99
27) Vinyl acetate	8.11	43	9775	0.15	ppb	99
28) Methyl Ethyl Ketone	8.65	72	1774	0.15	ppb	# 1
29) cis-1,2-dichloroethene	9.04	61	7021	0.18	ppb	86
30) Hexane	8.61	57	6532	0.17	ppb	87
31) Ethyl acetate	9.22	43	7955	0.15	ppb	95
32) Chloroform	9.65	83	12902	0.17	ppb	97
33) Tetrahydrofuran	9.90	42	4278	0.17	ppb	# 77
34) 1,2-dichloroethane	10.77	62	9237	0.17	ppb	86
36) 1,1,1-trichloroethane	10.44	97	13449	0.16	ppb	96
37) Cyclohexane	11.16	56	7124	0.20	ppb	# 65
38) Carbon tetrachloride	11.10	117	10828	0.14	ppb	91
39) Benzene	11.08	78	14135	0.18	ppb	92
40) Methyl methacrylate	12.68	41	4836	0.14	ppb	91
41) 1,4-dioxane	12.76	88	3634	0.20	ppb	93
42) 2,2,4-trimethylpentane	11.91	57	20192	0.18	ppb	97
43) Heptane	12.27	43	7795	0.19	ppb	96
44) Trichloroethene	12.41	130	7858	0.18	ppb	96
45) 1,2-dichloropropane	12.53	63	4665	0.17	ppb	90
46) Bromodichloromethane	12.87	83	9865	0.14	ppb	97

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

Data File : C:\HPCHEM\1\DATA\AN112313.D
 Acq On : 23 Nov 2016 11:24 pm
 Sample : A1UG_0.15
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 24 11:38:33 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47) cis-1,3-dichloropropene	13.65	75	7600	0.15	ppb	90
48) trans-1,3-dichloropropene	14.39	75	8180	0.17	ppb	78
49) 1,1,2-trichloroethane	14.70	97	6537	0.18	ppb	93
51) Toluene	14.44	92	10636	0.17	ppb	99
52) Methyl Isobutyl Ketone	13.59	43	12155	0.21	ppb	95
53) Dibromochloromethane	15.38	129	8933m	0.13	ppb	
54) Methyl Butyl Ketone	14.88	43	10060m	0.19	ppb	
55) 1,2-dibromoethane	15.63	107	10200	0.16	ppb	93
56) Tetrachloroethylene	15.43	164	8280	0.17	ppb	87
57) Chlorobenzene	16.39	112	15534	0.17	ppb	83
58) 1,1,1,2-tetrachloroethane	16.48	131	7282	0.14	ppb	# 93
59) Ethylbenzene	16.63	91	26126	0.18	ppb	91
60) m&p-xylene	16.83	91	41232	0.34	ppb	94
61) Nonane	17.17	43	11713	0.18	ppb	92
62) Styrene	17.25	104	13751	0.16	ppb	# 64
63) Bromoform	17.37	173	7620	0.12	ppb	96
64) o-xylene	17.27	91	23400	0.17	ppb	94
65) Cumene	17.81	105	28288	0.17	ppb	95
67) 1,1,2,2-tetrachloroethane	17.72	83	11559	0.16	ppb	93
68) Propylbenzene	18.33	91	33410m	0.18	ppb	
69) 2-Chlorotoluene	18.37	91	22211m	0.18	ppb	
70) 4-ethyltoluene	18.49	105	25889m	0.16	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	26612m	0.18	ppb	
72) 1,2,4-trimethylbenzene	18.98	105	23624	0.17	ppb	99
73) 1,3-dichlorobenzene	19.28	146	15179	0.16	ppb	88
74) benzyl chloride	19.35	91	15869	0.18	ppb	96
75) 1,4-dichlorobenzene	19.41	146	15612	0.17	ppb	94
76) 1,2,3-trimethylbenzene	19.44	105	22285	0.17	ppb	91
77) 1,2-dichlorobenzene	19.73	146	14445	0.17	ppb	98
78) 1,2,4-trichlorobenzene	21.61	180	8205	0.14	ppb	94
79) Naphthalene	21.83	128	27449	0.17	ppb	93
80) Hexachloro-1,3-butadiene	21.93	225	12483	0.16	ppb	92

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112313.D AN23_1UG.M Wed Dec 28 15:44:30 2016 MSD1

Quantitation Report (UF Reviewed)

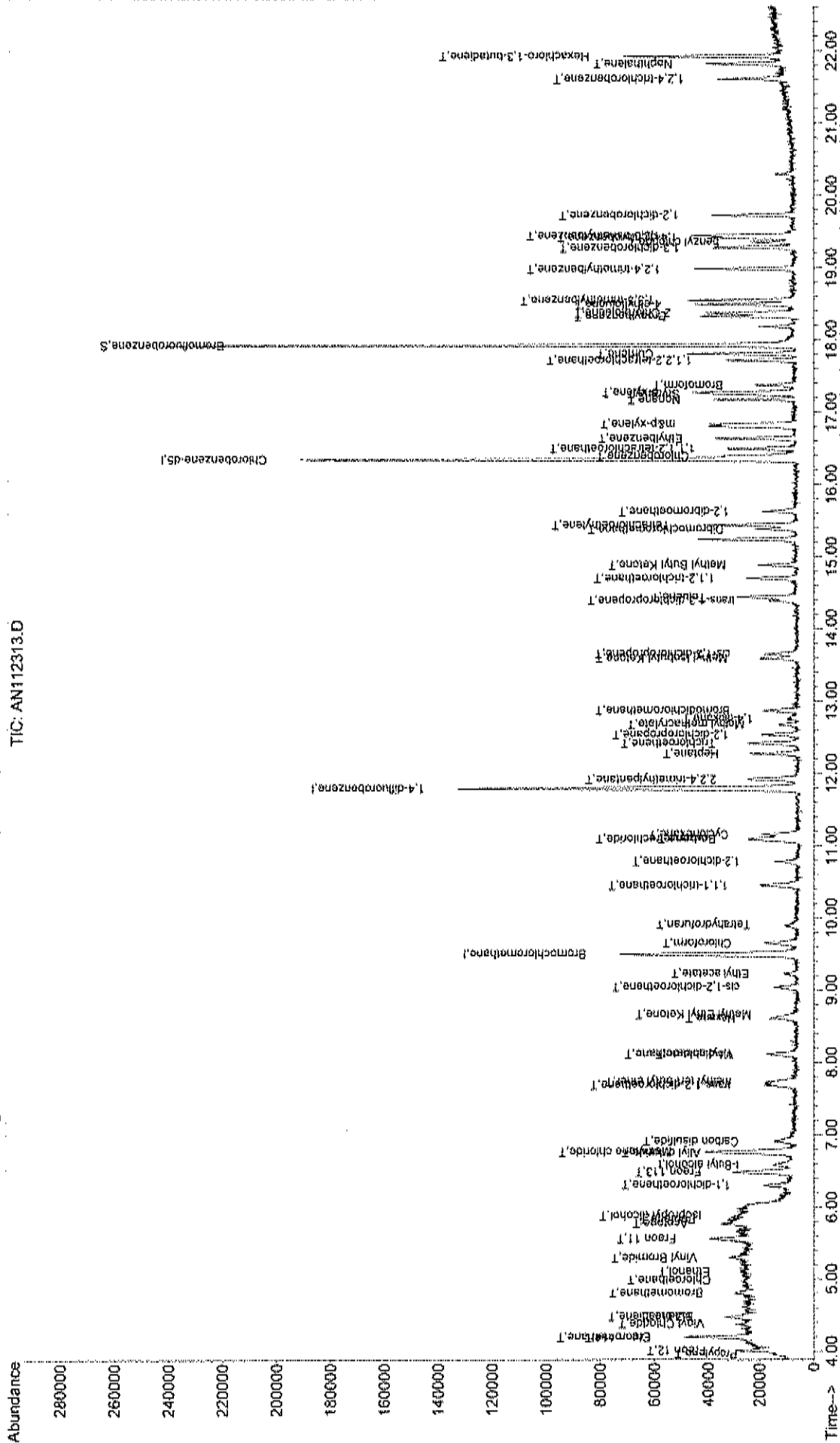
Data File : C:\HPCHEM\1\DATA2\AN112313.D
Acq On : 23 Nov 2016 11:24 pm
Sample : A1UG 0.15
Misc : AN23_IUG
MS Integration Params: RTEINT.P
Quant Time: Nov 27 12:24 2016

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

Quant Results File: AN23_IUG.RES

Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

TIC: AN112313.D



Data File : C:\HPCHEM\1\DATA2\AN112314.D Vial: 14
 Acq On : 24 Nov 2016 12:00 am Operator: RJP
 Sample : A1UG_0.10 Inst : MSD #1
 Misc : AN23_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Nov 24 11:39:02 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	29074	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.79	114	133192	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	118324	1.00	ppb	-0.04

System Monitoring Compounds
 66) Bromofluorobenzene 17.93 95 86135 0.94 ppb -0.04
 Spiked Amount 1.000 Range 70 - 130 Recovery = 94.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	4.38	62	2362m / ^β	0.12	ppb	
38) Carbon tetrachloride	11.09	117	6781	0.09	ppb	91
44) Trichloroethene	12.40	130	5191	0.13	ppb	90

Quantitation Report (QT Reviewed)

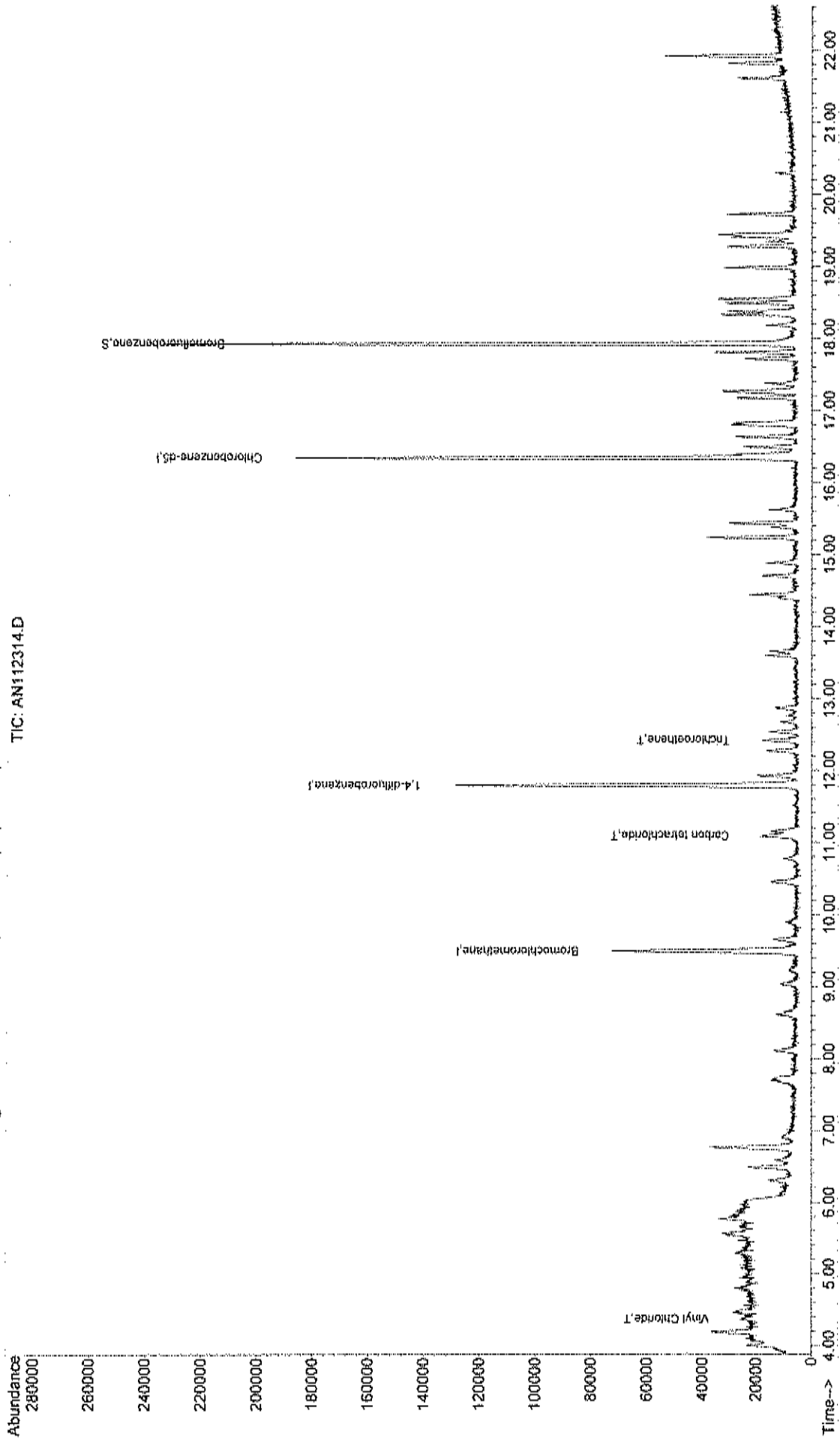
Data File : C:\HPCHEM\1\DATA2\AN112314.D
Acq On : 24 Nov 2016 12:00 am
Sample : A1UG 0.10
Misc : AN23_IUG
MS Integration Params: RTEINT.P
Quant Time: Nov 27 12:16 2016

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

Quant Results File: AN23_IUG.RES

Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

TIC: AN112314.D



Data File : C:\HPCHEM\1\DATA2\AN112315.D Vial: 15
 Acq On : 24 Nov 2016 12:35 am Operator: RJP
 Sample : A1UG_0.04 Inst : MSD #1
 Misc : AN23_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Nov 24 11:39:27 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Nov 23 21:45:43 2016
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	26685	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	126182	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	111457	1.00	ppb	-0.04

System Monitoring Compounds
 66) Bromofluorobenzene 17.92 95 83485 0.97 ppb -0.04
 Spiked Amount 1.000 Range 70 - 130 Recovery = 97.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	4.38	62	1134m / ⁿ	0.06	ppb	
38) Carbon tetrachloride	11.11	117	2974	0.04	ppb	84
44) Trichloroethene	12.41	130	2587	0.07	ppb	82

Quantitation Report (Q1 Reviewed)

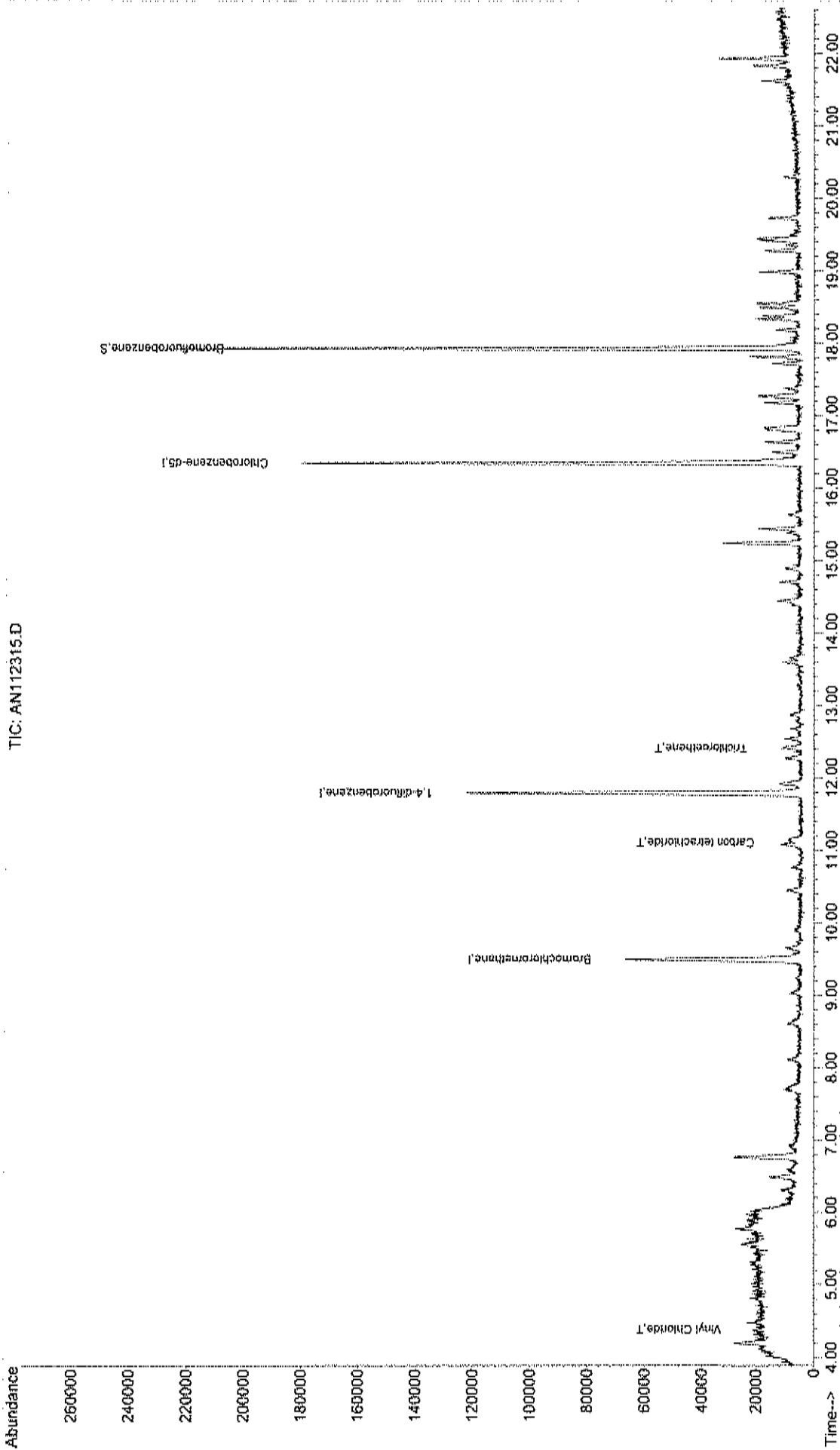
Data File : C:\HPCHEM\1\DATA2\AN112315.D
Acq On : 24 Nov 2016 12:35 am
Sample : A1UG.0.04
Misc : AN23_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 27 12:16 2016

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

Quant Results File: AN23_1UG.REB

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

TIC: AN112315.D



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\AN112703.D
 Acq On : 27 Nov 2016 1:55 pm
 Sample : A1UG_1.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Dec 28 15:45:04 2016
 Response via : Multiple 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	91	-0.08
2 T	Propylene	0.723	0.633	12.4	86	-0.07
3 T	Freon 12	3.741	3.753	-0.3	95	-0.07
4 T	Chloromethane	0.859	0.745	13.3	79	-0.07
5 T	Freon 114	2.500	2.419	3.2	94	-0.07
6 T	Vinyl Chloride	0.770	0.692	10.1	91	-0.07
7 T	Butane	0.966	0.922	4.6	91	-0.07
8 T	1,3-butadiene	0.755	0.753	0.3	99	-0.06
9 T	Bromomethane	0.879	0.797	9.3	87	-0.07
10 T	Chloroethane	0.318	0.310	2.5	91	-0.07
11 T	Ethanol	0.317	0.284	10.4	80	-0.08
12 T	Acrolein	0.260	0.245	5.8	94	-0.08
13 T	Vinyl Bromide	0.919	0.859	6.5	91	-0.08
14 T	Freon 11	2.896	2.823	2.5	90	-0.08
15 T	Acetone	0.614	0.515	16.1	85	-0.07
16 T	Pentane	0.808	0.795	1.6	95	-0.07
17 T	Isopropyl alcohol	1.213	1.026	15.4	77	-0.07
18 T	1,1-dichloroethene	0.952	0.879	7.7	85	-0.08
19 T	Freon 113	2.251	2.153	4.4	89	-0.07
20 t	t-Butyl alcohol	2.332	1.784	23.5	71	-0.08
21 T	Methylene chloride	2.093	1.566	25.2	75	-0.07
22 T	Allyl chloride	1.103	0.878	20.4	76	-0.07
23 T	Carbon disulfide	2.502	2.345	6.3	87	-0.08
24 T	trans-1,2-dichloroethene	1.378	1.306	5.2	87	-0.08
25 T	methyl tert-butyl ether	3.119	2.798	10.3	85	-0.07
26 T	1,1-dichloroethane	1.736	1.611	7.2	87	-0.08
27 T	Vinyl acetate	2.136	1.596	25.3	66	-0.07
28 T	Methyl Ethyl Ketone	0.396	0.391	1.3	88	-0.07
29 T	cis-1,2-dichloroethene	1.350	1.280	5.2	89	-0.07
30 T	Hexane	1.327	1.186	10.6	83	-0.07
31 T	Ethyl acetate	1.722	1.491	13.4	77	-0.07
32 T	Chloroform	2.535	2.426	4.3	88	-0.07
33 T	Tetrahydrofuran	0.832	0.722	13.2	80	-0.06
34 T	1,2-dichloroethane	1.824	1.734	4.9	87	-0.07
35 I	1,4-difluorobenzene	1.000	1.000	0.0	88	-0.06
36 T	1,1,1-trichloroethane	0.616	0.544	11.7	79	-0.07
37 T	Cyclohexane	0.286	0.252	11.9	83	-0.08
38 T	Carbon tetrachloride	0.558	0.453	18.8	69	-0.07
39 T	Benzene	0.605	0.583	3.6	88	-0.07
40 T	Methyl methacrylate	0.246	0.209	15.0	74	-0.06
41 T	1,4-dioxane	0.136	0.125	8.1	85	-0.07
42 T	2,2,4-trimethylpentane	0.861	0.774	10.1	83	-0.07
43 T	Heptane	0.322	0.271	15.8	78	-0.06
44 T	Trichloroethene	0.351	0.313	10.8	88	-0.07
45 T	1,2-dichloropropane	0.211	0.199	5.7	85	-0.06
46 T	Bromodichloromethane	0.499	0.506	-1.4	89	-0.07
47 T	cis-1,3-dichloropropene	0.358	0.316	11.7	77	-0.05
48 T	trans-1,3-dichloropropene	0.365	0.261	28.5	64	-0.04
49 T	1,1,2-trichloroethane	0.279	0.269	3.6	89	-0.05

(#) = Out of Range

AN112703.D AN23_1UG.M

Wed Dec 28 15:49:12 2016

MSD1

Page 1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\AN112703.D
 Acq On : 27 Nov 2016 1:55 pm
 Sample : ALUG_1.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Dec 28 15:45:04 2016
 Response via : Multiple 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	0.518	0.501	3.3	87	-0.05
52 T	Methyl Isobutyl Ketone	0.498	0.432	13.3	80	-0.06
53 T	Dibromochloromethane	0.555	0.553	0.4	86	-0.05
54 T	Methyl Butyl Ketone	0.468	0.378	19.2	75	-0.04
55 T	1,2-dibromoethane	0.523	0.500	4.4	84	-0.05
56 T	Tetrachloroethylene	0.416	0.395	5.0	85	-0.05
57 T	Chlorobenzene	0.759	0.748	1.4	89	-0.04
58 T	1,1,1,2-tetrachloroethane	0.419	0.369	11.9	75	-0.04
59 T	Ethylbenzene	1.258	1.222	2.9	88	-0.05
60 T	m&p-xylene	1.012	0.980	3.2	86	-0.04
61 T	Nonane	0.547	0.473	13.5	77	-0.05
62 T	Styrene	0.716	0.679	5.2	83	-0.05
63 T	Bromoform	0.487	0.468	3.9	81	-0.04
64 T	o-xylene	1.111	1.067	4.0	84	-0.05
65 T	Cumene	1.419	1.406	0.9	88	-0.04
66 S	Bromofluorobenzene	0.754	0.738	2.1	84	-0.04
67 T	1,1,2,2-tetrachloroethane	0.604	0.615	-1.8	90	-0.04
68 T	Propylbenzene	1.635	1.644	-0.6	92	-0.04
69 T	2-Chlorotoluene	1.057	1.018	3.7	84	-0.04
70 T	4-ethyltoluene	1.312	1.266	3.5	85	-0.04
71 T	1,3,5-trimethylbenzene	1.238	1.178	4.8	85	-0.04
72 T	1,2,4-trimethylbenzene	1.156	1.101	4.8	86	-0.04
73 T	1,3-dichlorobenzene	0.769	0.730	5.1	84	-0.05
74 T	benzyl chloride	0.800	0.592	26.0	70	-0.04
75 T	1,4-dichlorobenzene	0.763	0.718	5.9	84	-0.04
76 T	1,2,3-trimethylbenzene	1.111	1.092	1.7	88	-0.04
77 T	1,2-dichlorobenzene	0.720	0.697	3.2	87	-0.04
78 T	1,2,4-trichlorobenzene	0.475	0.445	6.3	80	-0.05
79 T	Naphthalene	1.335	1.059	20.7	70	-0.04
80 T	Hexachloro-1,3-butadiene	0.642	0.667	-3.9	91	-0.04

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112703.D
 Acq On : 27 Nov 2016 1:55 pm
 Sample : A1UG_1.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:37 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.47	128	31325	1.00	ppb	-0.08
35) 1,4-difluorobenzene	11.78	114	142911	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.33	117	123835	1.00	ppb	-0.05

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	91356	0.98	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	98.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.94	41	19818	0.87	ppb	90
3) Freon 12	3.99	85	117572	1.00	ppb	100
4) Chloromethane	4.18	50	23350	0.87	ppb	90
5) Freon 114	4.18	85	75761	0.97	ppb	97
6) Vinyl Chloride	4.36	62	21674	0.90	ppb	100
7) Butane	4.46	43	28888	0.96	ppb	99
8) 1,3-butadiene	4.47	39	23595	1.00	ppb	86
9) Bromomethane	4.80	94	24953	0.91	ppb	81
10) Chloroethane	4.95	64	9706	0.97	ppb	# 64
11) Ethanol	5.07	45	8901	0.90	ppb	# 52
12) Acrolein	5.63	56	7688	0.95	ppb	80
13) Vinyl Bromide	5.28	106	26918	0.93	ppb	98
14) Freon 11	5.54	101	88443	0.97	ppb	98
15) Acetone	5.75	58	16131	0.84	ppb	# 1
16) Pentane	5.81	42	24906	0.98	ppb	# 26
17) Isopropyl alcohol	5.85	45	32139	0.85	ppb	# 100
18) 1,1-dichloroethene	6.28	96	27532	0.92	ppb	88
19) Freon 113	6.47	101	67452	0.96	ppb	85
20) t-Butyl alcohol	6.55	59	55878	0.76	ppb	# 88
21) Methylene chloride	6.75	84	49048	0.75	ppb	96
22) Allyl chloride	6.73	41	27514	0.80	ppb	83
23) Carbon disulfide	6.89	76	73468	0.94	ppb	98
24) trans-1,2-dichloroethene	7.66	61	40921	0.95	ppb	93
25) methyl tert-butyl ether	7.70	73	87645	0.90	ppb	93
26) 1,1-dichloroethane	8.09	63	50450	0.93	ppb	99
27) Vinyl acetate	8.09	43	49999	0.75	ppb	94
28) Methyl Ethyl Ketone	8.62	72	12241	0.99	ppb	# 17
29) cis-1,2-dichloroethene	9.02	61	40111	0.95	ppb	85
30) Hexane	8.60	57	37153	0.89	ppb	93
31) Ethyl acetate	9.20	43	46693	0.87	ppb	91
32) Chloroform	9.63	83	76007	0.96	ppb	96
33) Tetrahydrofuran	9.85	42	22606	0.87	ppb	92
34) 1,2-dichloroethane	10.76	62	54303	0.95	ppb	90
36) 1,1,1-trichloroethane	10.44	97	77809	0.88	ppb	97
37) Cyclohexane	11.14	56	35944	0.88	ppb	# 58
38) Carbon tetrachloride	11.09	117	64741	0.81	ppb	87
39) Benzene	11.06	78	83261	0.96	ppb	97
40) Methyl methacrylate	12.66	41	29852	0.85	ppb	93
41) 1,4-dioxane	12.71	88	17820	0.92	ppb	80
42) 2,2,4-trimethylpentane	11.91	57	110597	0.90	ppb	95
43) Heptane	12.26	43	38792	0.84	ppb	94
44) Trichloroethene	12.40	130	44666	0.89	ppb	92
45) 1,2-dichloropropane	12.52	63	28387	0.94	ppb	96

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112703.D
 Acq On : 27 Nov 2016 1:55 pm
 Sample : A1UG_1.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:37 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.85	83	72274	1.01	ppb	98
47) cis-1,3-dichloropropene	13.64	75	45134	0.88	ppb	92
48) trans-1,3-dichloropropene	14.39	75	37358	0.72	ppb	77
49) 1,1,2-trichloroethane	14.69	97	38495	0.97	ppb	97
51) Toluene	14.44	92	62004	0.97	ppb	99
52) Methyl Isobutyl Ketone	13.57	43	53453	0.87	ppb	97
53) Dibromochloromethane	15.37	129	68455m	1.00	ppb	
54) Methyl Butyl Ketone	14.87	43	46789	0.81	ppb	89
55) 1,2-dibromoethane	15.62	107	61901	0.96	ppb	97
56) Tetrachloroethylene	15.43	164	48862	0.95	ppb	82
57) Chlorobenzene	16.39	112	92620	0.99	ppb	94
58) 1,1,1,2-tetrachloroethane	16.49	131	45741	0.88	ppb	99
59) Ethylbenzene	16.63	91	151313	0.97	ppb	91
60) m&p-xylene	16.82	91	242776	1.94	ppb	95
61) Nonane	17.17	43	58578	0.86	ppb	97
62) Styrene	17.24	104	84083	0.95	ppb	79
63) Bromoform	17.37	173	57974	0.96	ppb	99
64) o-xylene	17.27	91	132134	0.96	ppb	96
65) Cumene	17.80	105	174147	0.99	ppb	96
67) 1,1,2,2-tetrachloroethane	17.71	83	76174	1.02	ppb	95
68) Propylbenzene	18.33	91	203619m	1.01	ppb	
69) 2-Chlorotoluene	18.37	91	126115m	0.96	ppb	
70) 4-ethyltoluene	18.49	105	156740m	0.96	ppb	
71) 1,3,5-trimethylbenzene	18.54	105	145909m	0.95	ppb	
72) 1,2,4-trimethylbenzene	18.98	105	136358	0.95	ppb	97
73) 1,3-dichlorobenzene	19.27	146	90374	0.95	ppb	91
74) benzyl chloride	19.35	91	73309	0.74	ppb	95
75) 1,4-dichlorobenzene	19.41	146	88912	0.94	ppb	93
76) 1,2,3-trimethylbenzene	19.44	105	135166	0.98	ppb	93
77) 1,2-dichlorobenzene	19.72	146	86361	0.97	ppb	97
78) 1,2,4-trichlorobenzene	21.61	180	55076	0.94	ppb	94
79) Naphthalene	21.82	128	131138	0.79	ppb	95
80) Hexachloro-1,3-butadiene	21.92	225	82648	1.04	ppb	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112703.D AN23_1UG.M Wed Dec 28 15:49:18 2016 MSD1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\AN112802.D
 Acq On : 28 Nov 2016 9:30 am
 Sample : A1UG_1.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P

Vial: 2
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Dec 28 15:45:04 2016
 Response via : Multiple 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	57	-0.07
2 T	Propylene	0.723	0.688	4.8	58	-0.06
3 T	Freon 12	3.741	4.433	-18.5	70	-0.07
4 T	Chloromethane	0.859	1.010	-17.6	67	-0.06
5 T	Freon 114	2.500	3.112	-24.5	75	-0.06
6 T	Vinyl Chloride	0.770	0.845	-9.7	69	-0.06
7 T	Butane	0.966	1.034	-7.0	64	-0.07
8 T	1,3-butadiene	0.755	0.824	-9.1	67	-0.05
9 T	Bromomethane	0.879	1.029	-17.1	70	-0.07
10 T	Chloroethane	0.318	0.345	-8.5	63	-0.06
11 T	Ethanol	0.317	0.361	-13.9	63	-0.06
12 T	Acrolein	0.260	0.271	-4.2	64	-0.06
13 T	Vinyl Bromide	0.919	1.051	-14.4	69	-0.07
14 T	Freon 11	2.896	3.579	-23.6	71	-0.07
15 T	Acetone	0.614	0.604	1.6	62	-0.06
16 T	Pentane	0.808	0.915	-13.2	68	-0.06
17 T	Isopropyl alcohol	1.213	1.347	-11.0	63	-0.06
18 T	1,1-dichloroethene	0.952	0.887	6.8	53	-0.07
19 T	Freon 113	2.251	2.385	-6.0	62	-0.06
20 t	t-Butyl alcohol	2.332	1.712	26.6	43#	-0.07
21 T	Methylene chloride	2.093	1.651	21.1	49#	-0.06
22 T	Allyl chloride	1.103	0.933	15.4	50	-0.07
23 T	Carbon disulfide	2.502	2.563	-2.4	59	-0.07
24 T	trans-1,2-dichloroethene	1.378	1.415	-2.7	59	-0.07
25 T	methyl tert-butyl ether	3.119	2.642	15.3	50#	-0.06
26 T	1,1-dichloroethane	1.736	1.736	0.0	58	-0.06
27 T	Vinyl acetate	2.136	1.810	15.3	46#	-0.06
28 T	Methyl Ethyl Ketone	0.396	0.404	-2.0	57	-0.06
29 T	cis-1,2-dichloroethene	1.350	1.421	-5.3	62	-0.06
30 T	Hexane	1.327	1.249	5.9	55	-0.07
31 T	Ethyl acetate	1.722	1.622	5.8	52	-0.06
32 T	Chloroform	2.535	2.679	-5.7	61	-0.06
33 T	Tetrahydrofuran	0.832	0.775	6.9	53	-0.05
34 T	1,2-dichloroethane	1.824	1.940	-6.4	61	-0.06
35 I	1,4-difluorobenzene	1.000	1.000	0.0	55	-0.05
36 T	1,1,1-trichloroethane	0.616	0.566	8.1	52	-0.06
37 T	Cyclohexane	0.286	0.263	8.0	55	-0.07
38 T	Carbon tetrachloride	0.558	0.538	3.6	52	-0.07
39 T	Benzene	0.605	0.598	1.2	57	-0.06
40 T	Methyl methacrylate	0.246	0.228	7.3	51	-0.06
41 T	1,4-dioxane	0.136	0.125	8.1	53	-0.05
42 T	2,2,4-trimethylpentane	0.861	0.833	3.3	56	-0.06
43 T	Heptane	0.322	0.290	9.9	52	-0.05
44 T	Trichloroethene	0.351	0.335	4.6	60	-0.05
45 T	1,2-dichloropropane	0.211	0.205	2.8	55	-0.04
46 T	Bromodichloromethane	0.499	0.584	-17.0	64	-0.06
47 T	cis-1,3-dichloropropene	0.358	0.320	10.6	49#	-0.05
48 T	trans-1,3-dichloropropene	0.365	0.268	26.6	41#	-0.04
49 T	1,1,2-trichloroethane	0.279	0.293	-5.0	61	-0.04

(#) = Out of Range

AN112802.D AN23_1UG.M

Wed Dec 28 15:50:33 2016

MSD1

Page 1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\AN112802.D
 Acq On : 28 Nov 2016 9:30 am
 Sample : A1UG_1.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P

Vial: 2
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Dec 28 15:45:04 2016
 Response via : Multiple 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	0.518	0.521	-0.6	57	-0.04
52 T	Methyl Isobutyl Ketone	0.498	0.418	16.1	49#	-0.04
53 T	Dibromochloromethane	0.555	0.659	-18.7	65	-0.04
54 T	Methyl Butyl Ketone	0.468	0.370	20.9	47#	-0.04
55 T	1,2-dibromoethane	0.523	0.546	-4.4	58	-0.04
56 T	Tetrachloroethylene	0.416	0.424	-1.9	57	-0.04
57 T	Chlorobenzene	0.759	0.789	-4.0	59	-0.04
58 T	1,1,1,2-tetrachloroethane	0.419	0.433	-3.3	56	-0.04
59 T	Ethylbenzene	1.258	1.283	-2.0	58	-0.04
60 T	m&p-xylene	1.012	1.029	-1.7	57	-0.04
61 T	Nonane	0.547	0.510	6.8	53	-0.04
62 T	Styrene	0.716	0.713	0.4	55	-0.04
63 T	Bromoform	0.487	0.566	-16.2	62	-0.04
64 T	o-xylene	1.111	1.053	5.2	53	-0.04
65 T	Cumene	1.419	1.428	-0.6	57	-0.04
66 S	Bromofluorobenzene	0.754	0.745	1.2	54	-0.04
67 T	1,1,2,2-tetrachloroethane	0.604	0.682	-12.9	63	-0.04
68 T	Propylbenzene	1.635	1.705	-4.3	60	-0.04
69 T	2-Chlorotoluene	1.057	1.040	1.6	54	-0.04
70 T	4-ethyltoluene	1.312	1.317	-0.4	56	-0.04
71 T	1,3,5-trimethylbenzene	1.238	1.272	-2.7	58	-0.04
72 T	1,2,4-trimethylbenzene	1.156	1.156	0.0	57	-0.04
73 T	1,3-dichlorobenzene	0.769	0.744	3.3	54	-0.04
74 T	benzyl chloride	0.800	0.563	29.6	42#	-0.04
75 T	1,4-dichlorobenzene	0.763	0.750	1.7	56	-0.04
76 T	1,2,3-trimethylbenzene	1.111	1.133	-2.0	58	-0.04
77 T	1,2-dichlorobenzene	0.720	0.715	0.7	56	-0.04
78 T	1,2,4-trichlorobenzene	0.475	0.438	7.8	50#	-0.04
79 T	Naphthalene	1.335	0.983	26.4	41#	-0.03
80 T	Hexachloro-1,3-butadiene	0.642	0.707	-10.1	61	-0.04

Data File : C:\HPCHEM\1\DATA2\AN112802.D
 Acq On : 28 Nov 2016 9:30 am
 Sample : A1UG_1.0
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 11:10:18 2016

Vial: 2
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	19537	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.79	114	89779	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.35	117	78295	1.00	ppb	-0.04

System Monitoring Compounds

66) Bromofluorobenzene	17.93	95	58318	0.99	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	99.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.94	41	13438	0.95	ppb	80
3) Freon 12	3.99	85	86601	1.18	ppb	99
4) Chloromethane	4.18	50	19725	1.18	ppb	98
5) Freon 114	4.19	85	60790	1.24	ppb	94
6) Vinyl Chloride	4.37	62	16509	1.10	ppb	96
7) Butane	4.47	43	20200	1.07	ppb	94
8) 1,3-butadiene	4.48	39	16104	1.09	ppb	94
9) Bromomethane	4.80	94	20106	1.17	ppb	85
10) Chloroethane	4.97	64	6742	1.08	ppb	# 69
11) Ethanol	5.10	45	7060	1.14	ppb	92
12) Acrolein	5.64	56	5299	1.04	ppb	# 72
13) Vinyl Bromide	5.29	106	20531	1.14	ppb	100
14) Freon 11	5.55	101	69923m	1.24	ppb	
15) Acetone	5.76	58	11801	0.98	ppb	# 1
16) Pentane	5.82	42	17878	1.13	ppb	# 26
17) Isopropyl alcohol	5.86	45	26311	1.11	ppb	# 100
18) 1,1-dichloroethene	6.29	96	17328	0.93	ppb	# 73
19) Freon 113	6.49	101	46599	1.06	ppb	84
20) t-Butyl alcohol	6.57	59	33448	0.73	ppb	# 78
21) Methylene chloride	6.76	84	32254	0.79	ppb	95
22) Allyl chloride	6.73	41	18230	0.85	ppb	84
23) Carbon disulfide	6.90	76	50066	1.02	ppb	100
24) trans-1,2-dichloroethene	7.68	61	27649	1.03	ppb	95
25) methyl tert-butyl ether	7.72	73	51618	0.85	ppb	87
26) 1,1-dichloroethane	8.11	63	33914	1.00	ppb	96
27) Vinyl acetate	8.11	43	35365	0.85	ppb	98
28) Methyl Ethyl Ketone	8.62	72	7896	1.02	ppb	# 9
29) cis-1,2-dichloroethene	9.03	61	27758	1.05	ppb	88
30) Hexane	8.61	57	24393	0.94	ppb	92
31) Ethyl acetate	9.21	43	31687	0.94	ppb	90
32) Chloroform	9.65	83	52344	1.06	ppb	97
33) Tetrahydrofuran	9.86	42	15150	0.93	ppb	97
34) 1,2-dichloroethane	10.77	62	37911	1.06	ppb	86
36) 1,1,1-trichloroethane	10.45	97	50782	0.92	ppb	99
37) Cyclohexane	11.16	56	23627	0.92	ppb	# 52
38) Carbon tetrachloride	11.10	117	48330	0.97	ppb	90
39) Benzene	11.07	78	53670	0.99	ppb	94
40) Methyl methacrylate	12.66	41	20459	0.93	ppb	93
41) 1,4-dioxane	12.73	88	11198	0.92	ppb	81
42) 2,2,4-trimethylpentane	11.92	57	74819	0.97	ppb	97
43) Heptane	12.27	43	26027	0.90	ppb	95
44) Trichloroethene	12.41	130	30085	0.95	ppb	94
45) 1,2-dichloropropane	12.54	63	18368	0.97	ppb	97

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

Data File : C:\HPCHEM\1\DATA2\AN112802.D

Vial: 2

Acq On : 28 Nov 2016 9:30 am

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : AN23_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 28 11:10:18 2016

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

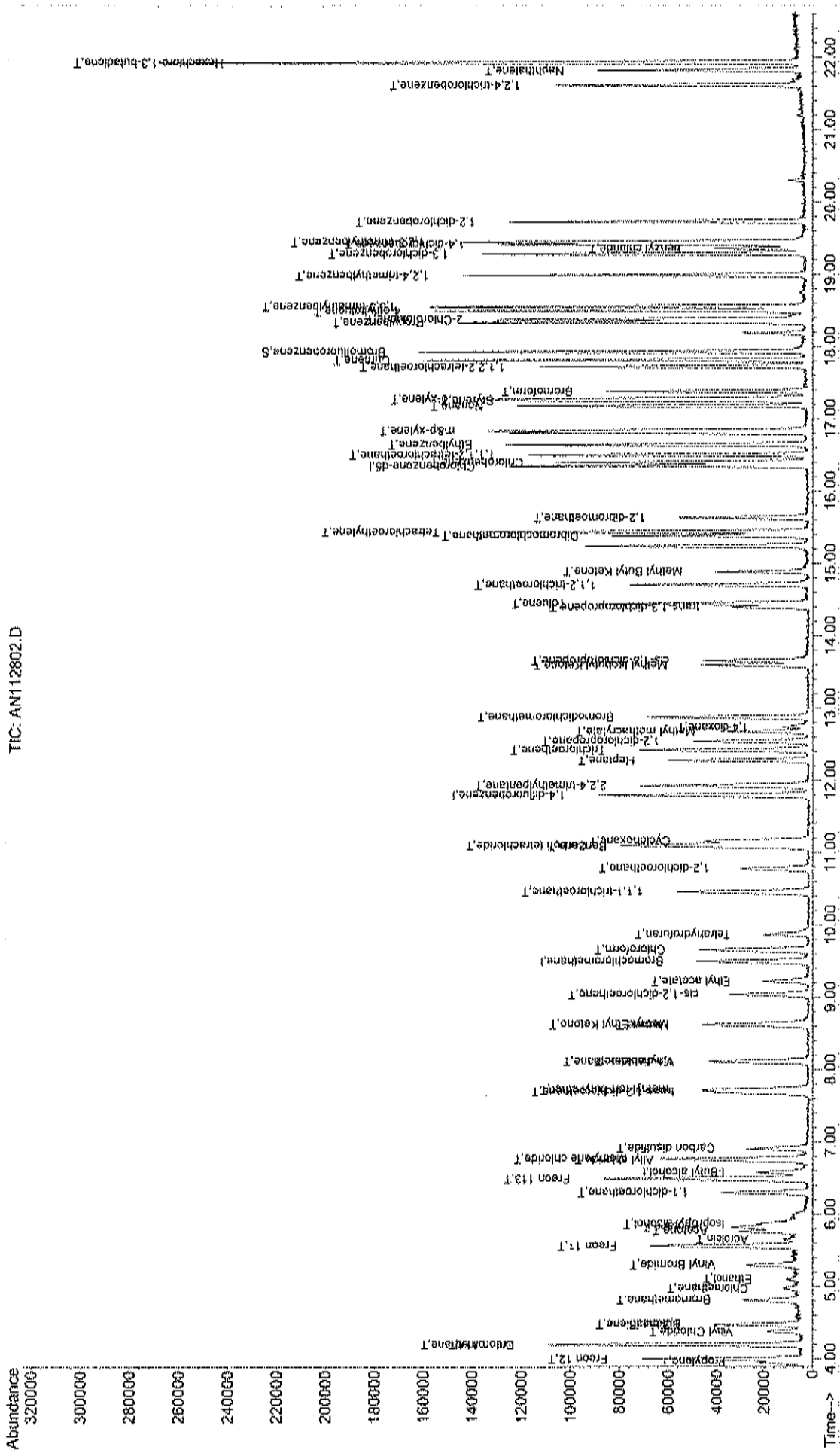
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.86	83	52437	1.17	ppb	93
47) cis-1,3-dichloropropene	13.65	75	28689	0.89	ppb	92
48) trans-1,3-dichloropropene	14.39	75	24080m	0.74	ppb	
49) 1,1,2-trichloroethane	14.70	97	26320	1.05	ppb	98
51) Toluene	14.44	92	40813	1.01	ppb	98
52) Methyl Isobutyl Ketone	13.59	43	32756	0.84	ppb	96
53) Dibromochloromethane	15.38	129	51619m	1.19	ppb	
54) Methyl Butyl Ketone	14.88	43	28977	0.79	ppb	91
55) 1,2-dibromoethane	15.63	107	42719	1.04	ppb	97
56) Tetrachloroethylene	15.44	164	33185	1.02	ppb	87
57) Chlorobenzene	16.39	112	61755	1.04	ppb	93
58) 1,1,1,2-tetrachloroethane	16.49	131	33899	1.03	ppb	97
59) Ethylbenzene	16.64	91	100473	1.02	ppb	92
60) m&p-xylene	16.83	91	161080	2.03	ppb	93
61) Nonane	17.18	43	39923	0.93	ppb	98
62) Styrene	17.25	104	55827	1.00	ppb	78
63) Bromoform	17.37	173	44283	1.16	ppb	99
64) o-xylene	17.28	91	82442	0.95	ppb	92
65) Cumene	17.81	105	111839	1.01	ppb	96
67) 1,1,2,2-tetrachloroethane	17.72	83	53361	1.13	ppb	97
68) Propylbenzene	18.33	91	133517m	1.04	ppb	
69) 2-Chlorotoluene	18.37	91	81393m	0.98	ppb	
70) 4-ethyltoluene	18.49	105	103110m	1.00	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	99582m	1.03	ppb	
72) 1,2,4-trimethylbenzene	18.99	105	90530	1.00	ppb	99
73) 1,3-dichlorobenzene	19.28	146	58254	0.97	ppb	92
74) benzyl chloride	19.35	91	44080m	0.70	ppb	
75) 1,4-dichlorobenzene	19.41	146	58703	0.98	ppb	93
76) 1,2,3-trimethylbenzene	19.44	105	88722	1.02	ppb	94
77) 1,2-dichlorobenzene	19.73	146	56018	0.99	ppb	96
78) 1,2,4-trichlorobenzene	21.62	180	34322	0.92	ppb	96
79) Naphthalene	21.83	128	76990	0.74	ppb	93
80) Hexachloro-1,3-butadiene	21.93	225	55374	1.10	ppb	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112802.D AN23_1UG.M Wed Dec 28 15:50:37 2016 MSD1

Data File : C:\HPCHEM\1\DATA2\AN112802.D
Acq On : 28 Nov 2016 9:30 am
Sample : ALUG_1.0
Misc : AN23_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 28 13:29 2016

Vial: 2
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: AN23_1UG.RES

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration



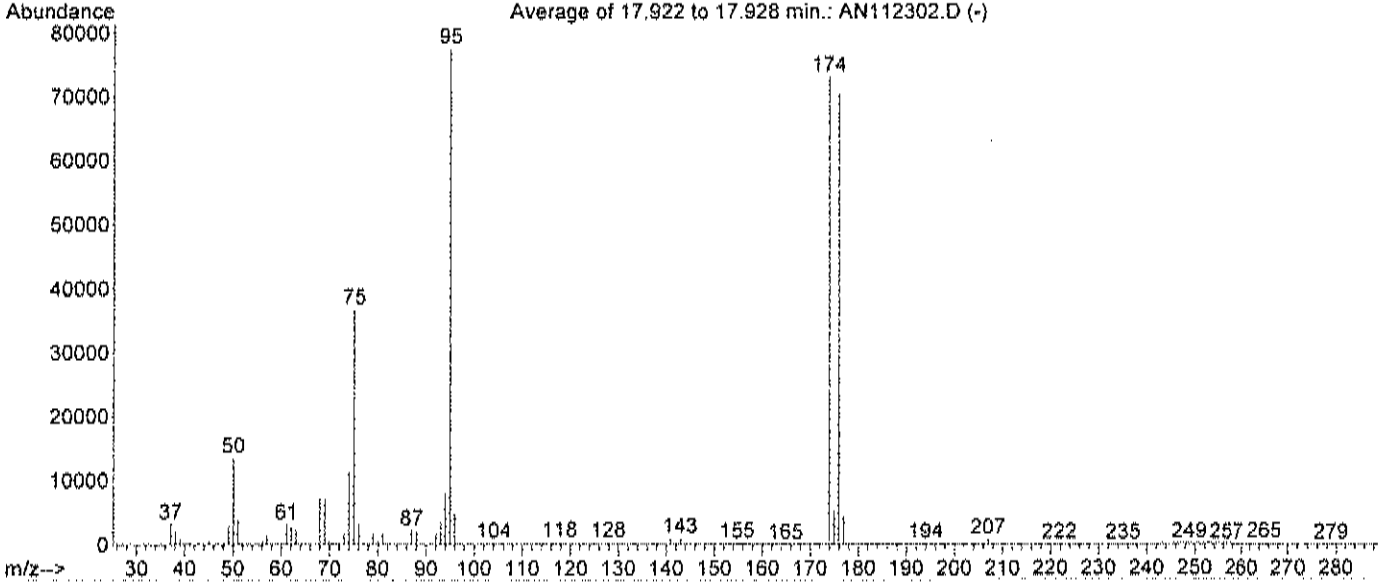
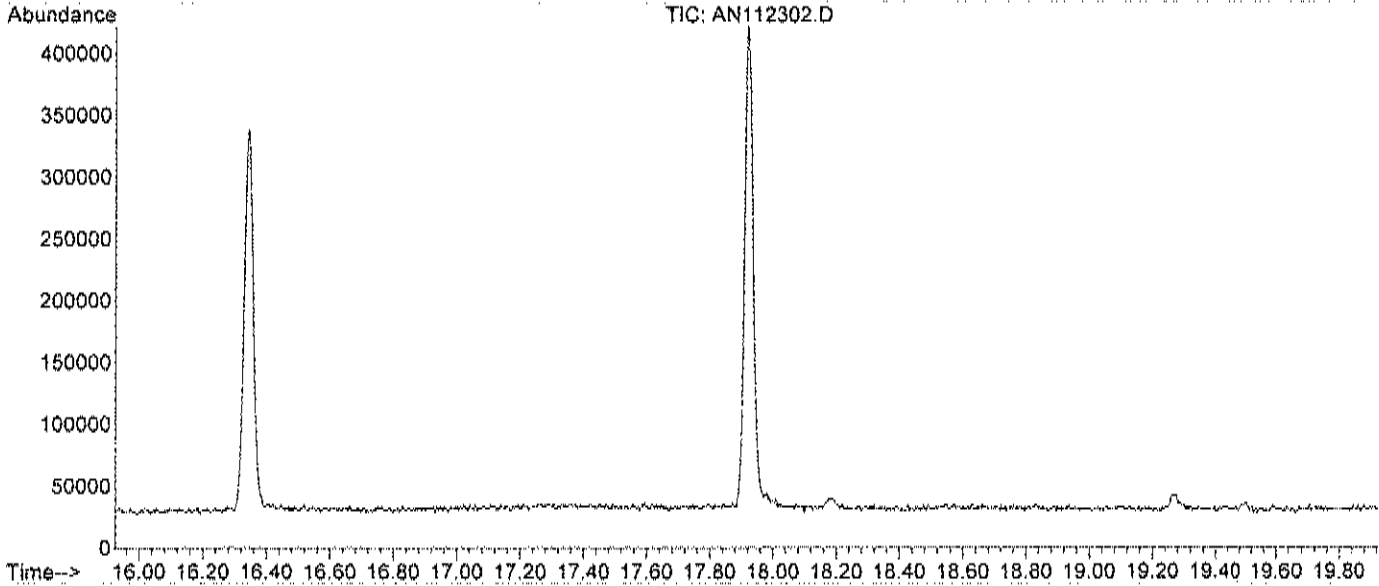
GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW DATA

BFB

Data File : C:\HPCHEM\1\DATA2\AN112302.D Vial: 2
 Acq On : 23 Nov 2016 3:31 pm Operator: RJP
 Sample : BFB1UG Inst : MSD #1
 Misc : AN23_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

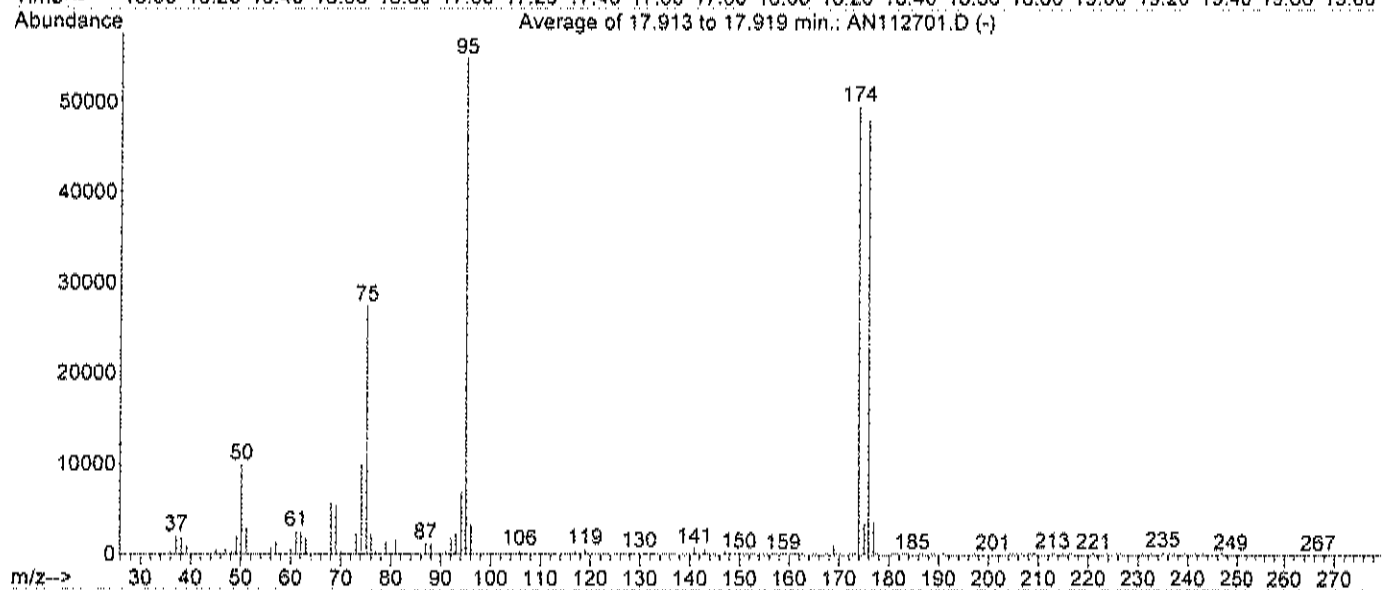
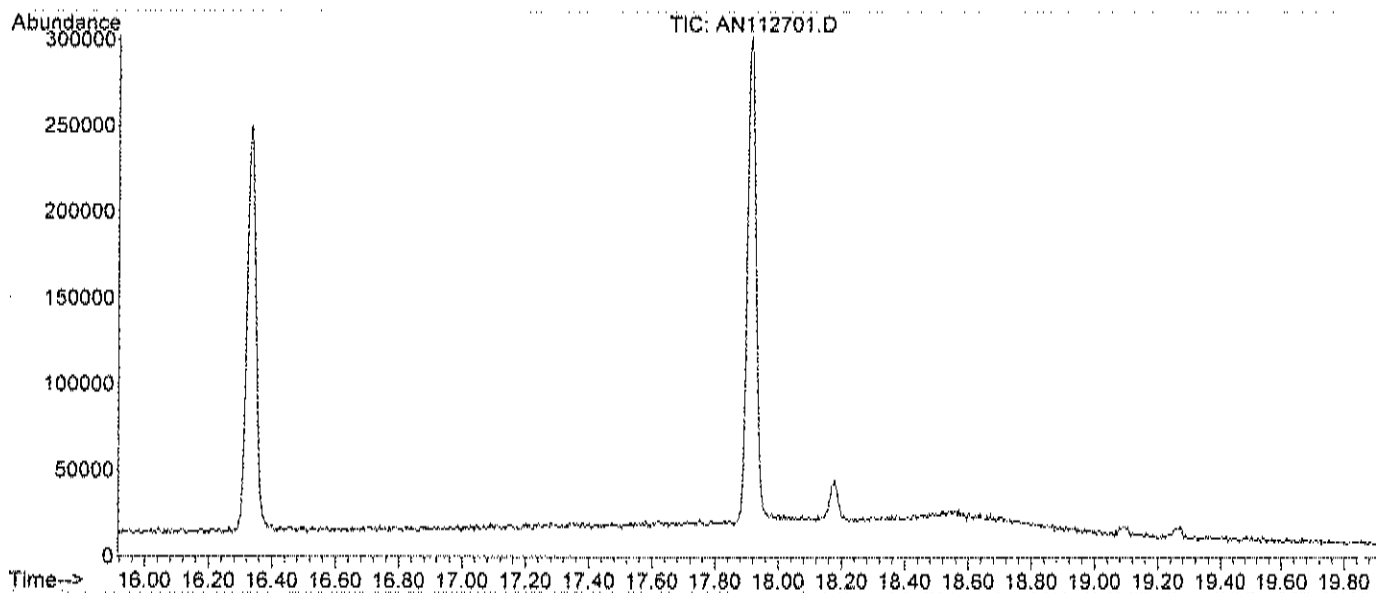


Spectrum Information: Average of 17.922 to 17.928 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.5	13542	PASS
75	95	30	66	47.6	36900	PASS
95	95	100	100	100.0	77555	PASS
96	95	5	9	6.2	4781	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.3	73114	PASS
175	174	4	9	7.1	5176	PASS
176	174	95	101	96.5	70530	PASS
177	176	5	9	6.4	4526	PASS

BFB

Data File : C:\HPCHEM\1\DATA2\AN112701.D Vial: 1
 Acq On : 27 Nov 2016 12:24 pm Operator: RJP
 Sample : BFB1UG Inst : MSD #1
 Misc : AN23_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

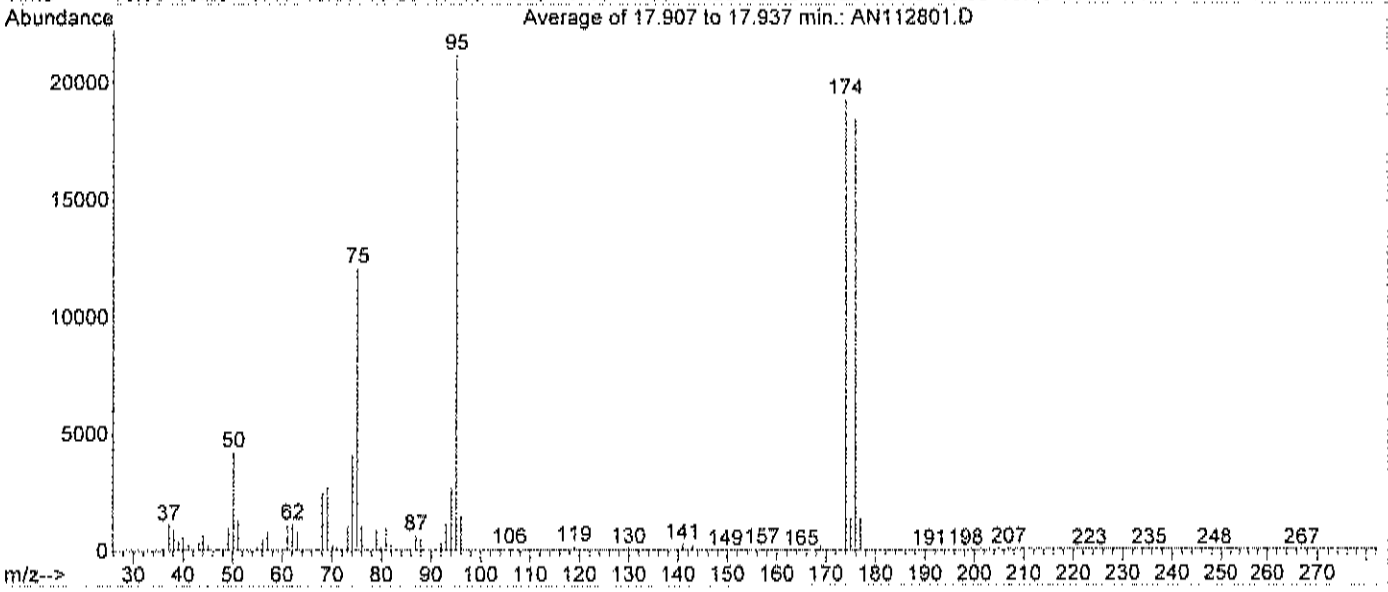
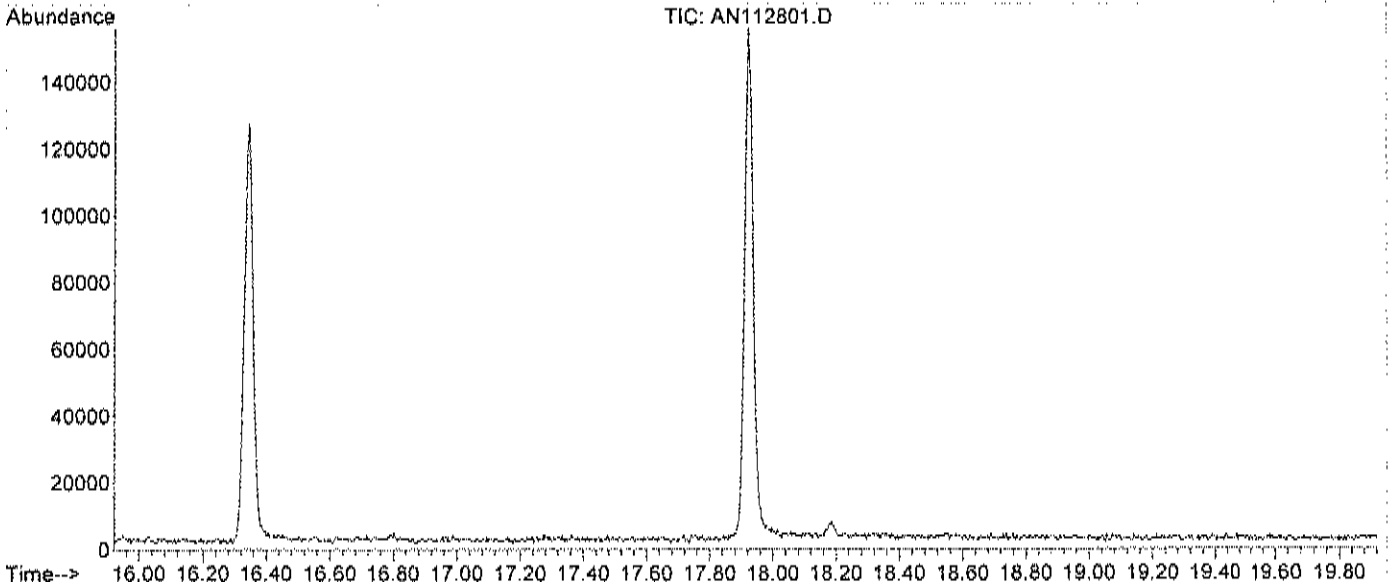


Spectrum Information: Average of 17.913 to 17.919 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.1	9904	PASS
75	95	30	66	50.1	27480	PASS
95	95	100	100	100.0	54842	PASS
96	95	5	9	6.0	3296	PASS
173	174	0.00	2	0.3	145	PASS
174	95	50	120	90.5	49656	PASS
175	174	4	9	7.1	3548	PASS
176	174	95	101	96.9	48128	PASS
177	176	5	9	7.4	3574	PASS

BFB

Data File : C:\HPCHEM\1\DATA2\AN112801.D Vial: 1
 Acq On : 28 Nov 2016 8:42 am Operator: RJP
 Sample : BFB1UG Inst : MSD #1
 Misc : AN23_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 17.907 to 17.937 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	4230	PASS
75	95	30	66	57.0	12080	PASS
95	95	100	100	100.0	21199	PASS
96	95	5	9	7.1	1510	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.8	19247	PASS
175	174	4	9	7.1	1365	PASS
176	174	95	101	96.0	18483	PASS
177	176	5	9	7.4	1368	PASS

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW QC DATA

Date: 28-Dec-16

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1611040
Project: 1740 Emerson Street

TestCode: 0.25CT-FCE-VC

Sample ID	AMB1UG-112716	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	11704	
Client ID:	ZZZZZ	Batch ID:	R11704	TestNo:	TO-15	Analysis Date:	11/27/2016	SeqNo:	137003		
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-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									

Sample ID	AMB1UG-112816	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	11705	
Client ID:	ZZZZZ	Batch ID:	R11705	TestNo:	TO-15	Analysis Date:	11/28/2016	SeqNo:	137025		
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-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									

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: C1611040
 Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-112816	Sample Type	MBLK	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:		RunNo:	11705		
Client ID:	ZZZZZ	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137025		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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
 S Spike Recovery outside accepted recovery limits

Data File : C:\HPCHEM\1\DATA2\AN112705.D
 Acq On : 27 Nov 2016 3:28 pm
 Sample : AMB1UG-112716
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:39 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	27752	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	124751	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.34	117	107782	1.00	ppb	-0.05

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	73467	0.90	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	90.00%

Target Compounds

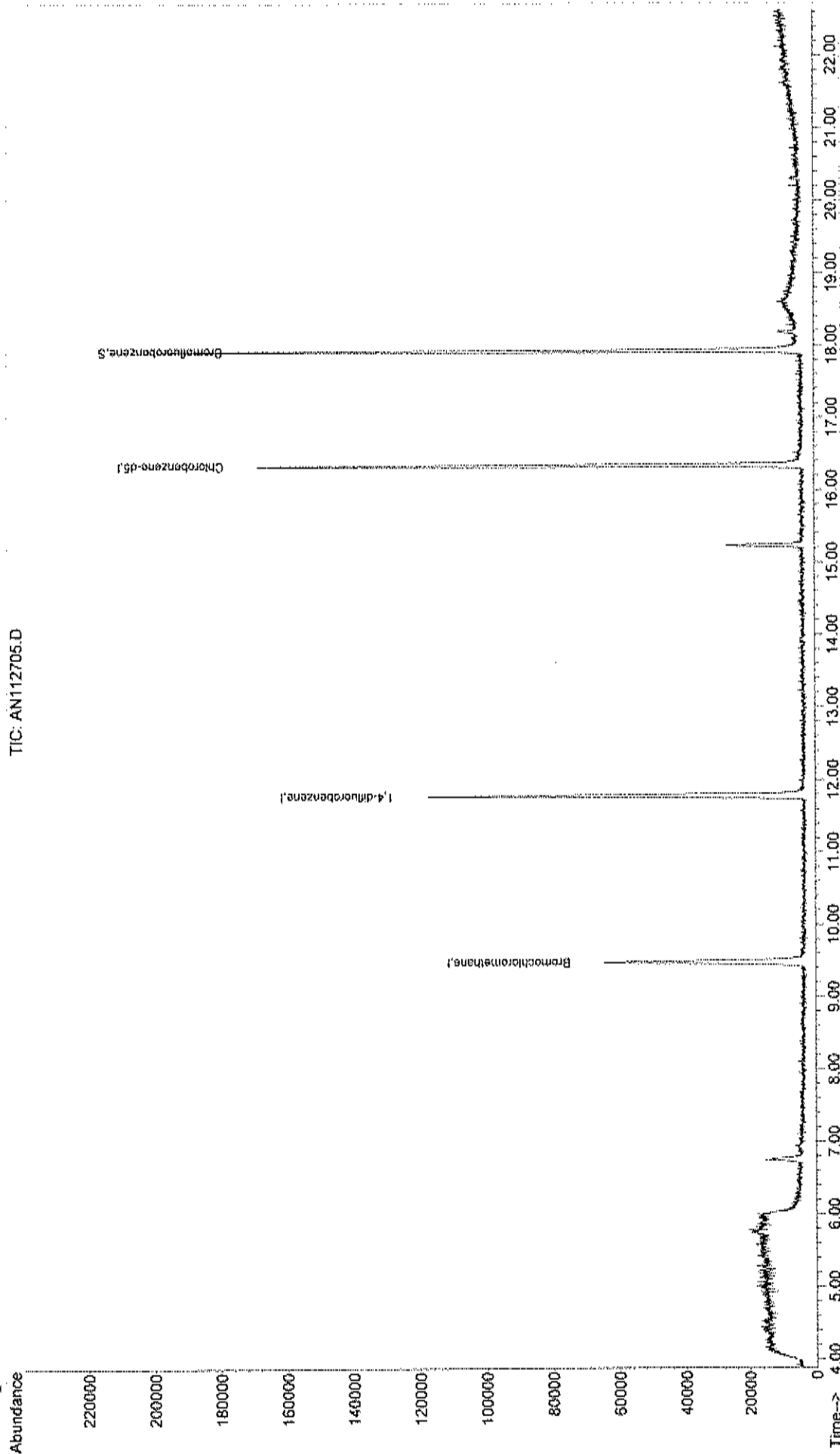
Qvalue

Data File : C:\HPCHEM\1\DATA2\AN112705.D
Acq On : 27 Nov 2016 3:28 pm
Sample : AMB1UG-112716
Misc : AN23_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 28 13:31 2016

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

Quant Results File: AN23_1UG.RES

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration



TIC: AN112705.D

Data File : C:\HPCHEM\1\DATA2\AN112804.D Vial: 4
 Acq On : 28 Nov 2016 11:03 am Operator: RJP
 Sample : AMB1UG-112816 Inst : MSD #1
 Misc : AN23_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Nov 29 07:16:50 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.49	128	19032	1.00	ppb	-0.06
35) 1,4-difluorobenzene	11.79	114	84899	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	71392	1.00	ppb	-0.04

System Monitoring Compounds

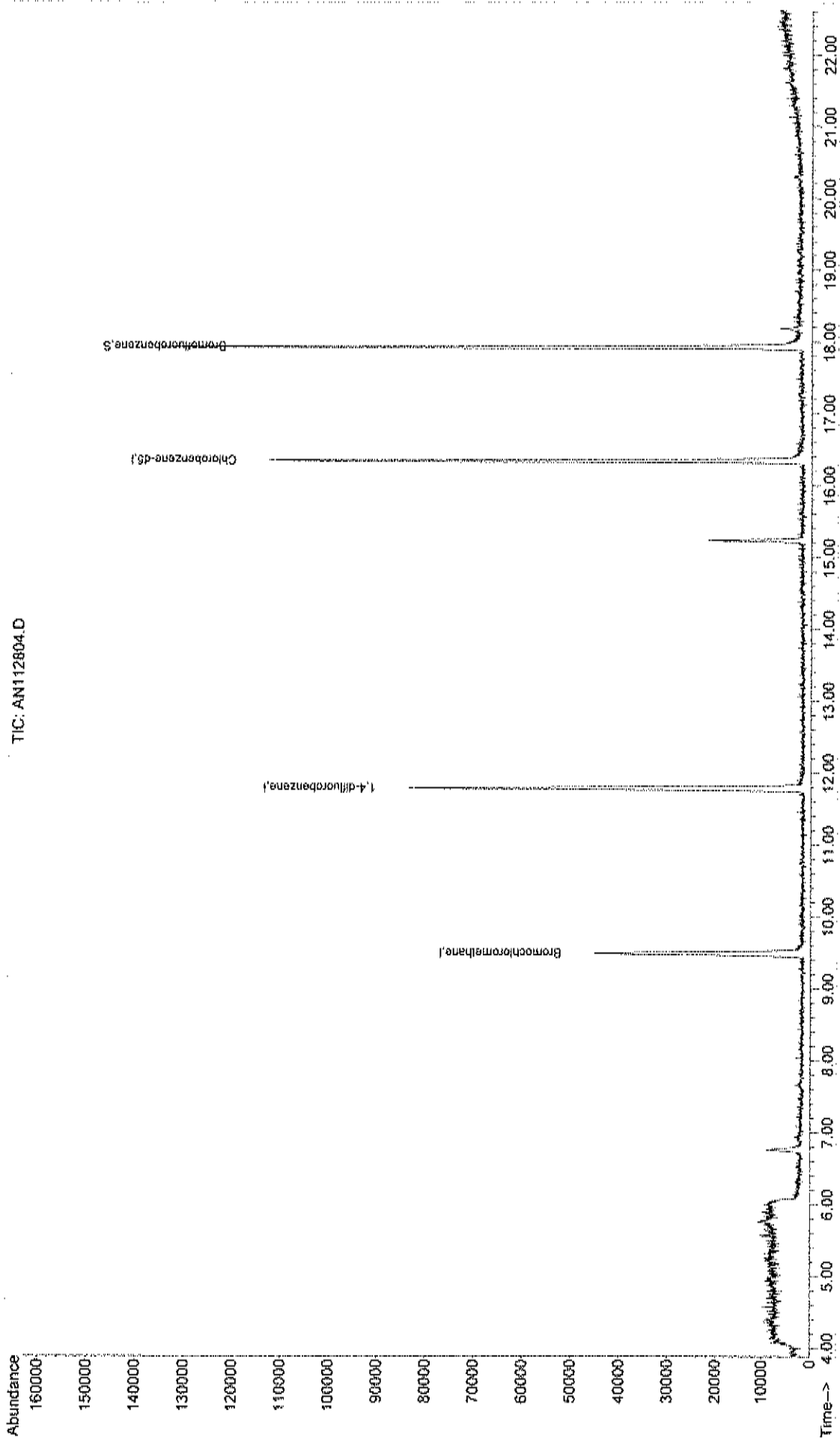
66) Bromofluorobenzene	17.92	95	48791	0.91	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	91.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\AN112804.D
Acq On : 28 Nov 2016 11:03 am
Sample : AN23_1UG
Misc : AN23_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 29 7:26 2016

Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: AN23_1UG.RES

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Dec 28 15:45:04 2016
Response via : Initial Calibration



Date: 28-Dec-16

CEN TEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1611040

Project: 1740 Emerson Street

TestCode: 1ugM3_TO15

Sample ID	C1611040-003A MS	Samp Type:	MS	TestCode:	1ugM3_TO15	Units:	ppbv	Prep Date:		RunNo:	11705
Client ID:	1740-SVI-2	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137035

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.150	0.15	1	0.2	95.0	70	130				
1,1-Dichloroethane	1.290	0.15	1	0.35	94.0	70	130				
1,1-Dichloroethene	1.030	0.15	1	0	103	70	130				
Chloroethane	1.120	0.15	1	0	112	70	130				
Chloromethane	1.140	0.15	1	0	114	70	130				
cis-1,2-Dichloroethene	4.500	0.15	1	3.69	81.0	70	130				
Tetrachloroethylene	18.34	0.15	1	18.84	-50.0	70	130				S
trans-1,2-Dichloroethene	1.260	0.15	1	0.27	99.0	70	130				
Trichloroethene	14.22	0.15	1	13.76	46.0	70	130				S
Vinyl chloride	1.090	0.15	1	0	109	70	130				

Sample ID	C1611040-003A MS	Samp Type:	MSD	TestCode:	1ugM3_TO15	Units:	ppbv	Prep Date:		RunNo:	11705
Client ID:	1740-SVI-2	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137036

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.160	0.15	1	0.2	96.0	70	130	1.15	0.866	30	
1,1-Dichloroethane	1.240	0.15	1	0.35	89.0	70	130	1.29	3.95	30	
1,1-Dichloroethene	0.9800	0.15	1	0	98.0	70	130	1.03	4.98	30	
Chloroethane	1.030	0.15	1	0	103	70	130	1.12	8.37	30	
Chloromethane	1.050	0.15	1	0	105	70	130	1.14	8.22	30	
cis-1,2-Dichloroethene	4.070	0.15	1	3.69	38.0	70	130	4.5	10.0	30	S
Tetrachloroethylene	16.02	0.15	1	18.84	-282	70	130	18.34	13.5	30	S
trans-1,2-Dichloroethene	1.190	0.15	1	0.27	92.0	70	130	1.26	5.71	30	
Trichloroethene	12.78	0.15	1	13.76	-98.0	70	130	14.22	10.7	30	S

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

CLIENT: LaBella Associates, P.C.
Work Order: C1611040
Project: 1740 Emerson Street

TestCode: 1ugM3_TO15

Sample ID	C1611040-003A MS	SampType:	MSD	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	11705										
Client ID:	1740-SVI-2	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	11/28/2016	SeqNo:	137036										
Analyte		Result	0.9900	PQL	0.15	SPK value	1	%REC	99.0	LowLimit	70	HighLimit	130	RPD Ref Val	1.09	%RPD	9.62	RPDLimit	30	Qual	

Vinyl chloride

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				

Data File : C:\HPCHEM\1\DATA2\AN112806.D
 Acq On : 28 Nov 2016 12:25 pm
 Sample : C1611040-003A MS
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 29 08:02:47 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.50	128	19945	1.00	ppb	-0.06
35) 1,4-difluorobenzene	11.79	114	88940	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	83101	1.00	ppb	-0.04

System Monitoring Compounds

56) Bromofluorobenzene	17.93	95	61500	0.98	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	98.00%

Target Compounds

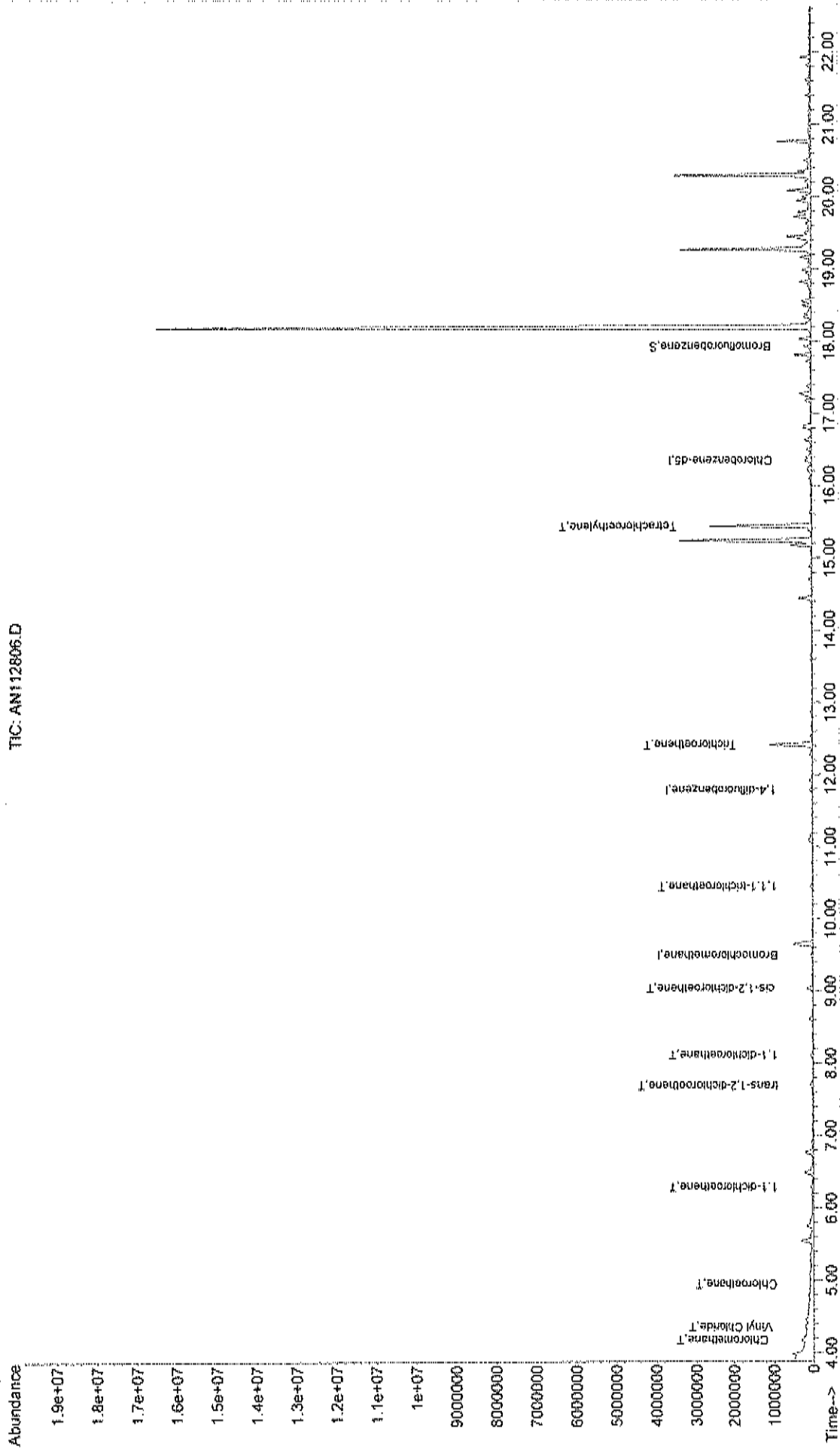
	R.T.	QIon	Response	Conc	Units	Qvalue
4) Chloromethane	4.18	50	19538	1.14	ppb	93
6) Vinyl Chloride	4.36	62	16670	1.09	ppb	85
10) Chloroethane	4.96	64	7095	1.12	ppb	# 68
18) 1,1-dichloroethene	6.30	96	19463	1.03	ppb	86
24) trans-1,2-dichloroethene	7.68	61	34565	1.26	ppb	97
26) 1,1-dichloroethane	8.12	63	44692	1.29	ppb	96
29) cis-1,2-dichloroethene	9.04	61	121075	4.50	ppb	86
36) 1,1,1-trichloroethane	10.46	97	63120	1.15	ppb	97
44) Trichloroethene	12.41	130	444095	14.22	ppb	91
56) Tetrachloroethylene	15.44	164	633610	18.34	ppb	88

Data File : C:\HPCHEM\1\DATA2\AN112806.D
 Acq On : 28 Nov 2016 12:25 pm
 Sample : C1611040-003A MS
 Misc : AN23_IUG
 MS Integration Params: RPRINT.P
 Quant Time: Nov 29 8:04 2016

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

Quant Results File: AN23_IUG.RES

Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Dec 28 15:45:04 2016
 Response via : Initial Calibration



TIC: AN112806.D

Data File : C:\HPCHEM\1\DATA2\AN112807.D

Vial: 7

Acq On : 28 Nov 2016 1:11 pm

Operator: RJP

Sample : C1611040-003A MSD

Inst : MSD #1

Misc : AN23_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 29 08:02:55 2016

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.50	128	21009	1.00	ppb	-0.06
35) 1,4-difluorobenzene	11.79	114	91248	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	85630	1.00	ppb	-0.04

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	62119	0.96	ppb	-0.04
Spiked Amount	1.000	Range 70 - 130	Recovery	=	96.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
4) Chloromethane	4.18	50	18883	1.05	ppb	91
6) Vinyl Chloride	4.36	62	16034	0.99	ppb	85
10) Chloroethane	4.97	64	6916	1.03	ppb	# 68
18) 1,1-dichloroethene	6.30	96	19524	0.98	ppb	# 82
24) trans-1,2-dichloroethene	7.69	61	34340	1.19	ppb	93
26) 1,1-dichloroethane	8.12	63	45354	1.24	ppb	96
29) cis-1,2-dichloroethene	9.04	61	115343	4.07	ppb	86
36) 1,1,1-trichloroethane	10.46	97	65419	1.16	ppb	95
44) Trichloroethene	12.41	130	409468	12.78	ppb	91
56) Tetrachloroethylene	15.44	164	570341	16.02	ppb	89

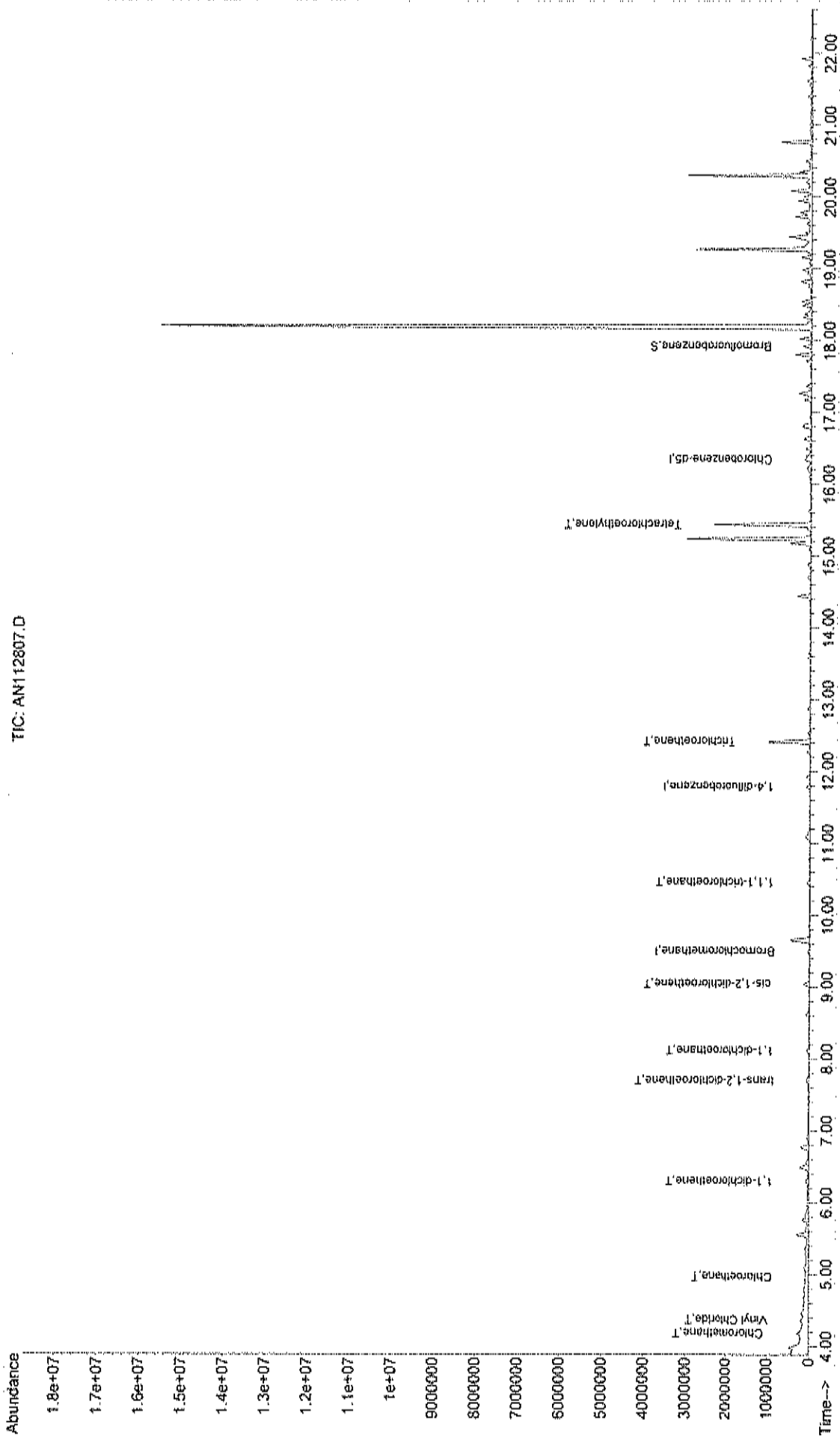
 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112807.D AN23_1UG.M Wed Dec 28 15:48:45 2016 MSD1

Data File : C:\HPCHEM\1\DATA2\AN112807.D
 Acq On : 28 Nov 2016 1:11 pm
 Sample : C1611040-003A MSD
 Misc : AN23_IUG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 29 8:06 2016

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

Quant Results File: AN23_IUG.RES

Method : C:\HPCHEM\1\METHODS\AN23_IUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Dec 28 15:45:04 2016
 Response via : Initial Calibration



TIC: AN112807.D

Date: 28-Dec-16

CEN TEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1611040

Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-112716	Batch ID: R11704	Sample Type: LCS	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11704				
Client ID:	ZZZZZ	Batch ID: R11704	TestNo: TO-15	Analysis Date:	11/27/2016	SeqNo: 137004					
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HightLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.9000	0.15	1	0	90.0	70	130				
1,1-Dichloroethane	0.9500	0.15	1	0	95.0	70	130				
1,1-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
Chloroethane	0.9700	0.15	1	0	97.0	70	130				
Chloromethane	0.9800	0.15	1	0	98.0	70	130				
cis-1,2-Dichloroethene	0.9600	0.15	1	0	96.0	70	130				
Tetrachloroethylene	1.010	0.15	1	0	101	70	130				
trans-1,2-Dichloroethene	0.9700	0.15	1	0	97.0	70	130				
Trichloroethene	0.9200	0.040	1	0	92.0	70	130				
Vinyl chloride	0.9200	0.040	1	0	92.0	70	130				

Sample ID	ALCS1UG-112816	Batch ID: R11705	Sample Type: LCS	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11705				
Client ID:	ZZZZZ	Batch ID: R11705	TestNo: TO-15	Analysis Date:	11/28/2016	SeqNo: 137026					
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HightLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.9300	0.15	1	0	93.0	70	130				
1,1-Dichloroethane	1.010	0.15	1	0	101	70	130				
1,1-Dichloroethene	0.9600	0.15	1	0	96.0	70	130				
Chloroethane	1.070	0.15	1	0	107	70	130				
Chloromethane	1.070	0.15	1	0	107	70	130				
cis-1,2-Dichloroethene	0.9700	0.15	1	0	97.0	70	130				
Tetrachloroethylene	0.9900	0.15	1	0	99.0	70	130				
trans-1,2-Dichloroethene	1.000	0.15	1	0	100	70	130				
Trichloroethene	0.9500	0.040	1	0	95.0	70	130				

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 NID 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: C1611040
 Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-112816	Batch ID	R11705	SampType	LCS	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:	RunNo:	11705	
Client ID:	ZZZZZ	Batch ID:	TO-15			TestCode:	0.25CT-TCE-			Analysis Date:	SeqNo:	137026	
Analyte		Result		PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride		1.040		0.040	1	0	104	70	130				

Sample ID	ALCS1UGD-112716	Batch ID	R11704	SampType	LCS	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:	RunNo:	11704	
Client ID:	ZZZZZ	Batch ID:	TO-15			TestCode:	0.25CT-TCE-			Analysis Date:	SeqNo:	137005	
Analyte		Result		PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane		0.7900		0.15	1	0	79.0	70	130	0.9	13.0	30	
1,1-Dichloroethane		0.9200		0.15	1	0	92.0	70	130	0.95	3.21	30	
1,1-Dichloroethene		0.9800		0.15	1	0	98.0	70	130	0.98	0	30	
Chloroethane		0.9500		0.15	1	0	95.0	70	130	0.97	2.08	30	
Chloromethane		0.9200		0.15	1	0	92.0	70	130	0.98	6.32	30	
cis-1,2-Dichloroethene		0.9500		0.15	1	0	95.0	70	130	0.96	1.05	30	
Tetrachloroethylene		0.9600		0.15	1	0	96.0	70	130	1.01	5.08	30	
trans-1,2-Dichloroethene		0.9300		0.15	1	0	93.0	70	130	0.97	4.21	30	
Trichloroethene		0.9100		0.040	1	0	91.0	70	130	0.92	1.09	30	
Vinyl chloride		0.9500		0.040	1	0	95.0	70	130	0.92	3.21	30	

Sample ID	ALCS1UGD-112816	Batch ID	R11705	SampType	LCS	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:	RunNo:	11705	
Client ID:	ZZZZZ	Batch ID:	TO-15			TestCode:	0.25CT-TCE-			Analysis Date:	SeqNo:	137027	
Analyte		Result		PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane		0.9300		0.15	1	0	93.0	70	130	0.93	0	30	
1,1-Dichloroethane		1.040		0.15	1	0	104	70	130	1.01	2.93	30	
1,1-Dichloroethene		0.9500		0.15	1	0	95.0	70	130	0.96	1.05	30	
Chloroethane		1.120		0.15	1	0	112	70	130	1.07	4.57	30	
Chloromethane		1.150		0.15	1	0	115	70	130	1.07	7.21	30	
cis-1,2-Dichloroethene		1.010		0.15	1	0	101	70	130	0.97	4.04	30	
Tetrachloroethylene		1.020		0.15	1	0	102	70	130	0.99	2.99	30	
trans-1,2-Dichloroethene		1.030		0.15	1	0	103	70	130	1	2.96	30	
Trichloroethene		0.9500		0.040	1	0	95.0	70	130	0.95	0	30	

Qualifiers: J Results reported are not blank corrected E Estimated Value above quantification 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

CLIENT: LaBella Associates, P.C.
 Work Order: C1611040
 Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UGD-112816	SampType	LCSD	TestCode	0.25CT-TCE-	Units	ppbV	Prep Date:		RunNo:	11705
Client ID:	ZZZZZ	Batch ID:	R11705	TestNo:	TO-15	%REC	110	Analysis Date:	11/28/2016	SeqNo:	137027
Analyte	Vinyl chloride	PQL	0.040	SPK value	1	SPK Ref Val	0	LowLimit	70	RPD Ref Val	1.04
		Result	1.100	Estimated Value above quantitation range	E	Not Detected at the Limit of Detection	ND	HighLimit	130	%RPD	5.61
				Recovery outside accepted recovery limits	S			RPDLimit	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

Data File : C:\HPCHEM\1\DATA2\AN112704.D

Vial: 4

Acq On : 27 Nov 2016 2:53 pm

Operator: RJP

Sample : ALCS1UG-112716

Inst : MSD #1

Misc : AN23_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 28 06:59:38 2016

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.48	128	27668	1.00	ppb	-0.08
35) 1,4-difluorobenzene	11.78	114	127234	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.34	117	111596	1.00	ppb	-0.04

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	82066	0.98	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	98.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.95	41	18382	0.92	ppb	86
3) Freon 12	4.00	85	108824	1.05	ppb	100
4) Chloromethane	4.19	50	23376	0.98	ppb	98
5) Freon 114	4.18	85	70565	1.02	ppb	97
6) Vinyl Chloride	4.36	62	19606	0.92	ppb	93
7) Butane	4.46	43	27349	1.02	ppb	94
8) 1,3-butadiene	4.46	39	21034	1.01	ppb	91
9) Bromomethane	4.80	94	24969	1.03	ppb	84
10) Chloroethane	4.95	64	8585	0.97	ppb	# 64
11) Ethanol	5.08	45	8448	0.96	ppb	79
12) Acrolein	5.63	56	7026	0.98	ppb	# 66
13) Vinyl Bromide	5.28	106	25891	1.02	ppb	95
14) Freon 11	5.55	101	85267	1.06	ppb	96
15) Acetone	5.75	58	14924	0.88	ppb	# 1
16) Pentane	5.80	42	21840	0.98	ppb	# 22
17) Isopropyl alcohol	5.84	45	32224	0.96	ppb	# 100
18) 1,1-dichloroethene	6.29	96	25761	0.98	ppb	86
19) Freon 113	6.47	101	62926	1.01	ppb	83
20) t-Butyl alcohol	6.56	59	52553	0.81	ppb	# 92
21) Methylene chloride	6.75	84	45511	0.79	ppb	95
22) Allyl chloride	6.73	41	24768	0.81	ppb	86
23) Carbon disulfide	6.90	76	68313	0.99	ppb	98
24) trans-1,2-dichloroethene	7.66	61	37145	0.97	ppb	89
25) methyl tert-butyl ether	7.71	73	77655	0.90	ppb	93
26) 1,1-dichloroethane	8.09	63	45813	0.95	ppb	96
27) Vinyl acetate	8.09	43	47007	0.80	ppb	96
28) Methyl Ethyl Ketone	8.61	72	11024	1.01	ppb	# 22
29) cis-1,2-dichloroethene	9.03	61	35746	0.96	ppb	79
30) Hexane	8.60	57	33371	0.91	ppb	95
31) Ethyl acetate	9.20	43	41364	0.87	ppb	91
32) Chloroform	9.64	83	70883	1.01	ppb	96
33) Tetrahydrofuran	9.85	42	20432	0.89	ppb	95
34) 1,2-dichloroethane	10.76	62	49415	0.98	ppb	87
36) 1,1,1-trichloroethane	10.43	97	70302	0.90	ppb	99
37) Cyclohexane	11.14	56	31847	0.88	ppb	# 51
38) Carbon tetrachloride	11.10	117	59811	0.84	ppb	88
39) Benzene	11.06	78	74767	0.97	ppb	94
40) Methyl methacrylate	12.66	41	27070	0.87	ppb	94
41) 1,4-dioxane	12.72	88	17814	1.03	ppb	89
42) 2,2,4-trimethylpentane	11.91	57	103241	0.94	ppb	96
43) Heptane	12.26	43	36469	0.89	ppb	97
44) Trichloroethene	12.40	130	41018	0.92	ppb	90
45) 1,2-dichloropropane	12.52	63	25111	0.93	ppb	95

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

AN112704.D AN23_1UG.M

Wed Dec 28 15:48:24 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA2\AN112704.D
 Acq On : 27 Nov 2016 2:53 pm
 Sample : ALCS1UG-112716
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:38 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.86	83	66105	1.04	ppb	95
47) cis-1,3-dichloropropene	13.64	75	40876	0.90	ppb	92
48) trans-1,3-dichloropropene	14.38	75	33327	0.72	ppb	75
49) 1,1,2-trichloroethane	14.70	97	35328	1.00	ppb	98
51) Toluene	14.44	92	55905	0.97	ppb	99
52) Methyl Isobutyl Ketone	13.58	43	50152	0.90	ppb	95
53) Dibromochloromethane	15.37	129	65859m	1.06	ppb	
54) Methyl Butyl Ketone	14.87	43	47587	0.91	ppb	89
55) 1,2-dibromoethane	15.62	107	57443	0.98	ppb	95
56) Tetrachloroethylene	15.43	164	47082	1.01	ppb	92
57) Chlorobenzene	16.38	112	84937	1.00	ppb	91
58) 1,1,1,2-tetrachloroethane	16.49	131	42628	0.91	ppb	98
59) Ethylbenzene	16.63	91	137309	0.98	ppb	93
60) m&p-xylene	16.82	91	222731	1.97	ppb	94
61) Nonane	17.17	43	53852	0.88	ppb	99
62) Styrene	17.24	104	78627	0.98	ppb	79
63) Bromoform	17.36	173	53134	0.98	ppb	97
64) o-xylene	17.27	91	121903	0.98	ppb	95
65) Cumene	17.80	105	160289	1.01	ppb	96
67) 1,1,2,2-tetrachloroethane	17.71	83	70212	1.04	ppb	98
68) Propylbenzene	18.32	91	177138m	0.97	ppb	
69) 2-Chlorotoluene	18.37	91	112948m	0.96	ppb	
70) 4-ethyltoluene	18.49	105	150773m	1.03	ppb	
71) 1,3,5-trimethylbenzene	18.54	105	136599m	0.99	ppb	
72) 1,2,4-trimethylbenzene	18.98	105	125886	0.98	ppb	97
73) 1,3-dichlorobenzene	19.27	146	84477	0.98	ppb	91
74) benzyl chloride	19.34	91	66119	0.74	ppb	97
75) 1,4-dichlorobenzene	19.40	146	81561	0.96	ppb	93
76) 1,2,3-trimethylbenzene	19.44	105	126177	1.02	ppb	93
77) 1,2-dichlorobenzene	19.72	146	80869	1.01	ppb	96
78) 1,2,4-trichlorobenzene	21.61	180	46957	0.89	ppb	96
79) Naphthalene	21.81	128	114480	0.77	ppb	94
80) Hexachloro-1,3-butadiene	21.92	225	75467	1.05	ppb	95

Data File : C:\HPCHEM\1\DATA2\AN112803.D
 Acq On : 28 Nov 2016 10:28 am
 Sample : ALCS1UG-112816
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 29 07:16:43 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	9.49	128	19643	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	87844	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.34	117	79321	1.00	ppb	-0.04

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	57195	0.96	ppb	-0.04
Spiked Amount	1.000	Range	70 - 130	Recovery	=	96.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.93	41	14371	1.01	ppb	90
3) Freon 12	3.99	85	86013	1.17	ppb	99
4) Chloromethane	4.18	50	18127	1.07	ppb	98
5) Freon 114	4.18	85	57557	1.17	ppb	98
6) Vinyl Chloride	4.37	62	15778	1.04	ppb	97
7) Butane	4.46	43	21484	1.13	ppb	96
8) 1,3-butadiene	4.46	39	16520	1.11	ppb	88
9) Bromomethane	4.80	94	20315	1.18	ppb	91
10) Chloroethane	4.96	64	6678	1.07	ppb	# 69
11) Ethanol	5.08	45	6096	0.98	ppb	89
12) Acrolein	5.64	56	4888	0.96	ppb	74
13) Vinyl Bromide	5.29	106	19014	1.05	ppb	98
14) Freon 11	5.55	101	73642m	1.29	ppb	
15) Acetone	5.75	58	11262	0.93	ppb	# 1
16) Pentane	5.81	42	17172	1.08	ppb	# 22
17) Isopropyl alcohol	5.86	45	25870	1.09	ppb	# 100
18) 1,1-dichloroethene	6.29	96	17966	0.96	ppb	# 78
19) Freon 113	6.48	101	45887	1.04	ppb	84
20) t-Butyl alcohol	6.56	59	34055	0.74	ppb	# 76
21) Methylene chloride	6.76	84	32408	0.79	ppb	96
22) Allyl chloride	6.74	41	17798	0.82	ppb	83
23) Carbon disulfide	6.90	76	49276	1.00	ppb	99
24) trans-1,2-dichloroethene	7.67	61	27122	1.00	ppb	93
25) methyl tert-butyl ether	7.71	73	50433	0.82	ppb	87
26) 1,1-dichloroethane	8.11	63	34506	1.01	ppb	96
27) Vinyl acetate	8.10	43	35742	0.85	ppb	97
28) Methyl Ethyl Ketone	8.62	72	7626	0.98	ppb	# 1
29) cis-1,2-dichloroethene	9.03	61	25692	0.97	ppb	83
30) Hexane	8.61	57	24648	0.95	ppb	97
31) Ethyl acetate	9.21	43	30731	0.91	ppb	91
32) Chloroform	9.64	83	52497	1.05	ppb	95
33) Tetrahydrofuran	9.86	42	14753	0.90	ppb	97
34) 1,2-dichloroethane	10.77	62	37971	1.06	ppb	89
36) 1,1,1-trichloroethane	10.44	97	50025	0.93	ppb	97
37) Cyclohexane	11.14	56	23026	0.92	ppb	# 46
38) Carbon tetrachloride	11.10	117	49149	1.00	ppb	88
39) Benzene	11.07	78	52879	1.00	ppb	96
40) Methyl methacrylate	12.66	41	20361	0.94	ppb	95
41) 1,4-dioxane	12.72	88	13806	1.15	ppb	84
42) 2,2,4-trimethylpentane	11.92	57	73493	0.97	ppb	98
43) Heptane	12.27	43	26022	0.92	ppb	93
44) Trichloroethene	12.42	130	29409	0.95	ppb	91
45) 1,2-dichloropropane	12.53	63	18055	0.97	ppb	96

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

Data File : C:\HPCHEM\1\DATA2\AN112803.D
 Acq On : 28 Nov 2016 10:28 am
 Sample : ALCS1UG-112816
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 29 07:16:43 2016

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.86	83	53008	1.21	ppb	98
47) cis-1,3-dichloropropene	13.65	75	28000	0.89	ppb	89
48) trans-1,3-dichloropropene	14.39	75	23324	0.73	ppb	79
49) 1,1,2-trichloroethane	14.70	97	26285	1.07	ppb	97
51) Toluene	14.44	92	40495	0.99	ppb	98
52) Methyl Isobutyl Ketone	13.58	43	39965	1.01	ppb	95
53) Dibromochloromethane	15.38	129	53815m	1.22	ppb	
54) Methyl Butyl Ketone	14.88	43	36556	0.98	ppb	88
55) 1,2-dibromoethane	15.62	107	41850	1.01	ppb	97
56) Tetrachloroethylene	15.43	164	32489	0.99	ppb	88
57) Chlorobenzene	16.39	112	60809	1.01	ppb	95
58) 1,1,1,2-tetrachloroethane	16.49	131	32405	0.97	ppb	97
59) Ethylbenzene	16.63	91	98599	0.99	ppb	92
60) m&p-xylene	16.83	91	160390	2.00	ppb	93
61) Nonane	17.18	43	39363	0.91	ppb	98
62) Styrene	17.25	104	53804	0.95	ppb	76
63) Bromoform	17.37	173	44391	1.15	ppb	98
64) o-xylene	17.28	91	83803	0.95	ppb	93
65) Cumene	17.81	105	111740	0.99	ppb	97
67) 1,1,2,2-tetrachloroethane	17.72	83	52844	1.10	ppb	97
68) Propylbenzene	18.33	91	119880m	0.92	ppb	
69) 2-Chlorotoluene	18.37	91	92030m	1.10	ppb	
70) 4-ethyltoluene	18.49	105	105451m	1.01	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	95646m	0.97	ppb	
72) 1,2,4-trimethylbenzene	18.99	105	89778	0.98	ppb	99
73) 1,3-dichlorobenzene	19.28	146	58423	0.96	ppb	93
74) benzyl chloride	19.35	91	44317m	0.70	ppb	
75) 1,4-dichlorobenzene	19.41	146	58174	0.96	ppb	95
76) 1,2,3-trimethylbenzene	19.44	105	89826	1.02	ppb	95
77) 1,2-dichlorobenzene	19.73	146	55269	0.97	ppb	97
78) 1,2,4-trichlorobenzene	21.62	180	33754	0.90	ppb	98
79) Naphthalene	21.82	128	83182	0.79	ppb	94
80) Hexachloro-1,3-butadiene	21.92	225	53704	1.05	ppb	93

Data File : C:\HPCHEM\1\DATA2\AN112725.D

Vial: 9

Acq On : 28 Nov 2016 4:49 am

Operator: RJP

Sample : ALCS1UGD-112716

Inst : MSD #1

Misc : AN23_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 28 06:59:59 2016

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	9.48	128	26130	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	114607	1.00	ppb	-0.06
50) Chlorobenzene-d5	16.34	117	99370	1.00	ppb	-0.04

System Monitoring Compounds

66) Bromofluorobenzene	17.92	95	71274	0.95	ppb	-0.04
Spiked Amount	1.000	Range 70 - 130	Recovery	=	95.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.94	41	15796	0.84	ppb	79
3) Freon 12	3.99	85	101120	1.03	ppb	100
4) Chloromethane	4.18	50	20605	0.92	ppb	94
5) Freon 114	4.19	85	67382	1.03	ppb	99
6) Vinyl Chloride	4.37	62	19150	0.95	ppb	94
7) Butane	4.46	43	23626	0.94	ppb	94
8) 1,3-butadiene	4.47	39	18614	0.94	ppb	94
9) Bromomethane	4.80	94	24246	1.06	ppb	89
10) Chloroethane	4.96	64	7933	0.95	ppb	# 58
11) Ethanol	5.10	45	8615	1.04	ppb	95
12) Acrolein	5.63	56	6480	0.96	ppb	# 72
13) Vinyl Bromide	5.29	106	24205	1.01	ppb	99
14) Freon 11	5.54	101	76507	1.01	ppb	97
15) Acetone	5.75	58	14302	0.89	ppb	# 1
16) Pentane	5.81	42	20330	0.96	ppb	# 24
17) Isopropyl alcohol	5.85	45	30562	0.96	ppb	# 100
18) 1,1-dichloroethene	6.29	96	24280	0.98	ppb	90
19) Freon 113	6.48	101	59536	1.01	ppb	85
20) t-Butyl alcohol	6.56	59	46169	0.76	ppb	# 78
21) Methylene chloride	6.75	84	42876	0.78	ppb	94
22) Allyl chloride	6.74	41	22860	0.79	ppb	86
23) Carbon disulfide	6.90	76	63022	0.96	ppb	100
24) trans-1,2-dichloroethene	7.67	61	33661	0.93	ppb	91
25) methyl tert-butyl ether	7.70	73	63437	0.78	ppb	86
26) 1,1-dichloroethane	8.10	63	41886	0.92	ppb	95
27) Vinyl acetate	8.09	43	41066	0.74	ppb	94
28) Methyl Ethyl Ketone	8.62	72	9879	0.96	ppb	# 1
29) cis-1,2-dichloroethene	9.03	61	33395	0.95	ppb	82
30) Hexane	8.60	57	31622	0.91	ppb	97
31) Ethyl acetate	9.20	43	37993	0.84	ppb	91
32) Chloroform	9.64	83	62795	0.95	ppb	99
33) Tetrahydrofuran	9.85	42	18217	0.84	ppb	95
34) 1,2-dichloroethane	10.76	62	44166	0.93	ppb	90
36) 1,1,1-trichloroethane	10.45	97	55977	0.79	ppb	99
37) Cyclohexane	11.14	56	29240	0.89	ppb	# 57
38) Carbon tetrachloride	11.09	117	49992	0.78	ppb	86
39) Benzene	11.07	78	66144	0.95	ppb	97
40) Methyl methacrylate	12.66	41	24570	0.87	ppb	96
41) 1,4-dioxane	12.73	88	19302	1.24	ppb	84
42) 2,2,4-trimethylpentane	11.91	57	92489	0.94	ppb	94
43) Heptane	12.26	43	30753	0.83	ppb	91
44) Trichloroethene	12.40	130	36482	0.91	ppb	92
45) 1,2-dichloropropane	12.53	63	22157	0.92	ppb	99

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

AN112725.D AN23_1UG.M

Wed Dec 28 15:48:31 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA2\AN112725.D
 Acq On : 28 Nov 2016 4:49 am
 Sample : ALCS1UGD-112716
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 28 06:59:59 2016

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

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.86	83	58033	1.01	ppb	95
47) cis-1,3-dichloropropene	13.64	75	32055	0.78	ppb	90
48) trans-1,3-dichloropropene	14.38	75	27630m	0.66	ppb	
49) 1,1,2-trichloroethane	14.69	97	30691	0.96	ppb	99
51) Toluene	14.43	92	50137	0.97	ppb	99
52) Methyl Isobutyl Ketone	13.58	43	54321	1.10	ppb	97
53) Dibromochloromethane	15.37	129	58695m	1.07	ppb	
54) Methyl Butyl Ketone	14.87	43	46356	1.00	ppb	91
55) 1,2-dibromoethane	15.62	107	50222	0.97	ppb	96
56) Tetrachloroethylene	15.43	164	39796	0.96	ppb	87
57) Chlorobenzene	16.39	112	72927	0.97	ppb	94
58) 1,1,1,2-tetrachloroethane	16.49	131	36937	0.89	ppb	98
59) Ethylbenzene	16.63	91	122241	0.98	ppb	94
60) m&p-xylene	16.83	91	193486	1.92	ppb	96
61) Nonane	17.17	43	45359	0.83	ppb	94
62) Styrene	17.24	104	67291	0.95	ppb	81
63) Bromoform	17.37	173	49558	1.02	ppb	97
64) o-xylene	17.27	91	107458	0.97	ppb	98
65) Cumene	17.80	105	137979	0.98	ppb	95
67) 1,1,2,2-tetrachloroethane	17.71	83	62441	1.04	ppb	96
68) Propylbenzene	18.32	91	162632m	1.00	ppb	
69) 2-Chlorotoluene	18.37	91	100597m	0.96	ppb	
70) 4-ethyltoluene	18.48	105	128660m	0.99	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	117129m	0.95	ppb	
72) 1,2,4-trimethylbenzene	18.98	105	111773	0.97	ppb	99
73) 1,3-dichlorobenzene	19.27	146	71625	0.94	ppb	93
74) benzyl chloride	19.35	91	52910m	0.67	ppb	
75) 1,4-dichlorobenzene	19.41	146	73363	0.97	ppb	96
76) 1,2,3-trimethylbenzene	19.44	105	109456	0.99	ppb	92
77) 1,2-dichlorobenzene	19.72	146	67529	0.94	ppb	96
78) 1,2,4-trichlorobenzene	21.61	180	42401	0.90	ppb	94
79) Naphthalene	21.82	128	107381	0.81	ppb	95
80) Hexachloro-1,3-butadiene	21.92	225	67490	1.06	ppb	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112725.D AN23_1UG.M Wed Dec 28 15:48:32 2016 MSD1

Data File : C:\HPCHEM\1\DATA2\AN112819.D
 Acq On : 28 Nov 2016 8:42 pm
 Sample : ALCS1UGD-112816
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 29 06:23:55 2016

Vial: 20
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	9.48	128	15560	1.00	ppb	-0.07
35) 1,4-difluorobenzene	11.78	114	71068	1.00	ppb	-0.05
50) Chlorobenzene-d5	16.34	117	62512	1.00	ppb	-0.04

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)
66) Bromofluorobenzene	17.92	95	47500	1.01	ppb	-0.04
Spiked Amount	1.000	Range	70 ~ 130	Recovery	=	101.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	3.94	41	11491	1.02	ppb	80
3) Freon 12	3.99	85	72263	1.24	ppb	99
4) Chloromethane	4.18	50	15423	1.15	ppb	99
5) Freon 114	4.19	85	46196m A	1.19	ppb	
6) Vinyl Chloride	4.37	62	13135	1.10	ppb	91
7) Butane	4.47	43	17443	1.16	ppb	95
8) 1,3-butadiene	4.47	39	14288	1.22	ppb	86
9) Bromomethane	4.80	94	16759	1.23	ppb	85
10) Chloroethane	4.97	64	5573	1.12	ppb	# 60
11) Ethanol	5.08	45	5058	1.03	ppb	94
12) Acrolein	5.64	56	4053	1.00	ppb	# 56
13) Vinyl Bromide	5.28	106	17989	1.26	ppb	96
14) Freon 11	5.55	101	62922	1.40	ppb	98
15) Acetone	5.75	58	10001	1.05	ppb	# 1
16) Pentane	5.81	42	15194	1.21	ppb	# 23
17) Isopropyl alcohol	5.86	45	20498	1.09	ppb	# 100
18) 1,1-dichloroethene	6.30	96	14139	0.95	ppb	# 73
19) Freon 113	6.48	101	37686	1.08	ppb	87
20) t-Butyl alcohol	6.56	59	26573	0.73	ppb	# 88
21) Methylene chloride	6.76	84	25883	0.79	ppb	96
22) Allyl chloride	6.73	41	14503	0.84	ppb	85
23) Carbon disulfide	6.90	76	40408	1.04	ppb	99
24) trans-1,2-dichloroethene	7.68	61	22001	1.03	ppb	95
25) methyl tert-butyl ether	7.71	73	38911	0.80	ppb	81
26) 1,1-dichloroethane	8.10	63	28001	1.04	ppb	97
27) Vinyl acetate	8.10	43	28650	0.86	ppb	98
28) Methyl Ethyl Ketone	8.62	72	6004	0.98	ppb	# 2
29) cis-1,2-dichloroethene	9.02	61	21229	1.01	ppb	83
30) Hexane	8.61	57	18855	0.91	ppb	89
31) Ethyl acetate	9.21	43	26248	0.98	ppb	95
32) Chloroform	9.65	83	43091	1.09	ppb	97
33) Tetrahydrofuran	9.86	42	12013	0.93	ppb	94
34) 1,2-dichloroethane	10.77	62	30782	1.08	ppb	90
36) 1,1,1-trichloroethane	10.45	97	40819	0.93	ppb	97
37) Cyclohexane	11.16	56	18781	0.92	ppb	# 46
38) Carbon tetrachloride	11.10	117	41010	1.03	ppb	87
39) Benzene	11.07	78	43361	1.01	ppb	93
40) Methyl methacrylate	12.67	41	15834	0.91	ppb	95
41) 1,4-dioxane	12.72	88	9244	0.96	ppb	85
42) 2,2,4-trimethylpentane	11.92	57	60069	0.98	ppb	96
43) Heptane	12.27	43	20476	0.89	ppb	94
44) Trichloroethene	12.41	130	23591	0.95	ppb	93
45) 1,2-dichloropropane	12.53	63	14840	0.99	ppb	97

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

Data File : C:\HPCHEM\1\DATA2\AN112819.D
 Acq On : 28 Nov 2016 8:42 pm
 Sample : ALCS1UGD-112816
 Misc : AN23_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 29 06:23:55 2016

Vial: 20
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sun Nov 27 12:25:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	12.87	83	43692	1.23	ppb	95
47) cis-1,3-dichloropropene	13.64	75	22435	0.88	ppb	90
48) trans-1,3-dichloropropene	14.39	75	18307	0.71	ppb	78
49) 1,1,2-trichloroethane	14.70	97	21190	1.07	ppb	95
51) Toluene	14.44	92	32630	1.01	ppb	98
52) Methyl Isobutyl Ketone	13.59	43	27888	0.90	ppb	96
53) Dibromochloromethane	15.38	129	43589m ^f	1.26	ppb	
54) Methyl Butyl Ketone	14.88	43	23758	0.81	ppb	89
55) 1,2-dibromoethane	15.62	107	34841	1.07	ppb	93
56) Tetrachloroethylene	15.43	164	26413	1.02	ppb	90
57) Chlorobenzene	16.39	112	48272	1.02	ppb	91
58) 1,1,1,2-tetrachloroethane	16.50	131	28193	1.08	ppb	97
59) Ethylbenzene	16.63	91	78834	1.00	ppb	92
60) m&p-xylene	16.83	91	126812	2.01	ppb	93
61) Nonane	17.17	43	31420	0.92	ppb	96
62) Styrene	17.25	104	42410	0.95	ppb	74
63) Bromoform	17.37	173	36762	1.21	ppb	97
64) o-xylene	17.27	91	75234	1.08	ppb	99
65) Cumene	17.81	105	90832	1.02	ppb	96
67) 1,1,2,2-tetrachloroethane	17.72	83	42967	1.14	ppb	98
68) Propylbenzene	18.33	91	103832m	1.02	ppb	
69) 2-Chlorotoluene	18.37	91	72014m	1.09	ppb	
70) 4-ethyltoluene	18.49	105	83340m	1.02	ppb	
71) 1,3,5-trimethylbenzene	18.55	105	77911m	1.01	ppb	
72) 1,2,4-trimethylbenzene	18.98	105	70230	0.97	ppb	100
73) 1,3-dichlorobenzene	19.28	146	46624	0.97	ppb	93
74) benzyl chloride	19.35	91	34895m	0.70	ppb	
75) 1,4-dichlorobenzene	19.41	146	47124	0.99	ppb	98
76) 1,2,3-trimethylbenzene	19.46	105	70948	1.02	ppb	92
77) 1,2-dichlorobenzene	19.73	146	45995	1.02	ppb	96
78) 1,2,4-trichlorobenzene	21.61	180	24762	0.83	ppb	94
79) Naphthalene	21.82	128	58961	0.71	ppb	94
80) Hexachloro-1,3-butadiene	21.92	225	43558	1.09	ppb	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN112819.D AN23_1UG.M Wed Dec 28 15:48:49 2016 MSD1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INJECTION LOG

Injection Log

Instrument # 1
 Internal Standard Stock # A1743
 Standard Stock # 1744
 LCS Stock # 1745
 Method Ref: EPA TC-15 / Jan, 1999

Directory: C:\HPCHEM1\DATA2

ne	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
31	7	An112307.d	1.	A1UG_1.50	AN23_1UG	23 Nov 2016 19:40
32	8	An112308.d	1.	A1UG_1.25	AN23_1UG	23 Nov 2016 20:20
33	9	An112309.d	1.	A1UG_1.0	AN23_1UG	23 Nov 2016 20:58
34	10	An112310.d	1.	A1UG_0.75	AN23_1UG	23 Nov 2016 21:35
35	11	An112311.d	1.	A1UG_0.50	AN23_1UG	23 Nov 2016 22:12
36	12	An112312.d	1.	A1UG_0.30	AN23_1UG	23 Nov 2016 22:49
37	13	An112313.d	1.	A1UG_0.15	AN23_1UG	23 Nov 2016 23:24
38	14	An112314.d	1.	A1UG_0.10	AN23_1UG	24 Nov 2016 00:00
39	15	An112315.d	1.	A1UG_0.04	AN23_1UG	24 Nov 2016 00:35
40		An112316.d	1.	No MS or GC data present		
11	1	An112701.d	1.	BFB1UG	AN23_1UG	27 Nov 2016 12:24
12	2	An112702.d	1.	A1UG	AN23_1UG	27 Nov 2016 13:11
13	3	An112703.d	1.	A1UG_1.0	AN23_1UG	27 Nov 2016 13:55
14	4	An112704.d	1.	ALCS1UG-112716	AN23_1UG	27 Nov 2016 14:53
15	5	An112705.d	1.	AMB1UG-112716	AN23_1UG	27 Nov 2016 15:28
16	21	An112706.d	1.	C1611063-001A	AN23_1UG	27 Nov 2016 16:06
17	22	An112707.d	1.	C1611063-002A	AN23_1UG	27 Nov 2016 16:45
18	23	An112708.d	1.	C1611063-003A	AN23_1UG	27 Nov 2016 17:24
19	24	An112709.d	1.	C1611063-004A	AN23_1UG	27 Nov 2016 18:05
20	25	An112710.d	1.	C1611063-005A	AN23_1UG	27 Nov 2016 18:46
21	26	An112711.d	1.	C1611063-006A	AN23_1UG	27 Nov 2016 19:25
22	27	An112712.d	1.	C1611062-004A	AN23_1UG	27 Nov 2016 20:07
23	28	An112713.d	1.	C1611062-005A	AN23_1UG	27 Nov 2016 20:46
24	29	An112714.d	1.	C1611062-006A	AN23_1UG	27 Nov 2016 21:25
25	1	An112715.d	1.	C1611040-002A	AN23_1UG	27 Nov 2016 22:04
26	2	An112716.d	1.	C1611040-004A	AN23_1UG	27 Nov 2016 22:43
27	3	An112717.d	1.	C1611040-006A	AN23_1UG	27 Nov 2016 23:22
28	4	An112718.d	1.	C1611040-007A	AN23_1UG	28 Nov 2016 00:01
29	5	An112719.d	1.	C1611040-001A	AN23_1UG	28 Nov 2016 00:40
30	6	An112720.d	1.	C1611040	AN23_1UG	28 Nov 2016 01:22
31	6	An112721.d	1.	C1611040	AN23_1UG	28 Nov 2016 02:07
32	6	An112722.d	1.	C1611040	AN23_1UG	28 Nov 2016 02:53
33	7	An112723.d	1.	C1611040-005A	AN23_1UG	28 Nov 2016 03:31
34	8	An112724.d	1.	C1611040-008A	AN23_1UG	28 Nov 2016 04:10
35	9	An112725.d	1.	ALCS1UGD-112716	AN23_1UG	28 Nov 2016 04:49
36	9	An112726.d	1.	C1611062-001A	AN23_1UG	28 Nov 2016 05:27
37	10	An112727.d	1.	C1611062-002A	AN23_1UG	28 Nov 2016 06:08
38	11	An112728.d	1.	C1611062-003A	AN23_1UG	28 Nov 2016 06:47
39	12	An112729.d	1.	C1611061-001A	AN23_1UG	28 Nov 2016 07:26
40	41	An112730.d	1.	C1611061-002A	AN23_1UG	28 Nov 2016 08:05
41		An112731.d	1.	No MS or GC data present		
42	1	An112801.d	1.	BFB1UG	AN23_1UG	28 Nov 2016 08:42
43	2	An112802.d	1.	A1UG_1.0	AN23_1UG	28 Nov 2016 09:30
44	3	An112803.d	1.	ALCS1UG-112816	AN23_1UG	28 Nov 2016 10:28
45	4	An112804.d	1.	AMB1UG-112816	AN23_1UG	28 Nov 2016 11:03
46	5	An112805.d	1.	C1611040-003A	AN23_1UG	28 Nov 2016 11:42
47	6	An112806.d	1.	C1611040-003A MS	AN23_1UG	28 Nov 2016 12:25
48	7	An112807.d	1.	C1611040-003A MSD	AN23_1UG	28 Nov 2016 13:11
49	9	An112808.d	1.	C1611040-005A 9x	AN23_1UG	28 Nov 2016 13:50
50	10	An112809.d	1.	C1611040-005A 90x	AN23_1UG	28 Nov 2016 14:26
51	11	An112810.d	1.	C1611063-001A 10x	AN23_1UG	28 Nov 2016 15:04
52	12	An112811.d	1.	C1611063-002A 10x	AN23_1UG	28 Nov 2016 15:51
53	13	An112812.d	1.	C1611063-003A 10x	AN23_1UG	28 Nov 2016 16:27
54	14	An112813.d	1.	C1611063-004A 10x	AN23_1UG	28 Nov 2016 17:03
55	15	An112814.d	1.	C1611063-005A 10x	AN23_1UG	28 Nov 2016 17:39

Instrument # 1
 Injection Log
 In-house Standard Stock # A1743
 Standard Stock # 1744
 LCS Stock # 1745
 Method Ref: EPA TO-15 / Jan. 1999

Directory: C:\HPCHEM1\DATA2

ne	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
36	16	An112815.d	1.	C1611062	AN23_1UG -004A 90x	28 Nov 2016 18:15
37	17	An112816.d	1.	C1611040	AN23_1UG -002A 10x	28 Nov 2016 18:51
38	18	An112817.d	1.	C1611040	AN23_1UG -004A 10x	28 Nov 2016 19:27
39	19	An112818.d	1.	C1611040	AN23_1UG -006A 10x	28 Nov 2016 20:03
30	20	An112819.d	1.	ALCS1UGD-112816	AN23_1UG	28 Nov 2016 20:42
31	21	An112820.d	1.	C1611040	AN23_1UG -001A 10x	28 Nov 2016 21:17
32	22	An112821.d	1.	C1611040-003A 10x	AN23_1UG	28 Nov 2016 21:54
33	23	An112822.d	1.	C1611040	AN23_1UG -005A 2...	28 Nov 2016 22:30
34	24	An112823.d	1.	C1611040	AN23_1UG -008A 10x	28 Nov 2016 23:06
35	25	An112824.d	1.	C1611062-001A 10x	AN23_1UG	28 Nov 2016 23:42
36	26	An112825.d	1.	C1611062-002A 10x	AN23_1UG	29 Nov 2016 00:18
37	27	An112826.d	1.	C1611062-002A 40x	AN23_1UG	29 Nov 2016 00:54
38	28	An112827.d	1.	C1611062-003A 10x	AN23_1UG	29 Nov 2016 01:30
39	29	An112828.d	1.	C1611061-001A 10x	AN23_1UG	29 Nov 2016 02:06
40	30	An112829.d	1.	C1611061-001A 20x	AN23_1UG	29 Nov 2016 02:41
41	30	An112830.d	1.	C1611061-002A 10x	AN23_1UG	29 Nov 2016 03:17
42	31	An112831.d	1.	C1611061	AN23_1UG -002A 20x	29 Nov 2016 03:53
43	32	An112832.d	1.	C1611040	AN23_1UG -004A 20x	29 Nov 2016 04:29
44	33	An112833.d	1.	C1611040	AN23_1UG -006A 20x	29 Nov 2016 05:04
45	34	An112834.d	1.	C1611062-004A 180x	AN23_1UG	29 Nov 2016 05:40
46		An112835.d	1.	No MS or GC data present		
47	1	An112901.d	1.	BFB1UG	AN23_1UG	29 Nov 2016 06:44
48	2	An112902.d	1.	A1UG_1.0	AN23_1UG	29 Nov 2016 07:35
49	3	An112903.d	1.	ALCS1UG-112916	AN23_1UG	29 Nov 2016 08:21
50	4	An112904.d	1.	AMB1UG-112916	AN23_1UG	29 Nov 2016 08:56
51	1	An112905.d	1.	WAC112916A	AN23_1UG	29 Nov 2016 09:44
52	2	An112906.d	1.	WAC112916B	AN23_1UG	29 Nov 2016 10:21
53	3	An112907.d	1.	WAC112916C	AN23_1UG	29 Nov 2016 10:58
54	21	An112908.d	1.	C1611072-001A	AN23_1UG	29 Nov 2016 11:46
55	22	An112909.d	1.	C1611072-002A	AN23_1UG	29 Nov 2016 12:24
56	23	An112910.d	1.	C1611072-003A	AN23_1UG	29 Nov 2016 13:03
57	24	An112911.d	1.	C1611072-004A	AN23_1UG	29 Nov 2016 13:43
58	25	An112912.d	1.	C1611072-005A	AN23_1UG	29 Nov 2016 14:22
59	26	An112913.d	1.	C1611072-006A	AN23_1UG	29 Nov 2016 15:01
60	27	An112914.d	1.	C1611072-007A	AN23_1UG	29 Nov 2016 15:41
61	28	An112915.d	1.	C1611072-008A	AN23_1UG	29 Nov 2016 16:20
62	29	An112916.d	1.	C1611072-001A 10X	AN23_1UG	29 Nov 2016 16:56
63	30	An112917.d	1.	C1611072-002A 10X	AN23_1UG	29 Nov 2016 17:32
64	31	An112918.d	1.	C1611072-003A 10X	AN23_1UG	29 Nov 2016 18:08
65	32	An112919.d	1.	C1611072	AN23_1UG -003A 20X	29 Nov 2016 18:44
66	33	An112920.d	1.	C1611072-004A 10X	AN23_1UG	29 Nov 2016 19:20
67	34	An112921.d	1.	C1611072-004A 40X	AN23_1UG	29 Nov 2016 19:56
68	35	An112922.d	1.	ALCS1UGD-112916	AN23_1UG	29 Nov 2016 22:06
69	36	An112923.d	1.	BLK	AN23_1UG	29 Nov 2016 22:41
70	1	An112924.d	1.	WAC112916D	AN23_1UG	29 Nov 2016 23:18
71	2	An112925.d	1.	WAC112916E n	AN23_1UG	29 Nov 2016 23:54
72	3	An112926.d	1.	WAC112916F	AN23_1UG	30 Nov 2016 00:31
73	4	An112927.d	1.	WAC112916G	AN23_1UG	30 Nov 2016 01:07
74	5	An112928.d	1.	WAC112916H	AN23_1UG	30 Nov 2016 01:44
75	6	An112929.d	1.	WAC112916I	AN23_1UG	30 Nov 2016 02:20
76	7	An112930.d	1.	WAC112916J	AN23_1UG	30 Nov 2016 02:57
77	8	An112931.d	1.	WAC112916K	AN23_1UG	30 Nov 2016 03:33
78	9	An112932.d	1.	WAC112916L	AN23_1UG	30 Nov 2016 04:10
79		An112933.d	1.	No MS or GC data present		

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-0546	12/1/14	12/8/14	TO15 IUG LCS	A0537	50ppb	0.9	45	1	Z.Z.	
A-0547	12/5/14	12/11/15	TO15 IS	FF-8519		LTINDE	7200 psig	1 ppm	Z.Z.	
A-0548	12/5/14	2/13/15	LCS TO15	"A0098		STD IS NOW LCS		1 ppm	Z.Z.	
A-0549	12/8/14	12/15/14	TO15 IS	A0547	1 ppm	1.5	30	50	W.D.	
A-0550			STD	A0534						
A-0551			LCS	A0548						
A-0552			4PCCH	9519						
A-0553			4PCCHS	A0552	50ppb	3.0	30	5		
A-0554			FORMSD	9520	8.9 ppm	0.25	45	50		
A-0555			SILOX	9584	500ppb	3.0	30	50		
A-0556			SULF	A0270	1 ppm	1.5	30	50		
A-0557			H2S	9667	10 ppm	1.5	30	500		
A-0558			TO15 IUG IS	A0549	50 ppb	0.9	45	1		
A-0559			STD	A0550						
A-0560			LCS	A0551						
A-0561	12/11/14	12/11/15	HYDROGEN STD	Lot # 915229		MSA	1000 psia	0.8%	W.D.	
A-0562	12/15/14	12/15/14	TO15 IS	A0547	1 ppm	1.5	30	50		
A-0563			STD	A0534	1 ppm	1.5	30	50		
A-0564			LCS	A0548						
A-0565			4PCCH	A9519						
A-0566			LCS	A0555	50ppb	3.0	30	5		

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1201	1/15/16	1/23/16	TO15 APH	A1188	1ppm	1.5	30	50	M	
A-1202	↓	↓	TO15106 APH	A1201	50ppb	0.9	45	↓	↓	
A-1203	1/15/16	1/15/17	TO15 MIX	↓	1ppm	LINDE TO15 MIX		1ppm	M	
A-1204	1/18/16	1/18/17	LCS TO15	LL	A0534	STD IS NOW LCS		1ppm	Z.L.	
A-1205	1/18/16	1/25/16	TO15 JS	A1174	1ppm	1.5	30	50ppb	M	
A-1206			↓ LCS	A1204	↓	↓	↓	↓	↓	
A-1207			↓ STD	A1203	↓	↓	↓	↓	↓	
A-1208			TO15 FORM	A0974	11.5ppm	0.20	45	↓	↓	
A-1209			↓ SILOX	A1204	1ppm	3.0	30	↓	↓	
A-1210			↓ GULF	A0276	1ppm	1.5	↓	↓	↓	
A-1211			↓ H2S	A0265	10ppm	↓	↓	500ppb	↓	
A-1212			TO15 4PCH	9519	1ppm	1.5	30	50ppb	↓	
A-1213			↓ 4PCH5	A1212	50ppb	3.0	↓	5ppb	↓	
A-1214			TO15106 IS	A1205	↓	0.9	45	1ppb	↓	
A-1215			↓ STD	A1207	↓	↓	↓	↓	↓	
A-1216			↓ LCS	A1206	↓	↓	↓	↓	↓	
A-1217	1/25/16	2/11/16	TO15 IS	A1174	1ppm	1.5	30	50ppb	WD	
A-1218			↓ STD	A1203	↓	↓	↓	↓	↓	
A-1219			↓ LCS	A1204	↓	↓	↓	↓	↓	
A-1220			↓ 4PCH	9519	↓	↓	↓	↓	↓	
A-1221	↓	↓	↓ 4PCH5	A1220	50ppb	3.0	30	5	↓	

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1285	2/25/16	3/7/16	TO15 H2S	A0269	10 ppm	1.5	30	500	WD	
A-1286			TO15 146 IS	A1277	50 ppb	0.9	45	1		
A-1287			↓	A1278	↓	↓	↓	↓	↓	
A-1288			↓	A1279	↓	↓	↓	↓	↓	
A-1289	3/1/16	3/1/17	TO15 IS	FF-4909	LINDE		2100 psig	1 ppm	WD	
A-1290	3/7/16	3/14/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1291			↓	A1203	↓	↓	↓	↓	↓	
A-1292			LCS	A1204	↓	↓	↓	↓	↓	
A-1293			4PCH	9519	↓	↓	↓	↓	↓	
A-1294			4PCHS	A1293	50 ppb	3.0	30	5		
A-1295			FORM	A0974	11.5 ppm	0.20	45	50		
A-1296			S10X	A1088 A1089	500 ppb	3.0	30	50		
A-1297			S04F	A0270	1 ppm	1.5	30	50		
A-1298			↓	A0269	10 ppm	1.5	30	500		
A-1299			TO15 146 IS	A1290	50 ppb	0.9	45	1		
A-1300			↓	A1291	↓	↓	↓	↓	↓	
A-1301			↓	A1292	↓	↓	↓	↓	↓	
A-1302	3/14/16	3/24/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1303			↓	A1203	↓	↓	↓	↓	↓	
A-1304			LCS	A1204	↓	↓	↓	↓	↓	
A-1305			↓	9519	↓	↓	↓	↓	↓	

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1725	11/17/16	11/24/16	TO15 4PCH	9519	1 ppm	1.5	30	50	WD	
A-1726			4PCH5	A1725	50 ppb	3.0	30	5		
A-1727			FORM	A0974	11.5 ppm	0.20	45	50		
A-1728			SILOX	A1088 A1089	500 ppb	3.0	30	50		
A-1729			SOLF	A0270	1 ppm	1.5	30	50		
A-1730			H2S	A0269	10 ppm	1.5	30	500		
A-1731			TO15 1ug IS	A1722	50 ppb	0.9	45	1		
A-1732			STD	A1723						
A-1733			LCS	A1724						
A-1734	11/24/16	12/1/16	TO15	A1289	1 ppm	1.5	30	50	WD	
A-1735			STD	A1203						
A-1736			LCS	A1204						
A-1737			4PCH	9519						
A-1738			4PCH5	A1737	50 ppb	3.0	30	5		
A-1739			FORM	A0974	11.5 ppm	0.20	45	50		
A-1740			SILOX	A1088 A1089	500 ppb	3.0	30	50		
A-1741			SOLF	A0270	1 ppm	1.5	30	50		
A-1742			H2S	A0269	10 ppm	1.5	30	500		
A-1743			TO15 1ug IS	A1734	50 ppb	0.9	45	1		
A-1744			STD	A1735						
A-1745			LCS	A1736						

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

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
1202	LH L	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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN110306.D
 Acq On : 3 Nov 2016 12:34 pm
 Sample : WAC110316A
 Misc : AO26_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 08 15:11:32 2016

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

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	51628	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.85	114	215735	1.00	ppb	0.01
50) Chlorobenzene-d5	16.39	117	192732	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	17.96	95	109128	0.84	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	84.00%

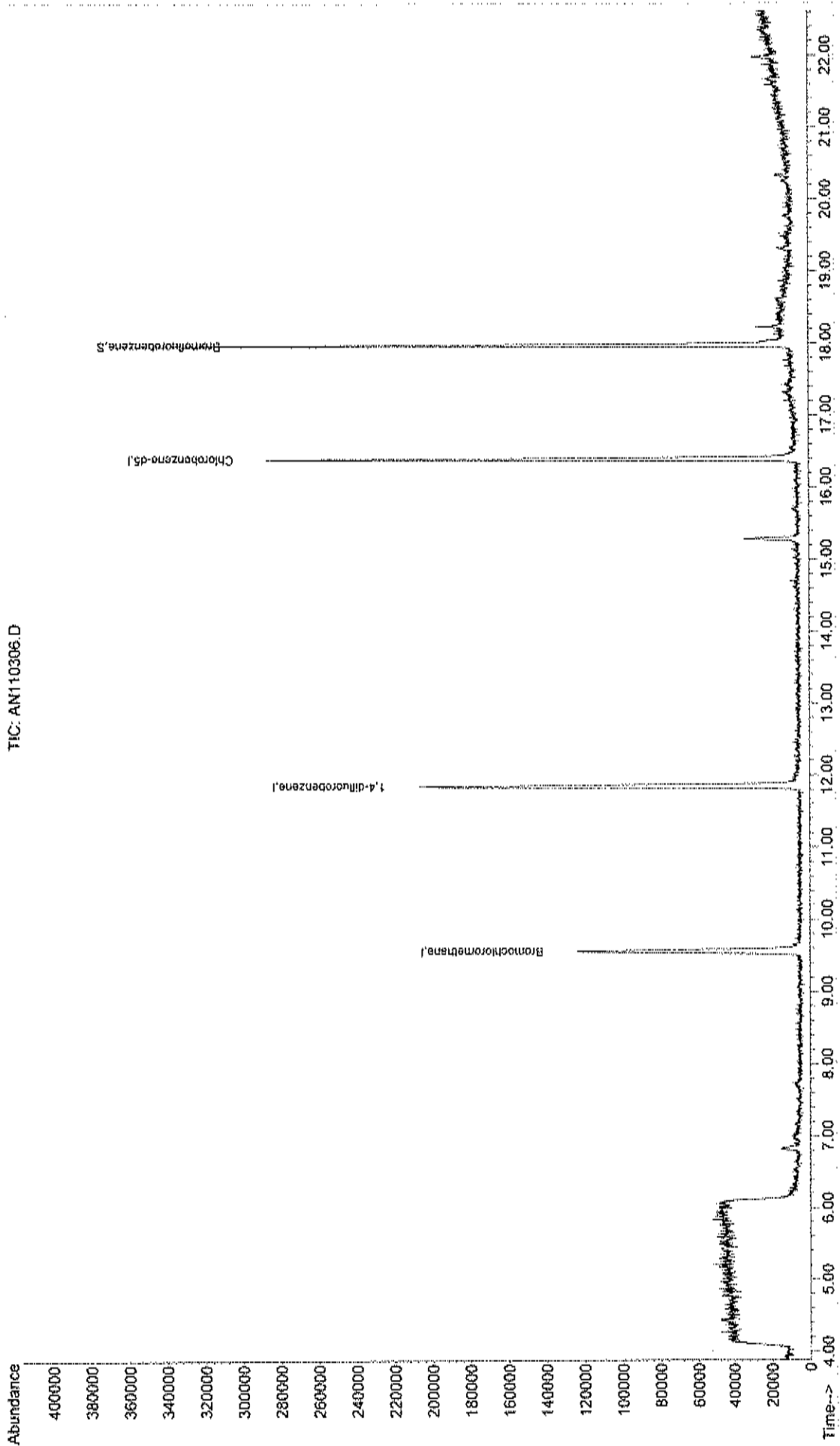
Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA2\AN110306.D
Acq On : 3 Nov 2016 12:34 pm
Sample : WAC110316A
Misc : AO26_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 8 15:11 2016

Vial: 6
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: AO26_1UG.RES

Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Dec 29 08:43:13 2016
Response via : Initial Calibration



TIC: AN110306.D

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN110307.D Vial: 7
 Acq On : 3 Nov 2016 1:10 pm Operator: RJP
 Sample : WAC110316B Inst : MSD #1
 Misc : AO26_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Nov 08 15:11:33 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	46894	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.84	114	198486	1.00	ppb	0.00
50) Chlorobenzene-d5	16.39	117	177747	1.00	ppb	0.00

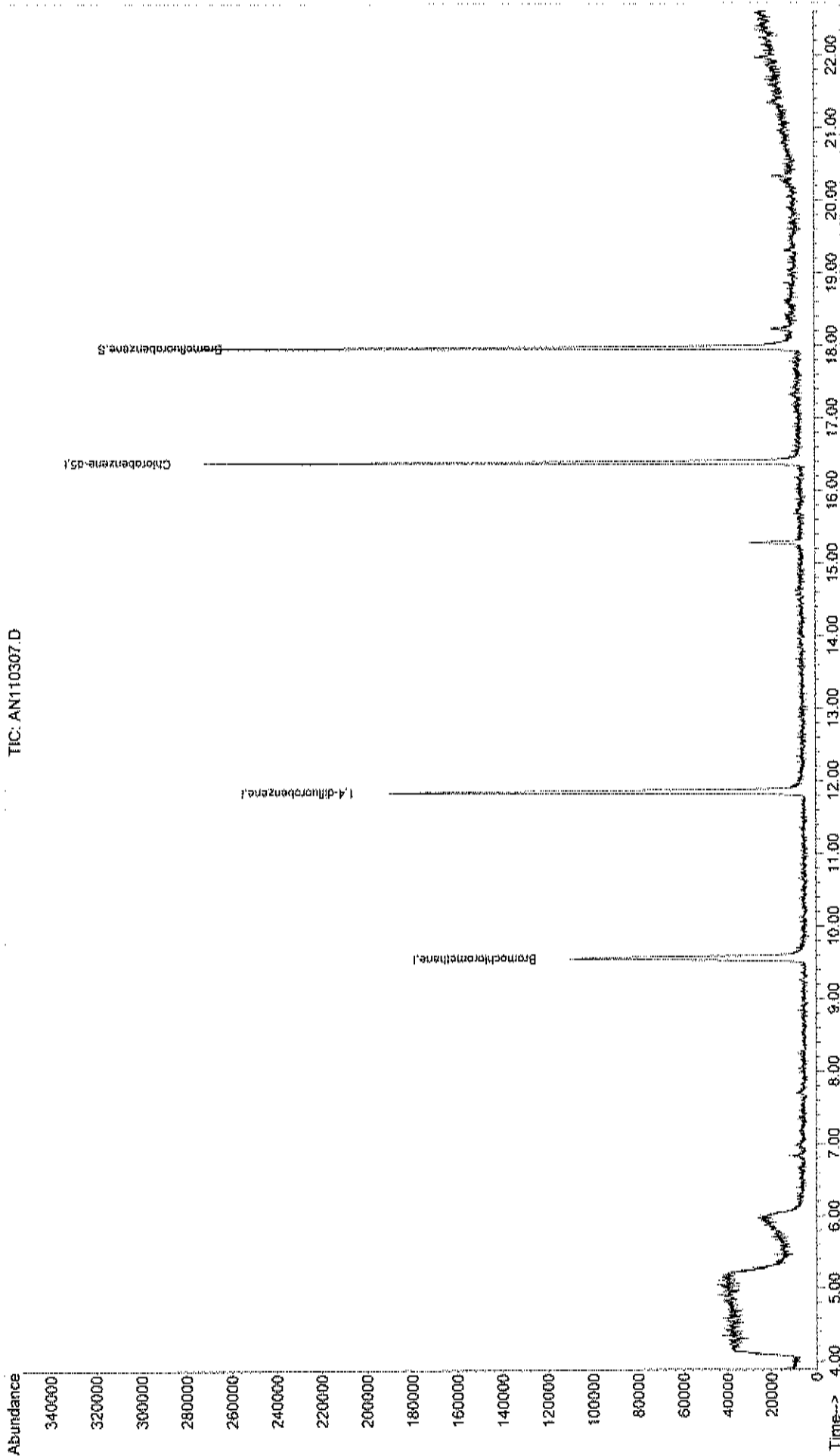
System Monitoring Compounds
 66) Bromofluorobenzene 17.96 95 95638 0.80 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 80.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\ANI10307.D
Acq On : 3 Nov 2016 1:10 pm
Sample : WAC110316B
Misc : AC26_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 8 15:11 2016

Vial: 7
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: AC26_1UG.RBS

Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Dec 29 08:43:13 2016
Response via : Initial Calibration



TIC: ANI10307.D

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\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%

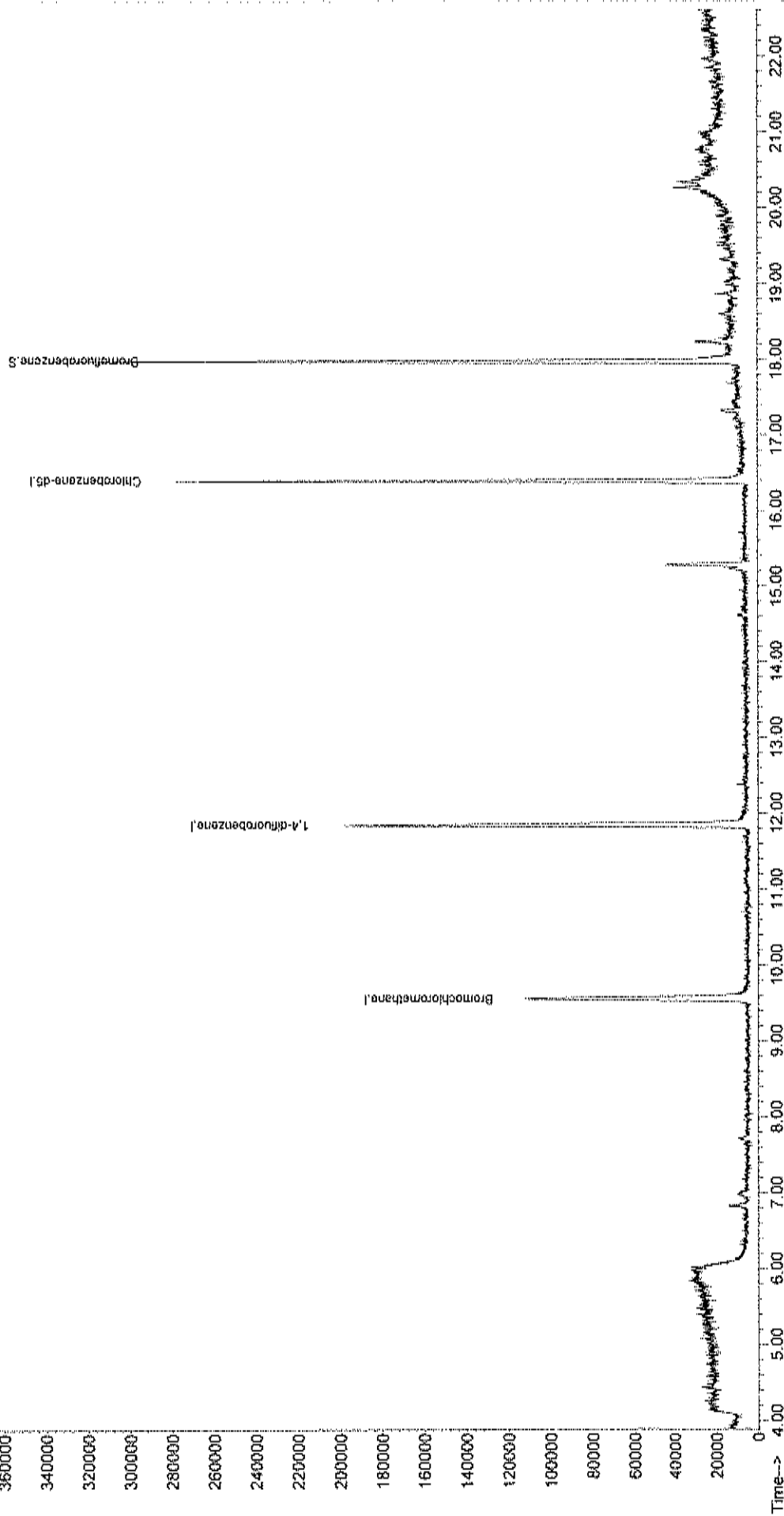
Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\AN110308.D
Acq On : 3 Nov 2016 2:19 pm
Sample : WAC110316C
Misc : AO26_IUG
MS Integration Params: RTEINT.P
Quant Time: Nov 8 15:11 2016

Vial: 8
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: AO26_IUG.RES

Method : C:\HPCHEM\1\METHODS\AD05_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Dec 29 08:43:13 2016
Response via : Initial Calibration

Abundance
TIC: AN110308.D



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\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%

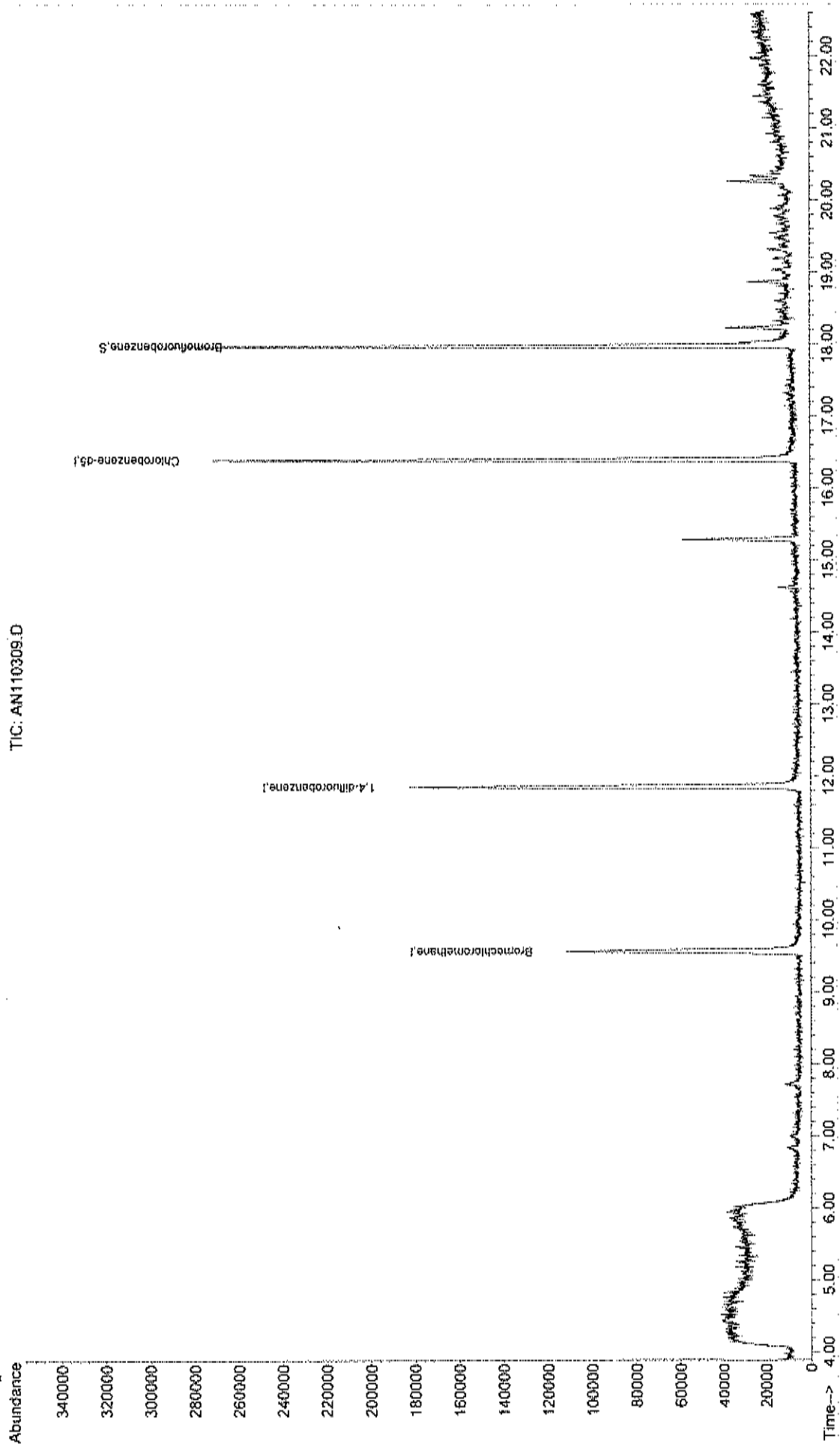
Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\AN110309.D
Acq On : 3 Nov 2016 2:56 pm
Sample : WAC110316D
Misc : AC26_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 8 15:11 2016

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

Quant Results File: AC26_1UG.RES

Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Dec 29 08:43:13 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN110310.D Vial: 10
 Acq On : 3 Nov 2016 3:47 pm Operator: RJP
 Sample : WAC110316E Inst : MSD #1
 Misc : AO26_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Nov 08 15:11:36 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	48381	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.85	114	204161	1.00	ppb	0.00
50) Chlorobenzene-d5	16.39	117	186072	1.00	ppb	0.00

System Monitoring Compounds
 66) Bromofluorobenzene 17.97 95 100927 0.81 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 81.00%

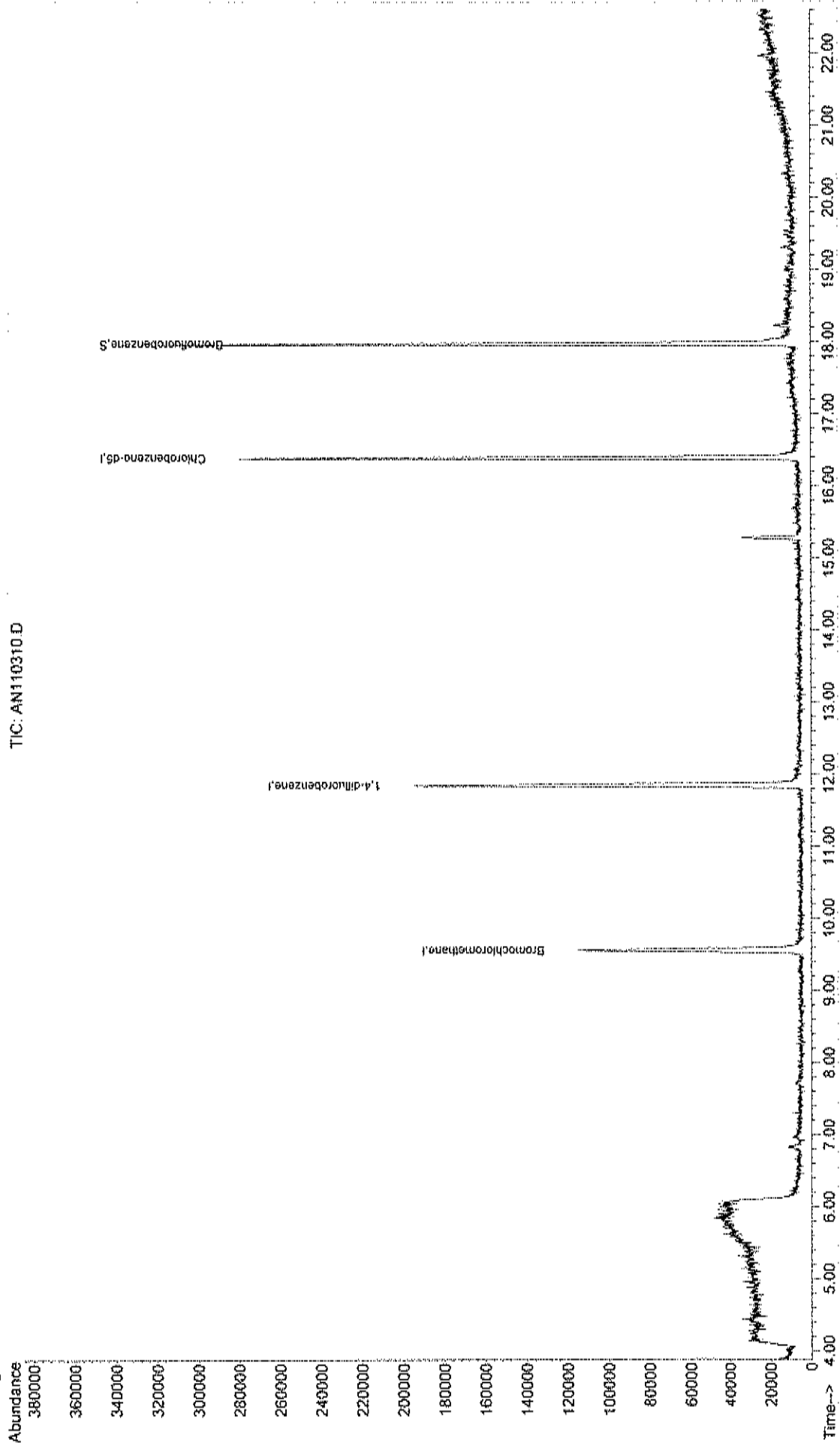
Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\AN110310.D
Acq On : 3 Nov 2016 3:47 pm
Sample : WAC110316E
Misc : AO26_IUG
MS Integration Params: RTEINT.P
Quant Time: Nov 8 15:11 2016

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

Quant Results File: AO26_IUG.RES

Method : C:\HPCHEM\1\METHODS\AD05_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Dec 29 08:43:13 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN110311.D
 Acq On : 3 Nov 2016 4:24 pm
 Sample : WAC110316F
 Misc : AO26_1UG

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

MS Integration Params: RTEINT.P
 Quant Time: Nov 08 15:11:37 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	45825	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.84	114	193237	1.00	ppb	0.00
50) Chlorobenzene-d5	16.39	117	172103	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene 17.97 95 95680 0.83 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 83.00%

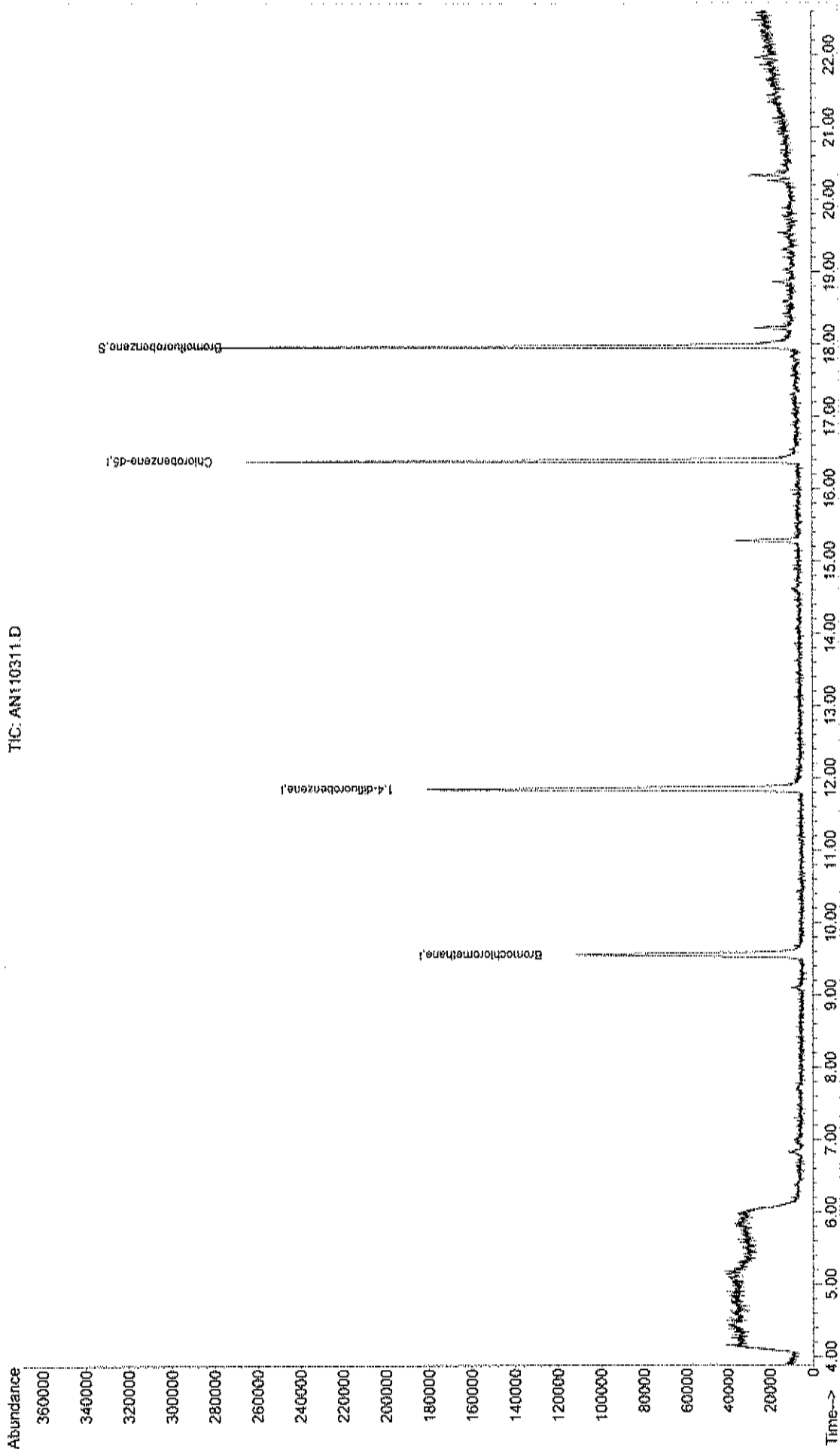
Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA2\AN110311.D
 Acq On : 3 Nov 2016 4:24 pm
 Sample : WAC110316F
 Misc : AC26_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Nov 8 15:11 2016

Vial: 11
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00
 Quant Results File: AC26_1UG.RES

Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Dec 29 08:43:13 2016
 Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA2\AN110312.D Vial: 12
 Acq On : 3 Nov 2016 5:00 pm Operator: RJP
 Sample : WAC110316G Inst : MSD #1
 Misc : AO26_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Nov 08 15:11:38 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	44681	1.00	ppb	0.00
35) 1,4-difluorobenzene	11.85	114	192122	1.00	ppb	0.01
50) Chlorobenzene-d5	16.39	117	171943	1.00	ppb	0.00

System Monitoring Compounds
 66) Bromofluorobenzene 17.97 95 98362 0.85 ppb 0.01
 Spiked Amount 1.000 Range 70 - 130 Recovery = 85.00%

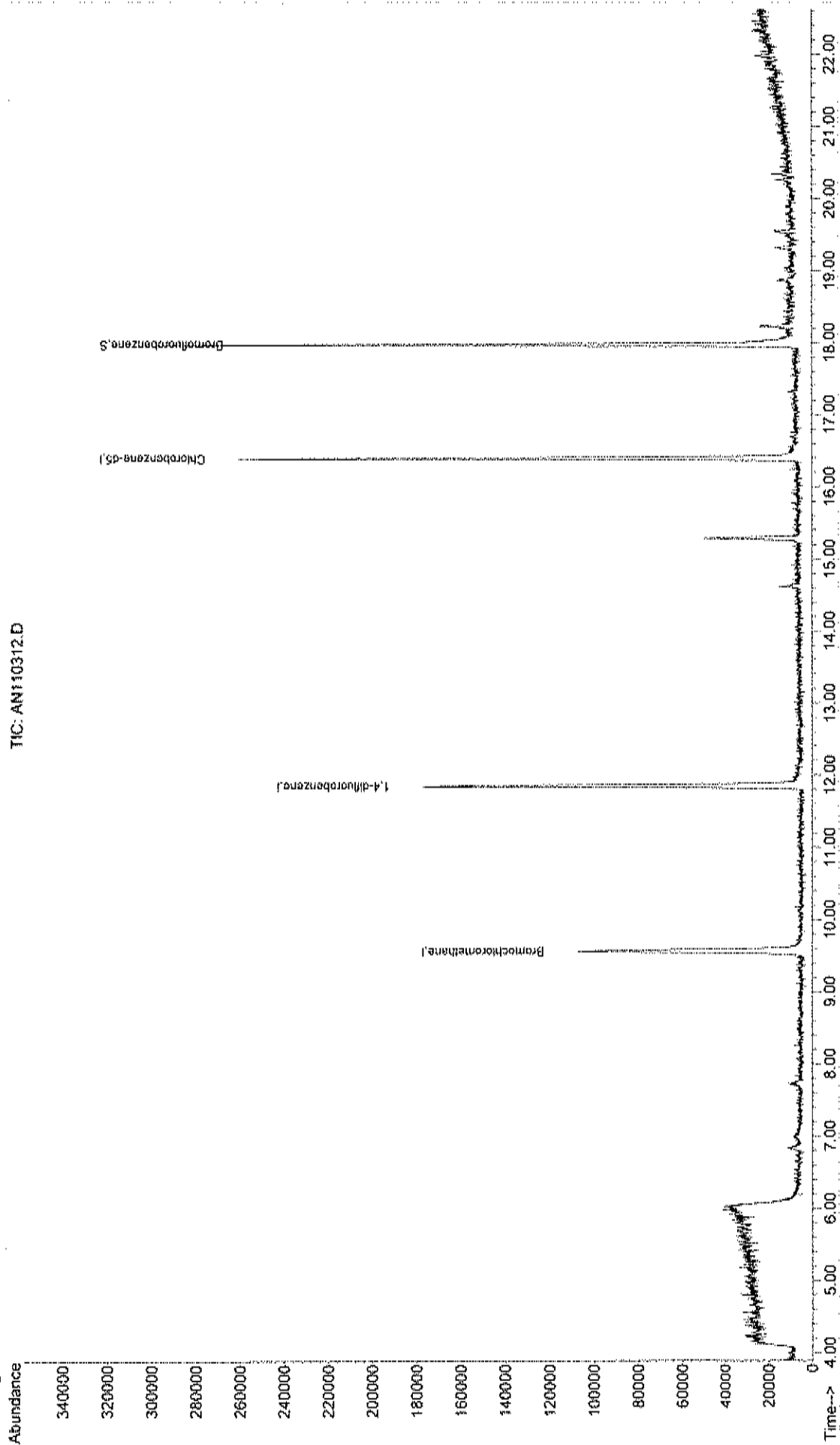
Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\AN110312.D
Acq On : 3 Nov 2016 5:00 pm
Sample : WAC110316G
Misc : AC26_1UG
MS Integration Params: RTEINT.P
Quant Time: Nov 8 15:11 2016

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

Quant Results File: AC26_1UG.RES

Method : C:\HPCHEM\1\METHODS\AD05_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Dec 29 08:43:13 2016
Response via : Initial Calibration



Centek Laboratories TO-15 Package Review Checklist



Client: LaBella

Project: 1740 Emerson St **SDG:** C1803052

		<u>YES</u>	<u>NO</u>	<u>NA</u>
<u>Standards Data</u>				
Initial Calibration	Present and Complete	/	—	—
	Calibration meets criteria	/	—	—
Continuing Calibration	Present and Complete	/	—	—
	Calibration meets criteria	/	—	—
Standards Raw Data	Present and Complete	/	—	—

Comments:

<u>Raw Quality Control Data</u>				
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:

<u>Logbooks</u>				
Injection Log		/	—	—
Standards Log		/	—	—
Can Cleaning Log		/	—	—
Calculation Sheet		/	—	—
IDL's		/	—	—
Canister Order Form		/	—	—
Sample Tracking Form		/	—	—

Additional Comments:

Section Supervisor: Wally Dahl

Date: 4/2/18

QC Supervisor: [Signature]

Date: 4/2/18



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

Thursday, March 22, 2018

Order No.: C1803052

TEL: (585) 454-6110
FAX (585) 454-3066
RE: 1740 Emerson St

Dear Ann Aquilina:

Centek Laboratories, LLC received 5 sample(s) on 3/21/2018 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.

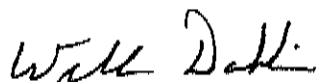
Centek Laboratories SOP TS-80

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.

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CENTEK LABORATORIES, LLC

Date: 02-Apr-18

CLIENT: LaBella Associates, P.C.

Project: 1740 Emerson St

Lab Order: C1803052

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.

See Corrective Action: [3698] MS/MSD did not meet criteria.

See Corrective Action: [3699] IS did not meet criteria.

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 21-Mar-18

Corrective Action Report ID: 3698

Initiated By: Russell Pellegrino

Department: MSVOA

Corrective Action Description

CAR Summary: MS/MSD did not meet criteria.

Description of Nonconformance Root/Cause(s): MS/MSD did not meet criteria for a several compounds for samples C1803052-002A MS/MSD. Based on the chromatographic evidence this is most likely due to matrix interference.

Description of Corrective Action w/Proposed C.A.: Since MS/MSD show similar results at this time no further corrective action taken. All other QC meets criteria. The samples show many hits in the matrix which will interfere with spike results. All sets of data submitted

Performed By: Russell Pellegrino

Completion Date: 22-Mar-18

Client Notification

Client Notification Required: No

Notified By:

Comment:

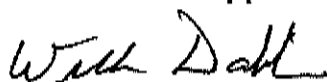
Quality Assurance Review

Nonconformance Type: Deficiency

Further Action required by QA: Monitor all quality control for sample matrix interference. At this time no further corrective action taken. All sets of data submitted

Approval and Closure

Technical Director /
Deputy Tech. Dir.:



Close Date: 26-Mar-18

William Dobbin

QA Officer Approval:



QA Date: 26-Mar-18

Nick Scala

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 21-Mar-18

Corrective Action Report ID: 3699

Initiated By: Russell Pellegrino

Department: MSVOA

Corrective Action Description

CAR Summary: IS did not meet criteria.

Description of Nonconformance Root/Cause(s): IS was slightly high and did not meet criteria for samples C1803052-003. Based on the chromatographic evidence, it appears that there may be interfering compounds.

Description of Corrective Action w/Proposed C.A.: Sample did have a positive ID for PCE however it was a "J" value. Also, the associated surrogate that is under this IS did make criteria.

Performed By: Russell Pellegrino

Completion Date: 22-Mar-18

Client Notification

Client Notification Required: No

Notified By:

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action required by QA: Even though the PCE is a "J" value it should be considered bias low

Approval and Closure

Technical Director / Deputy Tech. Dir.:

William Dobbin

Close Date: 26-Mar-18

William Dobbin

QA Officer Approval:

Nick Scala

QA Date: 26-Mar-18

Nick Scala

Last Updated BY russ

Updated: 02-Apr-2018 10:44 AM

Reported: 02-Apr-2018 10:44 A

Date: 02-Apr-18



CENTEK LABORATORIES, LLC

CLIENT: LaBella Associates, P.C.
Project: 1740 Emerson St
Lab Order: C1803052

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1803052-001A	IAQ-01 March 2018	202,402	3/19/2018	3/21/2018
C1803052-002A	IAQ-02 March 2018	487,1419	3/19/2018	3/21/2018
C1803052-003A	IAQ-03 March 2018	459,381	3/19/2018	3/21/2018
C1803052-004A	Outdoor March 2018	290,1152	3/19/2018	3/21/2018
C1803052-005A	Dupe March 2018	1181,209	3/19/2018	3/21/2018



CENTEK LABORATORIES, LLC

Sample Receipt Checklist

Client Name LABELLA - ROCHESTER

Date and Time Receive

3/21/2018

Work Order Number C1803052

Received by JDS

Checklist completed by

Signature

Date

Reviewed by

Initials

Date

Handwritten signature, date 3.21.18, initials WJ, and date 3/21/18

Matrix:

Carrier name FedEx Ground

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

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 _____

Centek Laboratories, LLC

02-Apr-18

Lab Order: C1803052
 Client: LaBella Associates, P.C.
 Project: 1740 Emerson St

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C1803052-001A	IAQ-01 March 2018	3/19/2018	Air	lug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			3/21/2018
C1803052-002A	IAQ-02 March 2018			lug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			3/21/2018
C1803052-003A	IAQ-03 March 2018			lug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			3/21/2018
C1803052-004A	Outdoor March 2018			lug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			3/21/2018
C1803052-005A	Dupe March 2018			lug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			3/21/2018

CANISTER ORDER



CENTEK LABORATORIES, LLC

Air Quality Testing...It's a Gas

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

7111

02-Apr-18

SHIPPED TO:

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

Submitted By:

MadeBy: NM
 Ship Date: 3/15/2018
 VIA: FedEx Ground
 Due Date: 3/16/2018

Bottle Code	Bottle Type	TEST(s)	QTY
MC1400CC	1.4L Mini-Can	1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DC	1
MC1000CC	1L Mini-Can	1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DC	5

Can / Reg ID	Description
381	Time-Set Reg - 755 VI
402	Time-Set Reg - 781 VI
459	1L Mini-Can - 1362 VI
487	1.4L Mini-Can - 1370 VI
1152	Time-Set Reg-0744 VI
1181	1L Mini-Can - 1258 VI
1419	Time-Set Reg-2517 IAQ
288	1L Mini-Can - 1264 VI
290	1L Mini-Can - 1266 VI
202	1L Mini-Can - 1157 VI
269	Time-Set Reg - 707 VI

Comments: (5) 1L @ 6hrs, (1) 1.4L @ 6hrs - NEEDS "T" for Dupe WAC 011518 A-B, 030718A-D

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories, LLC

Date: 28-Mar-18

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	IAQ-01 March 2018
Lab Order:	C1803052	Tag Number:	202,402
Project:	1740 Emerson St	Collection Date:	3/19/2018
Lab ID:	C1803052-001A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-4			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 7:58:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 7:58:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 7:58:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/21/2018 7:58:00 PM
Chloromethane	0.28	0.15		ppbV	1	3/21/2018 7:58:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 7:58:00 PM
Tetrachloroethylene	0.12	0.15	J	ppbV	1	3/21/2018 7:58:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/21/2018 7:58:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	3/21/2018 7:58:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	3/21/2018 7:58:00 PM
Surr: Bromofluorobenzene	92.0	70-130		%REC	1	3/21/2018 7:58:00 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: 28-Mar-18

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	IAQ-01 March 2018
Lab Order:	C1803052	Tag Number:	202,402
Project:	1740 Emerson St	Collection Date:	3/19/2018
Lab ID:	C1803052-001A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 7:58:00 PM
Chloromethane	0.58	0.31		ug/m3	1	3/21/2018 7:58:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Tetrachloroethylene	0.81	1.0	J	ug/m3	1	3/21/2018 7:58:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 7:58:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 7:58:00 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: 28-Mar-18

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	IAQ-02 March 2018
Lab Order:	C1803052	Tag Number:	487,1419
Project:	1740 Emerson St	Collection Date:	3/19/2018
Lab ID:	C1803052-002A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-3			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 5:44:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 5:44:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 5:44:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/21/2018 5:44:00 PM
Chloromethane	0.37	0.15		ppbV	1	3/21/2018 5:44:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 5:44:00 PM
Tetrachloroethylene	0.18	0.15		ppbV	1	3/21/2018 5:44:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/21/2018 5:44:00 PM
Trichloroethene	0.080	0.030		ppbV	1	3/21/2018 5:44:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	3/21/2018 5:44:00 PM
Surr: Bromofluorobenzene	96.0	70-130		%REC	1	3/21/2018 5:44:00 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: 28-Mar-18

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	IAQ-02 March 2018
Lab Order:	C1803052	Tag Number:	487,1419
Project:	1740 Emerson St	Collection Date:	3/19/2018
Lab ID:	C1803052-002A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 5:44:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 5:44:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 5:44:00 PM
Chloromethane	0.76	0.31		ug/m3	1	3/21/2018 5:44:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Tetrachloroethylene	1.2	1.0		ug/m3	1	3/21/2018 5:44:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 5:44:00 PM
Trichloroethene	0.43	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 5:44:00 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: 28-Mar-18

CLIENT: LaBella Associates, P.C.	Client Sample ID: IAQ-03 March 2018
Lab Order: C1803052	Tag Number: 459,381
Project: 1740 Emerson St	Collection Date: 3/19/2018
Lab ID: C1803052-003A	Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-3			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 8:38:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 8:38:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 8:38:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/21/2018 8:38:00 PM
Chloromethane	0.43	0.15		ppbV	1	3/21/2018 8:38:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 8:38:00 PM
Tetrachloroethylene	0.11	0.15	J	ppbV	1	3/21/2018 8:38:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/21/2018 8:38:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	3/21/2018 8:38:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	3/21/2018 8:38:00 PM
Surr: Bromofluorobenzene	97.0	70-130		%REC	1	3/21/2018 8:38:00 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: 28-Mar-18

CLIENT: LaBella Associates, P.C.
Lab Order: C1803052
Project: 1740 Emerson St
Lab ID: C1803052-003A

Client Sample ID: IAQ-03 March 2018
Tag Number: 459,381
Collection Date: 3/19/2018
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 8:38:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 8:38:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 8:38:00 PM
Chloromethane	0.89	0.31		ug/m3	1	3/21/2018 8:38:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Tetrachloroethylene	0.75	1.0	J	ug/m3	1	3/21/2018 8:38:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 8:38:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 8:38:00 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: 28-Mar-18

CLIENT: LaBella Associates, P.C.
Lab Order: C1803052
Project: 1740 Emerson St
Lab ID: C1803052-004A

Client Sample ID: Outdoor March 2018
Tag Number: 290,1152
Collection Date: 3/19/2018
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-2			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:19:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:19:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 9:19:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:19:00 PM
Chloromethane	0.31	0.15		ppbV	1	3/21/2018 9:19:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 9:19:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	3/21/2018 9:19:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/21/2018 9:19:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	3/21/2018 9:19:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	3/21/2018 9:19:00 PM
Surr: Bromofluorobenzene	61.0	70-130		%REC	1	3/21/2018 9:19:00 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: 28-Mar-18

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	Outdoor March 2018
Lab Order:	C1803052	Tag Number:	290,1152
Project:	1740 Emerson St	Collection Date:	3/19/2018
Lab ID:	C1803052-004A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 9:19:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 9:19:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:19:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 9:19:00 PM
Chloromethane	0.64	0.31		ug/m3	1	3/21/2018 9:19:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:19:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	3/21/2018 9:19:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 9:19:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:19:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 9:19:00 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: 28-Mar-18

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	Dupe March 2018
Lab Order:	C1803052	Tag Number:	1181,209
Project:	1740 Emerson St	Collection Date:	3/19/2018
Lab ID:	C1803052-005A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-1			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:59:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:59:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 9:59:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:59:00 PM
Chloromethane	0.30	0.15		ppbV	1	3/21/2018 9:59:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 9:59:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	3/21/2018 9:59:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/21/2018 9:59:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	3/21/2018 9:59:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	3/21/2018 9:59:00 PM
Surr: Bromofluorobenzene	81.0	70-130		%REC	1	3/21/2018 9:59:00 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: 28-Mar-18

CLIENT: LaBella Associates, P.C.
Lab Order: C1803052
Project: 1740 Emerson St
Lab ID: C1803052-005A

Client Sample ID: Dupe March 2018
Tag Number: 1181,209
Collection Date: 3/19/2018
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 9:59:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 9:59:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:59:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 9:59:00 PM
Chloromethane	0.62	0.31		ug/m3	1	3/21/2018 9:59:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:59:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	3/21/2018 9:59:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 9:59:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:59:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 9:59:00 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: 28-Mar-18



CENTEK LABORATORIES, LLC

**QC SUMMARY REPORT
SURROGATE RECOVERIES**

CLIENT: LaBella Associates, P.C.
Work Order: C1803052
Project: 1740 Emerson St
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ							
ALCS1UG-032118	116							
ALCS1UGD-032118	118							
AMB1UG-032118	72.0							
C1803052-001A	92.0							
C1803052-002A	96.0							
C1803052-002A MS	106							
C1803052-002A MSD	98.0							
C1803052-003A	97.0							
C1803052-004A	81.0							
C1803052-005A	81.0							

Acronym	Surrogate	QC Limits
BR4FBZ	= Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AP032103.D

Tune Time : 21 Mar 2018 12:00 pm

Daily Calibration File : C:\HPCHEM\1\DATA\AP032103.D

File	Sample	DL	Surrogate Recovery %	(BFB)	(IS1)	(IS2)	(IS3)
					47897	193806	145301
AP032104.D	ALCS1UG-032118	116			48374	197048	153239
AP032105.D	AMB1UG-032118	72			44328	177221	120583
AP032109.D	C1803052-002A	96			52789	220422	210982
AP032110.D	C1803052-002A MS	106			58783	248824	249590*
AP032111.D	C1803052-002A MSD	98			58695	244768	232175
AP032112.D	C1803052-001A	92			53864	224944	200948
AP032113.D	C1803052-003A	97			59062	248077	240796*
AP032114.D	C1803052-004A	81			54582	214431	160200
AP032115.D	C1803052-005A	81			50312	195257	134671
AP032132.D	ALCS1UGD-032118	118			48657	205600	162411

t - fails 24hr time check * - fails criteria

Created: Wed Mar 28 07:48:37 2018 MSD #1/



CEN TEK LABORATORIES, LLC

Date: 02-Apr-18

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1803052

Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: AMB1UG-032118	SampType: MBLK	TestCode: 0.20_NYS	Units: ppbV	Prep Date:	RunNo: 13411
Client ID: ZZZZ	Batch ID: R13411	TesiNo: TO-15		Analysis Date: 3/21/2018	SeqNo: 155453

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-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.040	0.040									
Chloroethane	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.040	0.040									
Tetrachloroethylene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
Trichloroethene	< 0.030	0.030									
Vinyl chloride	< 0.040	0.040									
Surr: Bromofluorobenzene	0.7200	0	1	0	72.0	70	130				

Qualifiers:

- J 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

CEN TEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1803052

Project: I740 Emerson St

TestCode: 0.20_NYS

Sample ID: ALCS1UG-032118	SampType: LCS	TestCode: 0.20_NYS	Units: ppbv	Prep Date:	RunNo: 13411
Client ID: ZZZZ	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/21/2018	SeqNo: 155454

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-Dichloroethane	0.8700	0.15	1	0	87.0	70	130				
1,1-Dichloroethene	0.8500	0.040	1	0	85.0	70	130				
Chloroethane	0.8500	0.15	1	0	85.0	70	130				
Chloromethane	0.8400	0.15	1	0	84.0	70	130				
cis-1,2-Dichloroethene	0.8400	0.040	1	0	84.0	70	130				
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130				
trans-1,2-Dichloroethene	0.9000	0.15	1	0	90.0	70	130				
Trichloroethene	0.8700	0.030	1	0	87.0	70	130				
Vinyl chloride	0.7900	0.040	1	0	79.0	70	130				

Sample ID: ALCS1UGD-032118	SampType: LCSD	TestCode: 0.20_NYS	Units: ppbv	Prep Date:	RunNo: 13411
Client ID: ZZZZ	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/22/2018	SeqNo: 155455

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9000	0.15	1	0	90.0	70	130	0.89	1.12	30	
1,1-Dichloroethane	0.9100	0.15	1	0	91.0	70	130	0.87	4.49	30	
1,1-Dichloroethene	0.8700	0.040	1	0	87.0	70	130	0.85	2.33	30	
Chloroethane	0.8300	0.15	1	0	83.0	70	130	0.85	2.38	30	
Chloromethane	0.8900	0.15	1	0	89.0	70	130	0.84	5.78	30	
cis-1,2-Dichloroethene	0.8700	0.040	1	0	87.0	70	130	0.84	3.51	30	
Tetrachloroethylene	0.8700	0.15	1	0	87.0	70	130	0.88	1.14	30	
trans-1,2-Dichloroethene	0.9400	0.15	1	0	94.0	70	130	0.9	4.35	30	
Trichloroethene	0.8900	0.030	1	0	89.0	70	130	0.87	2.27	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: C1803052
 Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: ALC51UGD-032118	SampType: LCSD	TestCode: 0.20_NYS	Units: ppbv	Prep Date:	RunNo: 13411						
Client ID: ZZZZZ	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/22/2018	SeqNo: 155455						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride 0.6200 0.040 1 0 82.0 70 130 0.79 3.73 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: 28-Mar-18

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1803052

Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID:	C1803052-002A MS	SampType:	MS	TestCode:	0.20_NYS	Units:	ppbV	Prep Date:	RunNo:	13411	
Client ID:	IAQ-02 March 2018	Batch ID:	R13411	TestNo:	TO-15	Analysis Date:	3/21/2018	SeqNo:	155462		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	1	0	79.0	70	130				
1,1-Dichloroethane	0.8100	0.15	1	0	81.0	70	130				
1,1-Dichloroethene	0.6800	0.040	1	0	68.0	70	130				S
Chloroethane	0.7300	0.15	1	0	73.0	70	130				
Chloromethane	1.020	0.15	1	0.37	65.0	70	130				S
cis-1,2-Dichloroethene	0.8300	0.040	1	0	83.0	70	130				
Tetrachloroethylene	0.8600	0.15	1	0.18	88.0	70	130				
trans-1,2-Dichloroethene	0.8500	0.15	1	0	85.0	70	130				
Trichloroethene	0.9200	0.030	1	0.08	84.0	70	130				
Vinyl chloride	0.7100	0.040	1	0	71.0	70	130				

Sample ID:	C1803052-002A MS	SampType:	MSD	TestCode:	0.20_NYS	Units:	ppbV	Prep Date:	RunNo:	13411	
Client ID:	IAQ-02 March 2018	Batch ID:	R13411	TestNo:	TO-15	Analysis Date:	3/21/2018	SeqNo:	155463		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	1	0	79.0	70	130	0.79	0	30	
1,1-Dichloroethane	0.8100	0.15	1	0	81.0	70	130	0.81	0	30	
1,1-Dichloroethene	0.6400	0.040	1	0	64.0	70	130	0.68	6.06	30	S
Chloroethane	0.7300	0.15	1	0	73.0	70	130	0.73	0	30	
Chloromethane	0.9300	0.15	1	0.37	56.0	70	130	1.02	9.23	30	S
cis-1,2-Dichloroethene	0.8300	0.040	1	0	83.0	70	130	0.83	0	30	
Tetrachloroethylene	0.8700	0.15	1	0.18	69.0	70	130	0.86	1.16	30	S
trans-1,2-Dichloroethene	0.8500	0.15	1	0	85.0	70	130	0.85	0	30	
Trichloroethene	0.9000	0.030	1	0.08	82.0	70	130	0.92	2.20	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: C1803052
Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: C1803052-002A MS	SampType: MSD	TestCode: 0.20_NYS	Units: ppbv	Prep Date:	RunNo: 13411
Client ID: IAQ-02 March 2018	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/21/2018	SeqNo: 155463

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.7000	0.040	1	0	70.0	70	130	0.71	1.42	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
October 2017

Method TO-15
Units=ppb

Compound	Amt	IDL #1	IDL #2	IDL #3	IDL #4	IDL #5	IDL #8	IDL #9	AVG	StdDev	%Rec	IDL
Propylene	0.3	0.33	0.33	0.32	0.32	0.37	0.33	0.33	0.33	0.02	111.0%	0.054
Freon 12	0.3	0.35	0.35	0.35	0.36	0.35	0.32	0.36	0.35	0.01	116.2%	0.042
Chloromethane	0.3	0.34	0.35	0.34	0.33	0.36	0.34	0.3	0.34	0.02	112.4%	0.059
Freon 114	0.3	0.34	0.37	0.36	0.37	0.37	0.32	0.33	0.35	0.02	117.1%	0.056
Vinyl Chloride	0.3	0.33	0.32	0.35	0.35	0.34	0.32	0.32	0.33	0.01	111.0%	0.043
Butane	0.3	0.35	0.34	0.37	0.37	0.39	0.33	0.35	0.36	0.02	119.0%	0.065
1,3-butadiene	0.3	0.3	0.38	0.34	0.35	0.36	0.29	0.31	0.33	0.03	111.0%	0.105
Bromomethane	0.3	0.35	0.36	0.39	0.38	0.37	0.35	0.36	0.37	0.02	121.9%	0.048
Chloroethane	0.3	0.36	0.33	0.35	0.38	0.41	0.36	0.34	0.36	0.03	120.5%	0.084
Ethanol	0.3	0.44	0.3	0.34	0.32	0.4	0.34	0.35	0.36	0.06	118.6%	0.152
Acrolein	0.3	0.36	0.35	0.34	0.36	0.37	0.36	0.35	0.36	0.01	118.6%	0.031
Vinyl Bromide	0.3	0.35	0.35	0.38	0.36	0.37	0.34	0.35	0.36	0.01	119.0%	0.043
Freon 11	0.3	0.35	0.34	0.35	0.36	0.37	0.33	0.35	0.35	0.01	116.7%	0.041
Acetone	0.3	0.34	0.34	0.39	0.37	0.32	0.35	0.29	0.34	0.03	114.3%	0.102
Pentane	0.3	0.36	0.35	0.36	0.36	0.35	0.3	0.38	0.35	0.02	117.1%	0.078
Isopropyl alcohol	0.3	0.38	0.35	0.37	0.4	0.39	0.32	0.35	0.36	0.03	121.0%	0.085
1,1-dichloroethene	0.3	0.37	0.35	0.32	0.32	0.32	0.28	0.31	0.32	0.03	108.1%	0.107
Freon 113	0.3	0.33	0.3	0.32	0.32	0.32	0.31	0.31	0.32	0.01	105.2%	0.031
t-Butyl alcohol	0.3	0.3	0.31	0.32	0.33	0.33	0.24	0.3	0.30	0.03	101.4%	0.097
Methylene chloride	0.3	0.35	0.34	0.35	0.35	0.35	0.33	0.31	0.34	0.02	113.3%	0.048
Alkyl chloride	0.3	0.35	0.3	0.32	0.31	0.32	0.32	0.31	0.32	0.02	106.2%	0.049
Carbon disulfide	0.3	0.33	0.32	0.31	0.34	0.33	0.32	0.32	0.32	0.01	108.1%	0.031
trans-1,2-dichloroethene	0.3	0.31	0.3	0.33	0.31	0.32	0.31	0.3	0.31	0.01	103.8%	0.034
methyl tert-butyl ether	0.3	0.31	0.3	0.32	0.32	0.33	0.3	0.31	0.31	0.01	104.3%	0.035
1,1-dichloroethane	0.3	0.32	0.31	0.29	0.32	0.32	0.31	0.32	0.31	0.01	103.8%	0.034
Vinyl acetate	0.3	0.32	0.32	0.29	0.32	0.33	0.32	0.32	0.32	0.01	105.7%	0.039
Methyl Ethyl Ketone	0.3	0.31	0.31	0.34	0.33	0.32	0.28	0.31	0.31	0.02	104.6%	0.060
cis-1,2-dichloroethene	0.3	0.32	0.31	0.28	0.31	0.32	0.3	0.31	0.31	0.01	102.4%	0.043
Hexane	0.3	0.31	0.31	0.25	0.32	0.33	0.31	0.31	0.31	0.03	101.9%	0.081
Ethyl acetate	0.3	0.28	0.32	0.32	0.33	0.33	0.29	0.31	0.31	0.02	103.8%	0.061
Chloroform	0.3	0.31	0.31	0.32	0.3	0.33	0.31	0.32	0.31	0.01	104.6%	0.031
Tetrahydrofuran	0.3	0.33	0.3	0.3	0.33	0.3	0.3	0.32	0.31	0.01	103.8%	0.046
1,2-dichloroethane	0.3	0.31	0.32	0.33	0.3	0.33	0.31	0.32	0.32	0.01	105.7%	0.035
1,1,1-trichloroethane	0.3	0.33	0.32	0.33	0.34	0.34	0.31	0.33	0.33	0.01	109.5%	0.034
Cyclohexane	0.3	0.31	0.3	0.34	0.33	0.31	0.3	0.33	0.32	0.02	105.7%	0.050
Carbon tetrachloride	0.3	0.32	0.31	0.32	0.32	0.33	0.29	0.33	0.32	0.01	105.7%	0.043
Benzene	0.3	0.31	0.32	0.32	0.33	0.32	0.3	0.32	0.32	0.01	105.7%	0.030
Methyl methacrylate	0.3	0.3	0.32	0.31	0.33	0.33	0.3	0.32	0.32	0.01	105.2%	0.040

Confidential

Centek Laboratories IDL Study	1ug/m3 Detection Limit October 2017										Method TO-15 Units=ppb	
	0.3	0.28	0.29	0.31	0.32	0.32	0.24	0.26	0.29	0.03	96.2%	0.087
1,4-dioxane	0.3	0.32	0.31	0.31	0.32	0.31	0.31	0.31	0.31	0.03	102.4%	0.039
2,2,4-trimethylpentane	0.3	0.32	0.31	0.31	0.28	0.31	0.31	0.31	0.31	0.01	104.3%	0.043
Heptane	0.3	0.32	0.3	0.3	0.33	0.33	0.3	0.31	0.31	0.01	97.6%	0.030
Trichloroethene	0.3	0.3	0.3	0.29	0.28	0.3	0.3	0.28	0.29	0.01	106.2%	0.046
1,2-dichloropropane	0.3	0.32	0.31	0.31	0.35	0.31	0.31	0.31	0.32	0.01	108.6%	0.031
Bromodichloromethane	0.3	0.32	0.33	0.33	0.34	0.33	0.32	0.31	0.33	0.01	106.2%	0.034
cis-1,3-dichloropropene	0.3	0.31	0.32	0.31	0.34	0.32	0.31	0.32	0.32	0.01	107.6%	0.030
trans-1,3-dichloropropene	0.3	0.31	0.33	0.33	0.33	0.33	0.31	0.32	0.32	0.01	107.6%	0.039
1,1,2-trichloroethane	0.3	0.32	0.34	0.33	0.32	0.33	0.3	0.32	0.32	0.01	104.3%	0.035
Toluene	0.3	0.32	0.31	0.32	0.32	0.32	0.31	0.29	0.31	0.01	90.0%	0.130
Methyl Isobutyl Ketone	0.3	0.27	0.29	0.28	0.31	0.31	0.31	0.2	0.27	0.04	105.7%	0.030
Dibromochloromethane	0.3	0.32	0.32	0.32	0.32	0.33	0.31	0.3	0.32	0.01	81.9%	0.119
Methyl Butyl Ketone	0.3	0.23	0.25	0.26	0.29	0.29	0.2	0.2	0.25	0.04	103.6%	0.038
1,2-dibromoethane	0.3	0.32	0.31	0.32	0.32	0.32	0.29	0.3	0.31	0.01	101.9%	0.031
Tetrachloroethylene	0.3	0.31	0.3	0.32	0.31	0.31	0.29	0.3	0.31	0.01	101.0%	0.030
Chlorobenzene	0.3	0.31	0.31	0.31	0.29	0.31	0.3	0.29	0.30	0.01	102.4%	0.047
Ethylbenzene	0.6	0.64	0.61	0.63	0.55	0.64	0.63	0.63	0.63	0.01	105.5%	0.039
m&p-xylene	0.3	0.31	0.35	0.32	0.32	0.32	0.3	0.3	0.32	0.02	105.7%	0.054
Nonane	0.3	0.27	0.31	0.3	0.3	0.31	0.29	0.31	0.30	0.01	99.5%	0.046
Styrene	0.3	0.3	0.32	0.32	0.32	0.33	0.31	0.31	0.32	0.01	105.2%	0.031
Bromoform	0.3	0.32	0.32	0.32	0.32	0.32	0.35	0.31	0.32	0.01	107.6%	0.039
o-xylene	0.3	0.32	0.32	0.32	0.32	0.32	0.29	0.3	0.31	0.01	103.3%	0.036
Cumene	1	1.01	1	1	0.99	1.01	1	1.02	1.00	0.01	100.4%	0.031
Bromofluorobenzene	0.3	0.32	0.33	0.32	0.33	0.33	0.31	0.31	0.32	0.01	107.1%	0.028
1,1,2,2-tetrachloroethane	0.3	0.32	0.3	0.31	0.3	0.3	0.29	0.3	0.30	0.01	101.0%	0.030
Propylbenzene	0.3	0.31	0.31	0.31	0.31	0.31	0.27	0.3	0.30	0.01	101.0%	0.047
2-Chlorotoluene	0.3	0.31	0.31	0.31	0.31	0.31	0.27	0.3	0.30	0.01	101.0%	0.030
4-ethyltoluene	0.3	0.31	0.3	0.3	0.3	0.32	0.29	0.3	0.30	0.01	101.4%	0.031
1,3,5-trimethylbenzene	0.3	0.31	0.31	0.31	0.31	0.31	0.29	0.28	0.30	0.01	100.5%	0.046
1,2,4-trimethylbenzene	0.3	0.3	0.31	0.31	0.31	0.31	0.27	0.3	0.30	0.01	99.0%	0.039
1,3-dichlorobenzene	0.3	0.31	0.33	0.34	0.32	0.34	0.28	0.32	0.32	0.02	107.1%	0.064
benzyl chloride	0.3	0.3	0.29	0.3	0.3	0.3	0.28	0.28	0.29	0.01	97.6%	0.030
1,4-dichlorobenzene	0.3	0.31	0.31	0.31	0.31	0.31	0.28	0.31	0.31	0.01	101.9%	0.036
1,2,3-trimethylbenzene	0.3	0.3	0.3	0.3	0.3	0.3	0.27	0.3	0.30	0.01	98.6%	0.036
1,2-dichlorobenzene	0.3	0.27	0.28	0.27	0.27	0.28	0.25	0.27	0.27	0.01	90.0%	0.031
1,2,4-trichlorobenzene	0.3	0.27	0.27	0.27	0.27	0.28	0.22	0.25	0.26	0.02	87.1%	0.064
Naphthalene	0.3	0.27	0.27	0.27	0.27	0.28	0.22	0.25	0.26	0.02	98.1%	0.036
Hexachloro-1,3-butadiene	0.3	0.3	0.3	0.3	0.3	0.3	0.27	0.29	0.29	0.01		

Confidential

Centek Laboratories
IDL Study

0.2 ug/m3 Detection Limit
October 2017

Method TO-15
Units=ppb

Compound	Amt	IDL #1	IDL #2	IDL #3	IDL #4	IDL #5	IDL #9	IDL #10	AVG	StdDev	%Rec	IDL
Vinyl Chloride	0.1	0.1100	0.1300	0.1100	0.1300	0.1200	0.1100	0.1300	0.12	0.01	120.0%	0.031
Carbon tetrachloride	0.1	0.0900	0.1100	0.1100	0.1100	0.1100	0.0900	0.1200	0.11	0.01	105.7%	0.036
Trichloroethene	0.1	0.0900	0.1000	0.1000	0.1000	0.1000	0.0900	0.1200	0.10	0.01	100.0%	0.031

Confidential

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)

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

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: 28-Mar-18

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	1AQ-01 March 2018
Lab Order:	C1803052	Tag Number:	202,402
Project:	1740 Emerson St	Collection Date:	3/19/2018
Lab ID:	C1803052-001A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-4			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 7:58:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 7:58:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 7:58:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/21/2018 7:58:00 PM
Chloromethane	0.28	0.15		ppbV	1	3/21/2018 7:58:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 7:58:00 PM
Tetrachloroethylene	0.12	0.15	J	ppbV	1	3/21/2018 7:58:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/21/2018 7:58:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	3/21/2018 7:58:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	3/21/2018 7:58:00 PM
Surr: Bromofluorobenzene	92.0	70-130		%REC	1	3/21/2018 7:58:00 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: 28-Mar-18

CLIENT: LaBella Associates, P.C.
 Lab Order: C1803052
 Project: 1740 Emerson St
 Lab ID: C1803052-001A

Client Sample ID: IAQ-01 March 2018
 Tag Number: 202,402
 Collection Date: 3/19/2018
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE						Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 7:58:00 PM
Chloromethane	0.58	0.31		ug/m3	1	3/21/2018 7:58:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Tetrachloroethylene	0.81	1.0	J	ug/m3	1	3/21/2018 7:58:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 7:58:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 7:58:00 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

Data File : C:\HPCHEM\1\DATA\AP032112.D
 Acq On : 21 Mar 2018 7:58 pm
 Sample : C1803052-001A
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 22 10:57:17 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	53864	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.74	114	224944	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	200948	1.00	ppb	0.00

System Monitoring Compounds						
65) Bromofluorobenzene	19.21	95	127888	0.92	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	92.00%

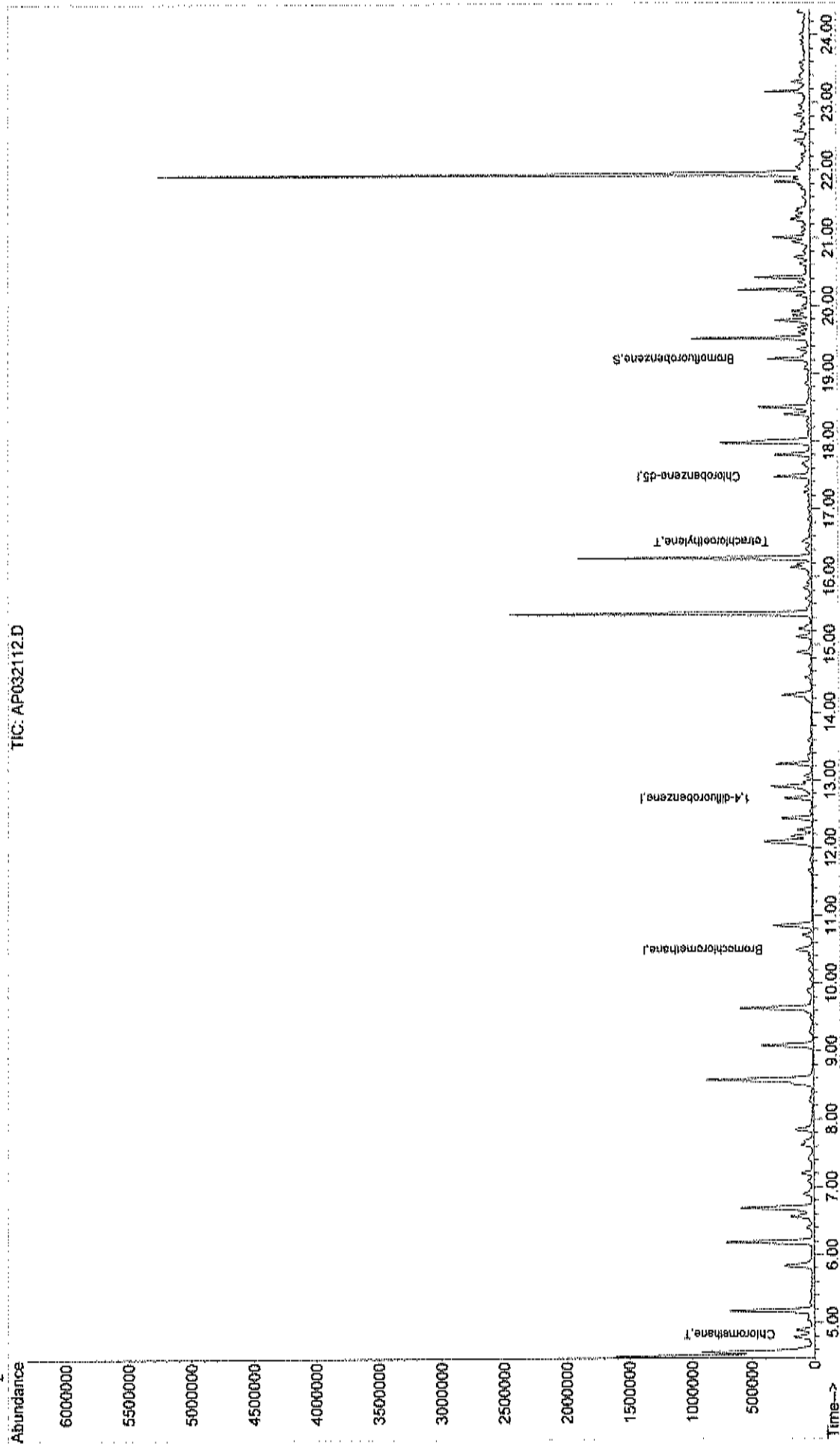
Target Compounds						Qvalue
4) Chloromethane	4.84	50	21975	0.28	ppb	69
56) Tetrachloroethylene	16.52	164	15032	0.12	ppb	97

Data File : C:\HPCHEM\1\DATA\AP032112.D
Acq On : 21 Mar 2018 7:58 pm
Sample : C1803052-001A
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 22 11:09 2018

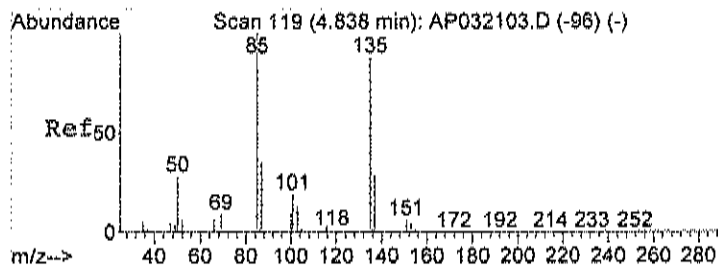
Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A318_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:58 2018
Response via : Initial Calibration

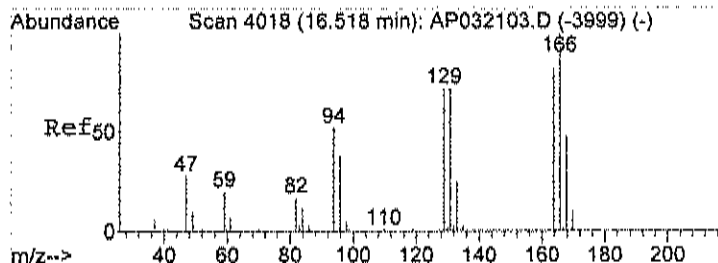
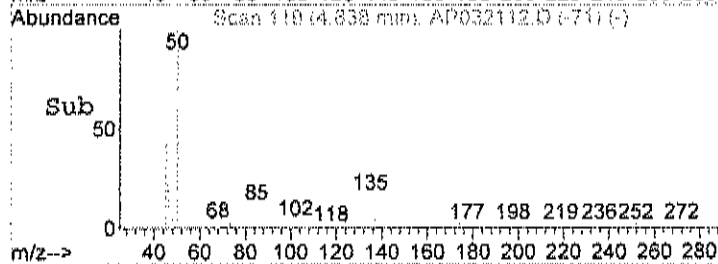
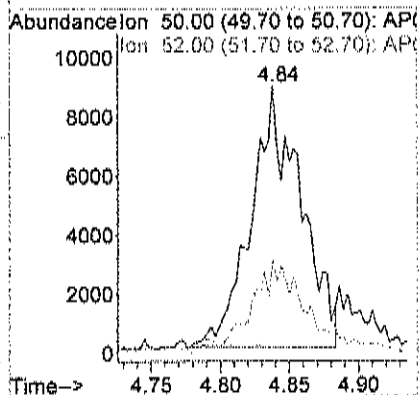
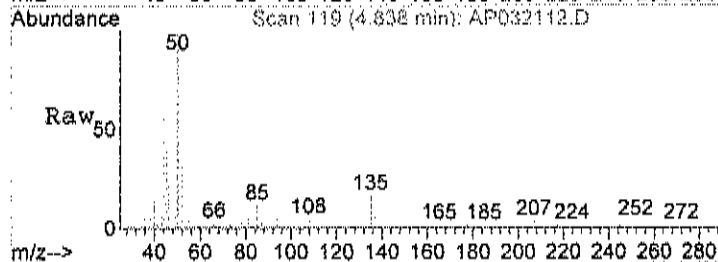


TIC: AP032112.D



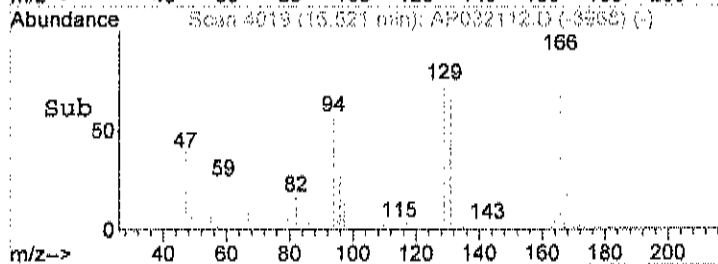
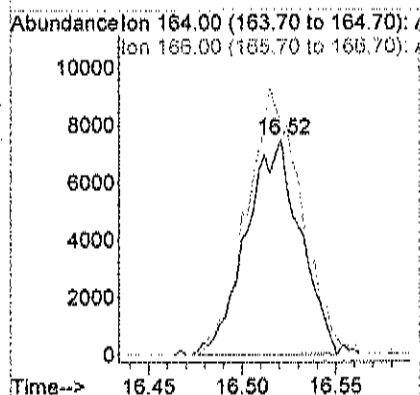
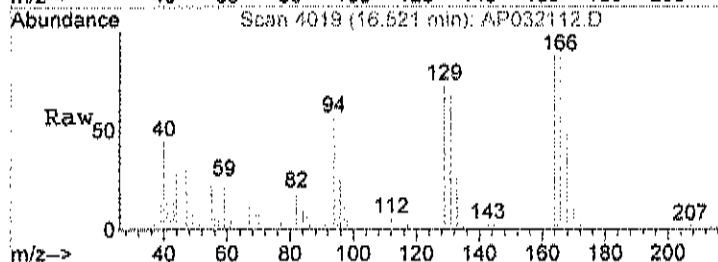
#4
 Chloromethane
 Concen: 0.28 ppb
 RT: 4.84 min Scan# 119
 Delta R.T. -0.01 min
 Lab File: AP032112.D
 Acq: 21 Mar 2018 7:58 pm

Tgt Ion: 50 Resp: 21975
 Ion Ratio Lower Upper
 50 100
 52 39.1 3.9 43.9



#56
 Tetrachloroethylene
 Concen: 0.12 ppb
 RT: 16.52 min Scan# 4019
 Delta R.T. 0.00 min
 Lab File: AP032112.D
 Acq: 21 Mar 2018 7:58 pm

Tgt Ion: 164 Resp: 15032
 Ion Ratio Lower Upper
 164 100
 166 122.8 106.7 146.7



Centek Laboratories, LLC

Date: 28-Mar-18

CLIENT: LaBella Associates, P.C.
Lab Order: C1803052
Project: 1740 Emerson St
Lab ID: C1803052-002A

Client Sample ID: IAQ-02 March 2018
Tag Number: 487,1419
Collection Date: 3/19/2018
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
				FLD		Analyst:
Lab Vacuum In	-3			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE						
				TO-15		Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 5:44:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 5:44:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 5:44:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/21/2018 5:44:00 PM
Chloromethane	0.37	0.15		ppbV	1	3/21/2018 5:44:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 5:44:00 PM
Tetrachloroethylene	0.18	0.15		ppbV	1	3/21/2018 5:44:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/21/2018 5:44:00 PM
Trichloroethene	0.080	0.030		ppbV	1	3/21/2018 5:44:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	3/21/2018 5:44:00 PM
Surr. Bromofluorobenzene	96.0	70-130		%REC	1	3/21/2018 5:44:00 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: 28-Mar-18

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	IAQ-02 March 2018
Lab Order:	C1803052	Tag Number:	487,1419
Project:	1740 Emerson St	Collection Date:	3/19/2018
Lab ID:	C1803052-002A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 5:44:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 5:44:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 5:44:00 PM
Chloromethane	0.76	0.31		ug/m3	1	3/21/2018 5:44:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Tetrachloroethylene	1.2	1.0		ug/m3	1	3/21/2018 5:44:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 5:44:00 PM
Trichloroethene	0.43	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 5:44:00 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		

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032109.D
 Acq On : 21 Mar 2018 5:44 pm
 Sample : C1803052-002A
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 22 10:57:14 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.49	128	52789	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	220422	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	210982	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	140118	0.96	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	96.00%

Target Compounds

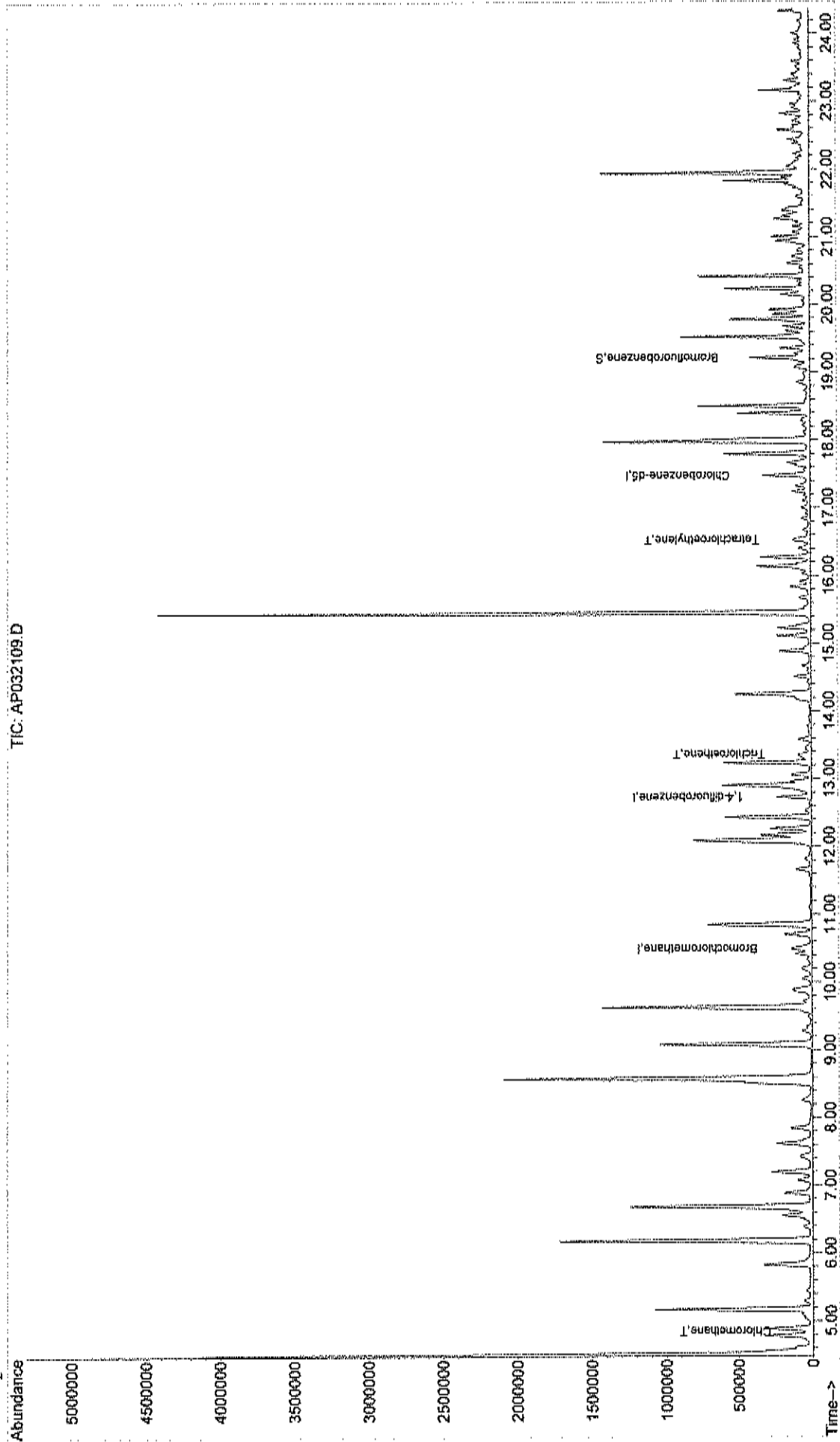
	R.T.	QIon	Response	Conc	Units	Qvalue
4) Chloromethane	4.84	50	28464	0.37	ppb	78
44) Trichloroethene	13.37	130	9067	0.08	ppb	# 82
56) Tetrachloroethylene	16.52	164	22537	0.18	ppb	99

Data File : C:\HPCHEM\1\DATA\AP032109.D
Acq On : 21 Mar 2018 5:44 pm
Sample : C1803052-002A
Misc : A318_IUG
MS Integration Params: RTEINT.P
Quant Time: Mar 22 11:04 2018

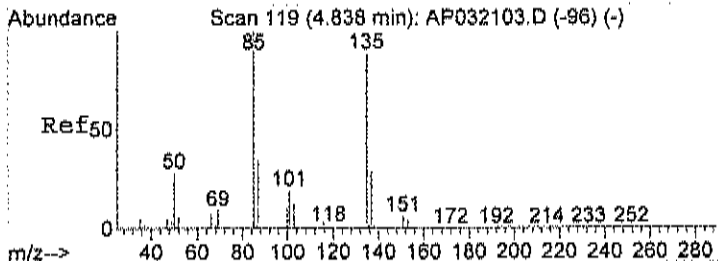
Vial: 1
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A318_IUG.RES

Method : C:\HPCHEM\1\METHODS\A318_IUG.M (RTE Integrator)
Title : FO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:58 2018
Response via : Initial Calibration

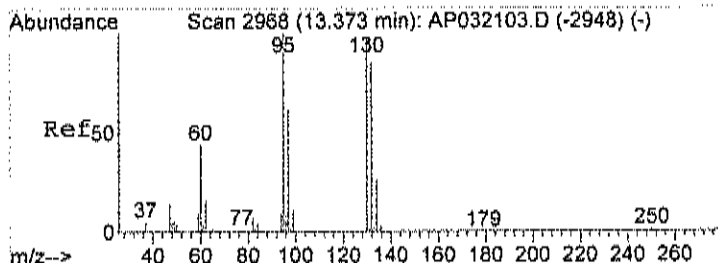
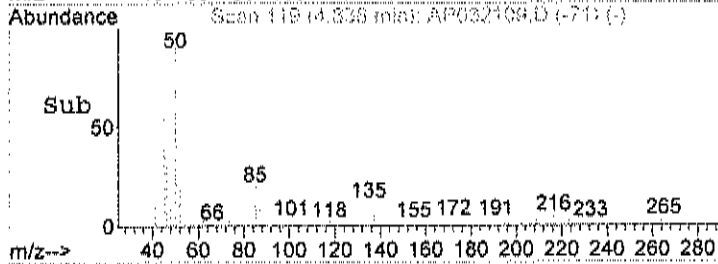
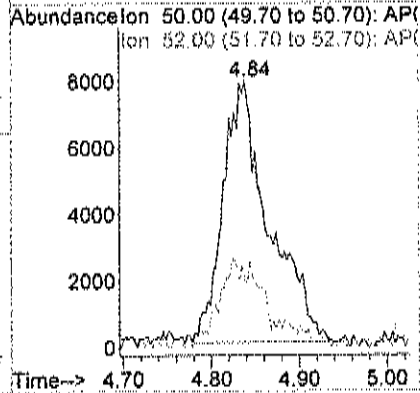
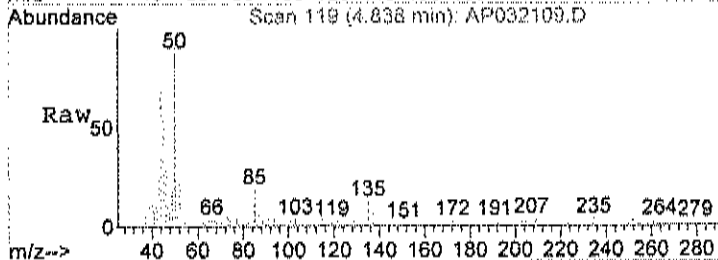


TIC: AP032109.D



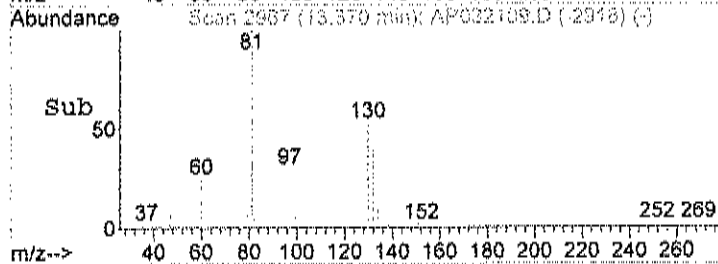
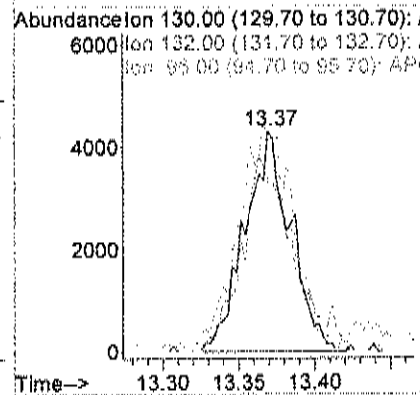
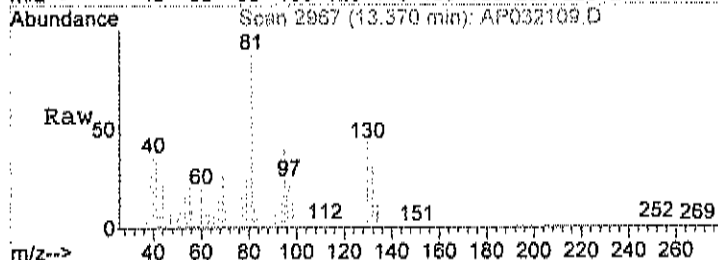
#4
 Chloromethane
 Concen: 0.37 ppb
 RT: 4.84 min Scan# 119
 Delta R.T. -0.01 min
 Lab File: AP032109.D
 Acq: 21 Mar 2018 5:44 pm

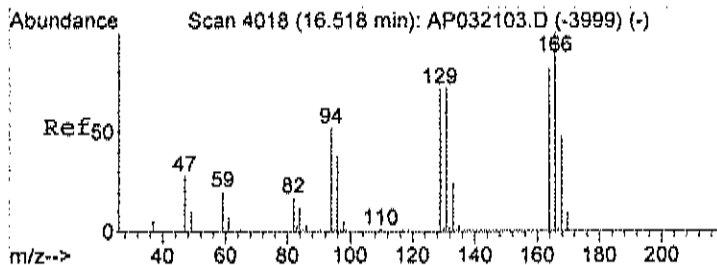
Tgt Ion: 50 Resp: 28464
 Ion Ratio Lower Upper
 50 100
 52 34.6 3.9 43.9



#44
 Trichloroethene
 Concen: 0.08 ppb
 RT: 13.37 min Scan# 2967
 Delta R.T. -0.00 min
 Lab File: AP032109.D
 Acq: 21 Mar 2018 5:44 pm

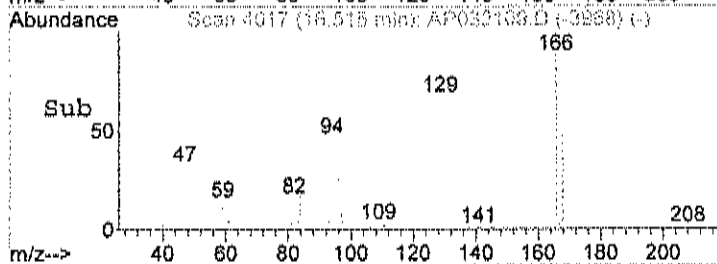
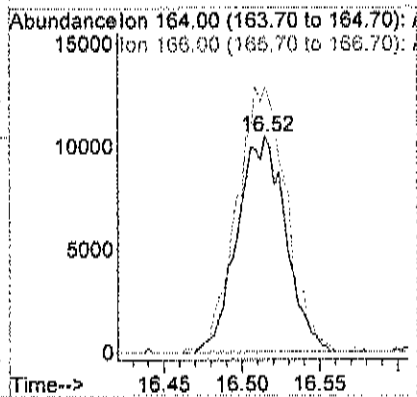
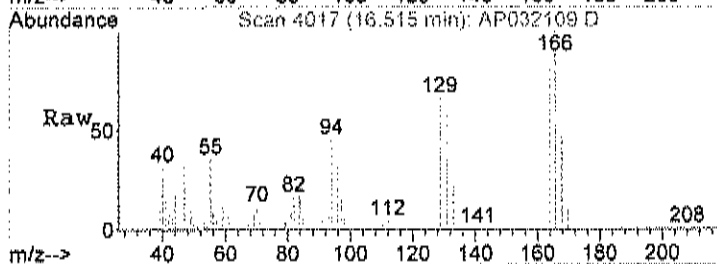
Tgt Ion: 130 Resp: 9067
 Ion Ratio Lower Upper
 130 100
 132 93.6 75.8 115.8
 95 126.2 74.2 114.2#





#56
 Tetrachloroethylene
 Concen: 0.18 ppb
 RT: 16.52 min Scan# 4017
 Delta R.T. -0.00 min
 Lab File: AP032109.D
 Acq: 21 Mar 2018 5:44 pm

Tgt Ion: 164 Resp: 22537
 Ion Ratio Lower Upper
 164 100
 166 125.6 106.7 146.7



Centek Laboratories, LLC

Date: 28-Mar-18

CLIENT: LaBella Associates, P.C.
Lab Order: C1803052
Project: 1740 Emerson St
Lab ID: C1803052-003A

Client Sample ID: IAQ-03 March 2018
Tag Number: 459,381
Collection Date: 3/19/2018
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-3			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 8:38:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 8:38:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 8:38:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/21/2018 8:38:00 PM
Chloromethane	0.43	0.15		ppbV	1	3/21/2018 8:38:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 8:38:00 PM
Tetrachloroethylene	0.11	0.15	J	ppbV	1	3/21/2018 8:38:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/21/2018 8:38:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	3/21/2018 8:38:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	3/21/2018 8:38:00 PM
Surr: Bromofluorobenzene	97.0	70-130		%REC	1	3/21/2018 8:38:00 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: 28-Mar-18

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	IAQ-03 March 2018
Lab Order:	C1803052	Tag Number:	459,381
Project:	1740 Emerson St	Collection Date:	3/19/2018
Lab ID:	C1803052-003A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE						Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 8:38:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 8:38:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 8:38:00 PM
Chloromethane	0.89	0.31		ug/m3	1	3/21/2018 8:38:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Tetrachloroethylene	0.75	1.0	J	ug/m3	1	3/21/2018 8:38:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 8:38:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 8:38:00 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\AP032113.D
 Acq On : 21 Mar 2018 8:38 pm
 Sample : C1803052-003A
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 22 10:57:18 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	59062	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	248077	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	240796	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	160703	0.97	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	97.00%

Target Compounds

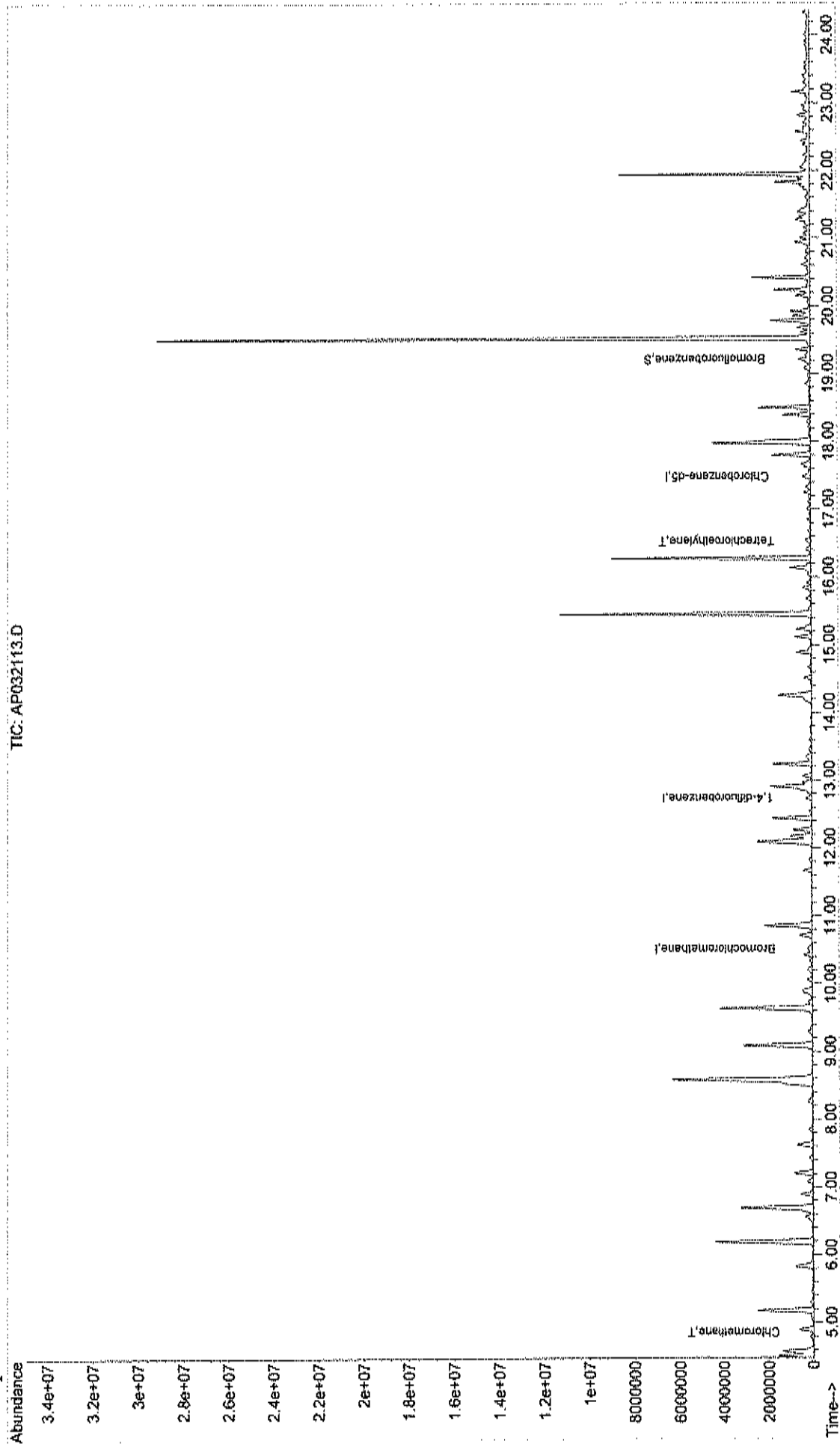
					Qvalue
4) Chloromethane	4.85	50	36338	0.43	ppb 96
56) Tetrachloroethylene	16.52	164	15538	0.11	ppb 94

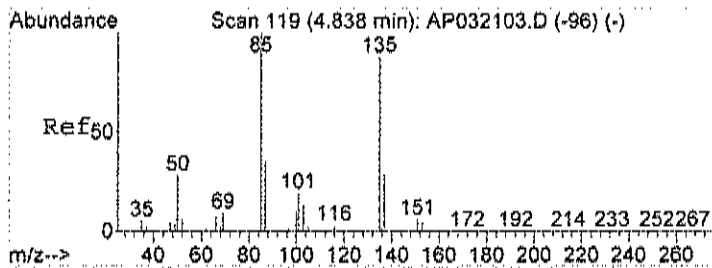
Data File : C:\HPCHEM\1\DATA\AP032113.D
 Acq On : 21 Mar 2018 8:38 pm
 Sample : C1803052-003A
 Misc : A318_IUG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 22 11:10 2018

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

Quant Results File: A318_IUG.RES

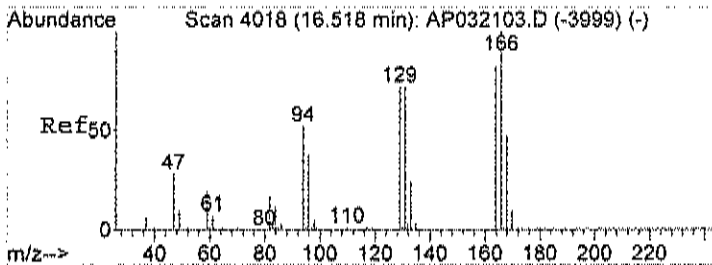
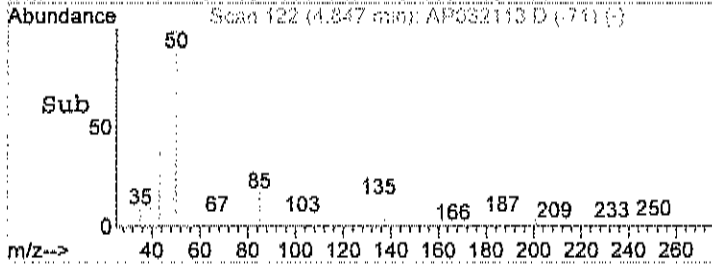
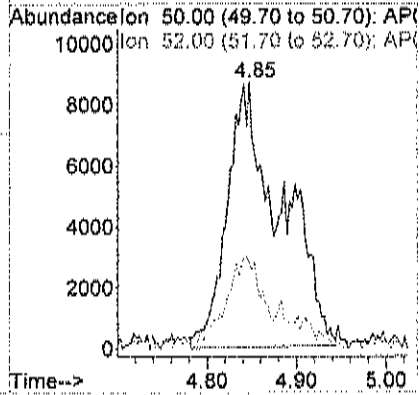
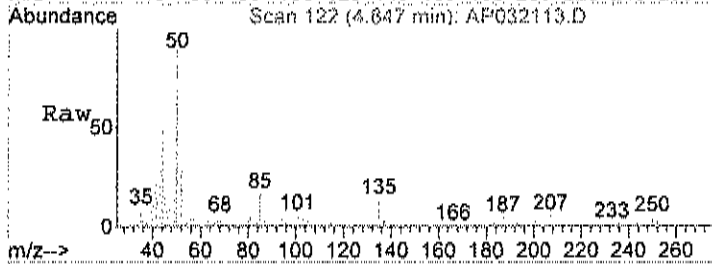
Method : C:\HPCHEM\1\METHODS\A318_IUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 28 07:43:58 2018
 Response via : Initial Calibration





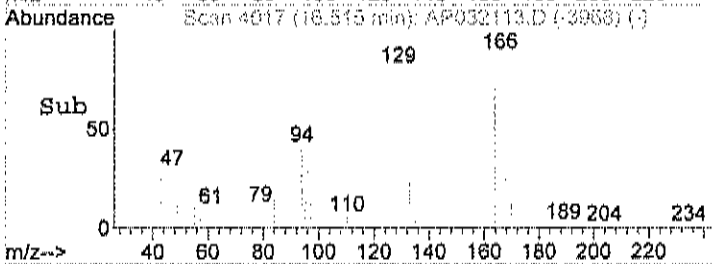
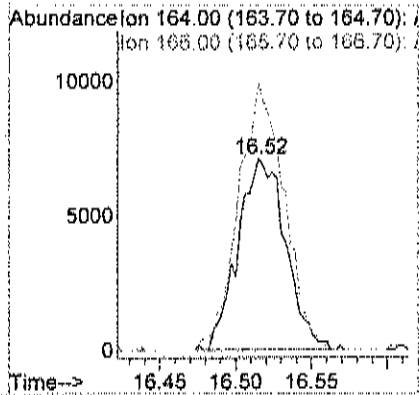
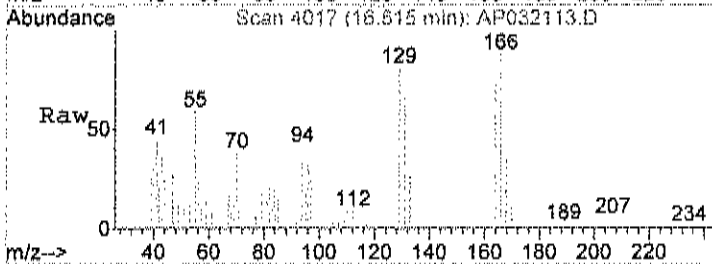
#4
 Chloromethane
 Concen: 0.43 ppb
 RT: 4.85 min Scan# 122
 Delta R.T. 0.00 min
 Lab File: AP032113.D
 Acq: 21 Mar 2018 8:38 pm

Tgt Ion: 50 Resp: 36338
 Ion Ratio Lower Upper
 50 100
 52 22.1 3.9 43.9



#56
 Tetrachloroethylene
 Concen: 0.11 ppb
 RT: 16.52 min Scan# 4017
 Delta R.T. -0.00 min
 Lab File: AP032113.D
 Acq: 21 Mar 2018 8:38 pm

Tgt Ion: 164 Resp: 15538
 Ion Ratio Lower Upper
 164 100
 166 133.2 106.7 146.7



Date: 28-Mar-18

Centek Laboratories, LLC

CLIENT: LaBella Associates, P.C.
 Lab Order: C1803052
 Project: 1740 Emerson St
 Lab ID: C1803052-004A

Client Sample ID: Outdoor March 2018
 Tag Number: 290,1152
 Collection Date: 3/19/2018
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-2			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:19:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:19:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 9:19:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:19:00 PM
Chloromethane	0.31	0.15		ppbV	1	3/21/2018 9:19:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 9:19:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	3/21/2018 9:19:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/21/2018 9:19:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	3/21/2018 9:19:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	3/21/2018 9:19:00 PM
Surr: Bromofluorobenzene	81.0	70-130		%REC	1	3/21/2018 9:19:00 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: 28-Mar-18

CLIENT: LaBella Associates, P.C.
Lab Order: C1803052
Project: 1740 Emerson St
Lab ID: C1803052-004A

Client Sample ID: Outdoor March 2018
Tag Number: 290,1152
Collection Date: 3/19/2018
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE						Analyst: RJP
			TO-15			
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 9:19:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 9:19:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:19:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 9:19:00 PM
Chloromethane	0.64	0.31		ug/m3	1	3/21/2018 9:19:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:19:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	3/21/2018 9:19:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 9:19:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:19:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 9:19:00 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

Data File : C:\HPCHEM\1\DATA\AP032114.D
 Acq On : 21 Mar 2018 9:19 pm
 Sample : C1803052-004A
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 22 10:57:19 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	54582	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	214431	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	160200	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.22	95	90061	0.81	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	81.00%

Target Compounds

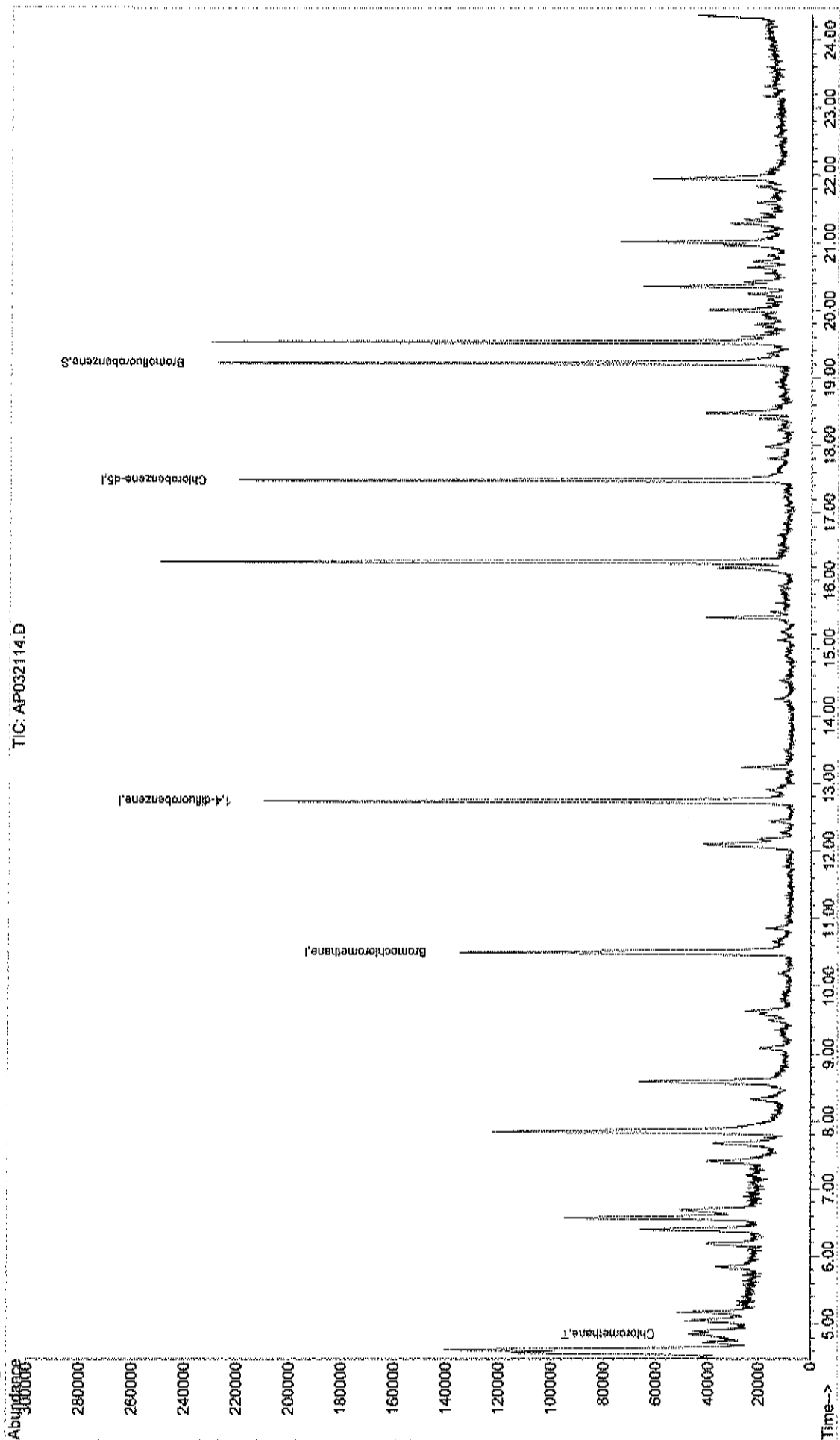
4) Chloromethane	4.84	50	24416	0.31	ppb	Qvalue 76
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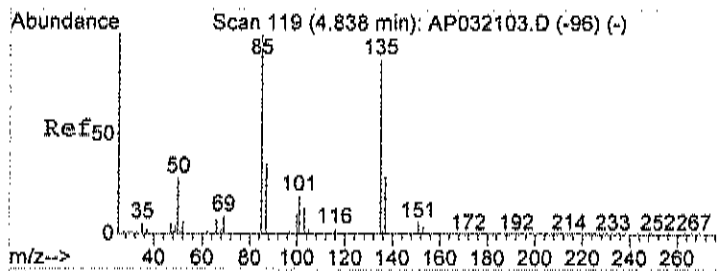
Data File : C:\HPCHEM\1\DATA\AP032114.D
Acq On : 21 Mar 2018 9:19 pm
Sample : C1803052-004A
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 22 11:11 2018

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

Quant Results File: A318_1UG.RES

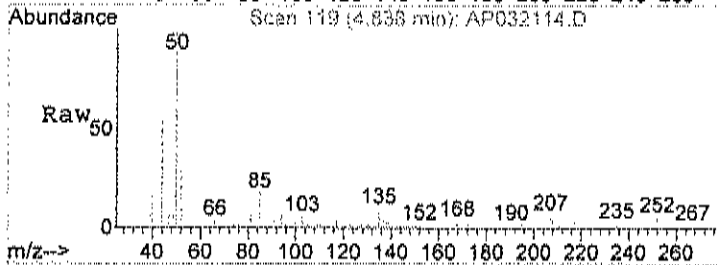
Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:58 2018
Response via : Initial Calibration



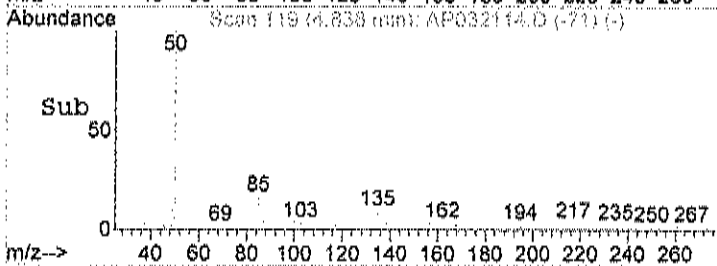
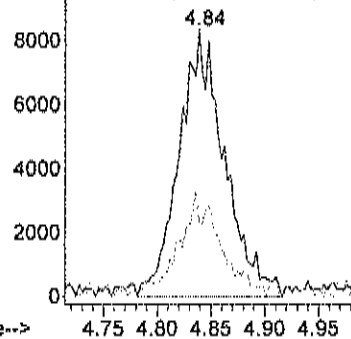


#4
 Chloromethane
 Concen: 0.31 ppb
 RT: 4.84 min Scan# 119
 Delta R.T. -0.01 min
 Lab File: AP032114.D
 Acq: 21 Mar 2018 9:19 pm

Tgt Ion	Resp	Ion Ratio	Lower	Upper
50	24416	100		
52		35.7	3.9	43.9



Abundance Ion 50.00 (49.70 to 50.70): AP032114.D
 Ion 52.00 (51.70 to 52.70): AP032114.D



Centek Laboratories, LLC

Date: 28-Mar-18

CLIENT: LaBella Associates, P.C.
Lab Order: C1803052
Project: 1740 Emerson St
Lab ID: C1803052-005A

Client Sample ID: Dupe March 2018
Tag Number: 1181,209
Collection Date: 3/19/2018
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD			Analyst:
Lab Vacuum In	-1			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:59:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:59:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 9:59:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/21/2018 9:59:00 PM
Chloromethane	0.30	0.15		ppbV	1	3/21/2018 9:59:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 9:59:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	3/21/2018 9:59:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/21/2018 9:59:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	3/21/2018 9:59:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	3/21/2018 9:59:00 PM
Surr: Bromofluorobenzene	81.0	70-130		%REC	1	3/21/2018 9:59:00 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: 28-Mar-18

CLIENT: LaBella Associates, P.C.
 Lab Order: C1803052
 Project: 1740 Emerson St
 Lab ID: C1803052-005A

Client Sample ID: Dupe March 2018
 Tag Number: 1181,209
 Collection Date: 3/19/2018
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE						Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 9:59:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 9:59:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:59:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 9:59:00 PM
Chloromethane	0.62	0.31		ug/m3	1	3/21/2018 9:59:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:59:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	3/21/2018 9:59:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 9:59:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:59:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 9:59:00 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

Data File : C:\HPCHEM\1\DATA\AP032115.D
 Acq On : 21 Mar 2018 9:59 pm
 Sample : C1803052-005A
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 22 10:57:20 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	50312	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	195257	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	134671	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.22	95	75013	0.81	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	81.00%

Target Compounds

4) Chloromethane	4.84	50	21524	0.30	ppb	Qvalue 80
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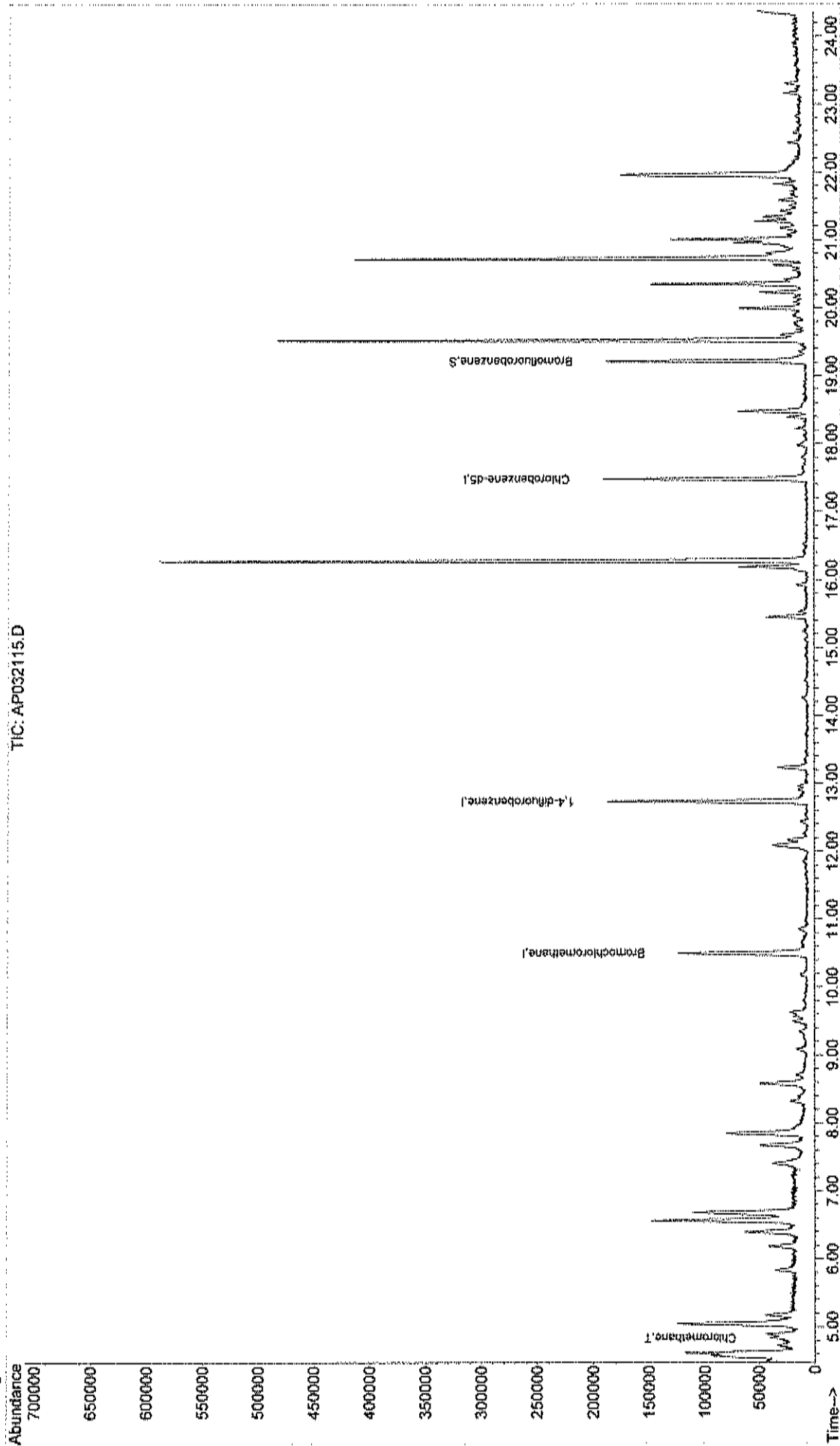
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Acq On : 21 Mar 2018 9:59 pm
Sample : C1803052-005A
Misc : A318_IUG
MS Integration Params: RTEINT.P
Quant Time: Mar 22 11:11 2018

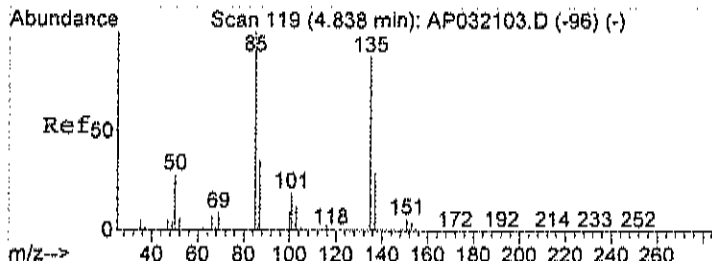
Vial: 7
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A318_IUG.RES

Method : C:\HPCHEM\1\METHODS\A318_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:58 2018
Response via : Initial Calibration

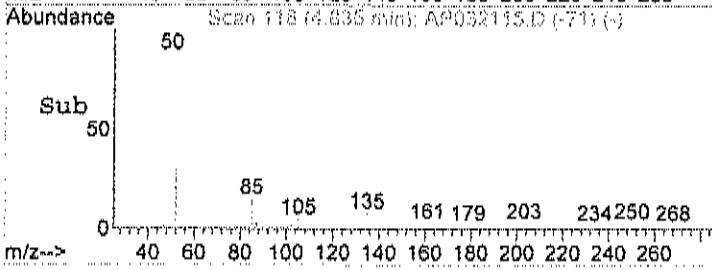
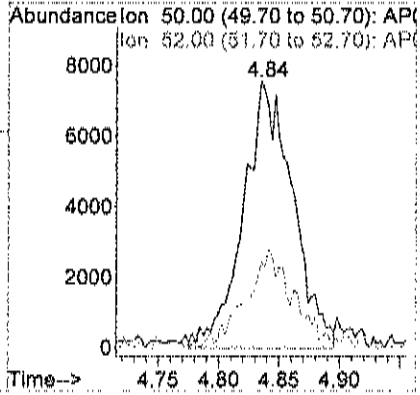
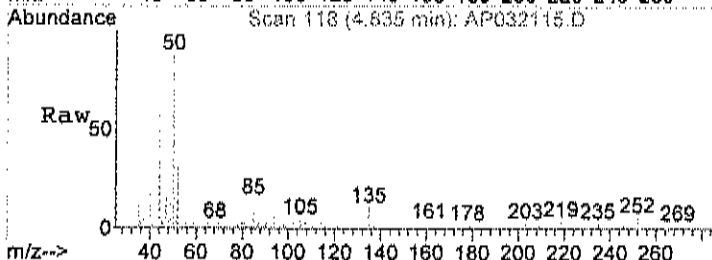
TIC: AP032115.D





#4
 Chloromethane
 Concen: 0.30 ppb
 RT: 4.84 min Scan# 118
 Delta R.T. -0.01 min
 Lab File: AP032115.D
 Acq: 21 Mar 2018 9:59 pm

Tgt Ion: 50 Resp: 21524
 Ion Ratio Lower Upper
 50 100
 52 33.8 3.9 43.9



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\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration

Calibration Files

2 =AP031804.D 1.5 =AP031805.D 1.25 =AP031806.D
 1 =AP031807.D 0.75 =AP031808.D 0.5 =AP031809.D

Compound	2	1.5	1.25	1	0.75	0.5	Avg	%RSD
1) I Bromochloromethane	-----ISTD-----							
2) T Propylene	1.245	1.321	1.265	1.254	1.209	1.287	1.300	5.80
3) T Freon 12	5.553	5.626	5.568	5.665	5.687	5.788	5.814	6.58
4) T Chloromethane	1.327	1.254	1.324	1.323	1.355	1.361	1.445	16.09
5) T Freon 114	4.598	4.530	4.525	4.679	4.747	4.737	4.917	10.88
6) T Vinyl Chloride	1.175	1.169	1.178	1.197	1.196	1.227	1.350	19.67
7) T Butane	1.413	1.432	1.431	1.454	1.467	1.506	1.563	13.51
8) T 1,3-butadiene	0.944	0.936	0.915	0.957	0.911	1.003	1.030	15.88
9) T Bromomethane	1.517	1.433	1.463	1.475	1.448	1.506	1.559	10.40
10) T Chloroethane	0.496	0.472	0.478	0.489	0.491	0.523	0.522	11.21
11) T Ethanol	0.292	0.290	0.316	0.319	0.291	0.342	0.341	18.46
12) T Acrolein	0.319	0.298	0.294	0.297	0.321	0.329	0.329	12.33
13) T Vinyl Bromide	1.395	1.384	1.380	1.367	1.400	1.406	1.447	7.86
14) T Freon 11	5.702	5.642	5.570	5.742	5.731	5.820	5.991	9.35
15) T Acetone	0.379	0.369	0.378	0.368	0.387	0.370	0.379	2.98
16) T Pentane	0.792		0.777	0.808	0.804	0.847	0.866	24.15
17) T Isopropyl alcohol	1.151	2.121	1.136	1.180	1.232	1.244	1.399	25.46
18) T 1,1-dichloroeth	1.539	1.480	1.564	1.584	1.602	1.554	1.715	16.73
19) T Freon 113	3.706	3.623	3.715	3.734	3.767	3.762	3.720	5.84
20) t t-Butyl alcohol	2.479	2.396	2.522	2.435	2.532	2.490	2.517	4.26
21) T Methylene chlor	1.455	1.429	1.419	1.427	1.488	1.469	1.519	9.43
22) T Allyl chloride	1.801	1.756	1.774	1.860	1.735	1.742	1.828	6.85
23) T Carbon disulfid	3.369	3.318	3.351	3.327	3.448	3.474	3.533	8.40
24) T trans-1,2-dichl	1.979	1.965	1.940	1.966	1.984	1.847	1.967	3.16
25) T methyl tert-but	3.357	3.191	3.207	3.180	3.236	3.093	3.255	4.43
26) T 1,1-dichloroeth	3.075	3.016	3.020	3.051	3.064	3.053	3.197	7.83
27) T Vinyl acetate	3.158	2.983	2.948	2.959	2.773	2.677	2.877	5.60
28) T Methyl Ethyl Ke	0.678	0.634	0.631	0.630	0.625	0.638	0.646	4.83
29) T cis-1,2-dichlor	1.976	1.891	1.907	1.922	1.883	1.884	2.054	13.89
30) T Hexane	2.041	2.003	1.979	1.997	1.908	1.893	1.999	4.02
31) T Ethyl acetate	3.121	3.014	2.985	2.999	2.905	2.949	3.018	2.73
32) T Chloroform	3.651	3.588	3.643	3.673	3.669	3.638	3.756	5.66
33) T Tetrahydrofuran	1.503	1.426	1.393	1.397	1.382	1.293	1.414	4.80
34) T 1,2-dichloroeth	2.339	2.280	2.267	2.311	2.283	2.342	2.352	4.40
35) I 1,4-difluorobenzene	-----ISTD-----							
36) T 1,1,1-trichloro	0.849	0.852	0.831	0.845	0.840	0.872	0.873	5.92
37) T Cyclohexane	0.513	0.484	0.474	0.461	0.448	0.432	0.461	6.18
38) T Carbon tetrachl	0.929	0.926	0.913	0.920	0.903	0.937	1.033	16.56
39) T Benzene	1.057	1.047	1.047	1.029	1.014	1.053	1.059	4.30
40) T Methyl methacry	0.456	0.425	0.398	0.378	0.365	0.354	0.380	11.66
41) T 1,4-dioxane	0.220	0.219	0.207	0.203	0.202	0.191	0.200	8.35
42) T 2,2,4-trimethyl	1.669	1.601	1.564	1.525	1.472	1.467	1.523	5.45
43) T Heptane	0.601	0.580	0.544	0.528	0.508	0.491	0.524	9.29
44) T Trichloroethene	0.461	0.468	0.451	0.455	0.451	0.450	0.489	11.06
45) T 1,2-dichloropro	0.438	0.444	0.426	0.422	0.431	0.432	0.442	4.36
46) T Bromodichlorome	0.924	0.922	0.909	0.915	0.897	0.911	0.930	3.46
47) T cis-1,3-dichlor	0.583	0.561	0.534	0.517	0.496	0.480	0.511	8.93
48) T trans-1,3-dichl	0.417	0.394	0.381	0.365	0.342	0.329	0.363	8.71
49) T 1,1,2-trichloro	0.473	0.474	0.460	0.452	0.466	0.468	0.471	2.79
50) I Chlorobenzene-d5	-----ISTD-----							
51) T Toluene	0.848	0.799	0.773	0.751	0.701	0.674	0.743	8.52

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration

Calibration Files

2 =AP031804.D 1.5 =AP031805.D 1.25 =AP031806.D
 1 =AP031807.D 0.75 =AP031808.D 0.5 =AP031809.D

Compound	2	1.5	1.25	1	0.75	0.5	Avg	%RSD
52) T Methyl Isobutyl	0.919	0.842	0.852	0.832	0.806	0.808	0.827	5.64
53) T Dibromochlorome	1.105	1.075	1.104	1.095	1.097	1.110	1.125	4.80
54) T Methyl Butyl Ke	0.851	0.742	0.768	0.724	0.681	0.659	0.715	10.02
55) T 1,2-dibromoetha	0.866	0.841	0.841	0.843	0.826	0.825	0.848	2.73
56) T Tetrachloroethy	0.598	0.576	0.578	0.576	0.577	0.599	0.607	7.74
57) T Chlorobenzene	1.154	1.118	1.113	1.122	1.096	1.078	1.124	4.62
58) T Ethylbenzene	1.848	1.715	1.651	1.538	1.444	1.337	1.526	12.89
59) T m&p-xylene	1.612	1.521	1.495	1.449	1.333	1.168	1.329	17.33
60) T Nonane	1.181	1.089	1.079	1.031	0.940	0.864	0.958	17.32
61) T Styrene	1.236	1.183	1.156	1.147	1.077	1.023	1.072	13.04
62) T Bromoform	1.080	1.060	1.037	1.051	1.042	1.050	1.060	1.73
63) T o-xylene	1.800	1.731	1.741	1.726	1.694	1.583	1.621	11.62
64) T Cumene	2.097	1.944	1.869	1.766	1.645	1.524	1.711	14.76
65) S Bromofluorobenz	0.794	0.785	0.778	0.772	0.766	0.723	0.690	14.35
66) T 1,1,2,2-tetrach	1.384	1.357	1.381	1.419	1.415	1.481	1.459	7.60
67) T Propylbenzene	0.571	0.524	0.506	0.478	0.443	0.418	0.469	13.08
68) T 2-Chlorotoluene	0.616	0.592	0.602	0.580	0.553	0.538	0.557	9.25
69) T 4-ethyltoluene	2.295	2.128	2.110	2.023	1.906	1.781	1.911	14.89
70) T 1,3,5-trimethyl	1.958	1.865	1.850	1.828	1.731	1.616	1.693	14.32
71) T 1,2,4-trimethyl	1.657	1.525	1.438	1.337	1.238	1.131	1.311	16.47
72) T 1,3-dichloroben	1.239	1.167	1.170	1.148	1.096	1.056	1.113	7.26
73) T benzyl chloride	1.056	0.966	0.949	0.906	0.861	0.814	0.897	9.96
74) T 1,4-dichloroben	1.239	1.180	1.171	1.117	1.082	0.999	1.073	12.10
75) T 1,2,3-trimethyl	1.784	1.667	1.634	1.576	1.471	1.274	1.449	18.56
76) T 1,2-dichloroben	1.202	1.150	1.145	1.116	1.067	1.069	1.090	7.22
77) T 1,2,4-trichloro	0.431	0.398	0.377	0.349	0.323	0.299	0.340	17.64
78) T Naphthalene	0.842	0.796	0.759	0.694	0.641	0.569	0.646	18.86
79) T Hexachloro-1,3-	0.887	0.878	0.857	0.863	0.860	0.899	0.885	3.14

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031804.D Vial: 4
 Acq On : 18 Mar 2018 5:47 pm Operator: RJP
 Sample : A1UG_2.0 Inst : MSD #1
 Misc : A318_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:34:59 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.49	128	50967	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	210664	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	166841	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 19.21 95 132542 1.03 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 103.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.57	41	126873	1.98	ppb	95
3) Freon 12	4.63	85	566028	1.96	ppb	100
4) Chloromethane	4.84	50	135293	2.01	ppb	98
5) Freon 114	4.85	85	468698	1.97	ppb	99
6) Vinyl Chloride	5.06	62	119808	1.96	ppb	100
7) Butane	5.18	43	144021	1.94	ppb	98
8) 1,3-butadiene	5.18	39	96192	1.97	ppb	94
9) Bromomethane	5.55	94	154625	2.06	ppb	100
10) Chloroethane	5.74	64	50602	2.03	ppb	97
11) Ethanol	5.84	45	29812m #	1.83	ppb	
12) Acrolein	6.46	56	32518	2.15	ppb	95
13) Vinyl Bromide	6.10	106	142191	2.04	ppb	97
14) Freon 11	6.40	101	581181	1.99	ppb	100
15) Acetone	6.57	58	38617	2.06	ppb	88
16) Pentane	6.69	42	80699	1.96	ppb	99
17) Isopropyl alcohol	6.68	45	117298	1.95	ppb	98
18) 1,1-dichloroethene	7.20	96	156858	1.94	ppb	# 83
19) Freon 113	7.41	101	377782	1.99	ppb	# 87
20) t-Butyl alcohol	7.43	59	252646	2.04	ppb	92
21) Methylene chloride	7.68	84	148361	2.04	ppb	# 79
22) Allyl chloride	7.66	41	183542	1.94	ppb	86
23) Carbon disulfide	7.85	76	343430	2.03	ppb	99
24) trans-1,2-dichloroethene	8.65	61	201759	2.01	ppb	88
25) methyl tert-butyl ether	8.66	73	342194	2.11	ppb	88
26) 1,1-dichloroethane	9.08	63	313456	2.02	ppb	99
27) Vinyl acetate	9.06	43	321947	2.14	ppb	85
28) Methyl Ethyl Ketone	9.57	72	69082	2.15	ppb	# 100
29) cis-1,2-dichloroethene	10.04	61	201433	2.06	ppb	89
30) Hexane	9.63	57	208022	2.04	ppb	98
31) Ethyl acetate	10.18	43	318091	2.08	ppb	97
32) Chloroform	10.66	83	372147	1.99	ppb	100
33) Tetrahydrofuran	10.82	42	153183	2.15	ppb	83
34) 1,2-dichloroethane	11.75	62	238453	2.02	ppb	97
36) 1,1,1-trichloroethane	11.49	97	357653	2.01	ppb	100
37) Cyclohexane	12.17	56	216154	2.23	ppb	86
38) Carbon tetrachloride	12.11	117	391286	2.02	ppb	99
39) Benzene	12.08	78	445248	2.05	ppb	98
40) Methyl methacrylate	13.58	41	191933	2.41	ppb	# 83
41) 1,4-dioxane	13.61	88	92880	2.17	ppb	86
42) 2,2,4-trimethylpentane	12.91	57	703384	2.19	ppb	99
43) Heptane	13.24	43	253076	2.27	ppb	86
44) Trichloroethene	13.37	130	194412	2.03	ppb	93
45) 1,2-dichloropropane	13.47	63	184699	2.08	ppb	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031804.D
 Acq On : 18 Mar 2018 5:47 pm
 Sample : A1UG_2.0
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:34:59 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.80	83	389340	2.02	ppb	99
47) cis-1,3-dichloropropene	14.61	75	245534	2.25	ppb	96
48) trans-1,3-dichloropropene	15.36	75	175654	2.29	ppb	98
49) 1,1,2-trichloroethane	15.69	97	199287	2.09	ppb	100
51) Toluene	15.45	92	282862	2.26	ppb	100
52) Methyl Isobutyl Ketone	14.51	43	306639	2.21	ppb	93
53) Dibromochloromethane	16.43	129	368735	2.02	ppb	100
54) Methyl Butyl Ketone	15.86	43	283807	2.35	ppb	94
55) 1,2-dibromoethane	16.69	107	289106	2.05	ppb	99
56) Tetrachloroethylene	16.52	164	199489	2.08	ppb	99
57) Chlorobenzene	17.53	112	385007	2.06	ppb	94
58) Ethylbenzene	17.80	91	616655	2.40	ppb	98
59) m&p-xylene	18.01	91	1075965	4.45	ppb	99
60) Nonane	18.39	43	394211	2.29	ppb	85
61) Styrene	18.47	104	412570	2.16	ppb	99
62) Bromoform	18.60	173	360364	2.06	ppb	99
63) o-xylene	18.50	91	600779	2.09	ppb	100
64) Cumene	19.10	105	699652	2.37	ppb	99
66) 1,1,2,2-tetrachloroethane	18.97	83	461698	1.95	ppb	99
67) Propylbenzene	19.68	120	190391	2.39	ppb	85
68) 2-Chlorotoluene	19.73	126	205452	2.12	ppb	94
69) 4-ethyltoluene	19.86	105	765965	2.27	ppb	100
70) 1,3,5-trimethylbenzene	19.93	105	653363	2.14	ppb	100
71) 1,2,4-trimethylbenzene	20.42	105	552845	2.48	ppb	99
72) 1,3-dichlorobenzene	20.75	146	413388	2.16	ppb	99
73) benzyl chloride	20.82	91	352504	2.33	ppb	97
74) 1,4-dichlorobenzene	20.90	146	413292	2.22	ppb	99
75) 1,2,3-trimethylbenzene	20.94	105	595165	2.26	ppb	100
76) 1,2-dichlorobenzene	21.26	146	401096	2.15	ppb	98
77) 1,2,4-trichlorobenzene	23.38	180	143843	2.47	ppb	97
78) Naphthalene	23.59	128	280997m /	2.43	ppb	
79) Hexachloro-1,3-butadiene	23.71	225	295829	2.06	ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP031804.D A318_1UG.M Wed Mar 28 06:59:18 2018 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031805.D Vial: 5
 Acq On : 18 Mar 2018 6:28 pm Operator: RJP
 Sample : A1UG_1.50 Inst : MSD #1
 Misc : A318_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:34:41 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	51190	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	208236	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	167267	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 19.22 95 131230 1.02 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 102.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.56	41	101405	1.58	ppb	90
3) Freon 12	4.62	85	432007	1.49	ppb	99
4) Chloromethane	4.84	50	96298	1.42	ppb	98
5) Freon 114	4.85	85	347832	1.45	ppb	98
6) Vinyl Chloride	5.05	62	89793	1.46	ppb	98
7) Butane	5.17	43	109918	1.48	ppb	98
8) 1,3-butadiene	5.18	39	71884	1.47	ppb	97
9) Bromomethane	5.55	94	110011	1.46	ppb	97
10) Chloroethane	5.73	64	36269	1.45	ppb	96
11) Ethanol	5.85	45	22289	1.36	ppb	86
12) Acrolein	6.45	56	22898	1.51	ppb	96
13) Vinyl Bromide	6.10	106	106301	1.52	ppb	98
14) Freon 11	6.40	101	433197	1.47	ppb	100
15) Acetone	6.56	58	28300	1.50	ppb	# 85
16) Pentane	6.69	42	122620	2.96	ppb	96
17) Isopropyl alcohol	6.68	45	162878	2.70	ppb	93
18) 1,1-dichloroethene	7.20	96	113626	1.40	ppb	# 81
19) Freon 113	7.41	101	278168	1.46	ppb	87
20) t-Butyl alcohol	7.44	59	184003	1.48	ppb	# 90
21) Methylene chloride	7.68	84	109706	1.50	ppb	# 80
22) Allyl chloride	7.67	41	134800	1.42	ppb	87
23) Carbon disulfide	7.85	76	254743	1.50	ppb	99
24) trans-1,2-dichloroethene	8.65	61	150884	1.50	ppb	89
25) methyl tert-butyl ether	8.66	73	245031	1.51	ppb	84
26) 1,1-dichloroethane	9.08	63	231620	1.48	ppb	100
27) Vinyl acetate	9.06	43	229046	1.51	ppb	95
28) Methyl Ethyl Ketone	9.57	72	48709	1.51	ppb	# 100
29) cis-1,2-dichloroethene	10.04	61	145171	1.48	ppb	90
30) Hexane	9.63	57	153815	1.50	ppb	97
31) Ethyl acetate	10.17	43	231418	1.51	ppb	99
32) Chloroform	10.66	83	275518	1.47	ppb	100
33) Tetrahydrofuran	10.82	42	109467	1.53	ppb	84
34) 1,2-dichloroethane	11.76	62	175068	1.48	ppb	99
36) 1,1,1-trichloroethane	11.49	97	266184	1.51	ppb	99
37) Cyclohexane	12.17	56	151260	1.58	ppb	87
38) Carbon tetrachloride	12.12	117	289277	1.51	ppb	98
39) Benzene	12.08	78	326985	1.53	ppb	98
40) Methyl methacrylate	13.58	41	132891	1.69	ppb	# 85
41) 1,4-dioxane	13.61	88	68256	1.62	ppb	88
42) 2,2,4-trimethylpentane	12.91	57	500200	1.57	ppb	97
43) Heptane	13.24	43	181014	1.65	ppb	86
44) Trichloroethene	13.38	130	146288	1.54	ppb	94
45) 1,2-dichloropropane	13.47	63	138823	1.58	ppb	100

(#) = qualifier out of range (m) = manual integration
 AP031805.D A318_1UG.M Wed Mar 28 06:59:21 2018

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031805.D
 Acq On : 18 Mar 2018 6:28 pm
 Sample : A1UG_1.50
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:34:41 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.80	83	288092	1.51	ppb	99
47) cis-1,3-dichloropropene	14.61	75	175264	1.63	ppb	97
48) trans-1,3-dichloropropene	15.36	75	122974	1.62	ppb	97
49) 1,1,2-trichloroethane	15.69	97	148122	1.57	ppb	100
51) Toluene	15.45	92	200346	1.59	ppb	99
52) Methyl Isobutyl Ketone	14.51	43	211228	1.52	ppb	91
53) Dibromochloromethane	16.43	129	269609	1.47	ppb	100
54) Methyl Butyl Ketone	15.86	43	186079	1.54	ppb	93
55) 1,2-dibromoethane	16.69	107	211071	1.50	ppb	99
56) Tetrachloroethylene	16.52	164	144405	1.50	ppb	98
57) Chlorobenzene	17.54	112	280498	1.49	ppb	94
58) Ethylbenzene	17.80	91	430369	1.67	ppb	98
59) m&p-xylene	18.01	91	763431	3.15	ppb	99
60) Nonane	18.39	43	273193	1.58	ppb	85
61) Styrene	18.47	104	296833	1.55	ppb	99
62) Bromoform	18.60	173	265961	1.51	ppb	100
63) o-xylene	18.50	91	434349	1.50	ppb	100
64) Cumene	19.10	105	487865	1.65	ppb	100
66) 1,1,2,2-tetrachloroethane	18.97	83	340574	1.44	ppb	98
67) Propylbenzene	19.68	120	131487	1.65	ppb	83
68) 2-Chlorotoluene	19.73	126	148520	1.53	ppb	91
69) 4-ethyltoluene	19.86	105	533867	1.58	ppb	100
70) 1,3,5-trimethylbenzene	19.93	105	467880	1.53	ppb	100
71) 1,2,4-trimethylbenzene	20.42	105	382655	1.71	ppb	98
72) 1,3-dichlorobenzene	20.75	146	292703	1.52	ppb	99
73) benzyl chloride	20.83	91	242335	1.60	ppb	97
74) 1,4-dichlorobenzene	20.89	146	296113	1.58	ppb	98
75) 1,2,3-trimethylbenzene	20.94	105	418316	1.59	ppb	100
76) 1,2-dichlorobenzene	21.26	146	288575	1.55	ppb	98
77) 1,2,4-trichlorobenzene	23.38	180	99969	1.71	ppb	98
78) Naphthalene	23.59	128	199623	1.72	ppb	96
79) Hexachloro-1,3-butadiene	23.71	225	220385	1.53	ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP031805.D A318_1UG.M Wed Mar 28 06:59:21 2018 MSD1

Quantitation Report (QT Reviewed)

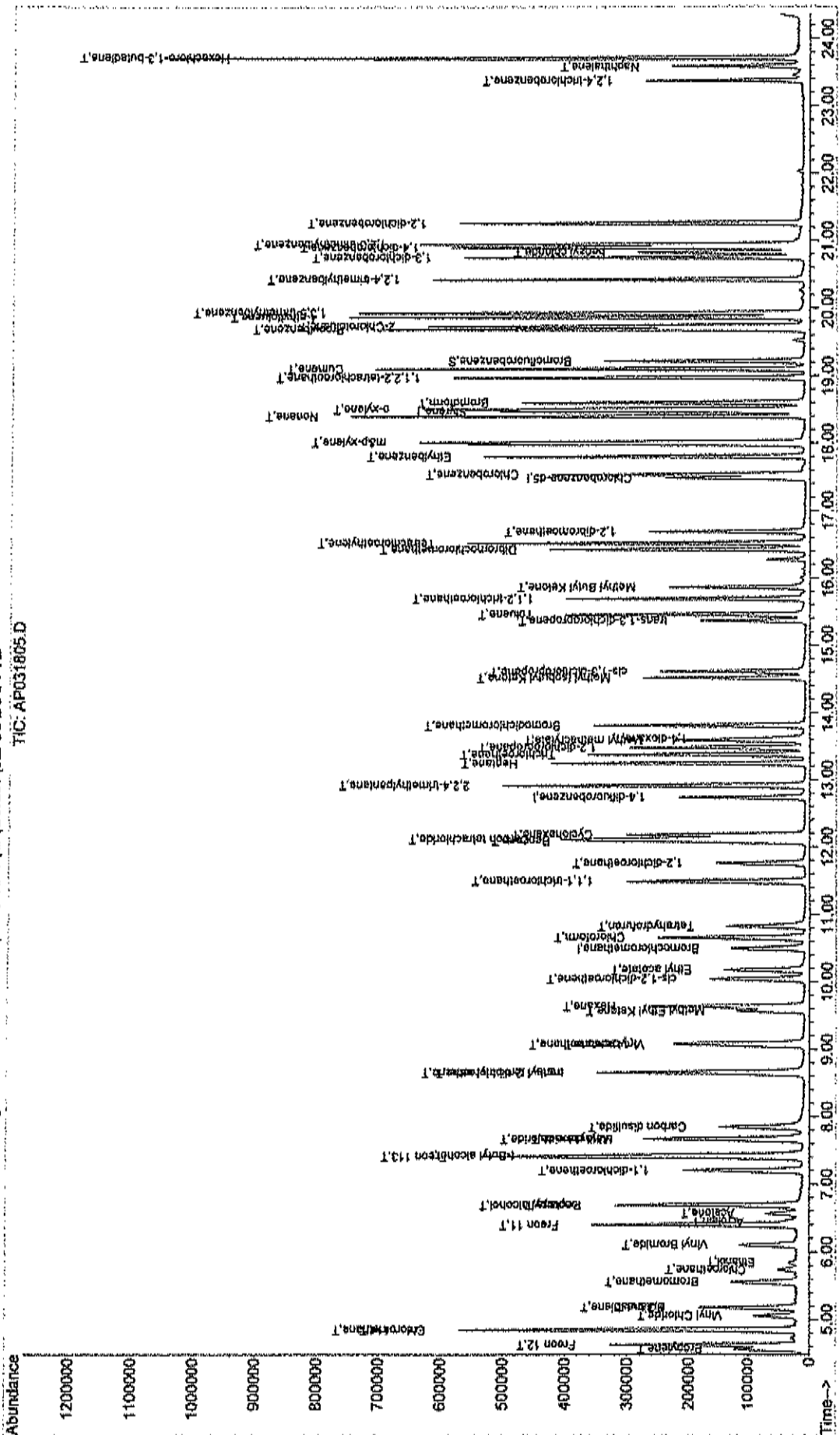
Data File : C:\HPCHEM\1\DATA\AP031805.D
Acq On : 18 Mar 2018 6:28 pm
Sample : A1UG 1.50
Misc : A318 IUG
MS Integration Params: RTEINT.P
Quant Time: Mar 19 8:34 2018

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

Quant Results File: A318_IUG.RES

Method : C:\HPCHEM\1\METHODS\A318_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 21 12:56:38 2018
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D

TIC: AP031805.D



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031806.D
 Acq On : 18 Mar 2018 7:09 pm
 Sample : ALUG_1.25
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:34:24 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	51032	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.74	114	209013	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	161243	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
65) Bromofluorobenzene	19.22	95	125469	1.01	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	101.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.56	41	80709	1.26	ppb	95
3) Freon 12	4.62	85	355209	1.23	ppb	99
4) Chloromethane	4.84	50	84456	1.25	ppb	100
5) Freon 114	4.85	85	288644	1.21	ppb	98
6) Vinyl Chloride	5.05	62	75167	1.23	ppb	97
7) Butane	5.18	43	91267	1.23	ppb	98
8) 1,3-butadiene	5.18	39	58373	1.20	ppb	100
9) Bromomethane	5.56	94	93300	1.24	ppb	97
10) Chloroethane	5.75	64	30460	1.22	ppb	# 81
11) Ethanol	5.84	45	20169m \wedge	1.24	ppb	
12) Acrolein	6.46	56	18750	1.24	ppb	91
13) Vinyl Bromide	6.11	106	88023	1.26	ppb	98
14) Freon 11	6.40	101	355314	1.21	ppb	100
15) Acetone	6.57	58	24090	1.28	ppb	# 80
16) Pentane	6.70	42	49591	1.20	ppb	95
17) Isopropyl alcohol	6.68	45	72466	1.20	ppb	98
18) 1,1-dichloroethene	7.20	96	99749	1.23	ppb	# 84
19) Freon 113	7.41	101	236964	1.24	ppb	88
20) t-Butyl alcohol	7.44	59	160875	1.29	ppb	93
21) Methylene chloride	7.68	84	90524	1.24	ppb	# 78
22) Allyl chloride	7.66	41	113184	1.19	ppb	85
23) Carbon disulfide	7.85	76	213760	1.26	ppb	98
24) trans-1,2-dichloroethene	8.65	61	123758	1.23	ppb	89
25) methyl tert-butyl ether	8.67	73	204567	1.26	ppb	86
26) 1,1-dichloroethane	9.09	63	192673	1.24	ppb	99
27) Vinyl acetate	9.06	43	188061	1.25	ppb	93
28) Methyl Ethyl Ketone	9.57	72	40251	1.25	ppb	# 100
29) cis-1,2-dichloroethene	10.04	61	121638	1.24	ppb	90
30) Hexane	9.63	57	126240	1.24	ppb	97
31) Ethyl acetate	10.18	43	190401	1.24	ppb	98
32) Chloroform	10.66	83	232403	1.24	ppb	99
33) Tetrahydrofuran	10.83	42	88884	1.25	ppb	84
34) 1,2-dichloroethane	11.76	62	144615	1.23	ppb	99
36) 1,1,1-trichloroethane	11.49	97	217079	1.23	ppb	99
37) Cyclohexane	12.17	56	123804	1.28	ppb	86
38) Carbon tetrachloride	12.11	117	238507	1.24	ppb	100
39) Benzene	12.08	78	273418	1.27	ppb	98
40) Methyl methacrylate	13.59	41	104107	1.32	ppb	# 85
41) 1,4-dioxane	13.62	88	54189	1.28	ppb	87
42) 2,2,4-trimethylpentane	12.91	57	408726	1.28	ppb	99
43) Heptane	13.24	43	142018	1.29	ppb	88
44) Trichloroethene	13.38	130	117723	1.24	ppb	94
45) 1,2-dichloropropane	13.48	63	111174	1.26	ppb	99

(#) = qualifier out of range (m) = manual integration
 AP031806.D A318_1UG.M Wed Mar 28 06:59:24 2018

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031806.D
 Acq On : 18 Mar 2018 7:09 pm
 Sample : A1UG_1.25
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:34:24 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.81	83	237460	1.24	ppb	99
47) cis-1,3-dichloropropene	14.61	75	139424	1.29	ppb	96
48) trans-1,3-dichloropropene	15.36	75	99658	1.31	ppb	98
49) 1,1,2-trichloroethane	15.69	97	120085	1.27	ppb	98
51) Toluene	15.46	92	155862	1.29	ppb	99
52) Methyl Isobutyl Ketone	14.51	43	171648	1.28	ppb	91
53) Dibromochloromethane	16.42	129	222616	1.26	ppb	98
54) Methyl Butyl Ketone	15.86	43	154812	1.33	ppb	91
55) 1,2-dibromoethane	16.69	107	169571	1.25	ppb	98
56) Tetrachloroethylene	16.52	164	116527	1.26	ppb	98
57) Chlorobenzene	17.54	112	224429	1.24	ppb	94
58) Ethylbenzene	17.80	91	332813	1.34	ppb	98
59) m&p-xylene	18.01	91	602639	2.58	ppb	99
60) Nonane	18.39	43	217563	1.31	ppb	84
61) Styrene	18.47	104	232973	1.26	ppb	99
62) Bromoform	18.60	173	209084	1.23	ppb	99
63) o-xylene	18.51	91	350846	1.26	ppb	100
64) Cumene	19.10	105	376696	1.32	ppb	100
66) 1,1,2,2-tetrachloroethane	18.97	83	278418	1.22	ppb	99
67) Propylbenzene	19.68	120	102030	1.32	ppb	84
68) 2-Chlorotoluene	19.73	126	121283	1.30	ppb	98
69) 4-ethyltoluene	19.86	105	425242	1.30	ppb	99
70) 1,3,5-trimethylbenzene	19.93	105	372870	1.26	ppb	97
71) 1,2,4-trimethylbenzene	20.42	105	289908	1.34	ppb	100
72) 1,3-dichlorobenzene	20.75	146	235747	1.27	ppb	99
73) benzyl chloride	20.83	91	191342	1.31	ppb	97
74) 1,4-dichlorobenzene	20.90	146	236093	1.31	ppb	99
75) 1,2,3-trimethylbenzene	20.95	105	329296	1.30	ppb	100
76) 1,2-dichlorobenzene	21.26	146	230811	1.28	ppb	99
77) 1,2,4-trichlorobenzene	23.38	180	75954	1.35	ppb	99
78) Naphthalene	23.59	128	152973	1.37	ppb	95
79) Hexachloro-1,3-butadiene	23.71	225	172651	1.24	ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP031806.D A318_1UG.M Wed Mar 28 06:59:24 2018 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031807.D
 Acq On : 18 Mar 2018 7:48 pm
 Sample : A1UG_1.0
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:33:58 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	10.49	128	49622	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	205236	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	155903	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	120375	1.00	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	100.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.56	41	62241	1.00	ppb	98
3) Freon 12	4.63	85	281128	1.00	ppb	100
4) Chloromethane	4.84	50	65633	1.00	ppb	97
5) Freon 114	4.85	85	232191	1.00	ppb	99
6) Vinyl Chloride	5.06	62	59422	1.00	ppb	99
7) Butane	5.18	43	72138	1.00	ppb	98
8) 1,3-butadiene	5.18	39	47497	1.00	ppb	96
9) Bromomethane	5.56	94	73191	1.00	ppb	99
10) Chloroethane	5.75	64	24252	1.00	ppb	98
11) Ethanol	5.84	45	15850	1.00	ppb	# 79
12) Acrolein	6.47	56	14714	1.00	ppb	93
13) Vinyl Bromide	6.11	106	67822	1.00	ppb	95
14) Freon 11	6.40	101	284917	1.00	ppb	100
15) Acetone	6.57	58	18257	1.00	ppb	90
16) Pentane	6.70	42	40099	1.00	ppb	96
17) Isopropyl alcohol	6.69	45	58530	1.00	ppb	99
18) 1,1-dichloroethene	7.20	96	78622	1.00	ppb	# 85
19) Freon 113	7.41	101	185264	1.00	ppb	88
20) t-Butyl alcohol	7.44	59	120830	1.00	ppb	# 88
21) Methylene chloride	7.67	84	70792	1.00	ppb	# 77
22) Allyl chloride	7.66	41	92274	1.00	ppb	84
23) Carbon disulfide	7.85	76	165081	1.00	ppb	88
24) trans-1,2-dichloroethene	8.65	61	97533	1.00	ppb	87
25) methyl tert-butyl ether	8.66	73	157817	1.00	ppb	84
26) 1,1-dichloroethane	9.08	63	151395	1.00	ppb	100
27) Vinyl acetate	9.06	43	146808	1.00	ppb	94
28) Methyl Ethyl Ketone	9.57	72	31281	1.00	ppb	# 100
29) cis-1,2-dichloroethene	10.04	61	95358	1.00	ppb	89
30) Hexane	9.63	57	99088	1.00	ppb	97
31) Ethyl acetate	10.18	43	148802	1.00	ppb	96
32) Chloroform	10.66	83	182265	1.00	ppb	99
33) Tetrahydrofuran	10.84	42	69327	1.00	ppb	79
34) 1,2-dichloroethane	11.76	62	114662	1.00	ppb	99
36) 1,1,1-trichloroethane	11.49	97	173362	1.00	ppb	99
37) Cyclohexane	12.17	56	94630	1.00	ppb	87
38) Carbon tetrachloride	12.11	117	188787	1.00	ppb	99
39) Benzene	12.08	78	211165	1.00	ppb	98
40) Methyl methacrylate	13.59	41	77578	1.00	ppb	# 81
41) 1,4-dioxane	13.62	88	41640	1.00	ppb	84
42) 2,2,4-trimethylpentane	12.91	57	313051	1.00	ppb	97
43) Heptane	13.24	43	108426	1.00	ppb	87
44) Trichloroethene	13.37	130	93392	1.00	ppb	95
45) 1,2-dichloropropane	13.48	63	86518	1.00	ppb	100

(#) = qualifier out of range (m) = manual integration
 AP031807.D A318_1UG.M Wed Mar 28 06:59:27 2018

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031807.D
 Acq On : 18 Mar 2018 7:48 pm
 Sample : A1UG_1.0
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:33:58 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.81	83	187818	1.00	ppb	99
47) cis-1,3-dichloropropene	14.60	75	106128	1.00	ppb	97
48) trans-1,3-dichloropropene	15.37	75	74885	1.00	ppb	98
49) 1,1,2-trichloroethane	15.69	97	92692	1.00	ppb	99
51) Toluene	15.46	92	117111	1.00	ppb	100
52) Methyl Isobutyl Ketone	14.51	43	129739	1.00	ppb	90
53) Dibromochloromethane	16.42	129	170691	1.00	ppb	99
54) Methyl Butyl Ketone	15.87	43	112943	1.00	ppb	90
55) 1,2-dibromoethane	16.69	107	131477	1.00	ppb	99
56) Tetrachloroethylene	16.52	164	89724	1.00	ppb	97
57) Chlorobenzene	17.53	112	174911	1.00	ppb	94
58) Ethylbenzene	17.80	91	239806	1.00	ppb	100
59) m&p-xylene	18.01	91	451935	2.00	ppb	99
60) Nonane	18.40	43	160690	1.00	ppb	84
61) Styrene	18.47	104	178893	1.00	ppb	99
62) Bromoform	18.60	173	163797	1.00	ppb	100
63) o-xylene	18.50	91	269049	1.00	ppb	100
64) Cumene	19.10	105	275349	1.00	ppb	99
66) 1,1,2,2-tetrachloroethane	18.97	83	221158	1.00	ppb	99
67) Propylbenzene	19.68	120	74467	1.00	ppb	81
68) 2-Chlorotoluene	19.73	126	90476	1.00	ppb	93
69) 4-ethyltoluene	19.86	105	315348	1.00	ppb	99
70) 1,3,5-trimethylbenzene	19.93	105	285012	1.00	ppb	99
71) 1,2,4-trimethylbenzene	20.42	105	208516	1.00	ppb	100
72) 1,3-dichlorobenzene	20.75	146	178944	1.00	ppb	98
73) benzyl chloride	20.83	91	141324	1.00	ppb	97
74) 1,4-dichlorobenzene	20.90	146	174182	1.00	ppb	98
75) 1,2,3-trimethylbenzene	20.95	105	245637	1.00	ppb	99
76) 1,2-dichlorobenzene	21.27	146	174055	1.00	ppb	98
77) 1,2,4-trichlorobenzene	23.38	180	54418	1.00	ppb	99
78) Naphthalene	23.59	128	108235	1.00	ppb	95
79) Hexachloro-1,3-butadiene	23.71	225	134494	1.00	ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP031807.D A318_1UG.M Wed Mar 28 06:59:27 2018 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031808.D Vial: 8
 Acq On : 18 Mar 2018 8:27 pm Operator: RJP
 Sample : A1UG_0.75 Inst : MSD #1
 Misc : A318_1UG Multiplx: 1.00
 MS Integration Params: RTEINT.F
 Quant Time: Mar 19 08:35:43 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.49	128	49170	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.74	114	201576	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	152194	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	116546	0.99	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	99.00%	

Target Compounds

						Qvalue
2) Propylene	4.57	41	44573	0.72	ppb	99
3) Freon 12	4.63	85	209721	0.75	ppb	99
4) Chloromethane	4.85	50	49972	0.77	ppb	98
5) Freon 114	4.85	85	175066	0.76	ppb	99
6) Vinyl Chloride	5.07	62	44113	0.75	ppb	96
7) Butane	5.18	43	54085	0.76	ppb	100
8) 1,3-butadiene	5.17	39	33577	0.71	ppb	94
9) Bromomethane	5.55	94	53405	0.74	ppb	97
10) Chloroethane	5.74	64	18114	0.75	ppb	89
11) Ethanol	5.85	45	10726	0.68	ppb	82
12) Acrolein	6.47	56	11856m	0.81	ppb	
13) Vinyl Bromide	6.10	106	51621	0.77	ppb	98
14) Freon 11	6.40	101	211337	0.75	ppb	98
15) Acetone	6.57	58	14258	0.79	ppb	88
16) Pentane	6.69	42	29644	0.75	ppb	90
17) Isopropyl alcohol	6.69	45	45419	0.78	ppb	97
18) 1,1-dichloroethene	7.21	96	59071	0.76	ppb	# 84
19) Freon 113	7.41	101	138918	0.76	ppb	88
20) t-Butyl alcohol	7.44	59	93374	0.78	ppb	# 91
21) Methylene chloride	7.68	84	54892	0.78	ppb	# 83
22) Allyl chloride	7.66	41	63984	0.70	ppb	85
23) Carbon disulfide	7.86	76	127162	0.78	ppb	100
24) trans-1,2-dichloroethene	8.65	61	73162	0.76	ppb	87
25) methyl tert-butyl ether	8.67	73	119349	0.76	ppb	84
26) 1,1-dichloroethane	9.09	63	112986	0.75	ppb	99
27) Vinyl acetate	9.06	43	102261	0.70	ppb	89
28) Methyl Ethyl Ketone	9.57	72	23065	0.74	ppb	# 100
29) cis-1,2-dichloroethene	10.05	61	69427	0.73	ppb	91
30) Hexane	9.63	57	70361	0.72	ppb	97
31) Ethyl acetate	10.18	43	107120	0.73	ppb	97
32) Chloroform	10.66	83	135289	0.75	ppb	99
33) Tetrahydrofuran	10.83	42	50958	0.74	ppb	82
34) 1,2-dichloroethane	11.76	62	84175	0.74	ppb	100
36) 1,1,1-trichloroethane	11.49	97	127003	0.75	ppb	100
37) Cyclohexane	12.17	56	67780	0.73	ppb	88
38) Carbon tetrachloride	12.11	117	136561	0.74	ppb	99
39) Benzene	12.08	78	153355	0.74	ppb	97
40) Methyl methacrylate	13.59	41	55246	0.73	ppb	# 86
41) 1,4-dioxane	13.62	88	30494	0.75	ppb	77
42) 2,2,4-trimethylpentane	12.91	57	222529	0.72	ppb	95
43) Heptane	13.24	43	76785	0.72	ppb	87
44) Trichloroethene	13.37	130	68123	0.74	ppb	93
45) 1,2-dichloropropane	13.48	63	65142	0.77	ppb	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031808.D
 Acq On : 18 Mar 2018 8:27 pm
 Sample : A1UG_0.75
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:35:43 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

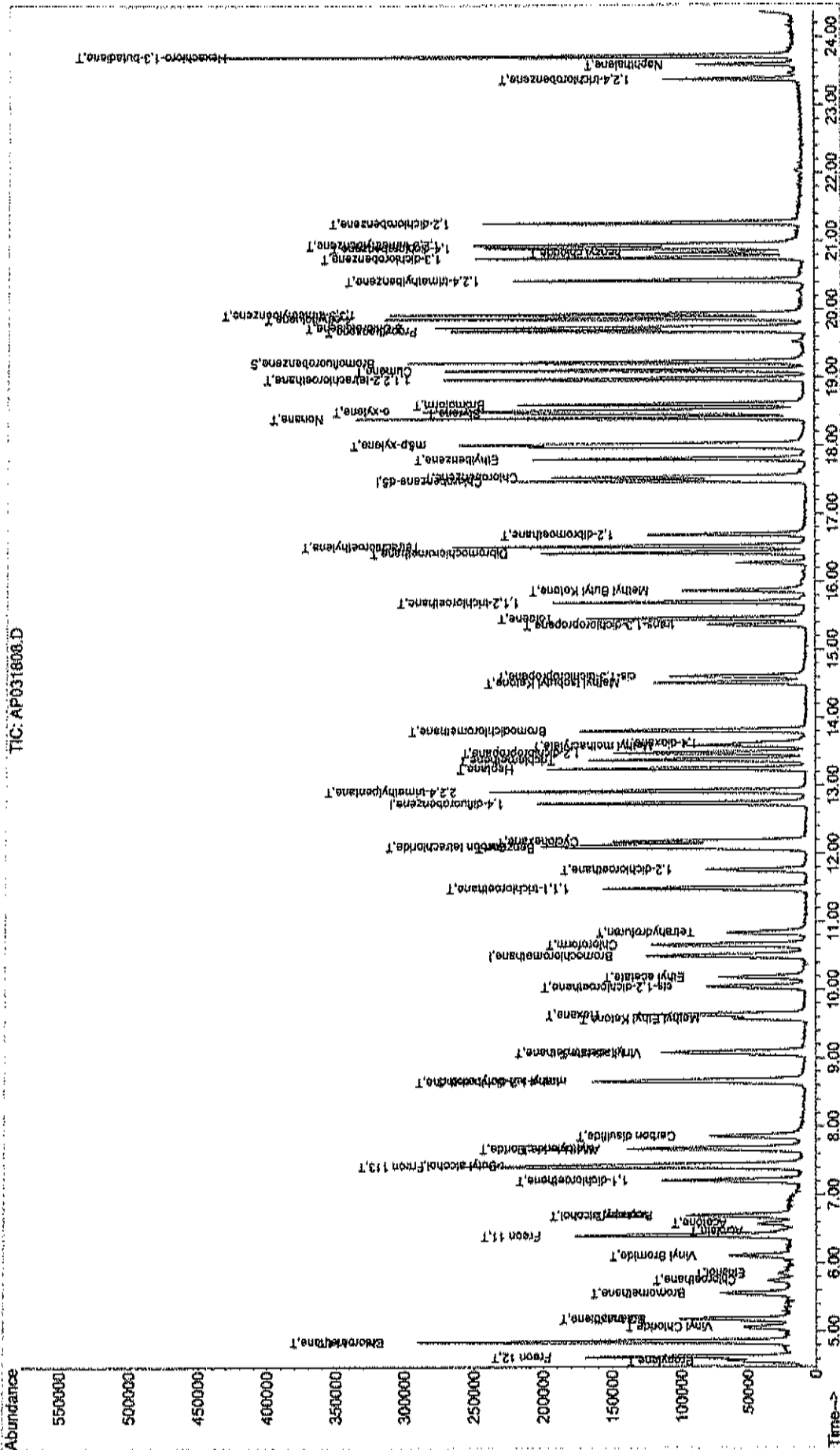
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.80	83	135594	0.74	ppb	100
47) cis-1,3-dichloropropene	14.61	75	74921	0.72	ppb	97
48) trans-1,3-dichloropropene	15.36	75	51731	0.70	ppb	97
49) 1,1,2-trichloroethane	15.69	97	70438	0.77	ppb	100
51) Toluene	15.45	92	80052	0.70	ppb	97
52) Methyl Isobutyl Ketone	14.52	43	92058	0.73	ppb	92
53) Dibromochloromethane	16.42	129	125186	0.75	ppb	99
54) Methyl Butyl Ketone	15.86	43	77750	0.71	ppb	93
55) 1,2-dibromoethane	16.69	107	94325	0.73	ppb	99
56) Tetrachloroethylene	16.52	164	65902	0.75	ppb	96
57) Chlorobenzene	17.54	112	125063	0.73	ppb	95
58) Ethylbenzene	17.80	91	164825	0.70	ppb	98
59) m&p-xylene	18.01	91	304224	1.38	ppb	100
60) Nonane	18.40	43	107303	0.68	ppb	84
61) Styrene	18.47	104	122912	0.70	ppb	98
62) Bromoform	18.60	173	118988	0.74	ppb	100
63) o-xylene	18.50	91	193360	0.74	ppb	97
64) Cumene	19.10	105	187812	0.70	ppb	99
66) 1,1,2,2-tetrachloroethane	18.97	83	161498	0.75	ppb	97
67) Propylbenzene	19.68	120	50608	0.70	ppb	82
68) 2-Chlorotoluene	19.73	126	63108	0.71	ppb	93
69) 4-ethyltoluene	19.86	105	217544	0.71	ppb	99
70) 1,3,5-trimethylbenzene	19.93	105	197564	0.71	ppb	99
71) 1,2,4-trimethylbenzene	20.42	105	141353	0.69	ppb	100
72) 1,3-dichlorobenzene	20.75	146	125134	0.72	ppb	99
73) benzyl chloride	20.83	91	98314	0.71	ppb	96
74) 1,4-dichlorobenzene	20.90	146	123451	0.73	ppb	98
75) 1,2,3-trimethylbenzene	20.95	105	167924	0.70	ppb	100
76) 1,2-dichlorobenzene	21.26	146	121765	0.72	ppb	98
77) 1,2,4-trichlorobenzene	23.38	180	36872	0.69	ppb	99
78) Naphthalene	23.59	128	73133	0.69	ppb	90
79) Hexachloro-1,3-butadiene	23.72	225	98159	0.75	ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP031808.D A318_1UG.M Wed Mar 28 06:59:31 2018 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031808.D
 Acq On : 18 Mar 2018 8:27 pm
 Sample : A1UG 0.75
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 8:41 2018
 Vial: 8
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00
 Quant Results File: A318_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031809.D
 Acq On : 18 Mar 2018 9:05 pm
 Sample : A1UG_0.50
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:36:20 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	49052	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	195249	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	143473	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
65) Bromofluorobenzene	19.21	95	103699	0.94	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	94.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.57	41	31577	0.51	ppb	93
3) Freon 12	4.63	85	141953	0.51	ppb	98
4) Chloromethane	4.84	50	33370	0.51	ppb	99
5) Freon 114	4.85	85	116181	0.51	ppb	100
6) Vinyl Chloride	5.07	62	30088	0.51	ppb	98
7) Butane	5.19	43	36943	0.52	ppb	97
8) 1,3-butadiene	5.19	39	24589	0.52	ppb	98
9) Bromomethane	5.56	94	36934	0.51	ppb	97
10) Chloroethane	5.75	64	12818	0.53	ppb	97
11) Ethanol	5.85	45	8383m ^a	0.54	ppb	
12) Acrolein	6.47	56	8078m ^b	0.56	ppb	
13) Vinyl Bromide	6.11	106	34482	0.51	ppb	98
14) Freon 11	6.40	101	142743	0.51	ppb	100
15) Acetone	6.59	58	9076	0.50	ppb	95
16) Pentane	6.70	42	20784	0.52	ppb	98
17) Isopropyl alcohol	6.70	45	30507	0.53	ppb	97
18) 1,1-dichloroethene	7.20	96	38112	0.49	ppb	# 85
19) Freon 113	7.41	101	92271	0.50	ppb	88
20) t-Butyl alcohol	7.44	59	61070	0.51	ppb	93
21) Methylene chloride	7.67	84	36034	0.51	ppb	# 78
22) Allyl chloride	7.66	41	42714	0.47	ppb	85
23) Carbon disulfide	7.86	76	85207	0.52	ppb	100
24) trans-1,2-dichloroethene	8.65	61	45296	0.47	ppb	91
25) methyl tert-butyl ether	8.67	73	75848	0.49	ppb	80
26) 1,1-dichloroethane	9.09	63	74889	0.50	ppb	99
27) Vinyl acetate	9.07	43	65653	0.45	ppb	86
28) Methyl Ethyl Ketone	9.58	72	15659	0.51	ppb	# 100
29) cis-1,2-dichloroethene	10.04	61	46201	0.49	ppb	89
30) Hexane	9.64	57	46427	0.47	ppb	95
31) Ethyl acetate	10.19	43	72336	0.49	ppb	99
32) Chloroform	10.65	83	89224	0.50	ppb	100
33) Tetrahydrofuran	10.84	42	31719	0.46	ppb	82
34) 1,2-dichloroethane	11.76	62	57431	0.51	ppb	97
36) 1,1,1-trichloroethane	11.49	97	85115	0.52	ppb	97
37) Cyclohexane	12.17	56	42154	0.47	ppb	86
38) Carbon tetrachloride	12.11	117	91492	0.51	ppb	99
39) Benzene	12.08	78	102803	0.51	ppb	98
40) Methyl methacrylate	13.59	41	34591	0.47	ppb	# 82
41) 1,4-dioxane	13.63	88	18690	0.47	ppb	80
42) 2,2,4-trimethylpentane	12.91	57	143185	0.48	ppb	97
43) Heptane	13.24	43	47912	0.46	ppb	85
44) Trichloroethene	13.38	130	43927	0.49	ppb	94
45) 1,2-dichloropropane	13.48	63	42188	0.51	ppb	98

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031809.D
 Acq On : 18 Mar 2018 9:05 pm
 Sample : A1UG_0.50
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:36:20 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.81	83	88922	0.50	ppb	99
47) cis-1,3-dichloropropene	14.61	75	46908	0.46	ppb	96
48) trans-1,3-dichloropropene	15.36	75	32080	0.45	ppb	98
49) 1,1,2-trichloroethane	15.69	97	45727	0.52	ppb	99
51) Toluene	15.46	92	48337	0.45	ppb	98
52) Methyl Isobutyl Ketone	14.52	43	57939	0.49	ppb	88
53) Dibromochloromethane	16.43	129	79647	0.51	ppb	100
54) Methyl Butyl Ketone	15.87	43	47265	0.45	ppb	90
55) 1,2-dibromoethane	16.69	107	59200	0.49	ppb	98
56) Tetrachloroethylene	16.52	164	42998	0.52	ppb	100
57) Chlorobenzene	17.53	112	77329	0.48	ppb	90
58) Ethylbenzene	17.80	91	95936	0.43	ppb	99
59) m&p-xylene	18.01	91	167588	0.81	ppb	100
60) Nonane	18.40	43	61949	0.42	ppb	# 81
61) Styrene	18.47	104	73380	0.45	ppb	98
62) Bromoform	18.60	173	75335	0.50	ppb	99
63) o-xylene	18.51	91	113540	0.46	ppb	97
64) Cumene	19.10	105	109330	0.43	ppb	99
66) 1,1,2,2-tetrachloroethane	18.97	83	106254	0.52	ppb	98
67) Propylbenzene	19.68	120	29960	0.44	ppb	82
68) 2-Chlorotoluene	19.73	126	38614	0.46	ppb	97
69) 4-ethyltoluene	19.86	105	127732	0.44	ppb	98
70) 1,3,5-trimethylbenzene	19.92	105	115958	0.44	ppb	100
71) 1,2,4-trimethylbenzene	20.42	105	81161	0.42	ppb	99
72) 1,3-dichlorobenzene	20.75	146	75732	0.46	ppb	99
73) benzyl chloride	20.83	91	58361	0.45	ppb	98
74) 1,4-dichlorobenzene	20.90	146	71666	0.45	ppb	98
75) 1,2,3-trimethylbenzene	20.95	105	91368	0.40	ppb	98
76) 1,2-dichlorobenzene	21.26	146	76683	0.48	ppb	99
77) 1,2,4-trichlorobenzene	23.38	180	21472	0.43	ppb	97
78) Naphthalene	23.59	128	40829	0.41	ppb	96
79) Hexachloro-1,3-butadiene	23.71	225	64500	0.52	ppb	99

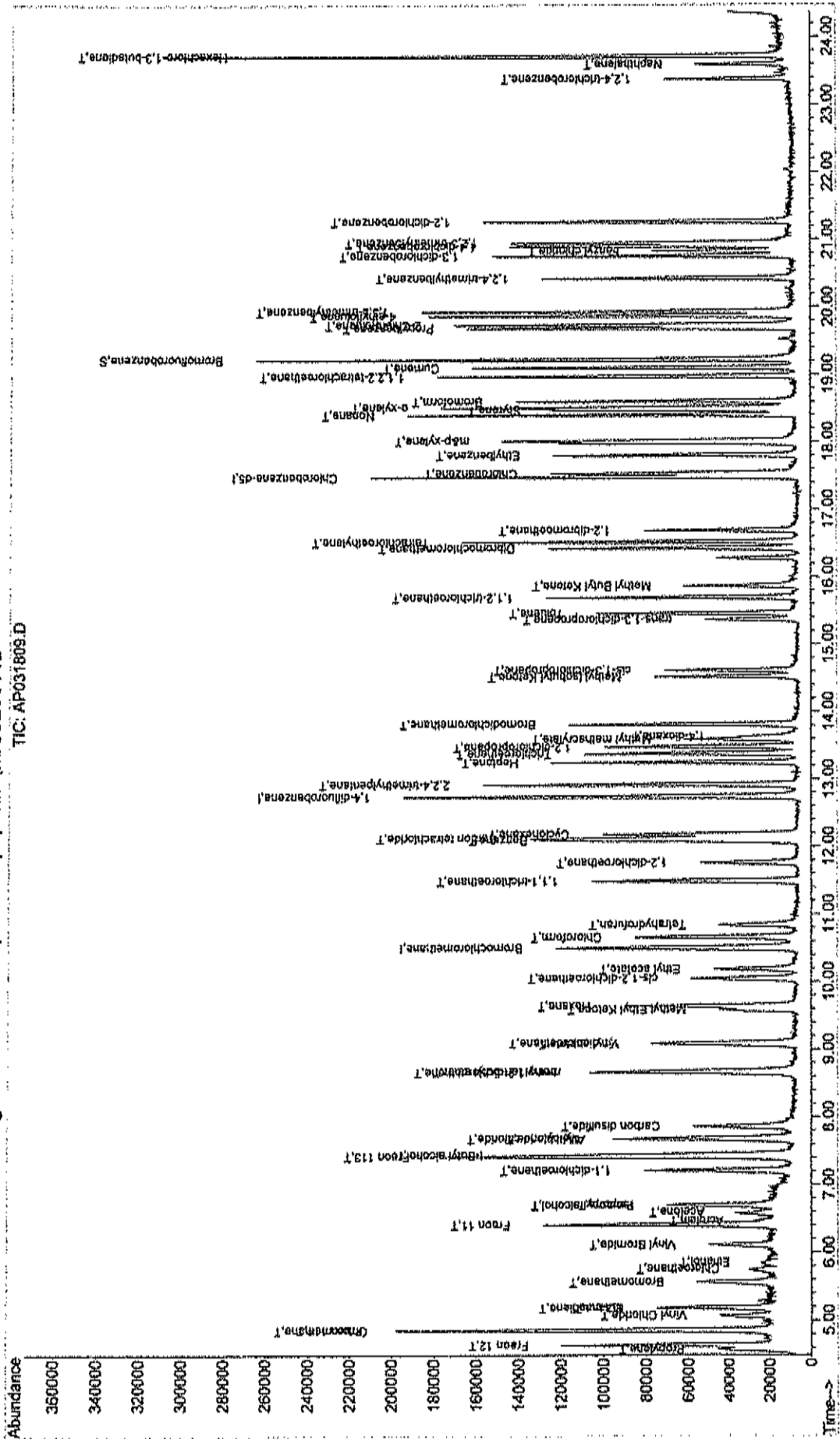
(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP031809.D A318_1UG.M Wed Mar 28 06:59:35 2018 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031809.D
Acq On : 18 Mar 2018 9:05 pm
Sample : ALUG 0.50
Misc : A318 1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 19 8:42 2018

Vial: 9
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A318_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 21 12:56:38 2018
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D



TIC: AP031809.D

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031810.D
 Acq On : 18 Mar 2018 9:42 pm
 Sample : A1UG_0.30
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:36:46 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.49	128	45565	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	185586	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	136295	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	93453	0.89	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	89.00%	

Target Compounds

Qvalue

2) Propylene	4.57	41	19407	0.34	ppb	92
3) Freon 12	4.63	85	80730	0.31	ppb	99
4) Chloromethane	4.85	50	26121	0.43	ppb	99
5) Freon 114	4.85	85	81099	0.38	ppb	95
6) Vinyl Chloride	5.06	62	22133	0.41	ppb	95
7) Butane	5.19	43	26441	0.40	ppb	93
8) 1,3-butadiene	5.19	39	18180	0.42	ppb	97
9) Bromomethane	5.57	94	25367	0.38	ppb	96
10) Chloroethane	5.74	64	8607	0.39	ppb	91
11) Ethanol	5.84	45	5883m	0.40	ppb	
12) Acrolein	6.47	56	5667m	0.42	ppb	
13) Vinyl Bromide	6.11	106	21376	0.34	ppb	98
14) Freon 11	6.41	101	90270	0.35	ppb	99
15) Acetone	6.59	58	5492m	0.33	ppb	
16) Pentane	6.69	42	18190m	0.49	ppb	
17) Isopropyl alcohol	6.70	45	24145m	0.45	ppb	
18) 1,1-dichloroethene	7.22	96	22570	0.31	ppb	# 85
19) Freon 113	7.41	101	56387	0.33	ppb	# 86
20) t-Butyl alcohol	7.45	59	34535	0.31	ppb	# 85
21) Methylene chloride	7.68	84	22329	0.34	ppb	# 81
22) Allyl chloride	7.67	41	25119	0.30	ppb	79
23) Carbon disulfide	7.85	76	52532	0.35	ppb	87
24) trans-1,2-dichloroethene	8.65	61	27086	0.30	ppb	91
25) methyl tert-butyl ether	8.68	73	43958	0.30	ppb	76
26) 1,1-dichloroethane	9.09	63	44444	0.32	ppb	98
27) Vinyl acetate	9.07	43	37629	0.28	ppb	94
28) Methyl Ethyl Ketone	9.58	72	8524	0.30	ppb	# 100
29) cis-1,2-dichloroethene	10.04	61	26769	0.31	ppb	92
30) Hexane	9.64	57	27646	0.30	ppb	98
31) Ethyl acetate	10.18	43	41229	0.30	ppb	89
32) Chloroform	10.66	83	55164	0.33	ppb	100
33) Tetrahydrofuran	10.84	42	19366	0.30	ppb	79
34) 1,2-dichloroethane	11.76	62	32988	0.31	ppb	99
36) 1,1,1-trichloroethane	11.49	97	50617	0.32	ppb	98
37) Cyclohexane	12.18	56	24531	0.29	ppb	87
38) Carbon tetrachloride	12.12	117	54344	0.32	ppb	99
39) Benzene	12.08	78	58979	0.31	ppb	98
40) Methyl methacrylate	13.58	41	19222	0.27	ppb	# 84
41) 1,4-dioxane	13.64	88	9838	0.26	ppb	86
42) 2,2,4-trimethylpentane	12.91	57	79692	0.28	ppb	90
43) Heptane	13.25	43	26126	0.27	ppb	87
44) Trichloroethene	13.38	130	26138	0.31	ppb	95
45) 1,2-dichloropropane	13.47	63	26203	0.33	ppb	67

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031810.D
 Acq On : 18 Mar 2018 9:42 pm
 Sample : ALUG_0.30
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:36:46 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.80	83	54074	0.32	ppb	98
47) cis-1,3-dichloropropene	14.62	75	26068	0.27	ppb	97
48) trans-1,3-dichloropropene	15.37	75	18443	0.27	ppb	93
49) 1,1,2-trichloroethane	15.69	97	27144	0.32	ppb	97
51) Toluene	15.46	92	27125	0.26	ppb	100
52) Methyl Isobutyl Ketone	14.52	43	32623	0.29	ppb	89
53) Dibromochloromethane	16.43	129	48317	0.32	ppb	98
54) Methyl Butyl Ketone	15.87	43	26383	0.27	ppb	82
55) 1,2-dibromoethane	16.69	107	34409	0.30	ppb	99
56) Tetrachloroethylene	16.52	164	26451	0.34	ppb	97
57) Chlorobenzene	17.54	112	43882	0.29	ppb	92
58) Ethylbenzene	17.80	91	54048	0.26	ppb	100
59) m&p-xylene	18.01	91	86493	0.44	ppb	100
60) Nonane	18.40	43	31943m /	0.23	ppb	
61) Styrene	18.47	104	37970	0.24	ppb	99
62) Bromoform	18.60	173	43814	0.31	ppb	98
63) o-xylene	18.51	91	59190	0.25	ppb	99
64) Cumene	19.10	105	60251	0.25	ppb	98
66) 1,1,2,2-tetrachloroethane	18.97	83	63345	0.33	ppb	99
67) Propylbenzene	19.68	120	16429	0.25	ppb	86
68) 2-Chlorotoluene	19.74	126	20762	0.26	ppb	99
69) 4-ethyltoluene	19.86	105	64196	0.23	ppb	98
70) 1,3,5-trimethylbenzene	19.93	105	59892	0.24	ppb	100
71) 1,2,4-trimethylbenzene	20.42	105	44266	0.24	ppb	98
72) 1,3-dichlorobenzene	20.75	146	41667	0.27	ppb	98
73) benzyl chloride	20.82	91	33252	0.27	ppb	96
74) 1,4-dichlorobenzene	20.90	146	37662	0.25	ppb	98
75) 1,2,3-trimethylbenzene	20.94	105	47481	0.22	ppb	97
76) 1,2-dichlorobenzene	21.26	146	41143	0.27	ppb	96
77) 1,2,4-trichlorobenzene	23.38	180	11185	0.24	ppb	96
78) Naphthalene	23.59	128	19659	0.21	ppb	96
79) Hexachloro-1,3-butadiene	23.71	225	36783	0.31	ppb	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP031810.D A318_1UG.M Wed Mar 28 06:59:38 2018 MSD1

Quantitation Report (QI Reviewed)

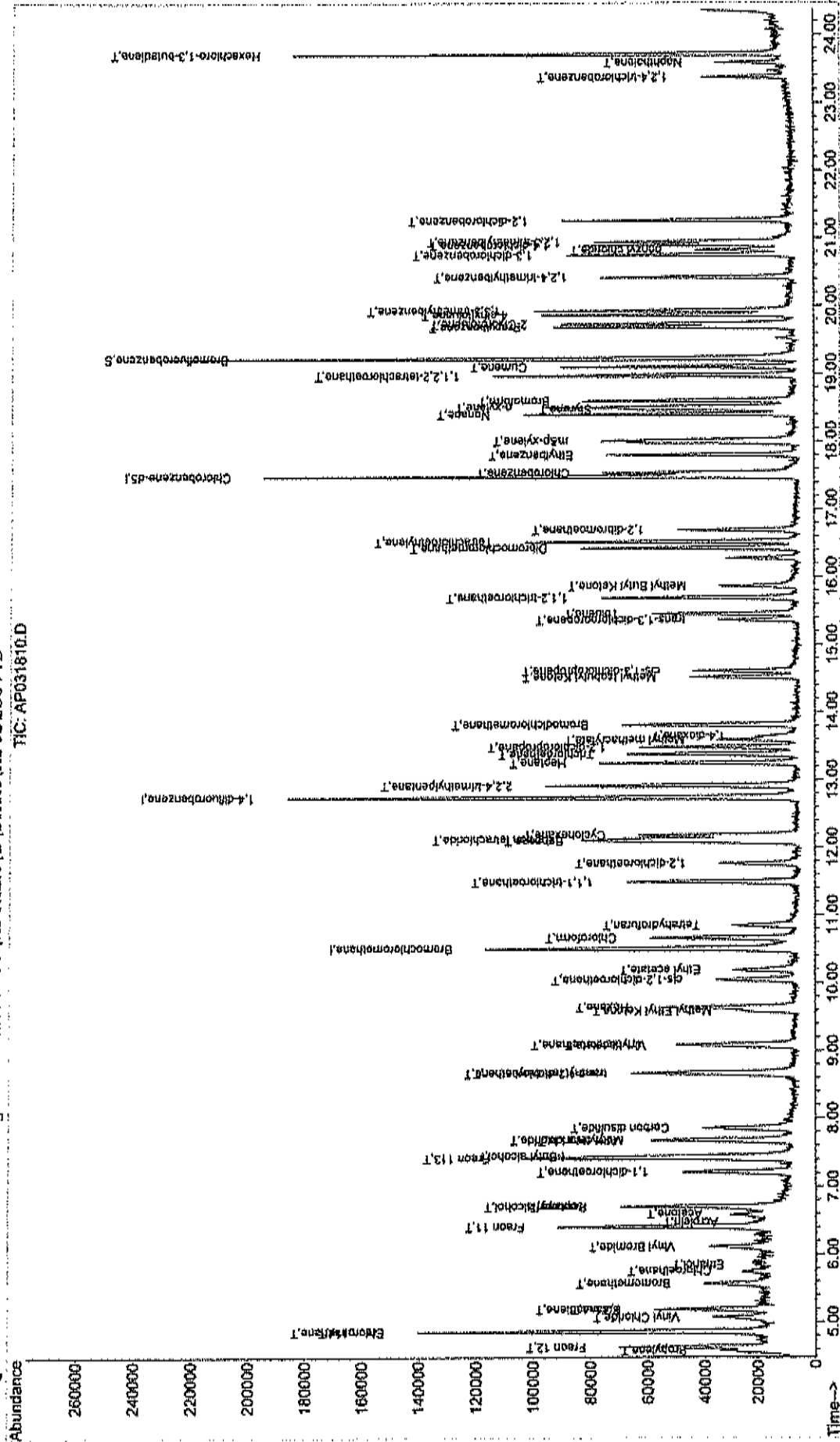
Data File : C:\HPCHEM\1\DATA\AP031810.D
Acq On : 18 Mar 2018 9:42 pm
Sample : A1UG_0.30
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 19 8:44 2018

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

Quant Results File: A318_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 21 12:56:38 2018
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D

File: AP031810.D



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031811.D Vial: 11
 Acq On : 18 Mar 2018 10:19 pm Operator: RJP
 Sample : A1UG_0.15 Inst : MSD #1
 Misc : A318_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:37:18 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.49	128	44941	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.74	114	184489	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	129043	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
65) Bromofluorobenzene	19.21	95	77409	0.78	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	78.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.57	41	9446	0.17	ppb	95
3) Freon 12	4.63	85	45273	0.18	ppb	99
4) Chloromethane	4.85	50	11471	0.19	ppb	84
5) Freon 114	4.86	85	37668	0.18	ppb	98
6) Vinyl Chloride	5.07	62	9054m	0.17	ppb	
7) Butane	5.18	43	12587	0.19	ppb	# 89
8) 1,3-butadiene	5.18	39	8416m	0.20	ppb	
9) Bromomethane	5.57	94	11969	0.18	ppb	92
10) Chloroethane	5.74	64	4005m	0.18	ppb	
11) Ethanol	5.85	45	3013m	0.21	ppb	
12) Acrolein	6.47	56	2408	0.18	ppb	91
13) Vinyl Bromide	6.10	106	11343	0.18	ppb	92
14) Freon 11	6.41	101	48012	0.19	ppb	97
15) Acetone	6.58	58	2543	0.15	ppb	90
16) Pentane	6.70	42	4754	0.13	ppb	# 41
17) Isopropyl alcohol	6.70	45	9204	0.17	ppb	93
18) 1,1-dichloroethene	7.21	96	12588	0.18	ppb	89
19) Freon 113	7.41	101	22446	0.13	ppb	86
20) t-Butyl alcohol	7.45	59	18574	0.17	ppb	# 83
21) Methylene chloride	7.68	84	12331	0.19	ppb	# 82
22) Allyl chloride	7.67	41	14272	0.17	ppb	# 60
23) Carbon disulfide	7.86	76	27864	0.19	ppb	90
24) trans-1,2-dichloroethene	8.65	61	13972	0.16	ppb	89
25) methyl tert-butyl ether	8.68	73	24016	0.17	ppb	79
26) 1,1-dichloroethane	9.09	63	24279	0.18	ppb	95
27) Vinyl acetate	9.07	43	18625	0.14	ppb	81
28) Methyl Ethyl Ketone	9.60	72	4793m	0.17	ppb	
29) cis-1,2-dichloroethene	10.04	61	14608	0.17	ppb	87
30) Hexane	9.64	57	14498	0.16	ppb	97
31) Ethyl acetate	10.19	43	21247	0.16	ppb	97
32) Chloroform	10.66	83	27994	0.17	ppb	96
33) Tetrahydrofuran	10.84	42	10134	0.16	ppb	# 31
34) 1,2-dichloroethane	11.76	62	17392	0.17	ppb	100
36) 1,1,1-trichloroethane	11.49	97	27279	0.18	ppb	98
37) Cyclohexane	12.17	56	11961	0.14	ppb	88
38) Carbon tetrachloride	12.12	117	28227	0.17	ppb	97
39) Benzene	12.08	78	32242	0.17	ppb	94
40) Methyl methacrylate	13.59	41	8862	0.13	ppb	# 84
41) 1,4-dioxane	13.64	88	4915	0.13	ppb	85
42) 2,2,4-trimethylpentane	12.91	57	40251	0.14	ppb	90
43) Heptane	13.24	43	13026	0.13	ppb	88
44) Trichloroethene	13.37	130	13631	0.16	ppb	93
45) 1,2-dichloropropane	13.48	63	13037	0.17	ppb	79

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031811.D
 Acq On : 18 Mar 2018 10:19 pm
 Sample : A1UG_0.15
 Misc : A318_LUG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:37:18 2018

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

Quant Results File: A318_LUG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_LUG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : LUG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.81	83	27331	0.16	ppb	98
47) cis-1,3-dichloropropene	14.60	75	12526	0.13	ppb	# 51
48) trans-1,3-dichloropropene	15.36	75	9654	0.14	ppb	94
49) 1,1,2-trichloroethane	15.69	97	13580	0.16	ppb	99
51) Toluene	15.45	92	14150	0.15	ppb	89
52) Methyl Isobutyl Ketone	14.51	43	14743	0.14	ppb	96
53) Dibromochloromethane	16.43	129	23891	0.17	ppb	97
54) Methyl Butyl Ketone	15.87	43	12508	0.13	ppb	84
55) 1,2-dibromoethane	16.70	107	17339	0.16	ppb	98
56) Tetrachloroethylene	16.52	164	13687	0.18	ppb	97
57) Chlorobenzene	17.53	112	23903	0.17	ppb	91
58) Ethylbenzene	17.80	91	26121	0.13	ppb	100
59) m&p-xylene	18.01	91	38479	0.21	ppb	# 55
60) Nonane	18.39	43	13594m	0.10	ppb	
61) Styrene	18.47	104	15946m	0.11	ppb	
62) Bromoform	18.60	173	21068	0.16	ppb	95
63) o-xylene	18.50	91	24083	0.11	ppb	99
64) Cumene	19.10	105	26430	0.12	ppb	98
66) 1,1,2,2-tetrachloroethane	18.97	83	32647	0.18	ppb	97
67) Propylbenzene	19.68	120	7903	0.13	ppb	88
68) 2-Chlorotoluene	19.74	126	8991	0.12	ppb	# 84
69) 4-ethyltoluene	19.86	105	28629	0.11	ppb	80
70) 1,3,5-trimethylbenzene	19.93	105	23905	0.10	ppb	99
71) 1,2,4-trimethylbenzene	20.42	105	20866	0.12	ppb	99
72) 1,3-dichlorobenzene	20.76	146	19594	0.13	ppb	99
73) benzyl chloride	20.83	91	15672	0.13	ppb	99
74) 1,4-dichlorobenzene	20.89	146	16954	0.12	ppb	99
76) 1,2-dichlorobenzene	21.26	146	18689	0.13	ppb	97
77) 1,2,4-trichlorobenzene	23.37	180	5132	0.11	ppb	88
78) Naphthalene	23.58	128	10281m	0.11	ppb	
79) Hexachloro-1,3-butadiene	23.71	225	18197	0.16	ppb	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP031811.D A318_LUG.M Wed Mar 28 06:59:41 2018 MSD1

Quantitation Report (QT Reviewed)

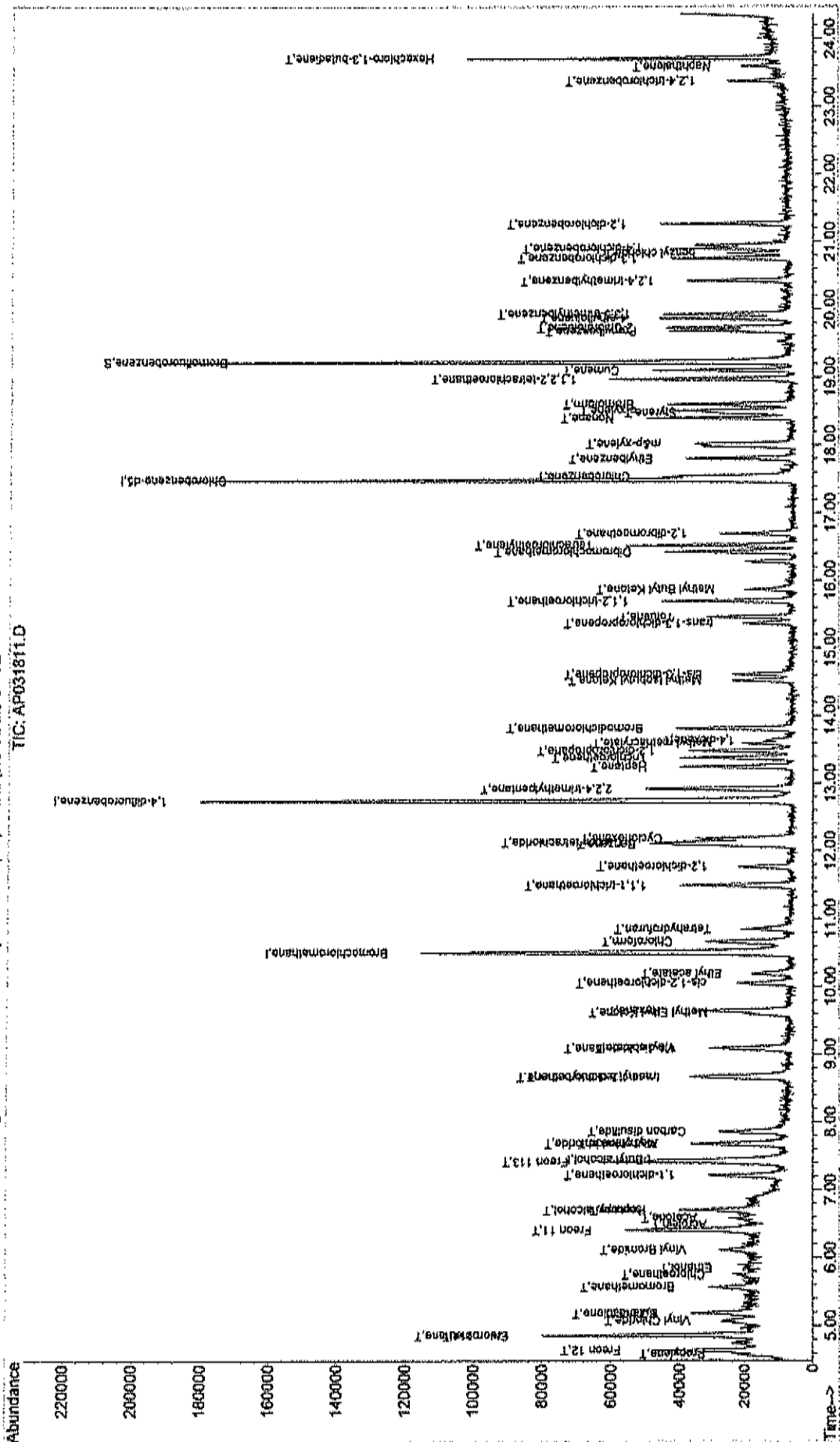
Data File : C:\HPCHEM\1\DATA\AP031811.D
Acq On : 18 Mar 2018 10:19 pm
Sample : A1UG 0.15
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 19 8:51 2018

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

Quant Results File: A318_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTS Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 21 12:56:38 2018
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D

TIC: AP031811.D



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031812.D Vial: 12
 Acq On : 18 Mar 2018 10:56 pm Operator: RJP
 Sample : A1UG_0.10 Inst : MSD #1
 Misc : A318_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:37:37 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	46119	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.74	114	179993	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	122701	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 19.22 95 71966 0.76 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 76.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	5.06	62	5711	0.10	ppb	91
18) 1,1-dichloroethene	7.21	96	8649	0.12	ppb	# 82
26) 1,1-dichloroethane	9.09	63	16786	0.12	ppb	99
29) cis-1,2-dichloroethene	10.05	61	9586	0.11	ppb	# 76
38) Carbon tetrachloride	12.12	117	20538	0.12	ppb	98
44) Trichloroethene	13.38	130	8999	0.11	ppb	89
78) Naphthalene	23.58	128	6809m	0.08	ppb	

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP031812.D A318_1UG.M Wed Mar 28 06:59:45 2018 MSD1

Quantitation Report (QT Reviewed)

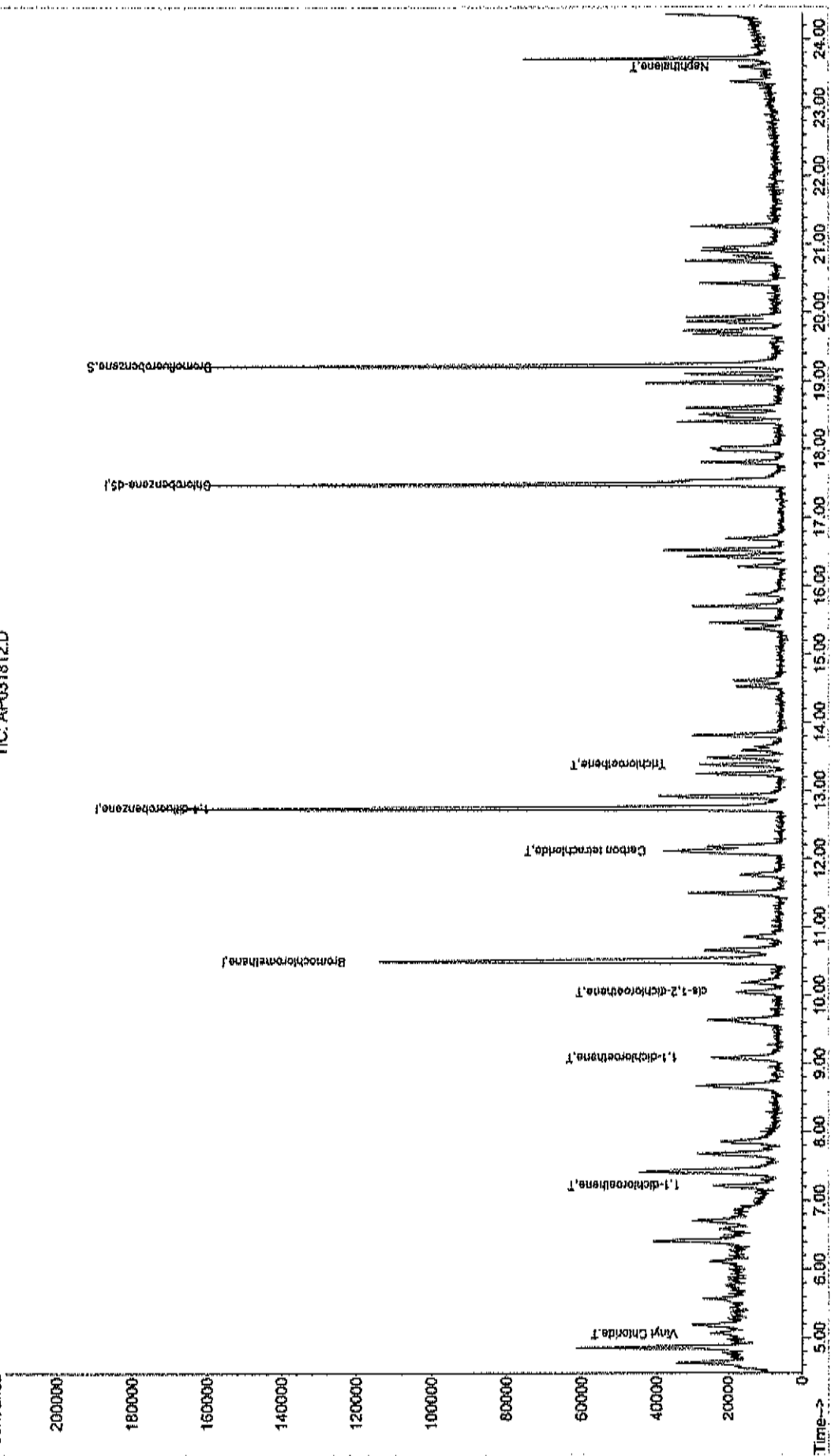
Data File : C:\HPCHEM\1\DATA\AP031812.D
Acq On : 18 Mar 2018 10:56 pm
Sample : A1UG 0.10
Misc : A318 1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 19 8:52 2018

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

Quant Results File: A318_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 21 12:56:38 2018
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D

Abundance
TIC: AP031812.D



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031813.D Vial: 13
 Acq On : 18 Mar 2018 11:32 pm Operator: RJP
 Sample : A1UG_0.04 Inst : MSD #1
 Misc : A318_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Mar 19 08:37:54 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	44739	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.74	114	175091	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	115441	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
65) Bromofluorobenzene	19.21	95	63362m	0.71	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	71.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	5.06	62	3611	0.07	ppb	79
18) 1,1-dichloroethene	7.19	96	4364	0.06	ppb	# 74
29) cis-1,2-dichloroethene	10.04	61	5131m	0.06	ppb	
38) Carbon tetrachloride	12.11	117	9776	0.06	ppb	95
44) Trichloroethene	13.37	130	4263	0.05	ppb	87
78) Naphthalene	23.59	128	2731	0.03	ppb	82

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP031813.D A318_1UG.M Wed Mar 28 06:59:48 2018 MSD1

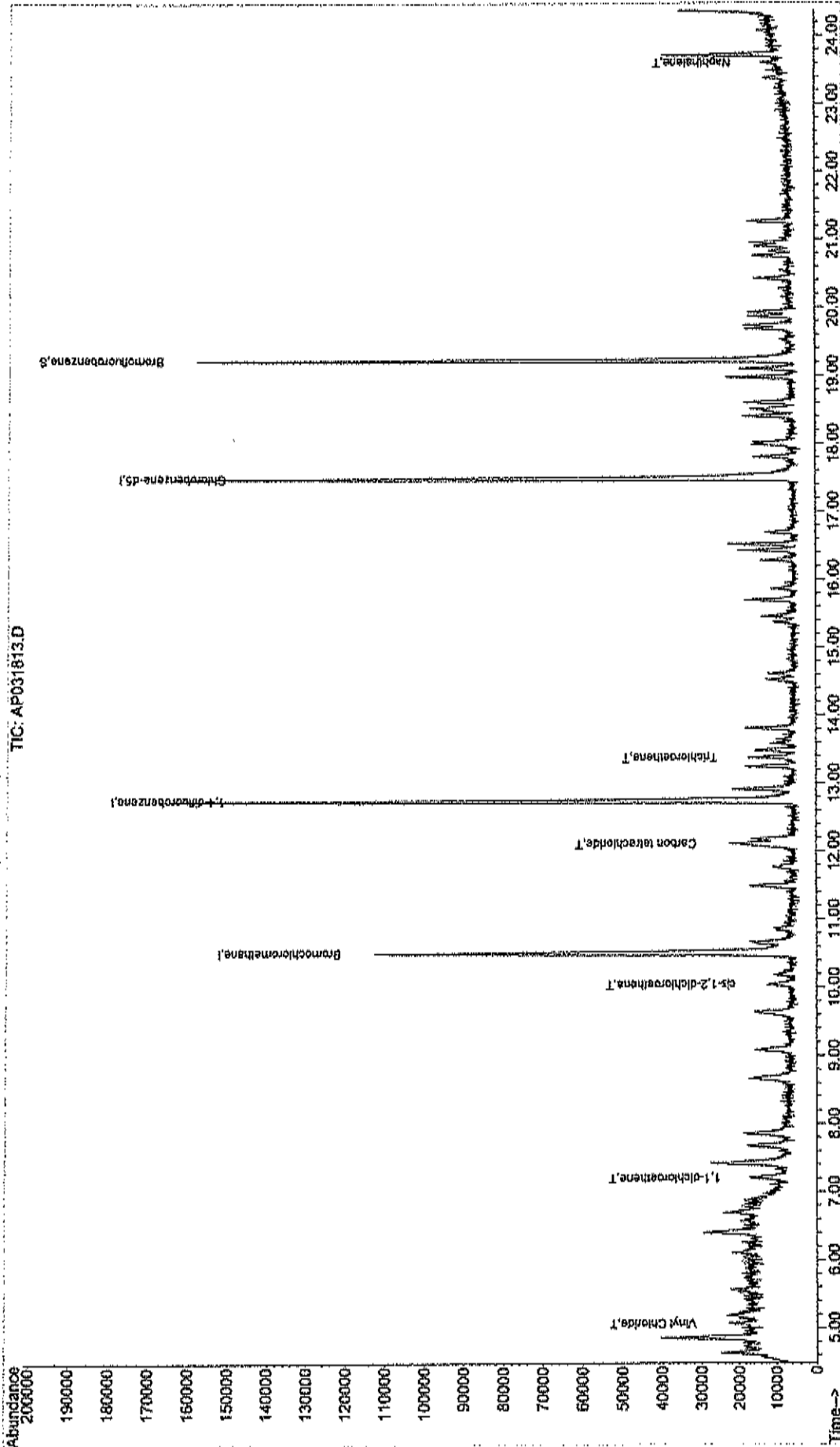
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031813.D
Acq On : 18 Mar 2018 11:32 pm
Sample : A1UG 0.04
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 19 10:18 2018

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

Quant Results File: A318_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 21 12:56:38 2018
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031814.D Vial: 14
 Acq On : 19 Mar 2018 12:09 am Operator: RJP
 Sample : A1UG_0.03 Inst : MSD #1
 Misc : A318_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.F
 Quant Time: Mar 19 08:38:12 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 08:33:45 2018
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	44468	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	171032	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	113766	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 19.21 95 62889m^m 0.72 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 72.00%

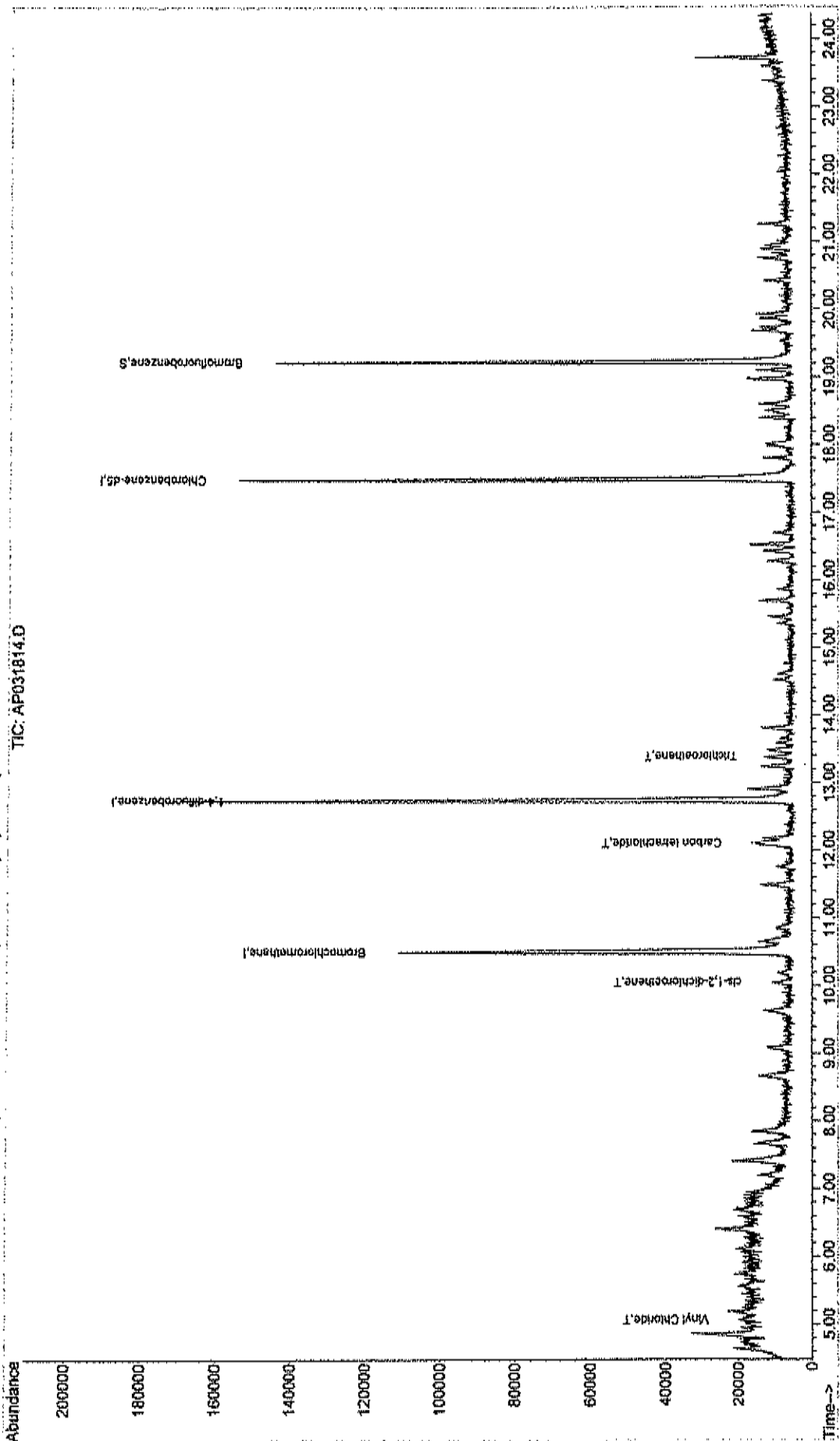
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	5.06	62	1991	0.04	ppb	70
29) cis-1,2-dichloroethene	10.05	61	2744	0.03	ppb	# 62
38) Carbon tetrachloride	12.11	117	6660	0.04	ppb	# 69
44) Trichloroethene	13.39	130	2957	0.04	ppb	# 11

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031814.D
Acq On : 19 Mar 2018 12:09 am
Sample : A1UG 0.03
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 19 8:54 2018

Vial: 14
Operator: RJP
Inst : MSD #1
Multiplier: 1.00
Quant Results File: A318_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 21 12:56:38 2018
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AP032103.D
 Acq On : 21 Mar 2018 12:00 pm
 Sample : A1UG_1.0
 Misc : A318_1UG
 MS Integration Params: RTEINT.P

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 28 07:43:58 2018
 Response via : Multiple 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	97	0.00
2 T	Propylene	1.300	1.066	18.0	82	0.00
3 T	Freon 12	5.814	5.249	9.7	89	0.00
4 T	Chloromethane	1.445	1.140	21.1	83	0.00
5 T	Freon 114	4.917	3.977	19.1	82	0.00
6 T	Vinyl Chloride	1.350	0.994	26.4	80	0.00
7 T	Butane	1.563	1.219	22.0	81	0.00
8 T	1,3-butadiene	1.030	0.806	21.7	81	0.00
9 T	Bromomethane	1.559	1.298	16.7	85	0.00
10 T	Chloroethane	0.522	0.417	20.1	82	0.00
11 T	Ethanol	0.341	0.251	26.4	76	0.00
12 T	Acrolein	0.329	0.246	25.2	80	0.00
13 T	Vinyl Bromide	1.447	1.206	16.7	85	0.00
14 T	Freon 11	5.991	4.903	18.2	82	0.00
15 T	Acetone	0.379	0.297	21.6	78	0.00
16 T	Pentane	0.866	0.691	20.2	83	0.00
17 T	Isopropyl alcohol	1.399	1.014	27.5	83	0.00
18 T	1,1-dichloroethene	1.715	1.270	25.9	77	0.00
19 T	Freon 113	3.720	3.484	6.3	90	0.00
20 t	t-Butyl alcohol	2.517	2.049	18.6	81	0.00
21 T	Methylene chloride	1.519	1.289	15.1	87	0.00
22 T	Allyl chloride	1.828	1.481	19.0	77	0.00
23 T	Carbon disulfide	3.533	2.908	17.7	84	0.00
24 T	trans-1,2-dichloroethene	1.967	1.661	15.6	82	0.00
25 T	methyl tert-butyl ether	3.255	2.593	20.3	79	0.00
26 T	1,1-dichloroethane	3.197	2.619	18.1	83	0.00
27 T	Vinyl acetate	2.877	2.248	21.9	73	0.00
28 T	Methyl Ethyl Ketone	0.646	0.500	22.6	77	0.00
29 T	cis-1,2-dichloroethene	2.054	1.683	18.1	85	0.00
30 T	Hexane	1.999	1.625	18.7	79	0.00
31 T	Ethyl acetate	3.018	2.362	21.7	76	0.00
32 T	Chloroform	3.756	3.199	14.8	84	0.00
33 T	Tetrahydrofuran	1.414	1.084	23.3	75	0.00
34 T	1,2-dichloroethane	2.352	1.956	16.8	82	0.00
35 I	1,4-difluorobenzene	1.000	1.000	0.0	94	0.00
36 T	1,1,1-trichloroethane	0.873	0.729	16.5	81	0.00
37 T	Cyclohexane	0.461	0.390	15.4	80	0.00
38 T	Carbon tetrachloride	1.033	0.781	24.4	80	0.00
39 T	Benzene	1.059	0.915	13.6	84	0.00
40 T	Methyl methacrylate	0.380	0.291	23.4	73	0.00
41 T	1,4-dioxane	0.200	0.145	27.5	67	0.00
42 T	2,2,4-trimethylpentane	1.523	1.271	16.5	79	0.00
43 T	Heptane	0.524	0.424	19.1	76	0.00
44 T	Trichloroethene	0.489	0.404	17.4	84	0.00
45 T	1,2-dichloropropane	0.442	0.369	16.5	83	0.00
46 T	Bromodichloromethane	0.930	0.766	17.6	79	0.00
47 T	cis-1,3-dichloropropene	0.511	0.416	18.6	76	0.00
48 T	trans-1,3-dichloropropene	0.363	0.274	24.5	71	0.00
49 T	1,1,2-trichloroethane	0.471	0.394	16.3	82	0.00

(#) = Out of Range

AP032103.D A318_1UG.M

Wed Mar 28 07:47:42 2018

MSD1

Page 1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AP032103.D
 Acq On : 21 Mar 2018 12:00 pm
 Sample : A1UG_1.0
 Misc : A318_1UG
 MS Integration Params: RTEINT.P

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 28 07:43:58 2018
 Response via : Multiple 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	0.743	0.605	18.6	75	0.00
52 T	Methyl Isobutyl Ketone	0.827	0.589	28.8	66	0.00
53 T	Dibromochloromethane	1.125	0.909	19.2	77	0.00
54 T	Methyl Butyl Ketone	0.715	0.502	29.8	65	0.00
55 T	1,2-dibromoethane	0.848	0.716	15.6	79	0.00
56 T	Tetrachloroethylene	0.607	0.515	15.2	83	0.00
57 T	Chlorobenzene	1.124	0.950	15.5	79	0.00
58 T	Ethylbenzene	1.526	1.191	22.0	72	0.00
59 T	m&p-xylene	1.329	1.144	13.9	74	0.00
60 T	Nonane	0.958	0.794	17.1	72	0.00
61 T	Styrene	1.072	0.937	12.6	76	0.00
62 T	Bromoform	1.060	0.846	20.2	75	0.00
63 T	o-xylene	1.621	1.445	10.9	78	0.00
64 T	Cumene	1.711	1.374	19.7	72	0.00
65 S	Bromofluorobenzene	0.690	0.810	-17.4	98	0.00
66 T	1,1,2,2-tetrachloroethane	1.459	1.216	16.7	80	0.00
67 T	Propylbenzene	0.469	0.371	20.9	72	0.00
68 T	2-Chlorotoluene	0.557	0.490	12.0	79	0.00
69 T	4-ethyltoluene	1.911	1.646	13.9	76	0.00
70 T	1,3,5-trimethylbenzene	1.693	1.470	13.2	75	0.00
71 T	1,2,4-trimethylbenzene	1.311	1.040	20.7	72	0.00
72 T	1,3-dichlorobenzene	1.113	0.953	14.4	77	0.00
73 T	benzyl chloride	0.897	0.704	21.5	72	0.00
74 T	1,4-dichlorobenzene	1.073	0.933	13.0	78	0.00
75 T	1,2,3-trimethylbenzene	1.449	1.250	13.7	74	0.00
76 T	1,2-dichlorobenzene	1.090	0.942	13.6	79	0.00
77 T	1,2,4-trichlorobenzene	0.340	0.276	18.8	74	0.00
78 T	Naphthalene	0.646	0.476	26.3	64	0.00
79 T	Hexachloro-1,3-butadiene	0.885	0.766	13.4	83	0.00

Data File : C:\HPCHEM\1\DATA\AP032103.D
 Acq On : 21 Mar 2018 12:00 pm
 Sample : A1UG_1.0
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 21 12:25:40 2018

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 10:19:13 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.49	128	47897	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	193806	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	145301	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	117684	1.17	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	117.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.56	41	51055	0.82	ppb	96
3) Freon 12	4.62	85	251390	0.90	ppb	99
4) Chloromethane	4.84	50	54602	0.79	ppb	98
5) Freon 114	4.84	85	190495	0.81	ppb	96
6) Vinyl Chloride	5.06	62	47631	0.74	ppb	99
7) Butane	5.17	43	58363	0.78	ppb	98
8) 1,3-butadiene	5.17	39	38623	0.78	ppb	94
9) Bromomethane	5.55	94	62165	0.83	ppb	96
10) Chloroethane	5.73	64	19995	0.80	ppb	96
11) Ethanol	5.83	45	12011	0.74	ppb	# 73
12) Acrolein	6.46	56	11777	0.75	ppb	88
13) Vinyl Bromide	6.10	106	57743	0.83	ppb	100
14) Freon 11	6.40	101	234860	0.82	ppb	100
15) Acetone	6.56	58	14244	0.79	ppb	93
16) Pentane	6.69	42	33092	0.80	ppb	98
17) Isopropyl alcohol	6.67	45	48577m	0.72	ppb	
18) 1,1-dichloroethene	7.19	96	60839m	0.74	ppb	
19) Freon 113	7.40	101	166854	0.94	ppb	90
20) t-Butyl alcohol	7.43	59	98127	0.81	ppb	90
21) Methylene chloride	7.67	84	61761	0.85	ppb	# 83
22) Allyl chloride	7.66	41	70959	0.81	ppb	88
23) Carbon disulfide	7.85	76	139282	0.82	ppb	81
24) trans-1,2-dichloroethene	8.65	61	79573	0.84	ppb	90
25) methyl tert-butyl ether	8.66	73	124205	0.80	ppb	82
26) 1,1-dichloroethane	9.08	63	125437	0.82	ppb	99
27) Vinyl acetate	9.06	43	107667	0.78	ppb	94
28) Methyl Ethyl Ketone	9.57	72	23957	0.77	ppb	# 100
29) cis-1,2-dichloroethene	10.04	61	80628	0.82	ppb	89
30) Hexane	9.63	57	77830	0.81	ppb	97
31) Ethyl acetate	10.18	43	113127	0.78	ppb	97
32) Chloroform	10.66	83	153209	0.85	ppb	100
33) Tetrahydrofuran	10.82	42	51901	0.77	ppb	86
34) 1,2-dichloroethane	11.76	62	93681	0.83	ppb	98
36) 1,1,1-trichloroethane	11.48	97	141204	0.83	ppb	99
37) Cyclohexane	12.17	56	75644	0.85	ppb	87
38) Carbon tetrachloride	12.11	117	151284	0.76	ppb	99
39) Benzene	12.08	78	177362	0.86	ppb	98
40) Methyl methacrylate	13.59	41	56366	0.76	ppb	# 86
41) 1,4-dioxane	13.62	88	28011	0.72	ppb	84
42) 2,2,4-trimethylpentane	12.91	57	246280	0.83	ppb	96
43) Heptane	13.24	43	82160	0.81	ppb	89
44) Trichloroethene	13.37	130	78288	0.83	ppb	95
45) 1,2-dichloropropane	13.47	63	71568	0.84	ppb	100

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

Data File : C:\HPCHEM\1\DATA\AP032103.D
 Acq On : 21 Mar 2018 12:00 pm
 Sample : A1UG_1.0
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 21 12:25:40 2018

Vial: 3
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Mon Mar 19 10:19:13 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.80	83	148396	0.82	ppb	98
47) cis-1,3-dichloropropene	14.60	75	80662	0.81	ppb	96
48) trans-1,3-dichloropropene	15.36	75	53187	0.76	ppb	99
49) 1,1,2-trichloroethane	15.69	97	76365	0.84	ppb	99
51) Toluene	15.45	92	87922	0.81	ppb	99
52) Methyl Isobutyl Ketone	14.52	43	85607m	0.71	ppb	
53) Dibromochloromethane	16.42	129	132099	0.81	ppb	100
54) Methyl Butyl Ketone	15.86	43	72991m	0.70	ppb	
55) 1,2-dibromoethane	16.69	107	104092	0.85	ppb	98
56) Tetrachloroethylene	16.52	164	74774	0.85	ppb	99
57) Chlorobenzene	17.53	112	138075	0.85	ppb	97
58) Ethylbenzene	17.80	91	173011	0.78	ppb	98
59) m&p-xylene	18.01	91	332338	1.72	ppb	99
60) Nonane	18.40	43	115419	0.83	ppb	85
61) Styrene	18.47	104	136111	0.87	ppb	100
62) Bromoform	18.60	173	122987	0.80	ppb	99
63) o-xylene	18.50	91	209964	0.89	ppb	100
64) Cumene	19.10	105	199595	0.80	ppb	99
66) 1,1,2,2-tetrachloroethane	18.97	83	176662	0.83	ppb	99
67) Propylbenzene	19.68	120	53961	0.79	ppb	83
68) 2-Chlorotoluene	19.73	126	71183	0.88	ppb	96
69) 4-ethyltoluene	19.86	105	239128	0.86	ppb	98
70) 1,3,5-trimethylbenzene	19.92	105	213550	0.87	ppb	99
71) 1,2,4-trimethylbenzene	20.42	105	151104	0.79	ppb	100
72) 1,3-dichlorobenzene	20.75	146	138462	0.86	ppb	99
73) benzyl chloride	20.83	91	102307	0.78	ppb	98
74) 1,4-dichlorobenzene	20.90	146	135615	0.87	ppb	99
75) 1,2,3-trimethylbenzene	20.95	105	181578	0.86	ppb	99
76) 1,2-dichlorobenzene	21.26	146	136924	0.86	ppb	99
77) 1,2,4-trichlorobenzene	23.38	180	40128	0.81	ppb	98
78) Naphthalene	23.59	128	69185	0.74	ppb	97
79) Hexachloro-1,3-butadiene	23.72	225	111288	0.87	ppb	99

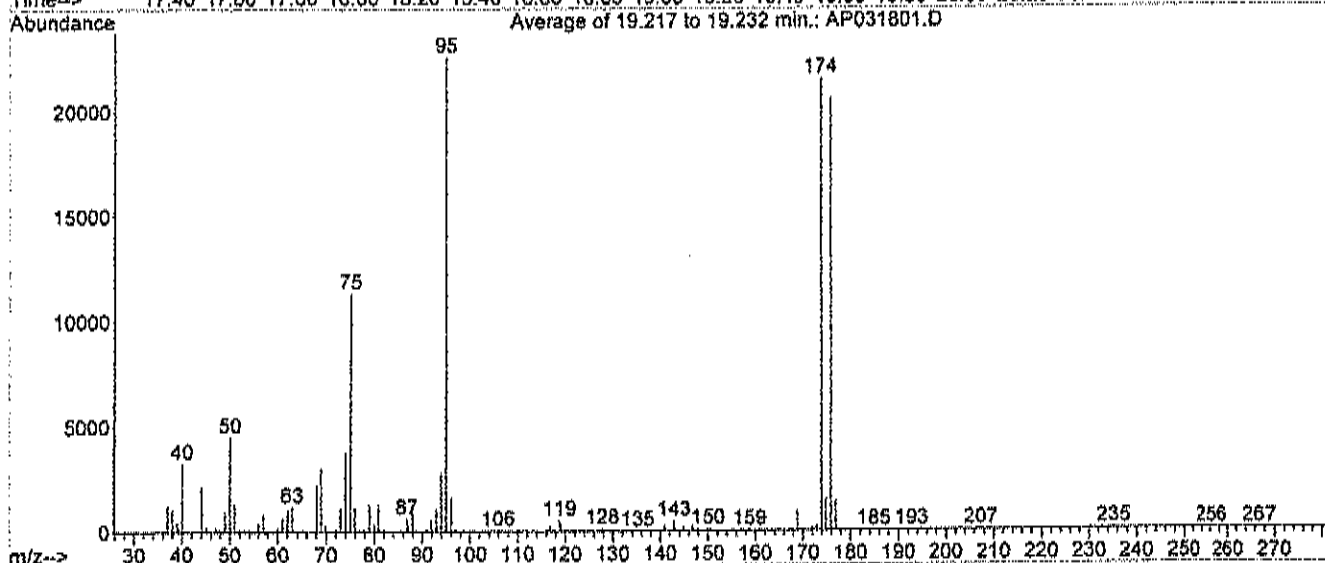
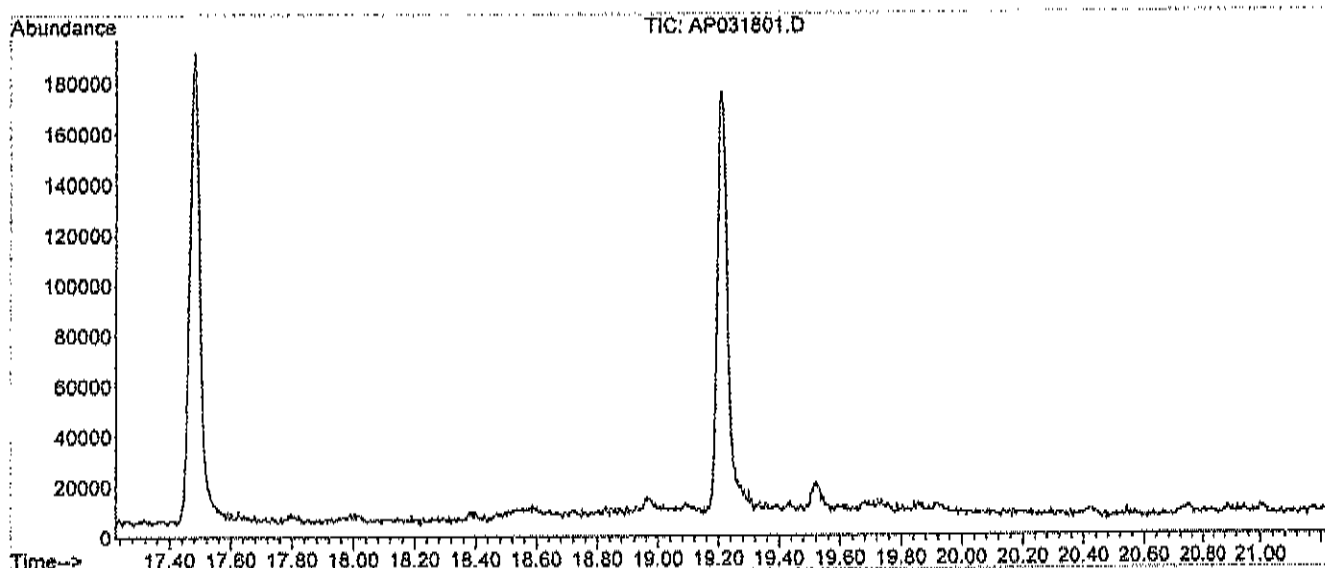
GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW DATA

BFB

Data File : C:\HPCHEM\1\DATA\AP031801.D Vial: 1
 Acq On : 18 Mar 2018 2:19 pm Operator: RJP
 Sample : BFB1UG Inst : MSD #1
 Misc : A301_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration



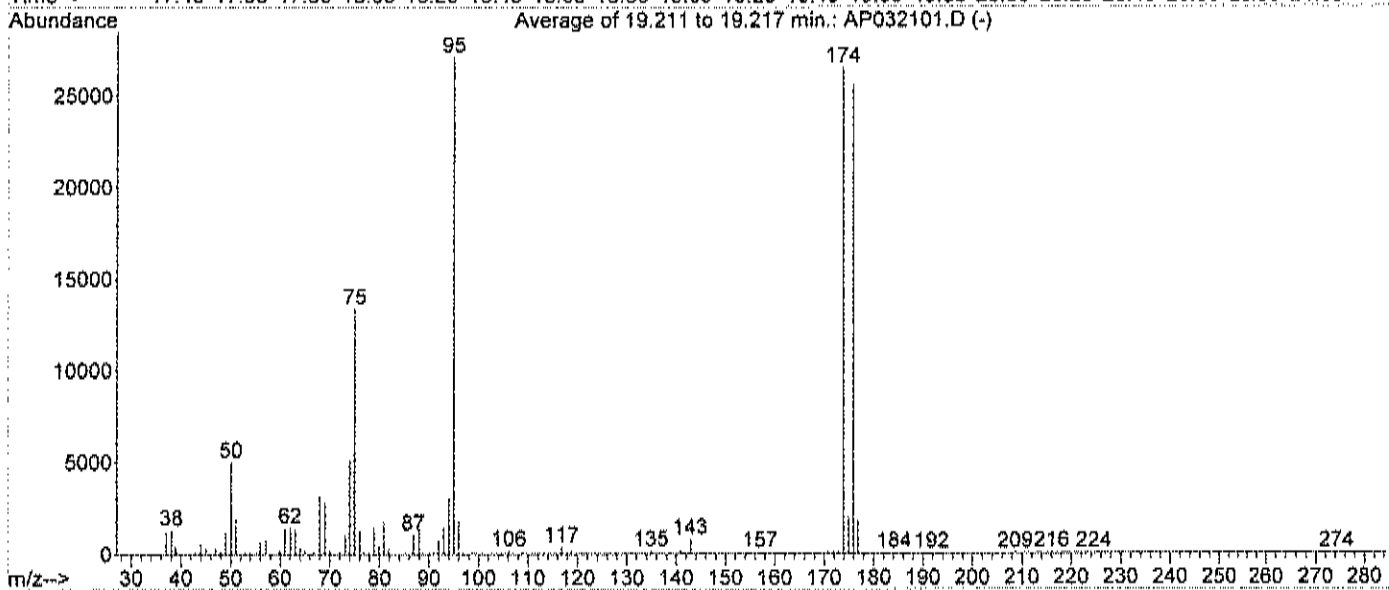
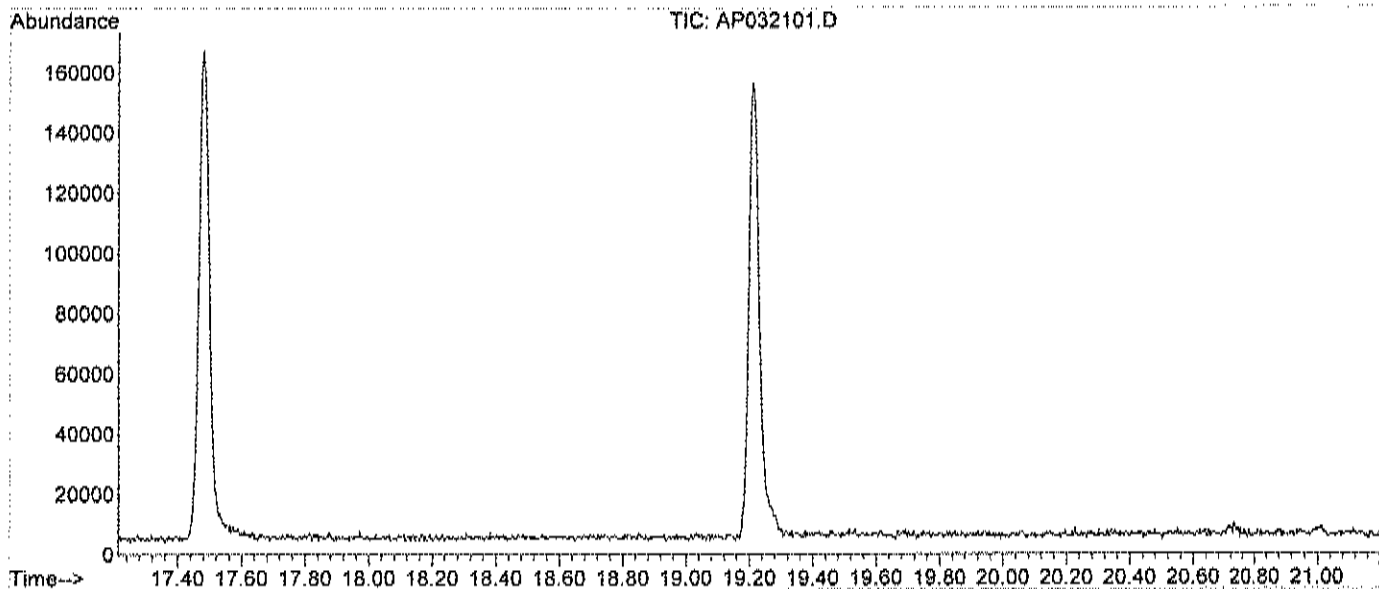
Spectrum Information: Average of 19.217 to 19.232 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.1	4531	PASS
75	95	30	66	50.2	11337	PASS
95	95	100	100	100.0	22590	PASS
96	95	5	9	7.1	1611	PASS
173	174	0.00	2	1.2	250	PASS
174	95	50	120	95.3	21518	PASS
175	174	4	9	6.9	1495	PASS
176	174	95	101	95.8	20611	PASS
177	176	5	9	7.1	1465	PASS

BFB

Data File : C:\HPCHEM\1\DATA\AP032101.D
 Acq On : 21 Mar 2018 10:36 am
 Sample : BFB1UG
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

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



Spectrum Information: Average of 19.211 to 19.217 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.5	5012	PASS
75	95	30	66	49.3	13367	PASS
95	95	100	100	100.0	27098	PASS
96	95	5	9	6.9	1859	PASS
173	174	0.00	2	0.7	186	PASS
174	95	50	120	97.9	26517	PASS
175	174	4	9	7.6	2010	PASS
176	174	95	101	96.4	25557	PASS
177	176	5	9	7.4	1885	PASS

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW QC DATA



CENTEK LABORATORIES, LLC

Date: 28-Mar-18

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1803052
Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID:	AMB1UG-032118	SampType:	MBLK	TestCode:	0.20_NYS	Units:	ppbV	Prep Date:	RunNo:	13411	
Client ID:	ZZZZZ	Batch ID:	R13411	TestNo:	TO-15	Analysis Date:	3/21/2018	HighLimit	RPD Ref Val	SeqNo:	155453
Analyte	Result	PQL	SPK value	%REC	LowLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
1,1,1-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.040	0.040									
Chloroethane	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.040	0.040									
Tetrachloroethylene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
Trichloroethene	< 0.030	0.030									
Vinyl chloride	< 0.040	0.040									

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\AP032105.D
 Acq On : 21 Mar 2018 1:23 pm
 Sample : AMB1UG-032118
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 21 16:24:58 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.51	128	44328	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.74	114	177221	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	120583	1.00	ppb	0.00

System Monitoring Compounds

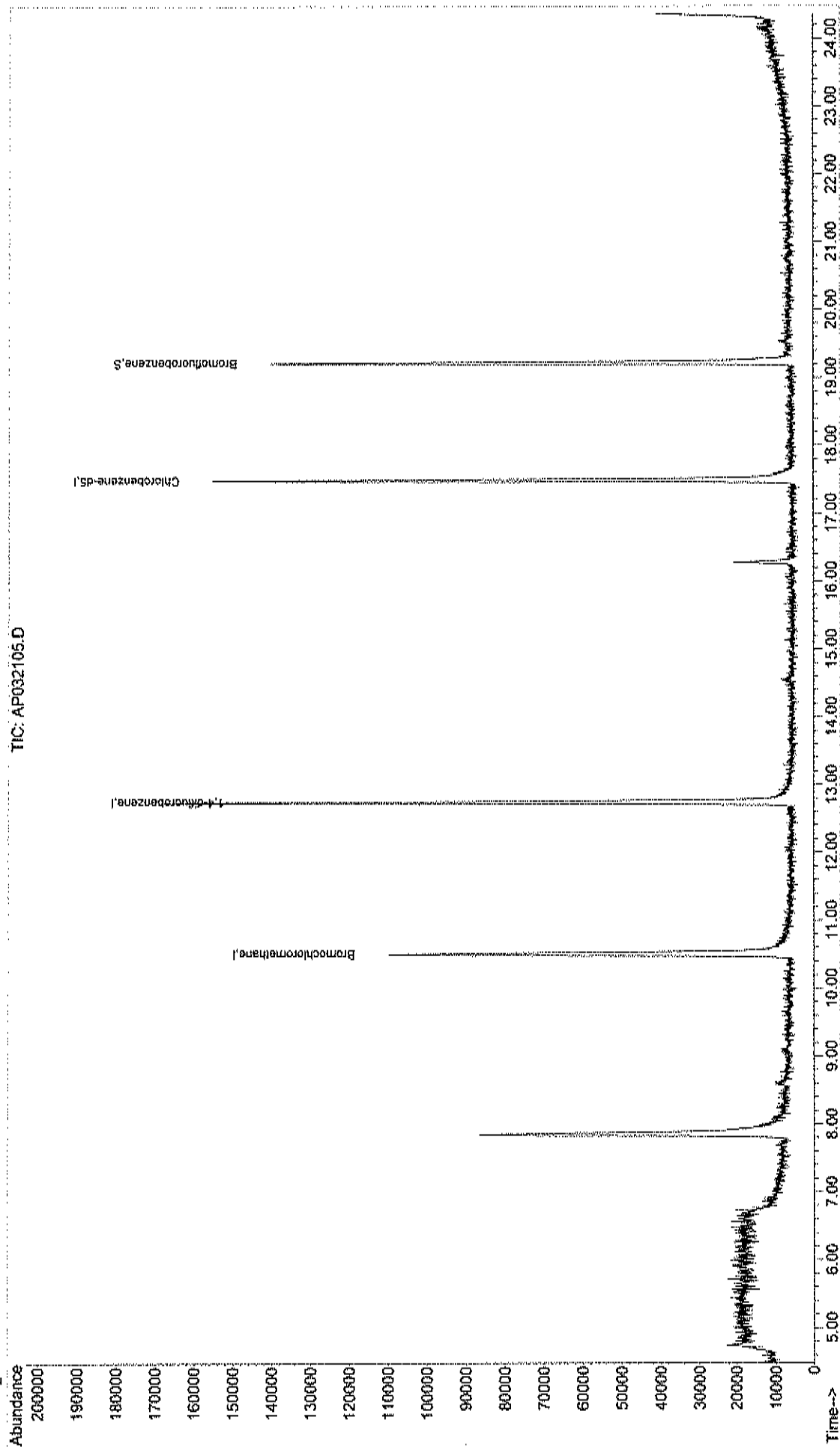
65) Bromofluorobenzene	19.21	95	59848m	0.72	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	72.00%

Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA\AP032105.D
Acq On : 21 Mar 2018 1:23 pm
Sample : AMBIUG-032118
Misc : A318_IUG
MS Integration Params: RTEINT.P
Quant Time: Mar 21 16:25 2018
Quant Results File: A318_IUG.RES

Method : C:\HPCHEM\1\METHODS\A318_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:58 2018
Response via : Initial Calibration



TIC: AP032105.D



Date: 28-Mar-18

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1803052

Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: C1803052-002A MS	SampType: MS	TestCode: 0.20_NYS	Units: ppbV	Prep Date:	RunNo: 13411						
Client ID: IAQ-02 March 2018	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/21/2018	SeqNo: 155462						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	1	0	79.0	70	130				
1,1-Dichloroethane	0.8100	0.15	1	0	81.0	70	130				
1,1-Dichloroethene	0.6800	0.040	1	0	68.0	70	130				S
Chloroethane	0.7300	0.15	1	0	73.0	70	130				
Chloromethane	1.020	0.15	1	0.37	65.0	70	130				S
cis-1,2-Dichloroethene	0.8300	0.040	1	0	83.0	70	130				
Tetrachloroethylene	0.8600	0.15	1	0.18	68.0	70	130				
trans-1,2-Dichloroethene	0.8500	0.15	1	0	85.0	70	130				
Trichloroethene	0.9200	0.030	1	0.08	84.0	70	130				
Vinyl chloride	0.7100	0.040	1	0	71.0	70	130				

Sample ID: C1803052-002A MS	SampType: MS	TestCode: 0.20_NYS	Units: ppbV	Prep Date:	RunNo: 13411						
Client ID: IAQ-02 March 2018	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/21/2018	SeqNo: 155463						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	1	0	79.0	70	130	0.79	0	30	
1,1-Dichloroethane	0.8100	0.15	1	0	81.0	70	130	0.81	0	30	
1,1-Dichloroethene	0.6400	0.040	1	0	64.0	70	130	0.68	6.06	30	S
Chloroethane	0.7300	0.15	1	0	73.0	70	130	0.73	0	30	
Chloromethane	0.9300	0.15	1	0.37	56.0	70	130	1.02	9.23	30	S
cis-1,2-Dichloroethene	0.8300	0.040	1	0	83.0	70	130	0.83	0	30	
Tetrachloroethylene	0.8700	0.15	1	0.18	69.0	70	130	0.86	1.16	30	S
trans-1,2-Dichloroethene	0.8500	0.15	1	0	85.0	70	130	0.85	0	30	
Trichloroethene	0.9000	0.030	1	0.08	82.0	70	130	0.92	2.20	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: C1803052
Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: C1803052-002A MS	MSD	Batch ID: R13411	TestCode: 0.20_NYS	Units: ppbv	Prep Date:	RunNo: 13411					
Client ID: IAQ-02 March 2018			TestNo: TO-15		Analysis Date: 3/21/2018	SeqNo: 155463					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride 0.7000 0.040 1 0 70.0 70 130 0.71 1.42 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

Data File : C:\HPCHEM\1\DATA\AP032110.D
 Acq On : 21 Mar 2018 6:30 pm
 Sample : C1803052-002A MS
 Misc : A318_1UG

Vial: 2
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

MS Integration Params: RTEINT.P
 Quant Time: Mar 22 10:57:15 2018

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.49	128	58783	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	248824	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	249590	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	181994	1.06	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	106.00%

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
4) Chloromethane	4.84	50	86427	1.02	ppb	95
6) Vinyl Chloride	5.06	62	55985m ^p	0.71	ppb	
10) Chloroethane	5.74	64	22314	0.73	ppb	93
18) 1,1-dichloroethene	7.20	96	68351m ^l	0.68	ppb	
24) trans-1,2-dichloroethene	8.64	61	98536	0.85	ppb	94
26) 1,1-dichloroethane	9.08	63	152534	0.81	ppb	95
29) cis-1,2-dichloroethene	10.04	61	99704	0.83	ppb	91
36) 1,1,1-trichloroethane	11.48	97	171510	0.79	ppb	98
44) Trichloroethene	13.37	130	111813	0.92	ppb	94
56) Tetrachloroethylene	16.51	164	129808	0.86	ppb	100

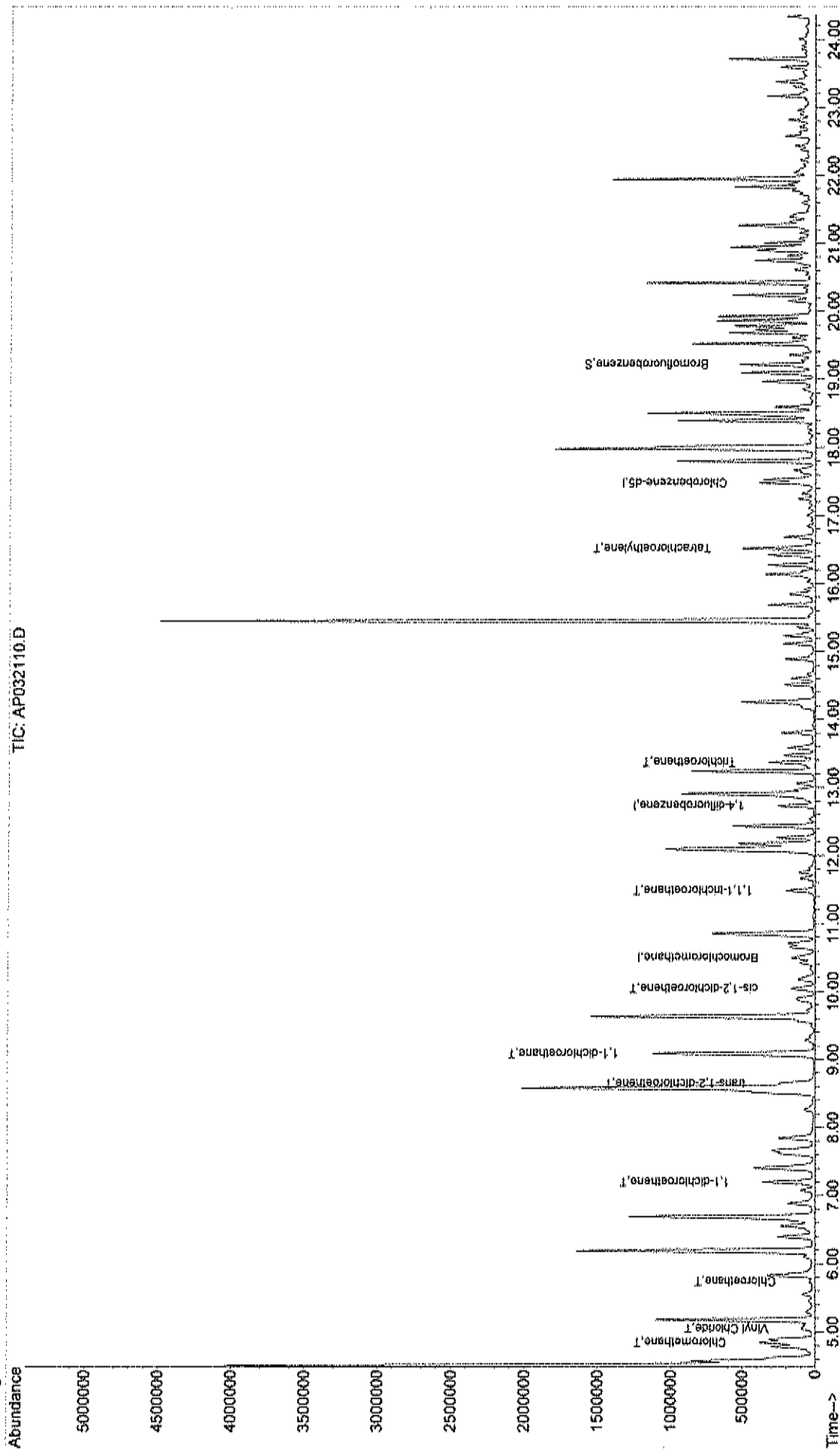
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032110.D
Acq On : 21 Mar 2018 6:30 pm
Sample : C1803052-002A MS
Misc : A318_IUG
MS Integration Params: RTEINT.P
Quant Time: Mar 22 11:06 2018

Vial: 2
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A318_IUG.RES

Method : C:\HPCHEM\1\METHODS\A318_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:58 2018
Response via : Initial Calibration



TIC: AP032110.D

Data File : C:\HPCHEM\1\DATA\AP032111.D

Vial: 3

Acq On : 21 Mar 2018 7:17 pm

Operator: RJP

Sample : C1803052-002A MSD

Inst : MSD #1

Misc : A318_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 22 10:57:16 2018

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Mar 21 12:56:38 2018

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.49	128	58695	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	244768	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	232175	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	156456	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
4) Chloromethane	4.84	50	78495	0.93	ppb	95
6) Vinyl Chloride	5.06	62	55790m ^P	0.70	ppb	
10) Chloroethane	5.73	64	22304	0.73	ppb	99
18) 1,1-dichloroethene	7.20	96	64910m ^l	0.64	ppb	
24) trans-1,2-dichloroethene	8.64	61	97931	0.85	ppb	96
26) 1,1-dichloroethane	9.08	63	151678	0.81	ppb	98
29) cis-1,2-dichloroethene	10.04	61	100608	0.83	ppb	91
36) 1,1,1-trichloroethane	11.48	97	169156	0.79	ppb	100
44) Trichloroethene	13.37	130	108175	0.90	ppb	94
56) Tetrachloroethylene	16.52	164	121990	0.87	ppb	100

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP032111.D A318_1UG.M Wed Mar 28 07:46:23 2018 MSD1

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1803052

Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: ALCS1UG-032118	Batch ID: R13411	SampType: LCS	TestCode: 0.20_NYS	Units: ppbv	Prep Date:	RunNo: 13411
Client ID: ZZZZ	Batch ID: R13411	TestNo: TO-15	TestCode: 0.20_NYS	Units: ppbv	Analysis Date: 3/21/2018	SeqNo: 155454

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-Dichloroethane	0.8700	0.15	1	0	87.0	70	130				
1,1-Dichloroethene	0.8500	0.040	1	0	85.0	70	130				
Chloroethane	0.8500	0.15	1	0	85.0	70	130				
Chloromethane	0.8400	0.15	1	0	84.0	70	130				
cis-1,2-Dichloroethene	0.8400	0.040	1	0	84.0	70	130				
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130				
trans-1,2-Dichloroethene	0.9000	0.15	1	0	90.0	70	130				
Trichloroethene	0.8700	0.030	1	0	87.0	70	130				
Vinyl chloride	0.7900	0.040	1	0	79.0	70	130				

Sample ID: ALCS1UGD-032118	Batch ID: R13411	SampType: LCSD	TestCode: 0.20_NYS	Units: ppbv	Prep Date:	RunNo: 13411
Client ID: ZZZZ	Batch ID: R13411	TestNo: TO-15	TestCode: 0.20_NYS	Units: ppbv	Analysis Date: 3/22/2018	SeqNo: 155455

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9000	0.15	1	0	90.0	70	130	0.89	1.12	30	
1,1-Dichloroethane	0.9100	0.15	1	0	91.0	70	130	0.87	4.49	30	
1,1-Dichloroethene	0.8700	0.040	1	0	87.0	70	130	0.85	2.33	30	
Chloroethane	0.8300	0.15	1	0	83.0	70	130	0.85	2.38	30	
Chloromethane	0.8900	0.15	1	0	89.0	70	130	0.84	5.78	30	
cis-1,2-Dichloroethene	0.8700	0.040	1	0	87.0	70	130	0.84	3.51	30	
Tetrachloroethylene	0.8700	0.15	1	0	87.0	70	130	0.88	1.14	30	
trans-1,2-Dichloroethene	0.9400	0.15	1	0	94.0	70	130	0.9	4.35	30	
Trichloroethene	0.8900	0.030	1	0	89.0	70	130	0.87	2.27	30	

Qualifiers:

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

CLIENT: LaBella Associates, P.C.
Work Order: C1803052
Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: ALCS1UGD-032118	SampType: LCSD	TestCode: 0.20_NYS	Units: ppbV	Prep Date:	RunNo: 13411						
Client ID: ZZZZZ	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/22/2018	SeqNo: 155455						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.8200	0.040	1	0	82.0	70	130	0.79	3.73	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

Data File : C:\HPCHEM\1\DATA\AP032104.D
 Acq On : 21 Mar 2018 12:47 pm
 Sample : ALCS1UG-032118
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 21 13:25:32 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.49	128	48374	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	197048	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	153239	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	122581	1.16	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	116.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.56	41	57137	0.91	ppb	91
3) Freon 12	4.62	85	268625	0.96	ppb	98
4) Chloromethane	4.84	50	58839	0.84	ppb	98
5) Freon 114	4.84	85	205740	0.86	ppb	98
6) Vinyl Chloride	5.06	62	51556	0.79	ppb	98
7) Butane	5.17	43	63807	0.84	ppb	98
8) 1,3-butadiene	5.17	39	43044	0.86	ppb	97
9) Bromomethane	5.55	94	64813	0.86	ppb	96
10) Chloroethane	5.74	64	21566	0.85	ppb	93
11) Ethanol	5.83	45	12601	0.76	ppb	# 70
12) Acrolein	6.46	56	13618	0.86	ppb	100
13) Vinyl Bromide	6.11	106	61942	0.88	ppb	100
14) Freon 11	6.39	101	253963	0.88	ppb	100
15) Acetone	6.56	58	15992	0.87	ppb	# 81
16) Pentane	6.69	42	33682	0.80	ppb	95
17) Isopropyl alcohol	6.68	45	47800	0.71	ppb	93
18) 1,1-dichloroethene	7.20	96	70494	0.85	ppb	# 85
19) Freon 113	7.40	101	169422	0.94	ppb	89
20) t-Butyl alcohol	7.43	59	93443	0.77	ppb	# 90
21) Methylene chloride	7.67	84	67175	0.91	ppb	# 84
22) Allyl chloride	7.66	41	72108	0.82	ppb	90
23) Carbon disulfide	7.85	76	156421	0.92	ppb	85
24) trans-1,2-dichloroethene	8.64	61	85863	0.90	ppb	89
25) methyl tert-butyl ether	8.66	73	132341	0.84	ppb	84
26) 1,1-dichloroethane	9.08	63	134875	0.87	ppb	100
27) Vinyl acetate	9.05	43	114585	0.82	ppb	90
28) Methyl Ethyl Ketone	9.56	72	25802	0.83	ppb	# 100
29) cis-1,2-dichloroethene	10.04	61	83627	0.84	ppb	92
30) Hexane	9.63	57	86652	0.90	ppb	98
31) Ethyl acetate	10.18	43	118239	0.81	ppb	99
32) Chloroform	10.65	83	164376	0.90	ppb	100
33) Tetrahydrofuran	10.83	42	54167	0.79	ppb	83
34) 1,2-dichloroethane	11.75	62	98581	0.87	ppb	99
36) 1,1,1-trichloroethane	11.48	97	153324	0.89	ppb	99
37) Cyclohexane	12.17	56	80579	0.89	ppb	89
38) Carbon tetrachloride	12.11	117	163984	0.81	ppb	100
39) Benzene	12.07	78	187908	0.90	ppb	98
40) Methyl methacrylate	13.59	41	61080	0.82	ppb	# 86
41) 1,4-dioxane	13.62	88	28730	0.73	ppb	85
42) 2,2,4-trimethylpentane	12.91	57	265812	0.89	ppb	95
43) Heptane	13.24	43	90640	0.88	ppb	89
44) Trichloroethene	13.37	130	83940	0.87	ppb	93
45) 1,2-dichloropropane	13.47	63	78228	0.90	ppb	98

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

Data File : C:\HPCHEM\1\DATA\AP032104.D

Vial: 4

Acq On : 21 Mar 2018 12:47 pm

Operator: RJP

Sample : ALCS1UG-032118

Inst : MSD #1

Misc : A318_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 21 13:25:32 2018

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Mar 21 12:56:38 2018

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.80	83	164300	0.90	ppb	98
47) cis-1,3-dichloropropene	14.61	75	90414	0.90	ppb	96
48) trans-1,3-dichloropropene	15.36	75	62077	0.87	ppb	97
49) 1,1,2-trichloroethane	15.69	97	84478	0.91	ppb	99
51) Toluene	15.45	92	97830	0.86	ppb	98
52) Methyl Isobutyl Ketone	14.51	43	82428m ^o	0.65	ppb	
53) Dibromochloromethane	16.42	129	144267	0.84	ppb	98
54) Methyl Butyl Ketone	15.86	43	67183m ^o	0.61	ppb	
55) 1,2-dibromoethane	16.69	107	112424	0.87	ppb	98
56) Tetrachloroethylene	16.51	164	81476	0.88	ppb	98
57) Chlorobenzene	17.54	112	151947	0.88	ppb	96
58) Ethylbenzene	17.80	91	194217	0.83	ppb	99
59) m&p-xylene	18.01	91	367549	1.81	ppb	99
60) Nonane	18.40	43	129305	0.88	ppb	84
61) Styrene	18.47	104	149638	0.91	ppb	100
62) Bromoform	18.59	173	132745	0.82	ppb	99
63) o-xylene	18.50	91	229830	0.93	ppb	99
64) Cumene	19.10	105	223189	0.85	ppb	99
66) 1,1,2,2-tetrachloroethane	18.97	83	190261	0.85	ppb	99
67) Propylbenzene	19.68	120	60448	0.84	ppb	86
68) 2-Chlorotoluene	19.73	126	79372	0.93	ppb	96
69) 4-ethyltoluene	19.86	105	260086	0.89	ppb	99
70) 1,3,5-trimethylbenzene	19.92	105	240506	0.93	ppb	99
71) 1,2,4-trimethylbenzene	20.42	105	166632	0.83	ppb	99
72) 1,3-dichlorobenzene	20.75	146	154966	0.91	ppb	100
73) benzyl chloride	20.82	91	113287	0.82	ppb	96
74) 1,4-dichlorobenzene	20.89	146	149562	0.91	ppb	99
75) 1,2,3-trimethylbenzene	20.94	105	198385	0.89	ppb	99
76) 1,2-dichlorobenzene	21.26	146	149388	0.89	ppb	99
77) 1,2,4-trichlorobenzene	23.37	180	45120	0.87	ppb	98
78) Naphthalene	23.59	128	73010	0.74	ppb	97
79) Hexachloro-1,3-butadiene	23.71	225	118145	0.87	ppb	99

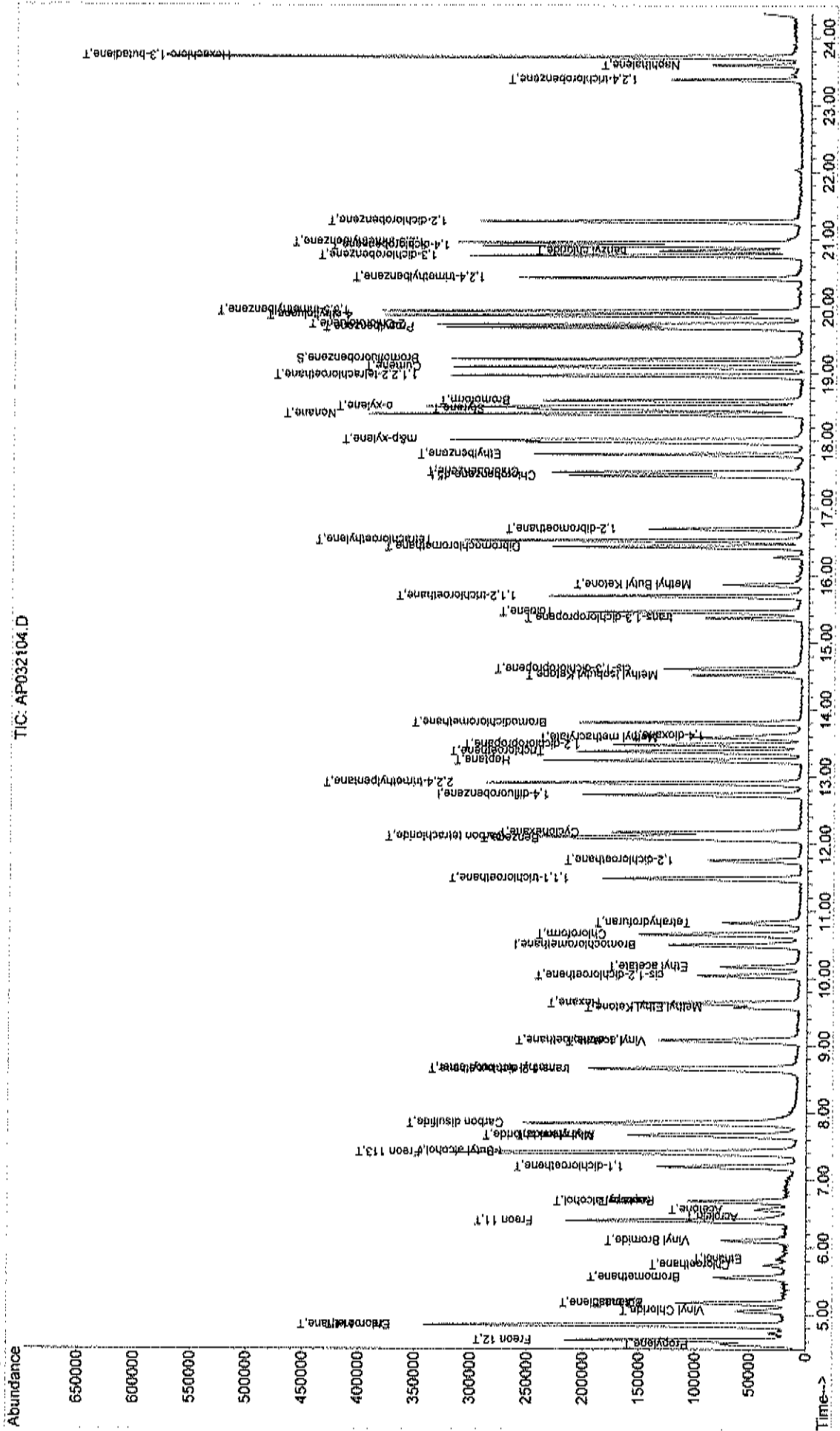
(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AP032104.D A318_1UG.M Wed Mar 28 07:46:13 2018 MSD1

Data File : C:\HPCHEM\1\DATA\AP032104.D
 Acq On : 21 Mar 2018 12:47 pm
 Sample : A1CS1UG-032118
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 21 13:28 2018

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

Quant Results File: A318_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 28 07:43:58 2018
 Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\AP032132.D
 Acq On : 22 Mar 2018 9:26 am
 Sample : ALCS1UGD-032118
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 22 10:57:37 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	48657	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	205600	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	162411	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	131773	1.18	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	118.00%	

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.56	41	59719	0.94	ppb	93
3) Freon 12	4.62	85	281288	0.99	ppb	99
4) Chloromethane	4.85	50	62463	0.89	ppb	98
5) Freon 114	4.84	85	215707	0.90	ppb	99
6) Vinyl Chloride	5.05	62	54149	0.82	ppb	96
7) Butane	5.17	43	65981	0.87	ppb	99
8) 1,3-butadiene	5.18	39	43402	0.87	ppb	95
9) Bromomethane	5.55	94	67803	0.89	ppb	98
10) Chloroethane	5.75	64	21014	0.83	ppb	93
11) Ethanol	5.84	45	12815m <i>0</i>	0.77	ppb	
12) Acrolein	6.46	56	13242	0.83	ppb	99
13) Vinyl Bromide	6.11	106	61942	0.88	ppb	99
14) Freon 11	6.40	101	258364	0.89	ppb	100
15) Acetone	6.56	58	15766	0.86	ppb	# 86
16) Pentane	6.70	42	47020	1.12	ppb	93
17) Isopropyl alcohol	6.69	45	51810	0.76	ppb	# 75
18) 1,1-dichloroethene	7.20	96	72222	0.87	ppb	# 88
19) Freon 113	7.41	101	181095	1.00	ppb	88
20) t-Butyl alcohol	7.44	59	82846	0.68	ppb	# 88
21) Methylene chloride	7.68	84	67846	0.92	ppb	# 79
22) Allyl chloride	7.66	41	75907	0.85	ppb	87
23) Carbon disulfide	7.85	76	160308	0.93	ppb	96
24) trans-1,2-dichloroethene	8.64	61	89833	0.94	ppb	90
25) methyl tert-butyl ether	8.66	73	129307	0.82	ppb	83
26) 1,1-dichloroethane	9.09	63	141275	0.91	ppb	100
27) Vinyl acetate	9.06	43	113189	0.81	ppb	93
28) Methyl Ethyl Ketone	9.58	72	22754	0.72	ppb	# 100
29) cis-1,2-dichloroethene	10.04	61	86675	0.87	ppb	91
30) Hexane	9.63	57	83034	0.85	ppb	95
31) Ethyl acetate	10.17	43	114125	0.78	ppb	97
32) Chloroform	10.66	83	169179	0.93	ppb	99
33) Tetrahydrofuran	10.83	42	52466	0.76	ppb	84
34) 1,2-dichloroethane	11.76	62	104648	0.91	ppb	98
36) 1,1,1-trichloroethane	11.48	97	161934	0.90	ppb	100
37) Cyclohexane	12.18	56	84274	0.89	ppb	87
38) Carbon tetrachloride	12.11	117	172882	0.81	ppb	98
39) Benzene	12.08	78	196350	0.90	ppb	98
40) Methyl methacrylate	13.59	41	55030	0.70	ppb	# 87
41) 1,4-dioxane	13.62	88	22825	0.56	ppb	84
42) 2,2,4-trimethylpentane	12.91	57	280570	0.90	ppb	96
43) Heptane	13.24	43	94463	0.88	ppb	89
44) Trichloroethene	13.37	130	89186	0.89	ppb	95
45) 1,2-dichloropropane	13.48	63	80284	0.88	ppb	99

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

Data File : C:\HPCHEM\1\DATA\AP032132.D
 Acq On : 22 Mar 2018 9:26 am
 Sample : ALCS1UGD-032118
 Misc : A318_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 22 10:57:37 2018

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

Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Wed Mar 21 12:56:38 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.81	83	171905	0.90	ppb	99
47) cis-1,3-dichloropropene	14.60	75	86240	0.82	ppb	97
48) trans-1,3-dichloropropene	15.36	75	62524	0.84	ppb	96
49) 1,1,2-trichloroethane	15.69	97	86862	0.90	ppb	100
51) Toluene	15.45	92	99736	0.83	ppb	96
52) Methyl Isobutyl Ketone	14.51	43	51404m	0.38	ppb	
53) Dibromochloromethane	16.43	129	148397	0.81	ppb	99
54) Methyl Butyl Ketone	15.86	43	37492m	0.32	ppb	
55) 1,2-dibromoethane	16.69	107	115628	0.84	ppb	98
56) Tetrachloroethylene	16.51	164	86084	0.87	ppb	97
57) Chlorobenzene	17.53	112	156178	0.86	ppb	97
58) Ethylbenzene	17.80	91	198976	0.80	ppb	99
59) m&p-xylene	18.01	91	367606	1.70	ppb	100
60) Nonane	18.40	43	126499	0.81	ppb	87
61) Styrene	18.47	104	150505	0.86	ppb	100
62) Bromoform	18.60	173	133935	0.78	ppb	100
63) o-xylene	18.50	91	234834	0.89	ppb	100
64) Cumene	19.10	105	222076	0.80	ppb	98
66) 1,1,2,2-tetrachloroethane	18.97	83	189213	0.80	ppb	99
67) Propylbenzene	19.68	120	57742	0.76	ppb	87
68) 2-Chlorotoluene	19.73	126	77376	0.86	ppb	95
69) 4-ethyltoluene	19.86	105	246063	0.79	ppb	99
70) 1,3,5-trimethylbenzene	19.93	105	223041	0.81	ppb	99
71) 1,2,4-trimethylbenzene	20.42	105	151869	0.71	ppb	100
72) 1,3-dichlorobenzene	20.75	146	147562	0.82	ppb	98
73) benzyl chloride	20.83	91	115004m	0.79	ppb	
74) 1,4-dichlorobenzene	20.90	146	141080	0.81	ppb	99
75) 1,2,3-trimethylbenzene	20.95	105	178719	0.76	ppb	100
76) 1,2-dichlorobenzene	21.26	146	140711	0.79	ppb	99
77) 1,2,4-trichlorobenzene	23.38	180	42836m	0.78	ppb	
78) Naphthalene	23.59	128	51126	0.49	ppb	98
79) Hexachloro-1,3-butadiene	23.71	225	100824	0.70	ppb	98

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INJECTION LOG

Injection Log

Directory: C:\HPCHEM1\DATA

 Instrument # 1
 Internal Standard Stock # A2445
 Standard Stock # A2450
 LCS Stock # A2451
 Method Ref: EPA TO-157 Jan. 1999

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
276	1	Ap031801.d	1.	BFB1UG	A301_1UG	18 Mar 2018 14:19
277	2	Ap031802.d	1.	A1UG	A318_1UG	18 Mar 2018 16:24
278	3	Ap031803.d	1.	A1UG	A318_1UG	18 Mar 2018 17:04
279	4	Ap031804.d	1.	A1UG_2.0	A318_1UG	18 Mar 2018 17:47
280	5	Ap031805.d	1.	A1UG_1.50	A318_1UG	18 Mar 2018 18:28
281	6	Ap031806.d	1.	A1UG_1.25	A318_1UG	18 Mar 2018 19:09
282	7	Ap031807.d	1.	A1UG_1.0	A318_1UG	18 Mar 2018 19:48
283	8	Ap031808.d	1.	A1UG_0.75	A318_1UG	18 Mar 2018 20:27
284	9	Ap031809.d	1.	A1UG_0.50	A318_1UG	18 Mar 2018 21:05
285	10	Ap031810.d	1.	A1UG_0.30	A318_1UG	18 Mar 2018 21:42
286	11	Ap031811.d	1.	A1UG_0.15	A318_1UG	18 Mar 2018 22:19
287	12	Ap031812.d	1.	A1UG_0.10	A318_1UG	18 Mar 2018 22:56
288	13	Ap031813.d	1.	A1UG_0.04	A318_1UG	18 Mar 2018 23:32
289	14	Ap031814.d	1.	A1UG_0.03	A318_1UG	19 Mar 2018 00:09
290		Ap031815.d	1.	No MS or GC data present		
291	1	Ap031901.d	1.	BFB1UG	A318_1UG	19 Mar 2018 09:15
292	2	Ap031902.d	1.	A1UG	A318_1UG	19 Mar 2018 10:06
293	3	Ap031903.d	1.	A1UG_1.0	A318_1UG	19 Mar 2018 10:45
294	4	Ap031904.d	1.	ALCS1UG-031918	A318_1UG	19 Mar 2018 11:51
295	5	Ap031905.d	1.	AMB1UG-031918	A318_1UG	19 Mar 2018 12:27
296	1	Ap031906.d	1.	C1803040	A318_1UG -007A VA...	19 Mar 2018 13:55
297	2	Ap031907.d	1.	C1803040-001A	A318_1UG	19 Mar 2018 14:38
298	3	Ap031908.d	1.	C1803040-002A	A318_1UG	19 Mar 2018 15:18
299	4	Ap031909.d	1.	C1803040-003A	A318_1UG	19 Mar 2018 15:58
300	5	Ap031910.d	1.	C1803040-004A	A318_1UG	19 Mar 2018 16:38
301	6	Ap031911.d	1.	C1803040-005A	A318_1UG	19 Mar 2018 17:18
302	7	Ap031912.d	1.	C1803040-006A	A318_1UG	19 Mar 2018 17:58
303	8	Ap031913.d	1.	C1803040	A318_1UG	19 Mar 2018 18:35
304	9	Ap031914.d	1.	C1803040-001A 5x	A318_1UG	19 Mar 2018 21:38
305	10	Ap031915.d	1.	C1803040-002A 5x	A318_1UG	19 Mar 2018 22:16
306	11	Ap031916.d	1.	C1803040-003A 5x	A318_1UG	19 Mar 2018 22:53
307	12	Ap031917.d	1.	C1803040-004A 5x	A318_1UG	19 Mar 2018 23:30
308	13	Ap031918.d	1.	C1803040-005A 5x	A318_1UG	20 Mar 2018 00:07
309	14	Ap031919.d	1.	C1803040-006A 10x	A318_1UG	20 Mar 2018 00:44
310	15	Ap031920.d	1.	C1803040-006A 40x	A318_1UG	20 Mar 2018 01:20
311	16	Ap031921.d	1.	ALCS1UGD-031918	A318_1UG	20 Mar 2018 02:00
312	17	Ap031922.d	1.		A318_1UG	20 Mar 2018 08:18
313		Ap031923.d	1.	No MS or GC data present		
314	1	Ap032001.d	1.	BFB1UG	A318_1UG	20 Mar 2018 09:48
315	2	Ap032002.d	1.	A1UG	A318_1UG	20 Mar 2018 10:37
316	3	Ap032003.d	1.	A1UG_1.0	A318_1UG	20 Mar 2018 11:17
317	4	Ap032004.d	1.	ALCS1UG-032018	A318_1UG	20 Mar 2018 12:16
318	5	Ap032005.d	1.	AMB1UG-032018	A318_1UG	20 Mar 2018 12:53
319	6	Ap032006.d	1.	C1803040-007A	A318_1UG	20 Mar 2018 13:30
320	7	Ap032007.d	1.	C1803040-006A 270X	A318_1UG	20 Mar 2018 14:48
321	8	Ap032008.d	1.	C1803046-001A	A318_1UG	20 Mar 2018 15:45
322	9	Ap032009.d	1.	C1803046-002A	A318_1UG	20 Mar 2018 16:25
323	10	Ap032010.d	1.	C1803046-003A	A318_1UG	20 Mar 2018 17:05
324	11	Ap032011.d	1.	C1803046-001A 10x	A318_1UG	20 Mar 2018 18:17
325	12	Ap032012.d	1.	C1803046-001A 40x	A318_1UG	20 Mar 2018 18:54
326	13	Ap032013.d	1.	C1803046	A318_1UG -002A 10x	20 Mar 2018 19:31
327	14	Ap032014.d	1.	C1803046-002A 20x	A318_1UG	20 Mar 2018 20:08
328	15	Ap032015.d	1.	C1803046	A318_1UG -003A 10x	20 Mar 2018 20:45
329	16	Ap032016.d	1.	C1803046-003A 20x	A318_1UG	20 Mar 2018 21:22
330	17	Ap032017.d	1.	C1803045-011A	A318_1UG	20 Mar 2018 22:02

Injection Log

Instrument # 1
 Internal Standard Stock # A2449 & A2461
 Standard Stock # A2450 & A2462
 LCS Stock # A2451 & A2463
 MetInfo EPA TO-15 / Jan. 19 affected

Directory: C:\HPCHEM\1\DATA

Line	Vial	FileName	Multiplier	SampleName		
331	18	Ap032018.d	1.	C1803045-011A MS	A318_1UG	20 Mar 2018 22:48
332	19	Ap032019.d	1.	C1803045-011A MSD	A318_1UG	20 Mar 2018 23:35
333	20	Ap032020.d	1.	C1803045-001A	A318_1UG	21 Mar 2018 00:16
334	21	Ap032021.d	1.	C1803045-002A	A318_1UG	21 Mar 2018 00:57
335	22	Ap032022.d	1.	C1803045-003A	A318_1UG	21 Mar 2018 01:38
336	23	Ap032023.d	1.	C1803045-004A	A318_1UG	21 Mar 2018 02:18
337	24	Ap032024.d	1.	C1803045-005A	A318_1UG	21 Mar 2018 03:00
338	25	Ap032025.d	1.	ALCS1UGD-032018	A318_1UG	21 Mar 2018 03:40
339	25	Ap032026.d	1.	C1803045-006A	A318_1UG	21 Mar 2018 04:21
340	26	Ap032027.d	1.	C1803045-007A	A318_1UG	21 Mar 2018 05:03
341	27	Ap032028.d	1.	C1803045-008A	A318_1UG	21 Mar 2018 05:44
342	28	Ap032029.d	1.	C1803045-009A	A318_1UG	21 Mar 2018 06:24
343	29	Ap032030.d	1.	C1803045-010A	A318_1UG	21 Mar 2018 07:06
344	30	Ap032031.d	1.	C1803045-012A	A318_1UG	21 Mar 2018 07:47
345	31	Ap032032.d	1.	C1803045-013A	A318_1UG	21 Mar 2018 08:29
346	32	Ap032033.d	1.	C1803045	A318_1UG -011A 10X	21 Mar 2018 09:06
347		Ap032034.d	1.	No MS or GC data present		
348	1	Ap032101.d	1.	BFB1UG	A318_1UG	21 Mar 2018 10:36
349	2	Ap032102.d	1.	A1UG	A318_1UG	21 Mar 2018 11:21
350	3	Ap032103.d	1.	A1UG_1.0	A318_1UG	21 Mar 2018 12:00
351	4	Ap032104.d	1.	ALCS1UG-032118	A318_1UG	21 Mar 2018 12:47
352	5	Ap032105.d	1.	AMB1UG-032118	A318_1UG	21 Mar 2018 13:23
353	6	Ap032106.d	1.	C1803053-001A	A318_1UG	21 Mar 2018 15:17
354	7	Ap032107.d	1.	C1803053-002A	A318_1UG	21 Mar 2018 15:57
355	8	Ap032108.d	1.	C1803053-001A 10X	A318_1UG	21 Mar 2018 16:38
356	1	Ap032109.d	1.	C1803052-002A	A318_1UG	21 Mar 2018 17:44
357	2	Ap032110.d	1.	C1803052-002A MS	A318_1UG	21 Mar 2018 18:30
358	3	Ap032111.d	1.	C1803052-002A MSD	A318_1UG	21 Mar 2018 19:17
359	4	Ap032112.d	1.	C1803052-001A	A318_1UG	21 Mar 2018 19:58
360	5	Ap032113.d	1.	C1803052-003A	A318_1UG	21 Mar 2018 20:38
361	6	Ap032114.d	1.	C1803052-004A	A318_1UG	21 Mar 2018 21:19
362	7	Ap032115.d	1.	C1803052-005A	A318_1UG	21 Mar 2018 21:59
363	8	Ap032116.d	1.	C1803050-002A	A318_1UG	21 Mar 2018 22:39
364	9	Ap032117.d	1.	C1803050-003A	A318_1UG	21 Mar 2018 23:20
365	10	Ap032118.d	1.	C1803050-004A	A318_1UG	22 Mar 2018 00:01
366	11	Ap032119.d	1.	C1803050-006A	A318_1UG	22 Mar 2018 00:41
367	12	Ap032120.d	1.	C1803050-007A	A318_1UG	22 Mar 2018 01:21
368	13	Ap032121.d	1.	C1803050	A318_1UG	22 Mar 2018 02:04
369	14	Ap032122.d	1.	C1803050-010A	A318_1UG	22 Mar 2018 02:44
370	15	Ap032123.d	1.	C1803050-012A	A318_1UG	22 Mar 2018 03:25
371	16	Ap032124.d	1.	C1803050-013A	A318_1UG	22 Mar 2018 04:05
372	17	Ap032125.d	1.	C1803050-014A	A318_1UG	22 Mar 2018 04:45
373	18	Ap032126.d	1.	ALCS1UGD	A318_1UG	22 Mar 2018 05:25
374	19	Ap032127.d	1.	C1803050-001A	A318_1UG	22 Mar 2018 06:05
375	20	Ap032128.d	1.	C1803050-005A	A318_1UG	22 Mar 2018 06:45
376	21	Ap032129.d	1.	C1803050-008A	A318_1UG	22 Mar 2018 07:25
377	22	Ap032130.d	1.	C1803050-011A	A318_1UG	22 Mar 2018 08:06
378	23	Ap032131.d	1.	C1803050-009A	A318_1UG	22 Mar 2018 08:46
379	24	Ap032132.d	1.	ALCS1UGD-032118	A318_1UG	22 Mar 2018 09:26
380	24	Ap032133.d	1.	C1803050-002A 5x	A318_1UG	22 Mar 2018 10:03
381		Ap032134.d	1.	No MS or GC data present		
382	1	Ap032201.d	1.	BFB1UG	A318_1UG	22 Mar 2018 11:06
383	2	Ap032202.d	1.	A1UG	A318_1UG	22 Mar 2018 11:51
384	3	Ap032203.d	1.	A1UG_1.0	A318_1UG	22 Mar 2018 12:30
385	4	Ap032204.d	1.	ALCS1UG-032218	A318_1UG	22 Mar 2018 13:14

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-2311	12/08/17	12/15/17	TO15 SULF	A0270	1ppm	1.5	30	50	Z.Z.	
A-2312			H2S	A0269	10ppm	↓		500		
A-2313			TO15 IUG IS	A2304	50ppb	0.9	45	1.0		
A-2314			STD	A2305	↓	↓	↓	↓		
A-2315			LCS	A2306	↓	↓	↓	↓		
A-2316	12/04/17	12/04/18	TO15 IS	FF-8482	LINDE	2000PSIG		PPM	Z.Z.	
A-2317	12/12/17	13/12/18	STOCK TO15 STD	FF-47281	LINDE	2200PSIG		1PPM	Z.Z.	
A-2318	12/18/17	12/18/18	TO15 LCS	A1807	1ppm	A1807	STD IS NOW	LCS	Z.Z.	
A-2319	12/16/17	12/21/17	TO15 IS	A2316	1ppm	1.5	30	50	M	
A-2320			STD	A2317	↓	↓	↓	↓		
A-2321			LCS	A2318	↓	↓	↓	↓		
A-2322			4 PCA	9519	1ppm	1.5	7	50		
A-2323			4 PCA	A2322	50ppb	3.0	7	5		
A-2324			FORM	A0974	11.5ppm	0.20	45	50		
A-2325			SILOX	A1082/00	500ppb	3.0	30	↓		
A-2326			SULF	A0269	A0269	1.5	↓	↓		
A-2327			H2S	A0269	10ppm	↓	↓	500		
A-2328			TO15 IUG IS	A2315	50ppb	0.9	45	1.0		
A-2329			STD	A2320	↓	↓	↓	↓		
A-2330			LCS	A2321	↓	↓	↓	↓		
A-2331			M							

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-2430	3/6/18	3/13/18	TO15 H2S	A2359 A2428	10 ppm 50 ppb	30 1.5	30	500	WD	
A-2437			TO15 1ug	A2428	50 ppb	0.9	45	1		
A-2438			STD	A2429						
A-2439			LCS	A2430						
A-2440	3/13/18	3/20/18	TO15 IS	A2316	1 ppm	1.5	30	50	WD	
A-2441			STD	A2317						
A-2442			LCS	A2318						
A-2443			HRCH	9519						
A-2444			4PCMS	A2443	50 ppb	3.0	30	5		
A-2445			FORM	A2331	11.9 ppm	0.19	45	50		
A-2446			SILOX	A1058 A1059	500 ppb	3.0	30	50		
A-2447			SOLF	A0270	1 ppm	1.5	30	50		
A-2448			H2S	A0269	10 ppm	1.5	30	500		
A-2449			TO15 1ug	A2440	50 ppb	0.9	45	1		
A-2450			STD	A2441						
A-2451			LCS	A2442						
A-2452	3/20/18	3/27/18	TO15	A2316	1 ppm	1.5	30	50	WD	
A-2453			STD	A2317						
A-2454			LCS	A2318						
A-2455			4PCFF	9519						
A-2456			4PCMS	A2455	50 ppb	3.0	30	5		

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

Data File : C:\HPCHEM\1\DATA2\2018JAN\AP011506.D Vial: 6
 Acq On : 15 Jan 2018 1:24 pm Operator: RJP
 Sample : WAC011517B Inst : MSD #1
 Misc : A113_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jan 15 15:52:42 2018 Quant Results File: A113_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A113_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sat Jan 13 19:19:06 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

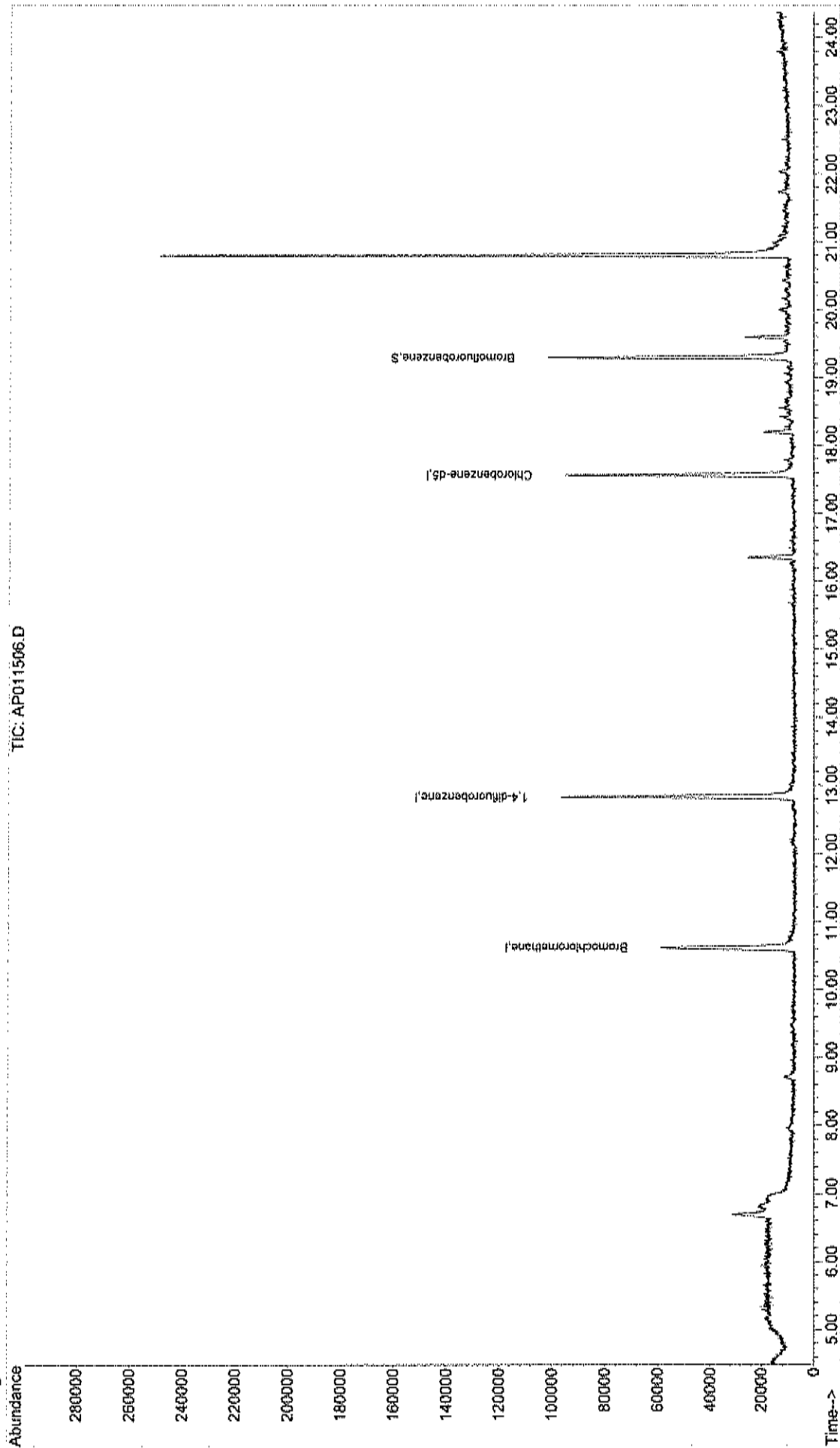
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.60	128	26841	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.82	114	101583	1.00	ppb	0.00
50) Chlorobenzene-d5	17.56	117	73757	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 19.29 95 38620 0.79 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 79.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\2018JAN\AP011506.D Vial: 6
Acq On : 15 Jan 2018 1:24 pm Operator: RJP
Sample : WAC011517B Inst : MSD #1
Misc : A113 IUG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 16:52 2018 Quant Results File: A113_IUG.RES

Method : C:\HPCHEM\1\METHODS\A318_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:59 2018
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA2\2018JAN\AP011507.D Vial: 7
 Acq On : 15 Jan 2018 2:01 pm Operator: RJP
 Sample : WAC011517C Inst : MSD #1
 Misc : A113_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jan 15 15:52:32 2018 Quant Results File: A113_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A113_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Sat Jan 13 19:19:06 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

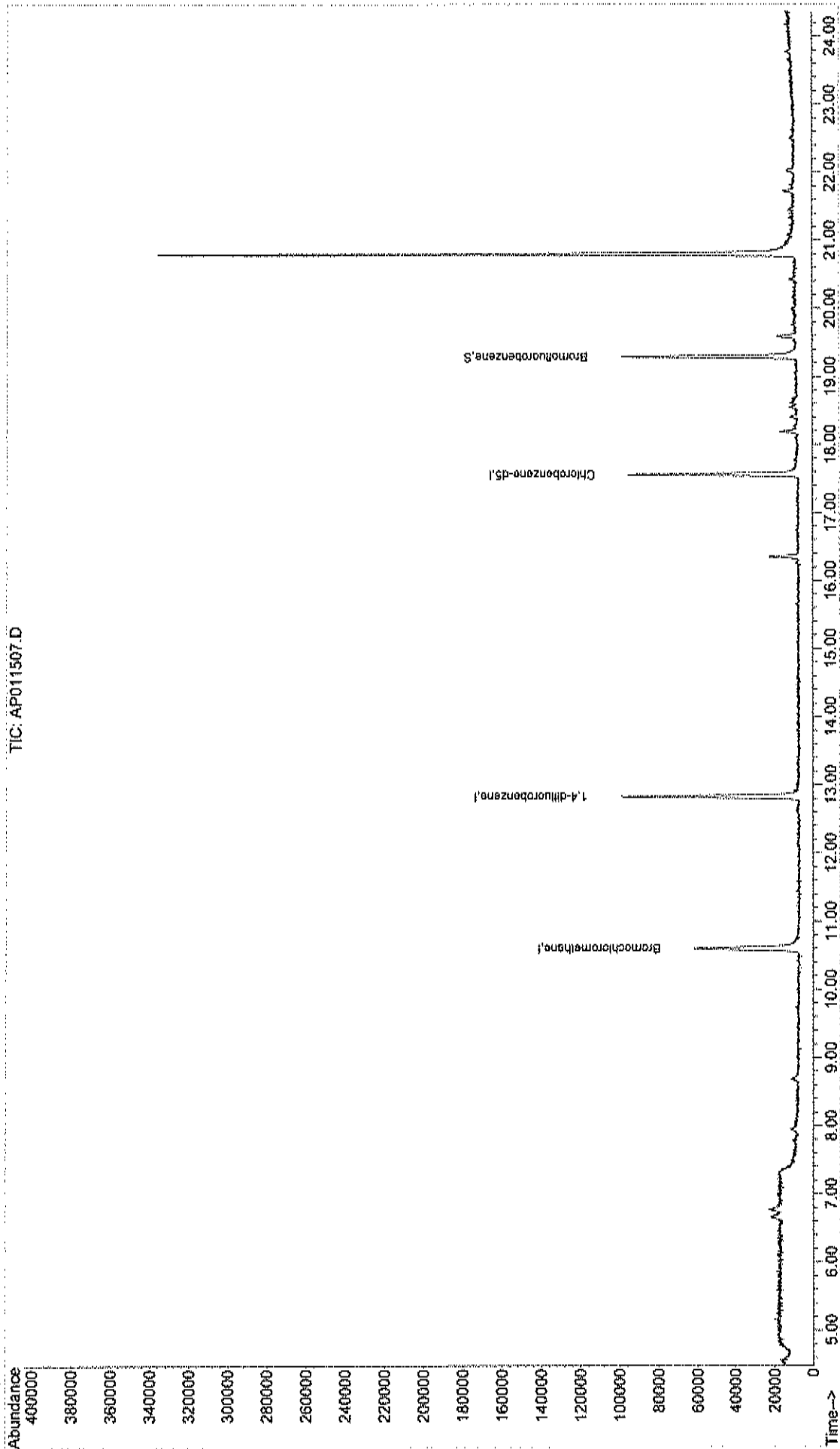
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.60	128	27870	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.83	114	102314	1.00	ppb	0.00
50) Chlorobenzene-d5	17.56	117	71806	1.00	ppb	0.00

System Monitoring Compounds
 65) Bromofluorobenzene 19.29 95 37132 0.78 ppb 0.00
 Spiked Amount 1.000 Range 70 - 130 Recovery = 78.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\2018JAN\AP011507.D Vial: 7
Acq On : 15 Jan 2018 2:01 PM Operator: RJP
Sample : WAC011517C Inst : MSD #1
Misc : A113 IUG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 16:53 2018 Quant Results File: A113_IUG.RES

Method : C:\HPCHEM\1\METHODS\A318_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:59 2018
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\AP030708.D

Vial: 21

Acq On : 7 Mar 2018 3:54 pm

Operator: RJP

Sample : WAC030718A

Inst : MSD #1

Misc : A301_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 08 08:02:26 2018

Quant Results File: A301_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A301_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 01 21:00:43 2018

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	52155	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.74	114	212882	1.00	ppb	-0.01
50) Chlorobenzene-d5	17.49	117	145461	1.00	ppb	-0.01

System Monitoring Compounds

65) Bromofluorobenzene	19.22	95	78577	0.83	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	83.00%

Target Compounds

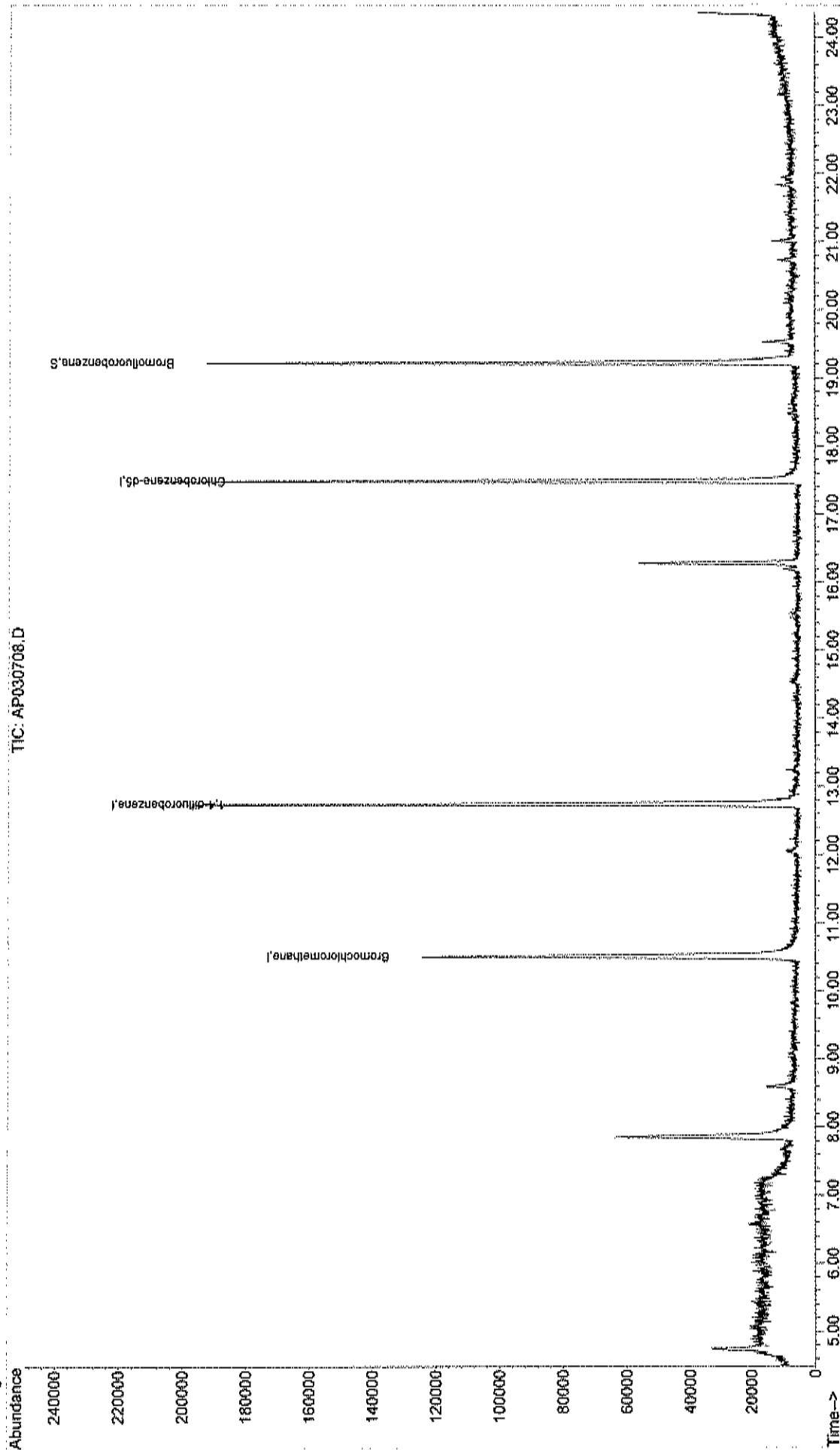
Qvalue

Data File : C:\HPCHEM\1\DATA\AP030708.D
Acq On : 7 Mar 2018 3:54 pm
Sample : WAC030718A
Misc : A301_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 8 9:02 2018

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

Quant Results File: A301_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:59 2018
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\AP030709.D

Vial: 22

Acq On : 7 Mar 2018 4:32 pm

Operator: RJP

Sample : WAC030718B

Inst : MSD #1

Misc : A301_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 08 08:02:27 2018

Quant Results File: A301_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A301_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 01 21:00:43 2018

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.51	128	50324	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.74	114	204900	1.00	ppb	-0.01
50) Chlorobenzene-d5	17.49	117	141559	1.00	ppb	-0.01

System Monitoring Compounds

65) Bromofluorobenzene	19.22	95	71876m	0.78	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	78.00%

Target Compounds

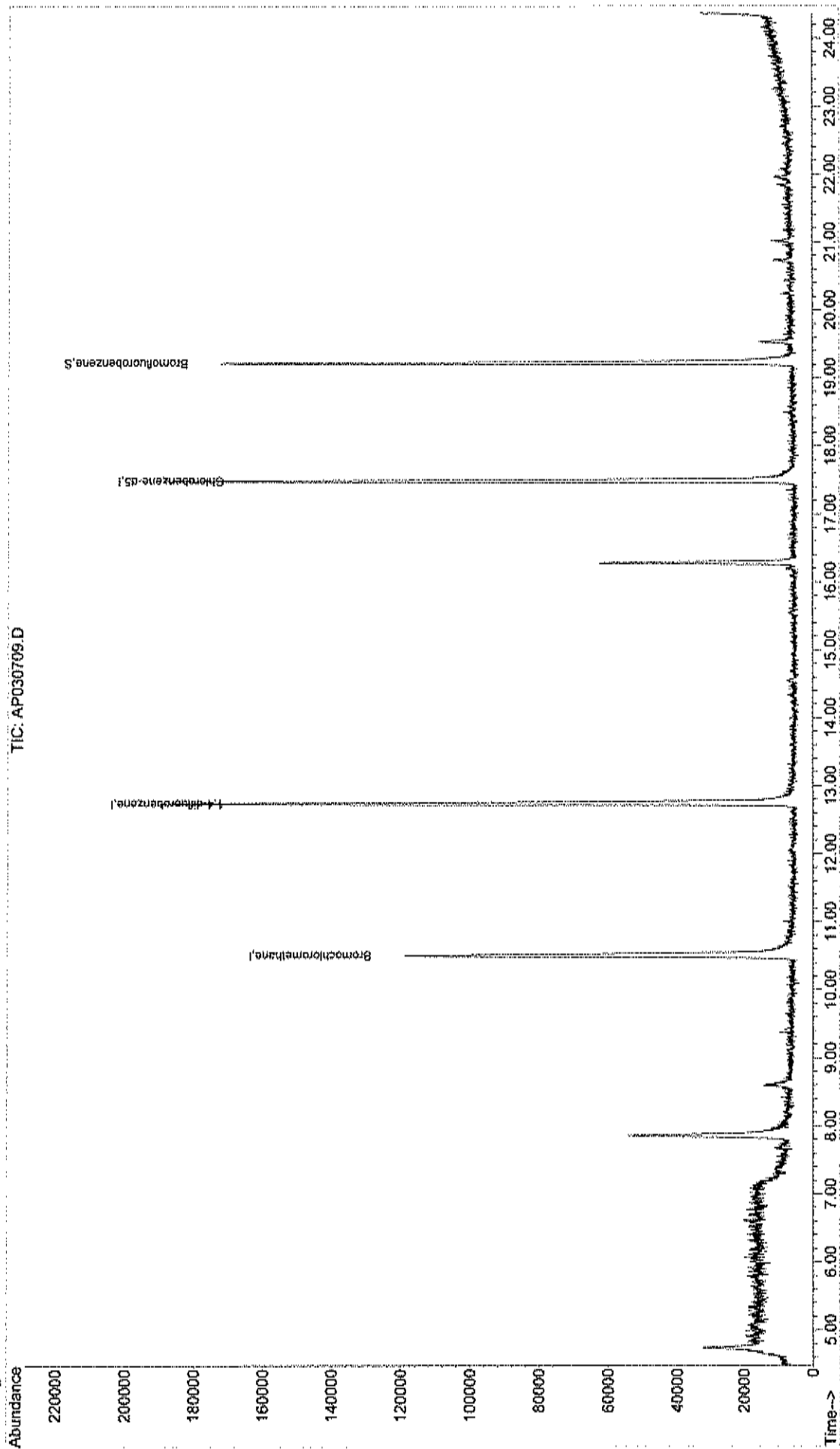
Qvalue

Data File : C:\HPCHEM\1\DATA\AP030709.D
Acq On : 7 Mar 2018 4:32 PM
Sample : WAC030718B
Misc : A301 IUG
MS Integration Params: RTEINT.P
Quant Time: Mar 13 9:23 2018

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

Quant Results File: A301_IUG.RES

Method : C:\HPCHEM\1\METHODS\A318_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:59 2018
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\AP030710.D

Vial: 23

Acq On : 7 Mar 2018 5:10 pm

Operator: RJP

Sample : WAC030718C

Inst : MSD #1

Misc : A301_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 08 08:02:28 2018

Quant Results File: A301_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A301_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 01 21:00:43 2018

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.51	128	51765	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.74	114	201385	1.00	ppb	0.00
50) Chlorobenzene-d5	17.49	117	138217	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.22	95	66113	0.74	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	74.00%

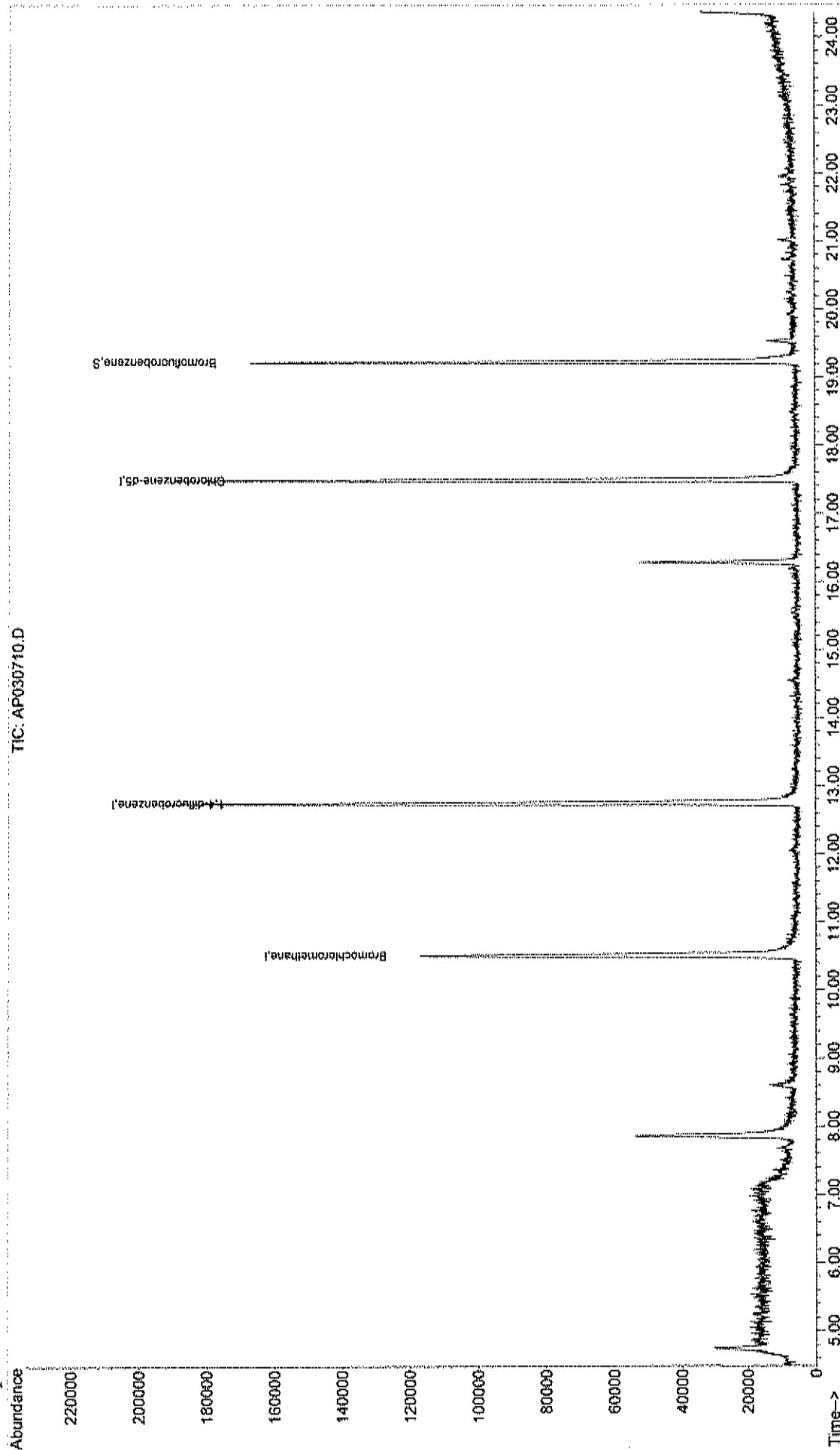
Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA\AP030710.D
Acq On : 7 Mar 2018 5:10 pm
Sample : WAC030718C
Misc : A301_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 8 9:02 2018
Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:59 2018
Response via : Initial Calibration

Vial: 23
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A301_1UG.RES

TIC: AP030710.D



Data File : C:\HPCHEM\1\DATA\AP030711.D
 Acq On : 7 Mar 2018 5:47 pm
 Sample : WAC030718D
 Misc : A301_1UG

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

MS Integration Params: RTEINT.P
 Quant Time: Mar 08 08:02:29 2018

Quant Results File: A301_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A301_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Mar 01 21:00:43 2018
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.50	128	47144	1.00	ppb	-0.01
35) 1,4-difluorobenzene	12.74	114	199590	1.00	ppb	-0.01
50) Chlorobenzene-d5	17.49	117	134272	1.00	ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.23	95	65973	0.76	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	76.00%

Target Compounds

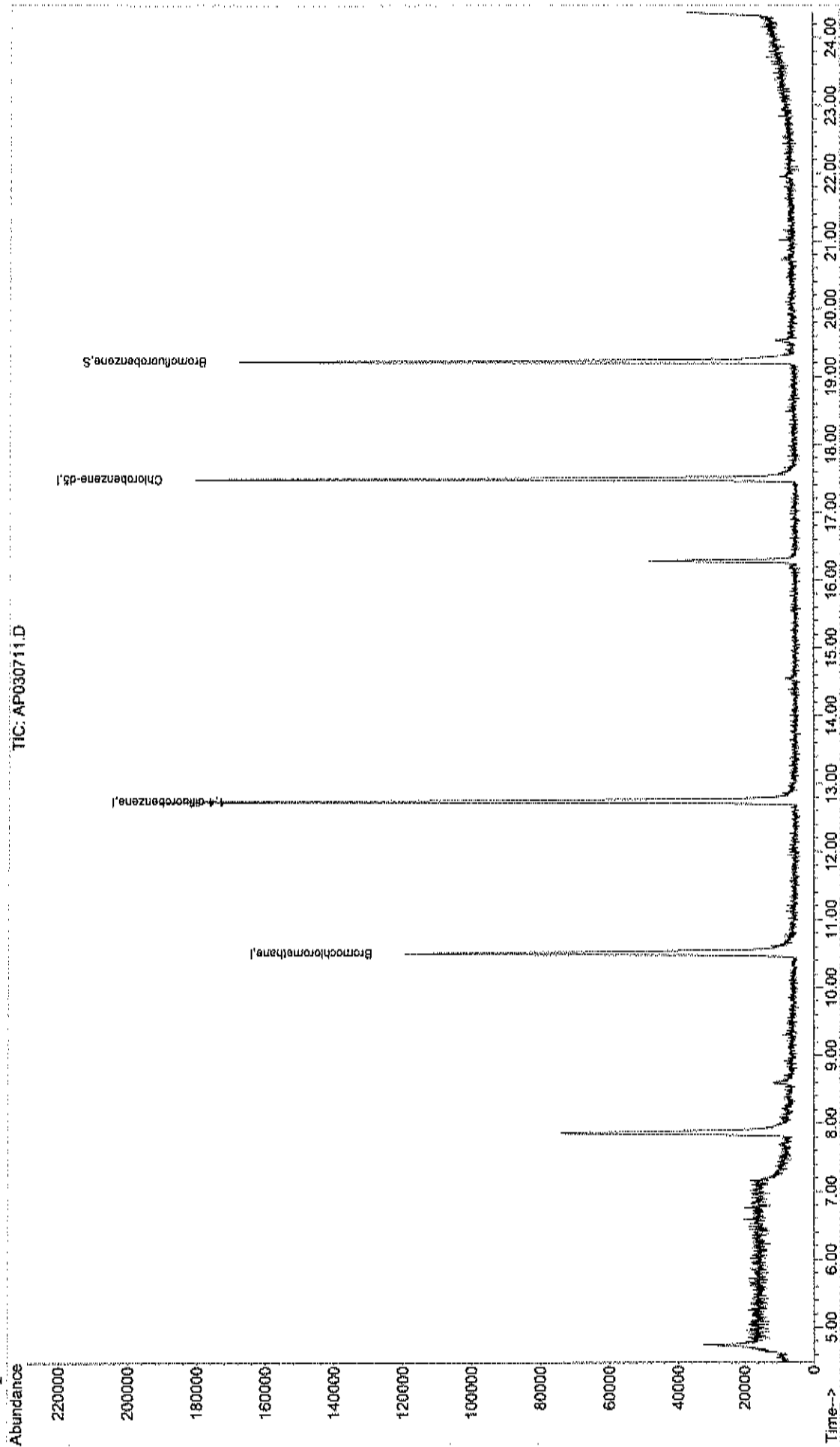
Qvalue

Data File : C:\HPCHEM\1\DATA\AP030711.D
Acq On : 7 Mar 2018 5:47 pm
Sample : WAC030718D
Misc : A301_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 8 9:02 2018

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

Quant Results File: A301_1UG.RES

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 28 07:43:59 2018
Response via : Initial Calibration





APPENDIX 5

Data Usability Summary Reports

DATA USABILITY SUMMARY REPORT

for

LaBella Associates, P.C.

300 State Street

Rochester, NY 14614

FORMER EMERSON LANDFILL

Project 210173

SDG: C1605057

Sampled 5/19/2016

TO-15 AIR SAMPLES

1740-SVI-1	(C1605057-01)
1740-IAQ-1	(C1605057-02)
1740-SVI-2	(C1605057-03)
1740-IAQ-2	(C1605057-04)
1740-SVI-3	(C1605057-05)
1740-IAQ-3	(C1605057-06)
OUTDOOR AIR	(C1605057-07)
DUPE	(C1605057-08)

DATA ASSESSMENT

One data package containing analytical results for eight TO-15 samples was received from LaBella Associates, P.C. on 19Jul16. 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 results reported from 1740-SV-1, 1740-SV-3 and 1740-IAQ-3 have been qualified as estimations because the samples were not collected properly and may not be representative.


The presence of cis-1,2-dichloroethene in 1740-SVI-3 and trichloroethene in the DUPE could not be verified, based on the mass spectra references included in the raw data. Trichloroethene and cis-1,2-dichloroethene should be interpreted as undetected in these samples.

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", "UJ" or "U". 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 July 16

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 outdoor air sample that was collected in a 1.4-liter canister. Sampling was completed on 19May16. The canisters were shipped back to the laboratory, via FedEx-ground, on 19May16 and were received on 23May16. 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.

SAMPLE	PRIOR TO SHIPMENT ("Hg)	PRIOR TO SAMPLING ("Hg)	POST SAMPLING ("Hg)	LAB RECEIPT ("Hg)
1740-SVI-1	-30	-30	-4.5	-5
1740-IAQ-1	-30	-30	-4	-4
1740-SVI-2	-30	-30	-3.5	-4
1740-IAQ-2	-30	-30	-5	-5
1740-SVI-3	-30	-30	-4	-4
1740-IAQ-3	-30	-29	-5	-5
OUTDOOR AIR	-30	-30	-4	-4
DUPE	-30	-30	-4	-4

The canister regulators were set in the laboratory to collect 6-hour samples. The collection of each sample was terminated based on the canister vacuum reading. Every sampling except 1710-SVI-1, 1740-SVI3 and 1740-IAQ-3 was terminated within twenty minutes of the six hour target. 1740-SV-1 and 1740-SV-3 were terminated after three hours, and 1740-IAQ-3 after four. The results reported from 1740-SV-1, 1740-SV-3 and 1740-IAQ-3 have been qualified as estimations because the samples were not collected properly and may not be representative.

The vacuum readings recorded after sampling and at the time of laboratory receipt indicated that the integrity of each sample was maintained during this period. The analysis of this group of samples was completed between 25May16 and 27May16. 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 five 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.

Three method blanks were analyzed with this group of samples. Each of these blanks 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 standards run before the initial instrument calibration and prior to the analysis of program samples. Each of these checks 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 05May16. 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.

Continuing calibration check standards were analyzed on 24May16, 25May16 and 26May16, prior to the 24-hour periods of instrument operation that included samples from this program. When compared to the initial calibration, an acceptable level of instrument stability was demonstrated by each targeted analyte.

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, an acceptable response was reported for each surrogate 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.

The Outdoor Air sample 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.

Three pairs of spiked blanks (LCS/LCSD) were analyzed with this group of samples. Each of these spiked blank pairs demonstrated acceptable levels of measurement precision and accuracy.

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.

Although a blind duplicate sample was included in this delivery group, it was not identified. It is noted 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 printouts. Reference mass spectra were provided to confirm the identification of each analyte that was detected in this group of samples.

The identifications of cis-1,2-dichloroethene in 1740-SVI-3 and trichloroethene in the DUPE could not be verified, based on the mass spectra references included in the raw data. Trichloroethene and cis-1,2-dichloroethene should be interpreted as undetected in these samples.

SUMMARY OF QUALIFIED DATA

FORMER EMERSON LANDFILL

SAMPLED MAY 2016

	MASS SPECTRA ID CIS-1, 2-DICHLOROETHENE	MASS SPECTRA ID TRICHLOROETHENE	SAMPLING
1740-SVI-1	(C1605057-01)		ALL J/UJ
1740-IAQ-1	(C1605057-02)		
1740-SVI-2	(C1605057-03)		
1740-IAQ-2	(C1605057-04)		
1740-SVI-3	(C1605057-05)	0.59U	ALL J/UJ
1740-IAQ-3	(C1605057-06)		ALL J/UJ
OUTDOOR AIR	(C1605057-07)		
DUPE	(C1605057-08)	0.21U	

Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-001A

Client Sample ID: 1740 -SVI-1
 Tag Number: 357,278
 Collection Date: 5/19/2016
 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	5/26/2016 9:02:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/26/2016 9:02:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 9:02:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/26/2016 9:02:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/26/2016 9:02:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 9:02:00 AM
Tetrachloroethylene -	1.7 J	1.0		ug/m3	1	5/26/2016 9:02:00 AM
trans-1,2-Dichloroethene	< 0.59 UJ	0.59		ug/m3	1	5/26/2016 9:02:00 AM
Trichloroethene -	3.3 J	0.61		ug/m3	1	5/26/2016 9:02:00 AM
Vinyl chloride -	0.59 J	0.38		ug/m3	1	5/26/2016 9:02:00 AM

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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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-002A

Client Sample ID: 1740-1AQ-1
 Tag Number: 552,1154
 Collection Date: 5/19/2016
 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	5/25/2016 4:47:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 4:47:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 4:47:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 4:47:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 4:47:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 4:47:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 4:47:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 4:47:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	5/25/2016 4:47:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 4:47:00 AM

MS

- 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-003A

Client Sample ID: 1740-SV1-2
 Tag Number: 133,300
 Collection Date: 5/19/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15			TO-15			Analyst: RJP
1,1,1-Trichloroethane -	0.76	0.82	J	ug/m3	1	5/26/2016 1:56:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/26/2016 1:56:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	5/26/2016 1:56:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	5/26/2016 1:56:00 PM
cis-1,2-Dichloroethene -	6.2	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Tetrachloroethylene -	2.5	1.0		ug/m3	1	5/26/2016 1:56:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Trichloroethene -	16	1.6		ug/m3	2	5/27/2016 3:24:00 AM
Vinyl chloride -	1.2	0.38		ug/m3	1	5/26/2016 1:56:00 PM

Handwritten initials: RJP

Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 J Analyte detected below quantitation limit
 N 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: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-004A

Client Sample ID: 1740-1AQ-2
 Tag Number: 95,266
 Collection Date: 5/19/2016
 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	5/25/2016 5:28:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 5:28:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 5:28:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 5:28:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 5:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 5:28:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 5:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 5:28:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	5/25/2016 5:28:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 5:28:00 AM

7/17

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

Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-005A

Client Sample ID: 1740-SV1-3
 Tag Number: 237,1172
 Collection Date: 5/19/2016
 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	5/26/2016 2:36:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/26/2016 2:36:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 2:36:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	5/26/2016 2:36:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	5/26/2016 2:36:00 PM
cis-1,2-Dichloroethene	0.59 J	0.59		ug/m3	1	5/26/2016 2:36:00 PM
Tetrachloroethylene	< 1.0 J	1.0		ug/m3	1	5/26/2016 2:36:00 PM
trans-1,2-Dichloroethene	< 0.59 J	0.59		ug/m3	1	5/26/2016 2:36:00 PM
Trichloroethene -	5.9 J	0.81		ug/m3	1	5/26/2016 2:36:00 PM
Vinyl chloride	< 0.38 J	0.38		ug/m3	1	5/26/2016 2:36:00 PM

7/15

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
	N	Non-routine analyte, Quantitation estimated.	ND	Not Detected at the Limit of Detection
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-006A

Client Sample ID: 1740-IAQ-3
 Tag Number: 202, E160
 Collection Date: 5/19/2016
 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	5/25/2016 6:10:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 6:10:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:10:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 6:10:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 6:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:10:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 6:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:10:00 AM
Trichloroethene -	0.81	0.21		ug/m3	1	5/25/2016 6:10:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 6:10:00 AM

7705

Qualifiers: ** Quantitation Limit
 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
 Results reported are not blank corrected

Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-007A

Client Sample ID: Outdoor Air
 Tag Number: 482,111
 Collection Date: 5/19/2016
 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	5/25/2016 6:51:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 6:51:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:51:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 6:51:00 AM
Chloromethane	1.1	0.31		ug/m3	1	5/25/2016 6:51:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:51:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 6:51:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 6:51:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	5/25/2016 6:51:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 6:51:00 AM

RJP

Qualifiers: ** Quantitation Limit
 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
 Results reported are not blank corrected

Centek Laboratories, LLC

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1605057
 Project: Emerson Landfill
 Lab ID: C1605057-008A

Client Sample ID: Dupe
 Tag Number: 358,1154
 Collection Date: 5/19/2016
 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	5/25/2016 3:45:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/25/2016 3:45:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 3:45:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	5/25/2016 3:45:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	5/25/2016 3:45:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 3:45:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	5/25/2016 3:45:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/25/2016 3:45:00 PM
Trichloroethene	0.21 0.70 U	0.21		ug/m3	1	5/25/2016 3:45:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	5/25/2016 3:45:00 PM

JRP

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: 05-Jul-16

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill
Test No: TO-15 Matrix: A

Sample ID	BR4FBZ				
ALCSIUG-052416	99.0	✓			
ALCSIUG-052516	95.0				
ALCSIUG-052616	96.0				
ALCSIUGD-052416	98.0				
ALCSIUGD-052516	98.0				
ALCSIUGD-052616	95.0				
AMBIUG-052416	103				
AMBIUG-052516	90.0				
AMBIUG-052616	93.0				
C1605057-001A	96.0				
C1605057-002A	110				
C1605057-003A	98.0				
C1605057-004A	97.0				
C1605057-005A	97.0				
C1605057-006A	92.0				
C1605057-007A	93.0				
C1605057-007A MS	96.0				
C1605057-007A MSID	94.0				
C1605057-008A	101				

Acronym	Surrogate	QC Limits
BR4FBZ	= Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

GC/MS QA-QC Check Report

Run File : C:\HPCHEM\1\DATA\AN052402.D
 Run Time : 24 May 2016 9:01 am

Daily Calibration File : C:\HPCHEM\1\DATA\AN052402.D

File	Sample	DL	(BFB)	Surrogate Recovery %	Internal Standard Responses		
					(IS1)	(IS2)	(IS3)
AN052403.D	ALCS1UG-052416		99	27568	121586	110436	
AN052404.D	AMB1UG-052416		103	32220	142168	130938	
AN052424.D	ALCS1UGD-052416		98	30886	136888	122919	
AN052425.D	C1605057-002A		110	31146	143773	131129	
AN052426.D	C1605057-004A		97	32994	151877	134890	
AN052427.D	C1605057-006A		92	34031	154167	139832	
AN052428.D	C1605057-007A		93	33187	153820	134344	
AN052429.D	C1605057-007A MS		96	35023	156307	141397	
AN052430.D	C1605057-007A MSD		94	33863	151029	134777	

t - fails 24hr time check * - fails criteria

Created: Tue Jul 05 08:31:52 2016 MSD #1/

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN052502.D
 Tune Time : 25 May 2016 9:49 am

Daily Calibration File : C:\HPCHEM\1\DATA\AN052502.D

File	Sample	(BFB)	DL Surrogate Recovery %	Internal Standard Responses		
				{IS1}	{IS2}	{IS3}
AN052503.D	ALCS1UG-052516	95	32260	144109	128882	
AN052504.D	AMB1UG-052516	90	29901	138589	122793	
AN052511.D	C1605057-008A	101	31435	140644	130607	
AN052526.D	ALCS1UGD-052516	98	28173	119863	110297	
AN052537.D	C1605057-001A	96	38693	176249	164783	

t - fails 24hr time check * - fails criteria

Created: Tue Jul 05 08:33:41 2016 MSD #1/

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN052603.D
 Tune Time : 26 May 2016 11:20 am

Daily Calibration File : C:\HPCHEM\1\DATA\AN052603.D

File	Sample	DL	Surrogate Recovery %	(BFB)	(IS1)	(IS2)	(IS3)
					36716	162829	147852
AN052605.D	AMBLUG-052616		93		35017 ✓	160418 ✓	141574 ✓
AN052606.D	ALCS1UG-052616		96		33909	160629	142992
AN052607.D	C1605057-003A		98		35540	169900	156999
AN052608.D	C1605057-005A		97		38889	194963	178304
AN052627.D	C1605057-003A 2X	100			33396	156833	146762
AN052628.D	ALCS1UGD-052616		95		33398	153752	138123

t - fails 24hr time check * - fails criteria

Created: Tue Jul 05 08:35:06 2016 MSD #1/

Date: 05-Jul-16

CENITEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1605057

Project: Emerson Landfill

TestCode: 0.25CT-ICE-VC

Sample ID	ALCS1UG-052416	Sample Type	LCS	TestCode	0.25CT-ICE	Units	ppbv	Prep Date:	RunNo: 10999		
Client ID	ZZZZ	Batch ID	R10999	TestNo	TO-15			Analysis Date:	SeqNo: 128925		
Analyte	Result	FQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.9900	0.15	1	0	99.0	70	130				
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130				
1,1-Dichloroethene	1.020	0.15	1	0	102	70	130				
Chloroethane	1.140	0.15	1	0	114	70	130				
Chloromethane	1.250	0.15	1	0	125	70	130				
cis-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
Tetrachloroethylene	1.040	0.15	1	0	104	70	130				
trans-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
Trichloroethene	1.050	0.040	1	0	105	70	130				
Vinyl chloride	1.190	0.040	1	0	119	70	130				

Sample ID	ALCS1UG-052516	Sample Type	LCS	TestCode	0.25CT-ICE	Units	ppbv	Prep Date:	RunNo: 11000		
Client ID	ZZZZ	Batch ID	R11000	TestNo	TO-15			Analysis Date:	SeqNo: 128944		
Analyte	Result	FQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	1.010	0.15	1	0	101	70	130				
1,1-Dichloroethane	1.080	0.15	1	0	108	70	130				
1,1-Dichloroethene	1.050	0.15	1	0	105	70	130				
Chloroethane	1.190	0.15	1	0	119	70	130				
Chloromethane	1.220	0.15	1	0	122	70	130				
cis-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130				
Tetrachloroethylene	1.100	0.15	1	0	110	70	130				
trans-1,2-Dichloroethene	1.020	0.15	1	0	102	70	130				
Trichloroethene	1.090	0.040	1	0	109	70	130				

Qualifiers: E Estimated Value above quantitation range H Holding times for preparation or analysis exceeded
 NID 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: C1605057
 Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID: ALC51UG-052516 SampType: LCS TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 11000
 Client ID: ZZZZZ Batch ID: R11000 TestNo: TD-15 Analysis Date: 5/25/2016 SeqNo: 128944

Analyte: Vinyl chloride Result: 1.180 PQL: 0.040 SPK value: 1 SPK Ref Val: 0 %REC: 118 ✓ LowLimit: 70 HighLimit: 130 RPD Ref Val: %RPD: RPDLimit: Qual:

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

CLIENT: LaBella Associates, P.C.
 Work Order: C1605057
 Project: Emerson Landfill

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-052616	SampType	LCS	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 11001
Client ID:	ZZZZZ	Batch ID:	R11001	TestNo: TO-15		Analysis Date:	5/26/2016
SeqNo:							128976

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9500	0.15	1	0	95.0	70	130				
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130				
1,1,1-Dichloroethane	1.040	0.15	1	0	104	70	130				
Chloroethane	1.200	0.15	1	0	120	70	130				
Chloromethane	1.270	0.15	1	0	127	70	130				
cis-1,2-Dichloroethane	1.000	0.15	1	0	100	70	130				
Tetrachloroethylene	1.060	0.15	1	0	106	70	130				
trans-1,2-Dichloroethane	0.9900	0.15	1	0	99.0	70	130				
Trichloroethane	1.070	0.15	1	0	107	70	130				
Vinyl chloride	1.280	0.15	1	0	128	70	130				

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

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UGD-052416	SampType: LCSD	Batch ID: R10999	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 10999				
Client ID:	ZZZZ			TestNo: TO-15		Analysis Date: 5/25/2016	SeqNo: 128928				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.080	0.15	1	0	108	70	130	0.99	8.70	30	30
1,1-Dichloroethane	1.110	0.15	1	0	111	70	130	1.02	8.45	30	30
1,1-Dichloroethene	1.080	0.15	1	0	109	70	130	1.02	6.64	30	30
Chloroethane	1.200	0.15	1	0	120	70	130	1.14	5.13	30	30
Chloromethane	1.270	0.15	1	0	127	70	130	1.25	1.59	30	30
cis-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130	0.99	4.93	30	30
Tetrachloroethylene	1.110	0.15	1	0	111	70	130	1.04	6.51	30	30
trans-1,2-Dichloroethene	1.050	0.15	1	0	105	70	130	0.98	6.90	30	30
Trichloroethene	1.100	0.040	1	0	110	70	130	1.05	4.65	30	30
Vinyl chloride	1.220	0.040	1	0	122	70	130	1.19	2.49	30	30

Sample ID	ALCS1UGD-052516	SampType: LCSD	Batch ID: R11000	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11000				
Client ID:	ZZZZ			TestNo: TO-15		Analysis Date: 5/25/2016	SeqNo: 128945				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.110	0.15	1	0	111	70	130	1.01	9.43	30	30
1,1-Dichloroethane	1.090	0.15	1	0	109	70	130	1.08	0.922	30	30
1,1-Dichloroethene	1.080	0.15	1	0	108	70	130	1.05	2.82	30	30
Chloroethane	1.230	0.15	1	0	123	70	130	1.19	3.31	30	30
Chloromethane	1.160	0.15	1	0	116	70	130	1.22	5.04	30	30
cis-1,2-Dichloroethene	1.030	0.15	1	0	103	70	130	1.04	0.266	30	30
Tetrachloroethylene	1.120	0.15	1	0	112	70	130	1.1	1.80	30	30
trans-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130	1.02	1.94	30	30
Trichloroethene	1.140	0.040	1	0	114	70	130	1.09	4.48	30	30

Qualifiers: J Results reported are not blank corrected E Estimated Value above quantitation range E1 Holding times for preparation or analysis exceeded
 N Analyte detected below quantitation limit ND Not Detected at the Limit of Detection R RPD outside accepted recovery limits

CLIENT: LaBella Associates, P.C.
 Work Order: C1605057
 Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID: ALC51UGD-052516	SampType: LCSID	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11000						
Client ID: ZZZZZ	Batch ID: R11000	TestNo: TO-15		Analysis Date: 5/26/2016	SeqNo: 128945						
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.230	0.040	1	0	123 ✓	70	130	1.18	4.15	30	

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

CLIENT: LaBella Associates, P.C.
 Work Order: C1605057
 Project: Emerson Landfill

TestCode: IugM3_TO15

Sample ID: ALCS1UGD-052618 SampType: LCSD TestCode: IugM3_TO15 Units: ppbv Prep Date: RunNo: 11001
 Client ID: ZZZZZ Batch ID: R11001 TestNo: TO-15 Analysis Date: 5/27/2016 SeqNo: 128977

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9600	0.15	1	0	98.0	70	130	0.95	3.11	30	
1,1-Dichloroethane	1.080	0.15	1	0	108	70	130	1.04	3.77	30	
1,1-Dichloroethene	1.070	0.15	1	0	107	70	130	1.04	2.84	30	
Chloroethane	1.170	0.15	1	0	117	70	130	1.2	2.53	30	
Chloromethane	1.210	0.15	1	0	121	70	130	1.27	4.84	30	
cis-1,2-Dichloroethene	1.020	0.15	1	0	102	70	130	1	1.98	30	
Tetrachloroethylene	1.060	0.15	1	0	106	70	130	1.06	0	30	
trans-1,2-Dichloroethene	1.020	0.15	1	0	102	70	130	0.99	2.99	30	
Trichloroethene	1.080	0.15	1	0	108	70	130	1.07	0.930	30	
Vinyl chloride	1.140	0.15	1	0	114	70	130	1.28	11.5	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

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-052416	Sample Type:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:	RunNo:	10999	
Client ID:	ZZZZ	Batch ID:	R10999	TestNo:	YO-15	Analysis Date:	5/24/2016	SeqNo:	128924		
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-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									
Trichloroethane	< 0.040	0.040									
Vinyl chloride	< 0.040	0.040									

Sample ID	AMB1UG-052516	Sample Type:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:	RunNo:	11000	
Client ID:	ZZZZ	Batch ID:	R11000	TestNo:	YO-15	Analysis Date:	5/25/2016	SeqNo:	128943		
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-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									
Trichloroethane	< 0.040	0.040									

Qualifiers:
 J Results reported are not blank corrected
 K Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits

FI Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: LaBella Associates, P.C.
 Work Order: C1605057
 Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-052516	SampType	MBLK	TestCode	0.25CT-TCE-	Units	ppbv	Prop Date:		RunNo:	11000		
Client ID:	ZZZZ	Batch ID:	R11000	TestNo:	TO-15			Analysis Date:	5/25/2016	SeqNo:	128943		
Analyte		Result	< 0.040	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride			< 0.040										

0.040

Qualifiers:
 1 Results reported are not blank corrected
 5 Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits

F 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: C1605057
 Project: Emerson Landfill

TestCode: 1ugM3_TO15

Sample ID: AMB1UG-052616 SampType: MBLK TestCode: 1ugM3_TO15 Units: ppbv Prep Data: RunNo: 11001
 Client ID: ZZZZ Batch ID: R11001 TestNo: TO-15 Analysis Date: 5/26/2016 SeqNo: 128975

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HightLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-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	< 0.15	0.15									
Vinyl chloride	< 0.15	0.15									

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: 05-Jul-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1605057
Project: Emerson Landfill
TestCode: 0.25CT-TCE-VC

Sample ID	C1605057-007A MS	SampType: MS	Batch ID: R10999	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 10999				
Client ID:	Outdoor Air			TestNo: TO-15		Analysis Date: 5/25/2016	SeqNo: 128941				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9700	0.15	1	0	97.0	70	130				
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130				
1,1-Dichloroethene	1.030	0.15	1	0	103	70	130				
Chloroethane	1.130	0.15	1	0	113	70	130				
Chloromethane	1.290	0.15	1	3.51	78.0	70	130				
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130				
Tetrachloroethylene	1.040	0.15	1	0	104	70	130				
trans-1,2-Dichloroethene	1.020	0.15	1	0	102	70	130				
Trichloroethene	1.150	0.040	1	0	115	70	130				
Vinyl chloride	1.070	0.040	1	0	107	70	130				

Sample ID	C1605057-007A MS	SampType: MSD	Batch ID: R10999	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 10999				
Client ID:	Outdoor Air			TestNo: TO-15		Analysis Date: 5/25/2016	SeqNo: 128942				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.010	0.15	1	0	101	70	130	0.97	4.04	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.02	1.94	30	
1,1-Dichloroethene	1.040	0.15	1	0	104	70	130	1.03	0.966	30	
Chloroethane	1.200	0.15	1	0	120	70	130	1.13	6.01	30	
Chloromethane	1.280	0.15	1	0.51	77.0	70	130	1.29	0.778	30	
cis-1,2-Dichloroethene	1.030	0.15	1	0	103	70	130	1.01	1.96	30	
Tetrachloroethylene	1.080	0.15	1	0	108	70	130	1.04	3.77	30	
trans-1,2-Dichloroethene	1.040	0.15	1	0	104	70	130	1.02	1.94	30	
Trichloroethene	1.180	0.040	1	0	118	70	130	1.15	2.58	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
 R Not Detected at the Limit of Detection
 H RPD outside accepted recovery limits
 R Holding times for preparation or analysis exceeded

CLIENT: LaBella Associates, P.C.
 Work Order: C1605057
 Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	G1605057-007A MS	MSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 10999						
Client ID:	Outdoor Air	Batch ID: R10999	TestNo: TO-15		Analysis Date: 5/25/2016	SeqNo: 128842						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride		1.140	0.040	1	0	114	70	130	1.07	5.33	30	

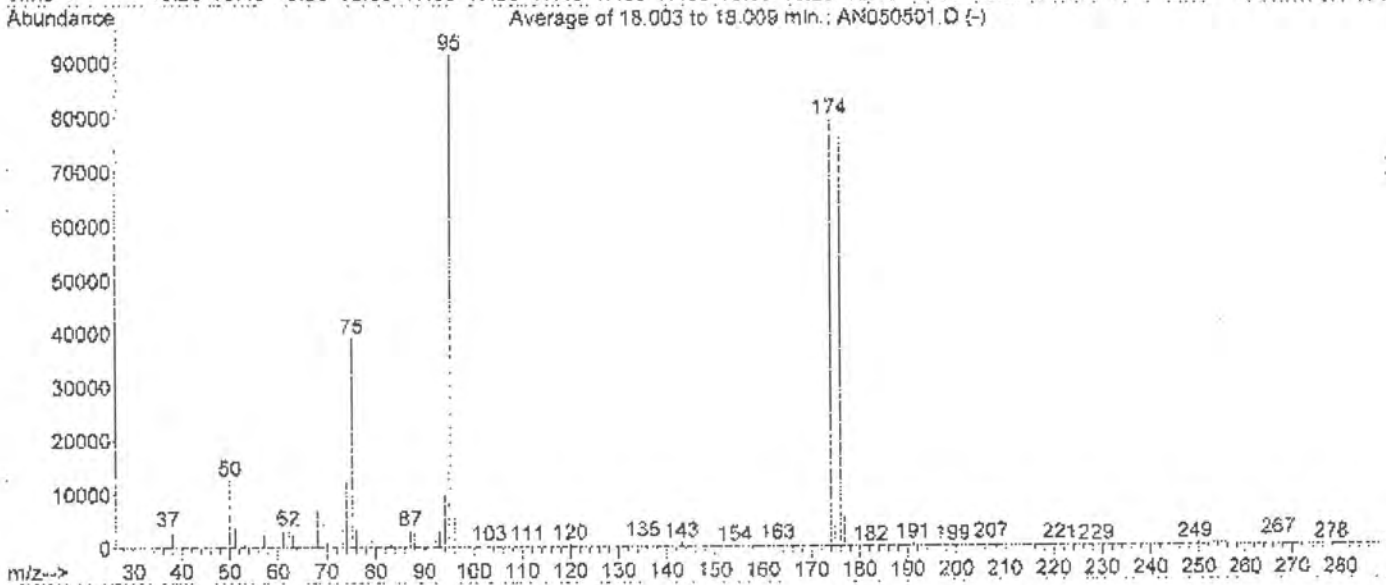
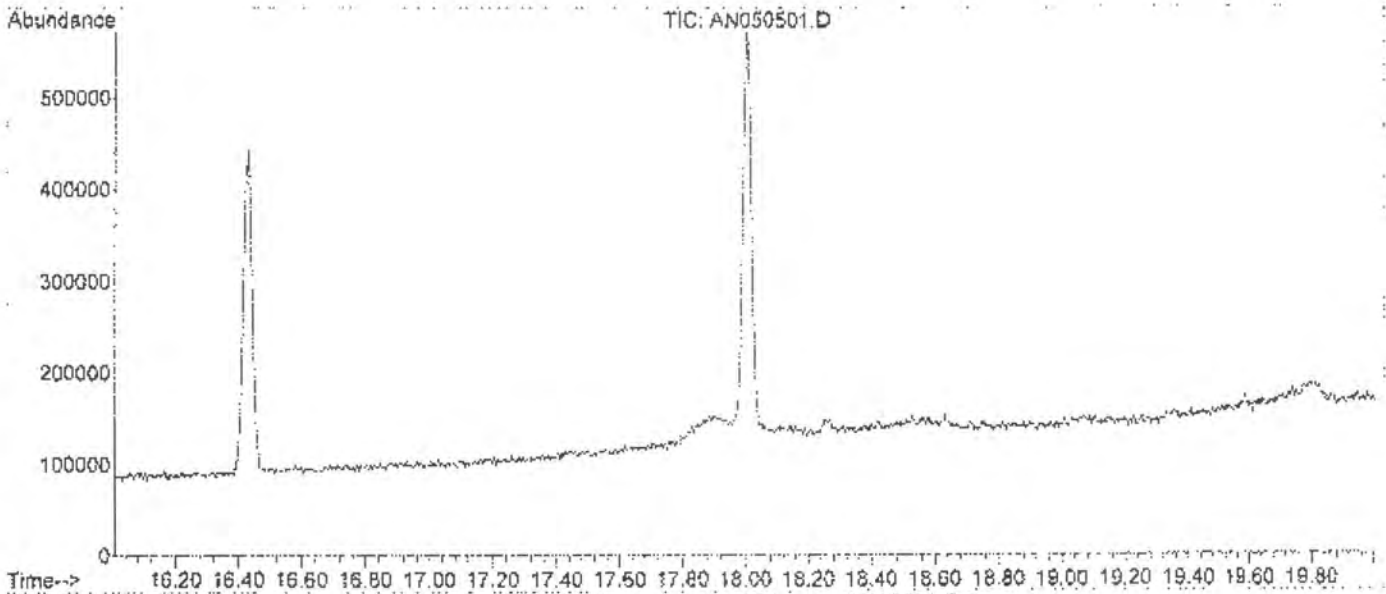
Qualifiers: - Results reported are not blank corrected
 J Analyte detected below quantitation limit
 S Spike Recovery outside accepted recovery limits

F 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\AN050501.D
 Acq On : 5 May 2016 4:08 pm
 Sample : BFB1UG
 Misc : AS05_1UG
 MS Integration Params: RTEINT.F
 Method : C:\HPCHEM\1\METHODS\AS05_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

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

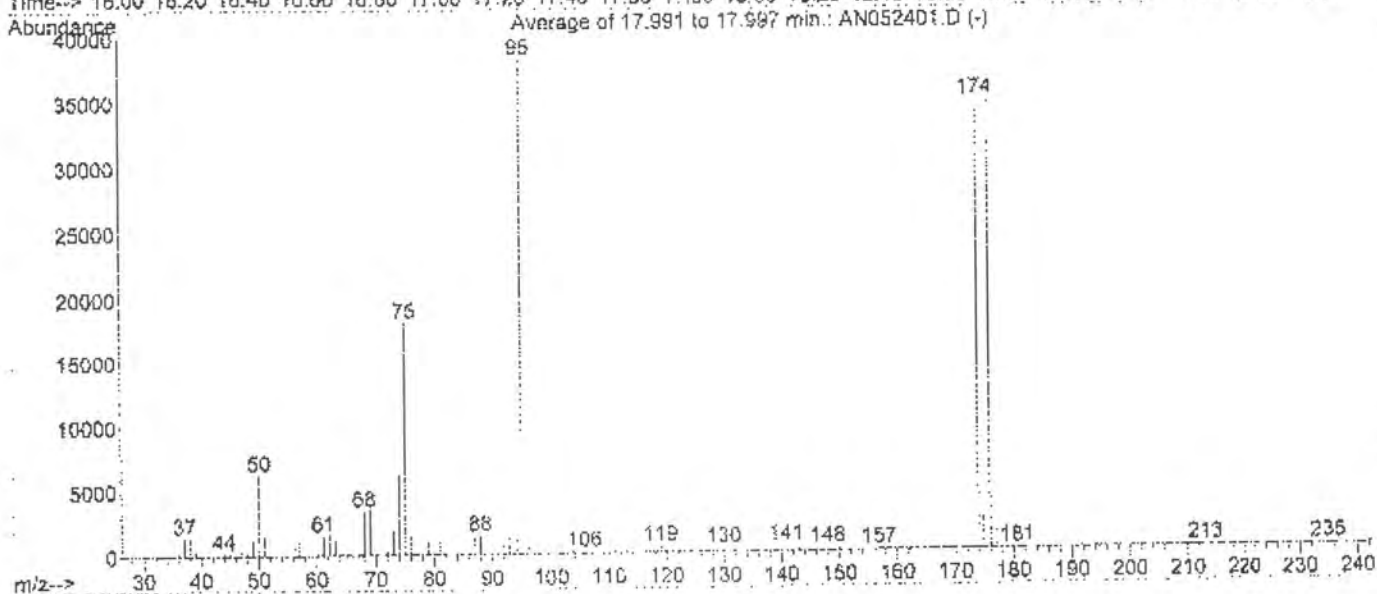
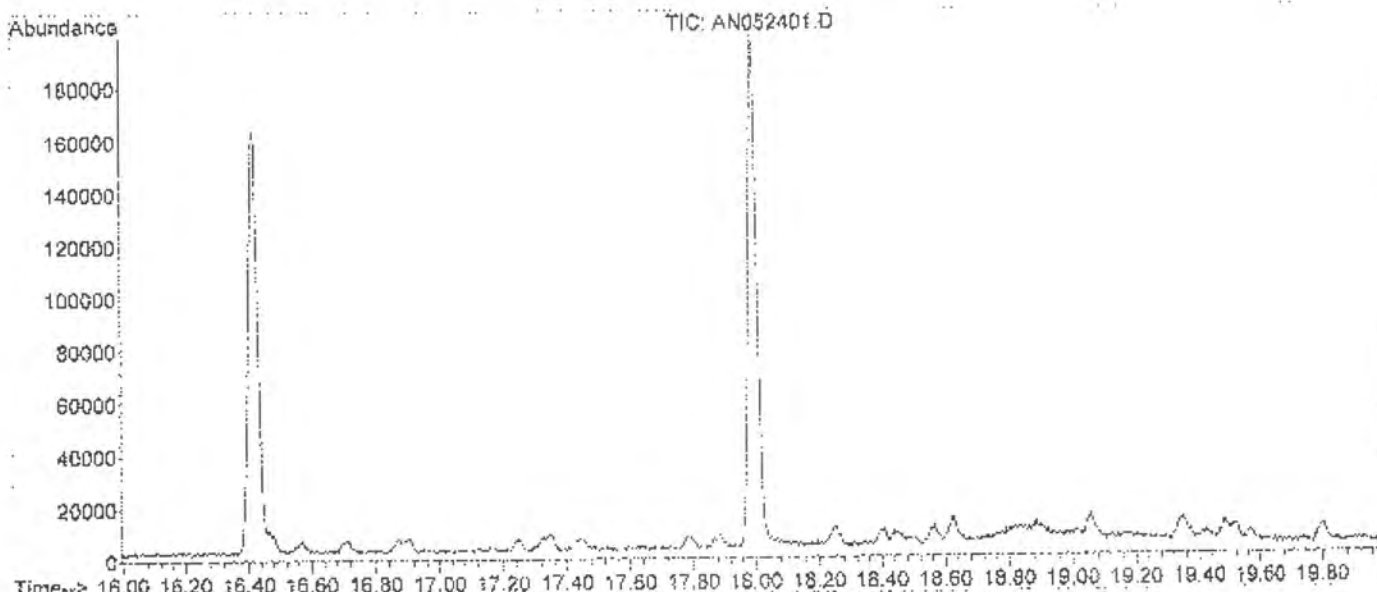


Spectrum Information: Average of 18.003 to 18.009 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.8	12678	PASS
75	95	30	66	42.7	39147	PASS
95	95	100	100	100.0	91710	PASS
96	95	5	9	6.4	5836	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	86.8	79606	PASS
175	174	4	9	6.9	5515	PASS
176	174	95	101	96.2	76554	PASS
177	176	5	9	7.3	5624	PASS

Data File : C:\HPCHEM\1\DATA\AN052401.D
 Acq On : 24 May 2016 8:19 am
 Sample : BFB1UG
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : 10-15 VOA Standards for 5 point calibration

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

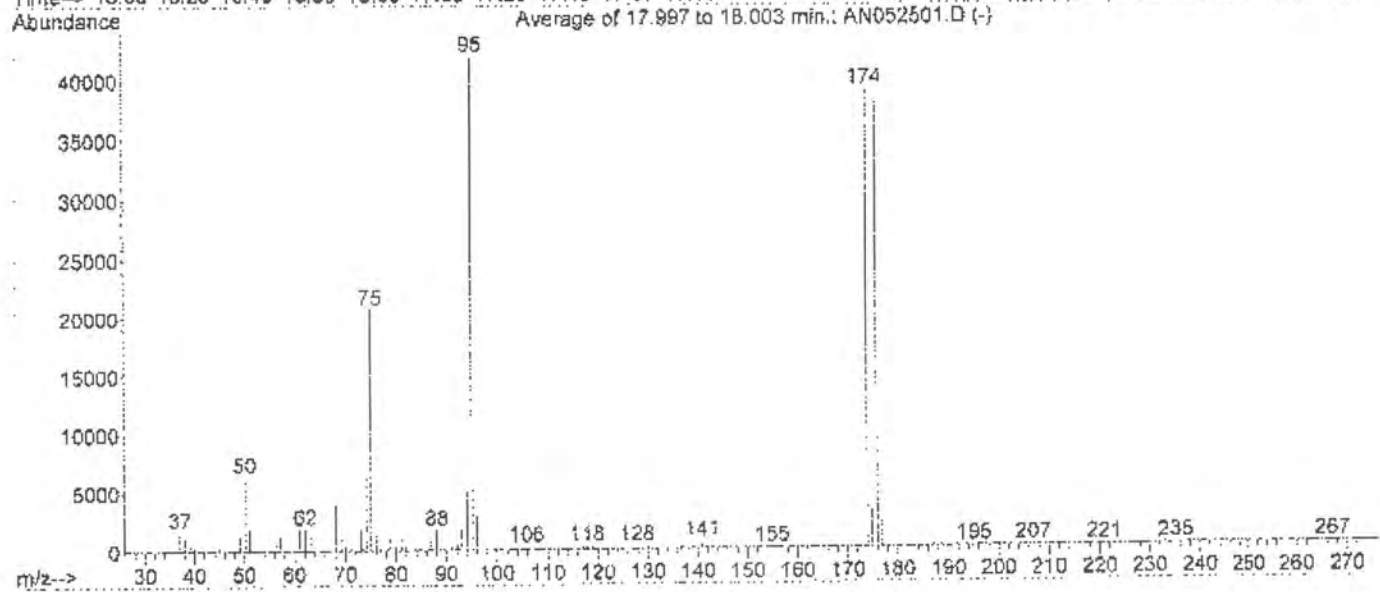
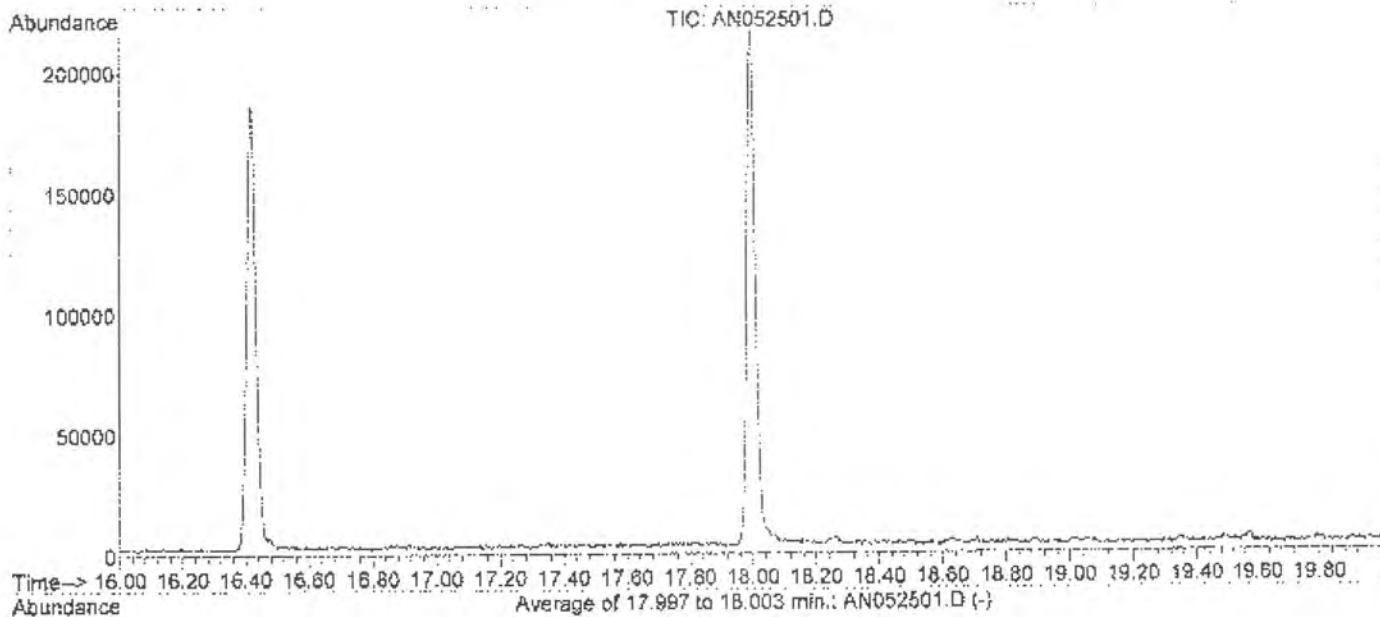


Spectrum Information: Average of 17.991 to 17.997 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.2	6206	PASS
75	95	30	66	47.4	18098	PASS
95	95	100	100	100.0	38210	PASS
96	95	5	9	7.7	2937	PASS
173	174	0.00	2	0.4	131	PASS
174	95	50	120	91.1	34805	PASS
175	174	4	9	7.3	2538	PASS
176	174	95	101	99.8	34725	PASS
177	176	5	9	6.7	2317	PASS

Data File : C:\HPCHEM\1\DATA\AN052501.D
 Acq On : 25 May 2016 9:06 am
 Sample : BFB1UG
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

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

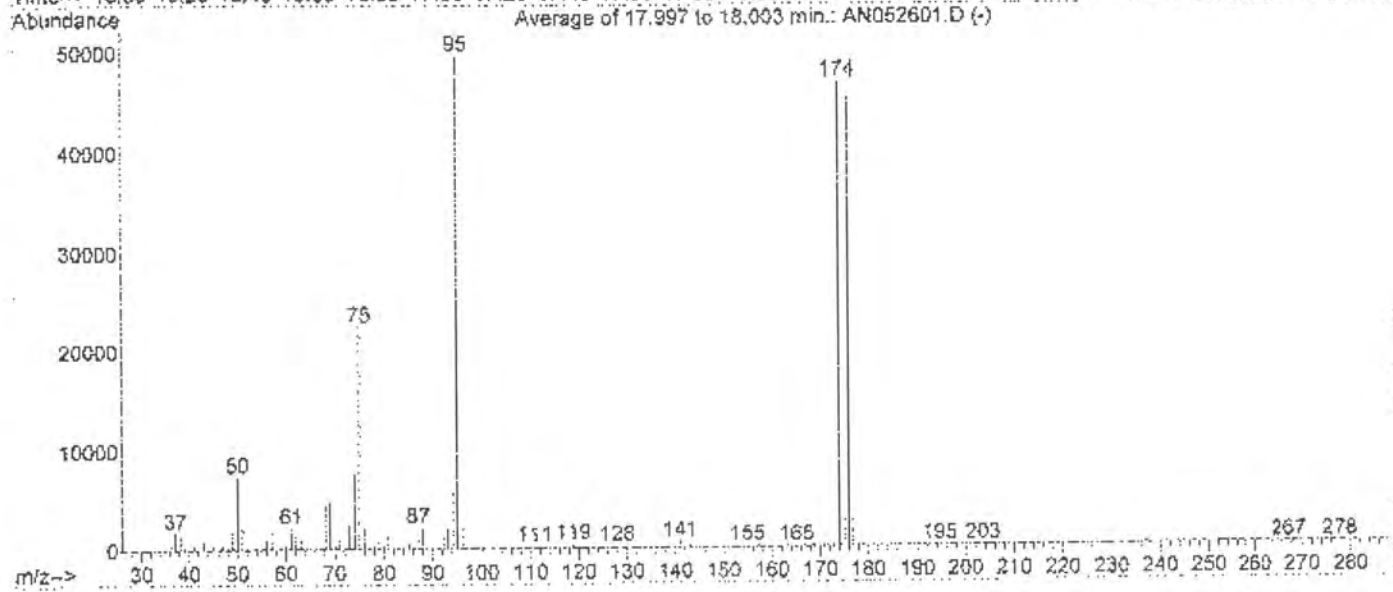
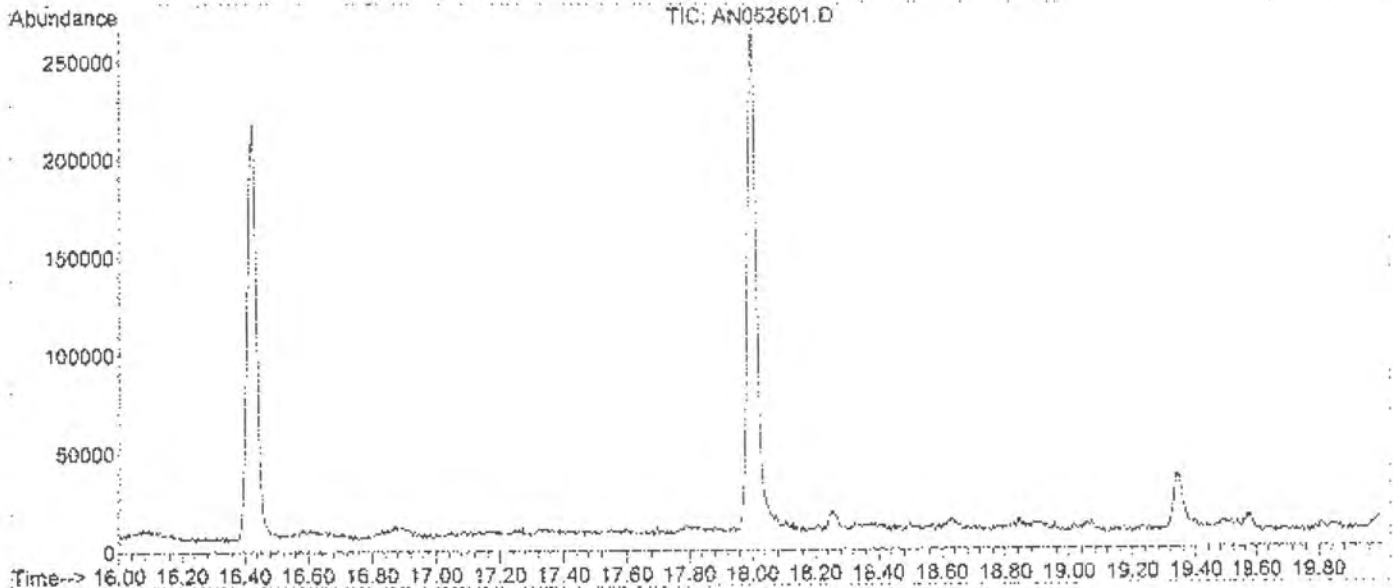


Spectrum Information: Average of 17.997 to 18.003 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	0	40	15.2	6377	PASS
75	95	30	66	49.4	20768	PASS
95	95	100	100	100.0	42024	PASS
96	95	5	9	7.1	2983	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	92.9	39042	PASS
175	174	4	9	7.9	3093	PASS
176	174	95	101	97.3	38605	PASS
177	176	5	9	5.6	2127	PASS

Data File : C:\HPCHEM\1\DATA\AN052601.D
 Acq On : 26 May 2016 9:53 am
 Sample : BFB1UG
 Misc : A505_1UG
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

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



Spectrum Information: Average of 17.997 to 18.003 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	9	40	14.8	7373	PASS
75	95	30	66	45.5	22605	PASS
95	95	100	100	100.0	49675	PASS
96	95	5	9	6.3	3118	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.4	46906	PASS
175	174	4	9	7.4	3477	PASS
176	174	95	101	96.7	45349	PASS
177	176	5	9	6.2	2821	PASS

DATA USABILITY SUMMARY REPORT

for

LaBella Associates, P.C.

300 State Street

Rochester, NY 14614

FORMER EMERSON LANDFILL

Project 210173

SDG: C1611040

Sampled 11/22/2016

TO-15 AIR SAMPLES

1740-SVI-1	(C1611040-01)
1740-IAQ-1	(C1611040-02)
1740-SVI-2	(C1611040-03)
1740-IAQ-2	(C1611040-04)
1740-SVI-3	(C1611040-05)
1740-IAQ-3	(C1611040-06)
1740-OUTDOOR AIR	(C1611040-07)
1740-BLIND DUP	(C1611040-08)

DATA ASSESSMENT

One data package containing analytical results for eight TO-15 samples was received from LaBella Associates, P.C. on 10Jan17. 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 1740-SVI-1 and the Blind Dup have been rejected because the samples were not collected properly. Positive results have been qualified as estimations.

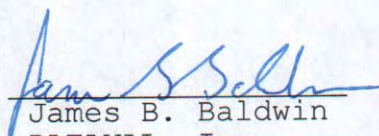
The cis-1,2-dichloroethene concentration from 1740-SVI-2 has been qualified as an estimation due to a low spiked sample recovery.

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:

29 Jan 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, 1740-SVI-2, that was collected in a 1.4-liter canister to facilitate the preparation of MS/MSD samples. Sampling was completed on 22Nov16. The canisters were then delivered to the laboratory the next day. 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.

SAMPLE	PRIOR TO SHIPMENT ("Hg)	PRIOR TO SAMPLING ("Hg)	POST SAMPLING ("Hg)	LAB RECEIPT ("Hg)
1740-SVI-1	-30	-30	-2	-2
1740-IAQ-1	-30	-30	-4	-3
1740-SVI-2	-30	-30	-6	-4
1740-IAQ-2	-30	-29.5	-4	-3
1740-SVI-3	-30	-30	-4	-3
1740-IAQ-3	-30	-30	-5	-4
1740-OUTDOOR AIR	-30	-29.8	-3.9	-2
1740-BLIND DUP	-30	-30	-2	-2

The canister regulators were set in the laboratory to collect 6-hour samples. However, the collections of 1740-SVI-1 and the Blind Dup were terminated after 1 hour, based on the canister vacuum readings. The positive results from 1740-SVI-1 and the Blind Dup have been qualified as estimations because these samples were not collected properly. Negative results have been rejected. The remaining samples were collected over a period that ranged between six hours and 6 hours and 59 minutes.

The vacuum readings recorded after sampling and at the time of laboratory receipt indicated that the integrity of each sample was maintained during that period. The analysis of this group of samples was completed on 27Nov16 and 28Nov16. 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 three 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.

Two method blanks were analyzed with this group of samples. Both of these blanks demonstrated acceptable chromatography and were 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 standards run before the initial instrument calibration and prior to the analysis of program samples. Each of these checks 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 23Nov16. 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.

Continuing calibration check standards were analyzed on 27Nov16 and 28Nov16, prior to the 24-hour periods of instrument operation that included samples from this program. When compared to the initial calibration, an acceptable level of instrument stability was demonstrated by each targeted analyte during both checks.

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 standards. Although the control limits based on the response of the CCV's 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.

1740-SVI-2 was selected for matrix spiking. Each targeted analyte was added to two volumes of this sample. The recoveries reported for these additions included a low result for cis-1,2-dichloroethene (38%). The cis-1,2-dichloroethene result from 1740-SVI-2 has been qualified as an estimation based on this indication of negative bias. The remaining targeted analytes demonstrated acceptable levels of measurement precision and accuracy.

Two pairs of spiked blanks (LCS/LCSD) were also analyzed with this group of samples. Both pairs of spiked blanks demonstrated acceptable levels of measurement precision and accuracy.

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.

A second volume of 1740-SV-1 was collected and submitted as a blind duplicate. The trichloroethene and tetrachloroethene concentrations found in this pair of samples differed by less than 17% RPD. The ASP acceptance criteria was satisfied.

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 NOVEMBER 2016

	IMPROPER COLLECTION	IMPROPER COLLECTION	SPIKES CIS-1,2-DICHLOROETHENE
1740-SVI-1	ALL NEG R	ALL POS J	
1740-IAQ-1	(C1611040-01)		
1740-SVI-2	(C1611040-02)		
1740-IAQ-2	(C1611040-03)		17J
1740-SVI-3	(C1611040-04)		
1740-IAQ-3	(C1611040-05)		
1740-OUTDOOR AIR	(C1611040-06)		
1740-BLIND DUP	(C1611040-07)		
	(C1611040-08)		

Centek Laboratories, LLC

Date: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-001A

Client Sample ID: 1740-SV1-1
 Tag Number: 419,343
 Collection Date: 11/22/2016
 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	11/28/2016 12:40:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 12:40:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:40:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 12:40:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 12:40:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:40:00 AM
Tetrachloroethylene	3.9	1.0	J	ug/m3	1	11/28/2016 12:40:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	R	ug/m3	1	11/28/2016 12:40:00 AM
Trichloroethene	1.0	0.81	J	ug/m3	1	11/28/2016 12:40:00 AM
Vinyl chloride	< 0.38	0.38	R	ug/m3	1	11/28/2016 12:40:00 AM

MS

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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-002A

Client Sample ID: 1740-IAQ-1
 Tag Number: 193,267
 Collection Date: 11/22/2016
 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	11/27/2016 10:04:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/27/2016 10:04:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:04:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2016 10:04:00 PM
Chloromethane	1.4	0.31		ug/m3	1	11/27/2016 10:04:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:04:00 PM
Tetrachloroethylene	2.6	1.0		ug/m3	1	11/27/2016 10:04:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:04:00 PM
Trichloroethene	0.75	0.21		ug/m3	1	11/27/2016 10:04:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2016 10:04:00 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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-003A

Client Sample ID: 1740-SVI-2
 Tag Number: 483,249
 Collection Date: 11/22/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15						
1,1,1-Trichloroethane -	1.1	0.82		ug/m3	1	Analyst: RJP 11/28/2016 11:42:00 AM
1,1-Dichloroethane -	1.4	0.61		ug/m3	1	11/28/2016 11:42:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 11:42:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 11:42:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 11:42:00 AM
cis-1,2-Dichloroethene -	17 J	5.9		ug/m3	10	11/28/2016 9:54:00 PM
Tetrachloroethylene -	150	10		ug/m3	10	11/28/2016 9:54:00 PM
trans-1,2-Dichloroethene -	1.1	0.59		ug/m3	1	11/28/2016 11:42:00 AM
Trichloroethene -	92	8.1		ug/m3	10	11/28/2016 9:54:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	11/28/2016 11:42:00 AM

M/S

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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-004A

Client Sample ID: 1740-IAQ-2
 Tag Number: 168,337
 Collection Date: 11/22/2016
 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	11/27/2016 10:43:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/27/2016 10:43:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:43:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2016 10:43:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	11/27/2016 10:43:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:43:00 PM
Tetrachloroethylene -	2.5	1.0		ug/m3	1	11/27/2016 10:43:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 10:43:00 PM
Trichloroethene -	1.0	0.21		ug/m3	1	11/27/2016 10:43:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2016 10:43:00 PM

JRS

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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-005A

Client Sample ID: 1740-SVI-3
 Tag Number: 243,342
 Collection Date: 11/22/2016
 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	11/28/2016 3:31:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 3:31:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 3:31:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 3:31:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/28/2016 3:31:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Trichloroethene —	10	0.81		ug/m3	1	11/28/2016 3:31:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	11/28/2016 3:31:00 AM

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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
Lab Order: C1611040
Project: 1740 Emerson Street
Lab ID: C1611040-006A

Client Sample ID: 1740-JAQ-3
Tag Number: 171,344
Collection Date: 11/22/2016
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	11/27/2016 11:22:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/27/2016 11:22:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 11:22:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	11/27/2016 11:22:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	11/27/2016 11:22:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 11:22:00 PM
Tetrachloroethylene —	1.2	1.0		ug/m3	1	11/27/2016 11:22:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/27/2016 11:22:00 PM
Trichloroethene —	0.81	0.21		ug/m3	1	11/27/2016 11:22:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/27/2016 11:22:00 PM

185

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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-007A

Client Sample ID: 1740-Outdoor Air
 Tag Number: 542,259
 Collection Date: 11/22/2016
 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	11/28/2016 12:01:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 12:01:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 12:01:00 AM
Chloromethane	0.99	0.31		ug/m3	1	11/28/2016 12:01:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/28/2016 12:01:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	11/28/2016 12:01:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/28/2016 12:01:00 AM

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
	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: 28-Dec-16

CLIENT: LaBella Associates, P.C.
 Lab Order: C1611040
 Project: 1740 Emerson Street
 Lab ID: C1611040-008A

Client Sample ID: 1740-Blind Dup
 Tag Number: 1190,343
 Collection Date: 11/22/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15						Analyst: RJP
			TO-15			
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	11/28/2016 4:10:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 4:10:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 4:10:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	11/28/2016 4:10:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 4:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 4:10:00 AM
Tetrachloroethylene	3.3 J	1.0		ug/m3	1	11/28/2016 4:10:00 AM
trans-1,2-Dichloroethene	< 0.59 JR	0.59		ug/m3	1	11/28/2016 4:10:00 AM
Trichloroethene	0.91 J	0.61		ug/m3	1	11/28/2016 4:10:00 AM
Vinyl chloride	< 0.38 JR	0.38		ug/m3	1	11/28/2016 4:10:00 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		

Date: 28-Dec-16



CEN TEK LABORATORIES, LLC

**QC SUMMARY REPORT
SURROGATE RECOVERIES**

CLIENT: LaBella Associates, P.C.
Work Order: C1611040
Project: 1740 Emerson Street
Test No: TO-15 **Matrix:** A

Sample ID	RR4FBZ							
ALCSIUG-112716	98.0	✓						
ALCSIUG-112816	96.0							
ALCSIUGD-112716	95.0							
ALCSIUGD-112816	101							
AMBIUG-112716	90.0							
AMBIUG-112816	91.0							
C1611040-001A	89.0							
C1611040-002A	95.0							
C1611040-003A	95.0							
C1611040-003A MS	98.0							
C1611040-003A MSD	96.0							
C1611040-004A	95.0							
C1611040-005A	114							
C1611040-006A	95.0							
C1611040-007A	94.0							
C1611040-008A	94.0							

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\DATA2\AN112703.D
 Tune Time : 27 Nov 2016 1:55 pm

Daily Calibration File : C:\HPCHEM\1\DATA2\AN112703.D

(BFB) (IS1) (IS2) (IS3)
 31325 142911 123835

File	Sample	DL Surrogate Recovery %	Internal	Standard	Responses
AN112704.D	ALCS1UG-112716	98	27668	127234	111596
AN112705.D	AMBIUG-112716	90	27752	124751	107782
AN112715.D	C1611040-002A	95	20444	94783	81389
AN112716.D	C1611040-004A	95	21277	97087	85898
AN112717.D	C1611040-006A	95	22463	99701	86559
AN112718.D	C1611040-007A	94	20718	98544	81376
AN112719.D	C1611040-001A	89	20374	92370	81682
AN112723.D	C1611040-005A	114	22033	110343	103314
AN112724.D	C1611040-008A	94	27945	125984	106358
AN112725.D	ALCS1UGD-112716	95	26130	114607	99370

t - fails 24hr time check * - fails criteria

Created: Wed Dec 28 15:49:57 2016 MSD #1/

Centek Laboratories, LLC

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA2\AN112802.D

Tune Time : 28 Nov 2016 9:30 am

Daily Calibration File : C:\HPCHEM\1\DATA2\AN112802.D

File	Sample	DL	Surrogate Recovery %	(BFB)	(IS1)	(IS2)	(IS3)
					19537	89779	78295
				Internal Standard Responses			
AN112803.D	ALCS1UG-112816		96		19643 ✓	87844 ✓	79321 ✓
AN112804.D	AMB1UG-112816		91		19032	84899	71392
AN112805.D	C1611040-003A		95		17900	82328	74025
AN112806.D	C1611040-003A MS		98		19945	88940	83101
AN112807.D	C1611040-003A MSD		96		21009	91248	85630
AN112808.D	C1611040-005A 9x		133*		20887	99038	89367
AN112809.D	C1611040-005A 90x		96		21099	94551	79844
AN112819.D	ALCS1UGD-112816		101		15560	71068	62512
AN112821.D	C1611040-003A 10x		90		15575	67352	59215

t - fails 24hr time check * - fails criteria

Created: Wed Dec 28 15:51:20 2016 MSD #1/

Date: 28-Dec-16

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1611040

Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UG-112716	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11704					
Client ID:	ZZZZZ	Batch ID: R11704	TestNo: TO-15	SPK value	Analysis Date: 11/27/2016	SeqNo: 137004					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.9000	0.15	1	0	90.0	70	130				
1,1-Dichloroethane	0.9500	0.15	1	0	95.0	70	130				
1,1-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
Chloroethane	0.9700	0.15	1	0	97.0	70	130				
Chloromethane	0.9800	0.15	1	0	98.0	70	130				
cis-1,2-Dichloroethene	0.9600	0.15	1	0	96.0	70	130				
Tetrachloroethylene	1.010	0.15	1	0	101	70	130				
trans-1,2-Dichloroethene	0.9700	0.15	1	0	97.0	70	130				
Trichloroethene	0.9200	0.040	1	0	92.0	70	130				
Vinyl chloride	0.9200	0.040	1	0	92.0	70	130				

Sample ID	ALCS1UG-112816	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11705					
Client ID:	ZZZZZ	Batch ID: R11705	TestNo: TO-15	SPK value	Analysis Date: 11/28/2016	SeqNo: 137026					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.9300	0.15	1	0	93.0	70	130				
1,1-Dichloroethane	1.010	0.15	1	0	101	70	130				
1,1-Dichloroethene	0.9600	0.15	1	0	96.0	70	130				
Chloroethane	1.070	0.15	1	0	107	70	130				
Chloromethane	1.070	0.15	1	0	107	70	130				
cis-1,2-Dichloroethene	0.9700	0.15	1	0	97.0	70	130				
Tetrachloroethylene	0.9900	0.15	1	0	99.0	70	130				
trans-1,2-Dichloroethene	1.000	0.15	1	0	100	70	130				
Trichloroethene	0.9500	0.040	1	0	95.0	70	130				

Qualifiers: J Results reported are not blank corrected
 S Analyte detected below quantitation limit
 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: C1611040
 Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID: ALCS1UG-112816	SampType: LCS	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11705						
Client ID: ZZZZ	Batch ID: R11705	TestNo: TO-15		Analysis Date: 11/28/2016	SeqNo: 137026						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.040	0.040	1	0	104	70	130				

Sample ID: ALCS1UGD-112716	SampType: LCSD	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11704						
Client ID: ZZZZ	Batch ID: R11704	TestNo: TO-15		Analysis Date: 11/28/2016	SeqNo: 137005						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	1	0	78.0	70	130	0.9	13.0	30	
1,1-Dichloroethane	0.9200	0.15	1	0	92.0	70	130	0.95	3.21	30	
1,1-Dichloroethene	0.9800	0.15	1	0	98.0	70	130	0.98	0	30	
Chloroethane	0.9500	0.15	1	0	95.0	70	130	0.97	2.08	30	
Chloromethane	0.9200	0.15	1	0	92.0	70	130	0.98	6.32	30	
cis-1,2-Dichloroethene	0.9500	0.15	1	0	95.0	70	130	0.96	1.05	30	
Tetrachloroethylene	0.9600	0.15	1	0	96.0	70	130	1.01	5.68	30	
trans-1,2-Dichloroethene	0.9300	0.15	1	0	93.0	70	130	0.97	4.21	30	
Trichloroethene	0.9100	0.040	1	0	91.0	70	130	0.92	1.09	30	
Vinyl chloride	0.9500	0.040	1	0	95.0	70	130	0.92	3.21	30	

Sample ID: ALCS1UGD-112816	SampType: LCSD	TestCode: 0.25CT-TCE-	Units: ppbv	Prep Date:	RunNo: 11705						
Client ID: ZZZZ	Batch ID: R11705	TestNo: TO-15		Analysis Date: 11/28/2016	SeqNo: 137027						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9300	0.15	1	0	93.0	70	130	0.93	0	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.01	2.93	30	
1,1-Dichloroethene	0.9500	0.15	1	0	95.0	70	130	0.96	1.05	30	
Chloroethane	1.120	0.15	1	0	112	70	130	1.07	4.57	30	
Chloromethane	1.150	0.15	1	0	115	70	130	1.07	7.21	30	
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	0.97	4.04	30	
Tetrachloroethylene	1.020	0.15	1	0	102	70	130	0.99	2.99	30	
trans-1,2-Dichloroethene	1.030	0.15	1	0	103	70	130	1	2.96	30	
Trichloroethene	0.9500	0.040	1	0	95.0	70	130	0.95	0	30	

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

CLIENT: LaBella Associates, P.C.
 Work Order: C1611040
 Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	ALCS1UGD-112816	SampType	LCSD	TestCode	0.25CT-TCE	Units	ppbV	Prep Date		RunNo	11705
Client ID	ZZZZZ	Batch ID	R11705	TestNo	TO-15			Analysis Date	11/28/2016	SeqNo	137027
Analyte		Result	1.100	POL	0.040	SPK value	1	%REC	110	LowLimit	70
	Vinyl chloride					SPK Ref Val	3			HighLimit	130
						RPD Ref Val				%RPD	5.61
										RPDLimit	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

Date: 28-Dec-16

CEN TEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1611040
Project: 1740 Emerson Street

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-112716	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	11704	
Client ID:	ZZZZ	Batch ID:	R11704	TestNo:	TO-15			Analysis Date:	SeqNo:	137003	
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-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									

Sample ID	AMB1UG-112816	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbv	Prep Date:	RunNo:	11705	
Client ID:	ZZZZ	Batch ID:	R11705	TestNo:	TO-15			Analysis Date:	SeqNo:	137025	
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-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									

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

Date: 28-Dec-16

CEN TEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
 Work Order: C1611040
 Project: 1740 Emerson Street

TestCode: 1ugM3_TO15

Sample ID	C1611040-003A MS	SampType: MS	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 11705					
Client ID:	1740-SVI-2	Batch ID: R11705	TestNo: TO-15		Analysis Date: 11/28/2016	SeqNo: 137035					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.160	0.15	1	0.2	96.0	70	130				
1,1-Dichloroethane	1.290	0.15	1	0.35	94.0	70	130				
1,1-Dichloroethene	1.030	0.15	1	0	103	70	130				
Chloroethane	1.120	0.15	1	0	112	70	130				
Chloromethane	1.140	0.15	1	0	114	70	130				
cis-1,2-Dichloroethene	4.500	0.15	1	3.69	81.0	70	130				
Tetrachloroethylene	18.34	0.15	1	18.84	-50.0	70	130				S
trans-1,2-Dichloroethene	1.260	0.15	1	0.27	99.0	70	130				
Trichloroethene	14.22	0.15	1	13.76	46.0	70	130				S
Vinyl chloride	1.090	0.15	1	0	109	70	130				

Sample ID	C1611040-003A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 11705					
Client ID:	1740-SVI-2	Batch ID: R11705	TestNo: TO-15		Analysis Date: 11/29/2016	SeqNo: 137036					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.160	0.15	1	0.2	96.0	70	130	1.15	0.866	30	
1,1-Dichloroethane	1.240	0.15	1	0.35	89.0	70	130	1.29	3.95	30	
1,1-Dichloroethene	0.9800	0.15	1	0	98.0	70	130	1.03	4.98	30	
Chloroethane	1.030	0.15	1	0	103	70	130	1.12	8.37	30	
Chloromethane	1.050	0.15	1	0	105	70	130	1.14	8.22	30	
cis-1,2-Dichloroethene	4.070	0.15	1	3.69	38.0	70	130	4.5	10.0	30	S
Tetrachloroethylene	16.02	0.15	1	18.84	-282	70	130	18.34	13.5	30	S
trans-1,2-Dichloroethene	1.190	0.15	1	0.27	92.0	70	130	1.26	5.71	30	
Trichloroethene	12.78	0.15	1	13.76	-96.0	70	130	14.22	10.7	30	S

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

CLIENT: LaBella Associates, P.C.
 Work Order: C1611040
 Project: 1740 Emerson Street

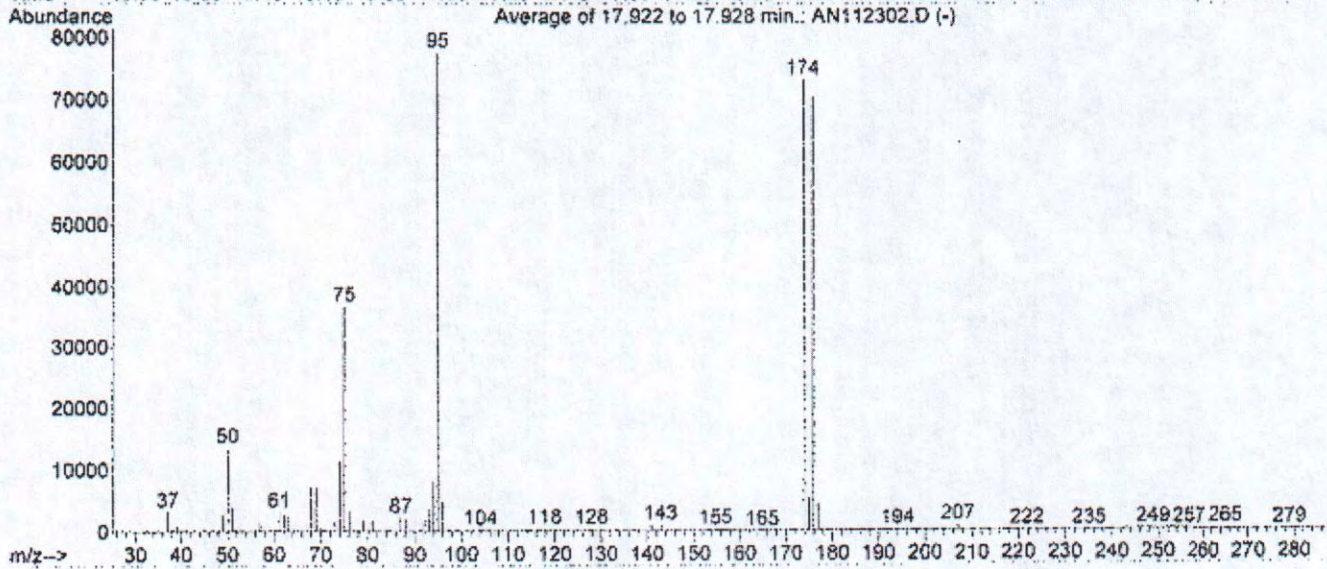
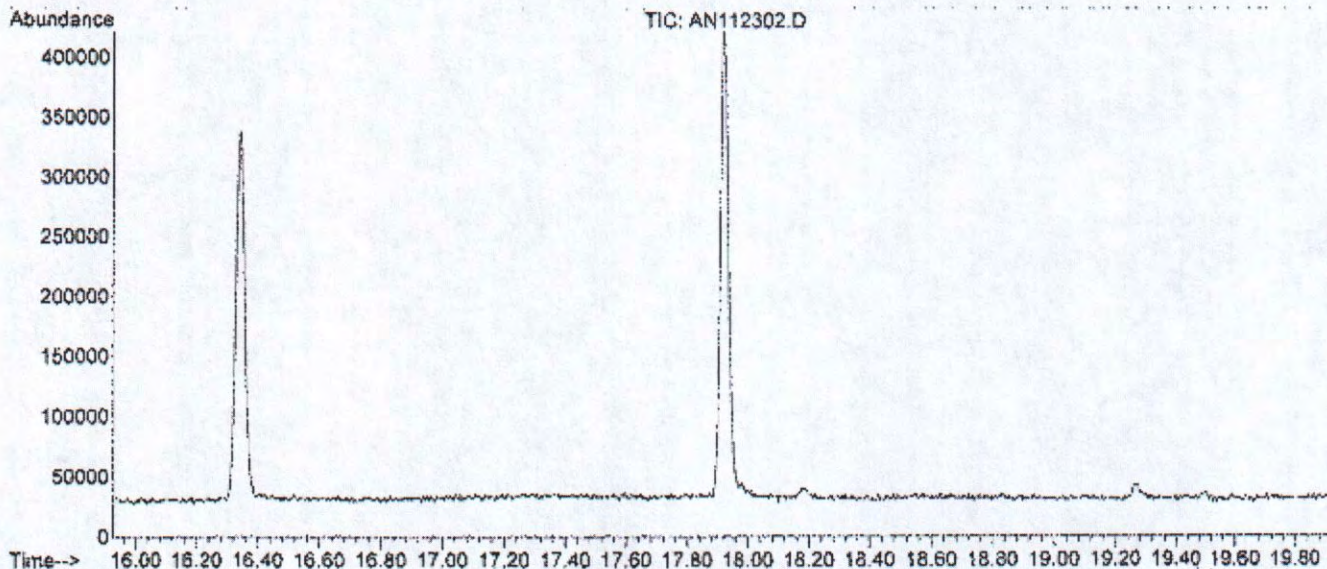
TestCode: 1ugM3_TO15

Sample ID: C1611040-003A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 11705
Client ID: 1740-SVI-2	Batch ID: R11705	TestNo: TO-15		Analysis Date: 11/28/2016	SeqNo: 137036
Analyte: Vinyl chloride	Result: 0.9900	PQL: 0.15	SPK value: 1	LowLimit: 70	%RPD: 9.62
			SPK RefVal: 0	HighLimit: 130	RPDLimit: 30
				RPD Ref Val: 1.09	
			%REC: 99.0		

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

BFB

Data File : C:\HPCHEM\1\DATA2\AN112302.D Vial: 2
 Acq On : 23 Nov 2016 3:31 pm Operator: RJP
 Sample : BFB1UG Inst : MSD #1
 Misc : AN23_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

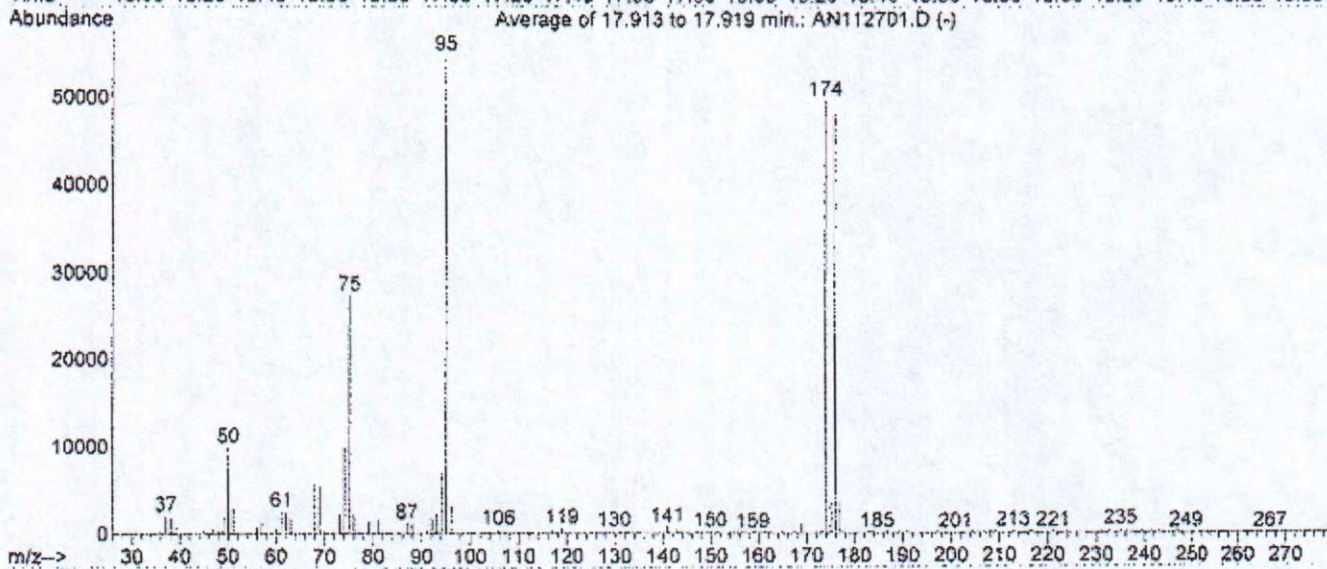
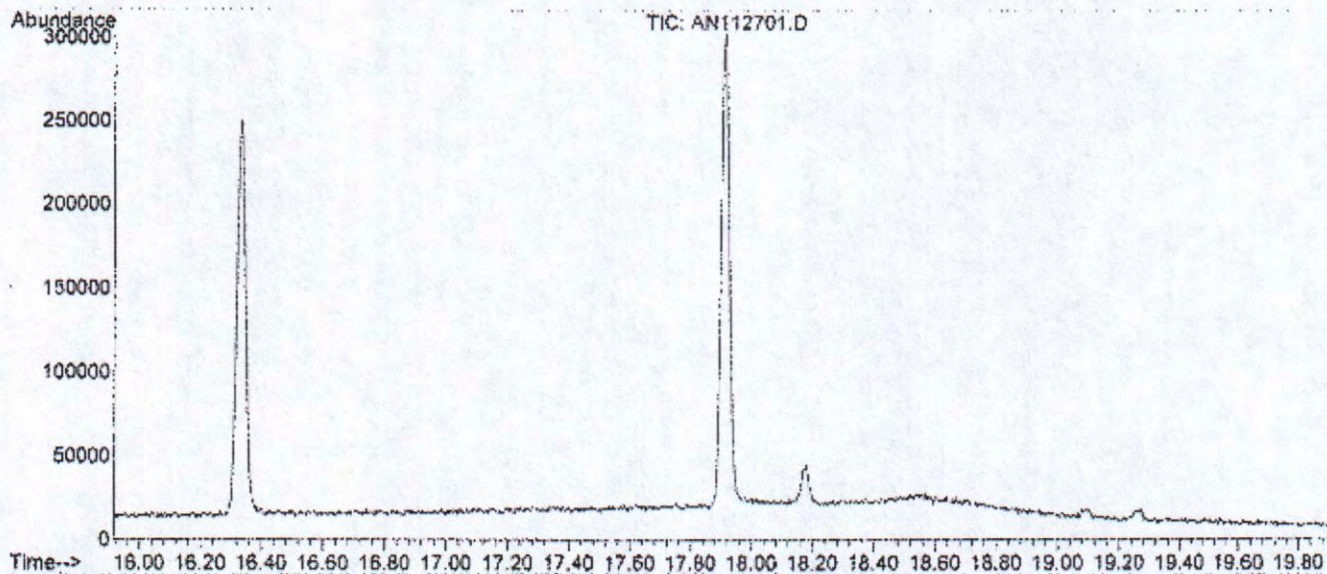


Spectrum Information: Average of 17.922 to 17.928 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.5	13542	PASS
75	95	30	66	47.6	36900	PASS
95	95	100	100	100.0	77555	PASS
96	95	5	9	6.2	4781	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.3	73114	PASS
175	174	4	9	7.1	5176	PASS
176	174	95	101	96.5	70530	PASS
177	176	5	9	6.4	4526	PASS

BFB

Data File : C:\HPCHEM\1\DATA2\AN112701.D Vial: 1
 Acq On : 27 Nov 2016 12:24 pm Operator: RJP
 Sample : BFB1UG Inst : MSD #1
 Misc : AN23_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration

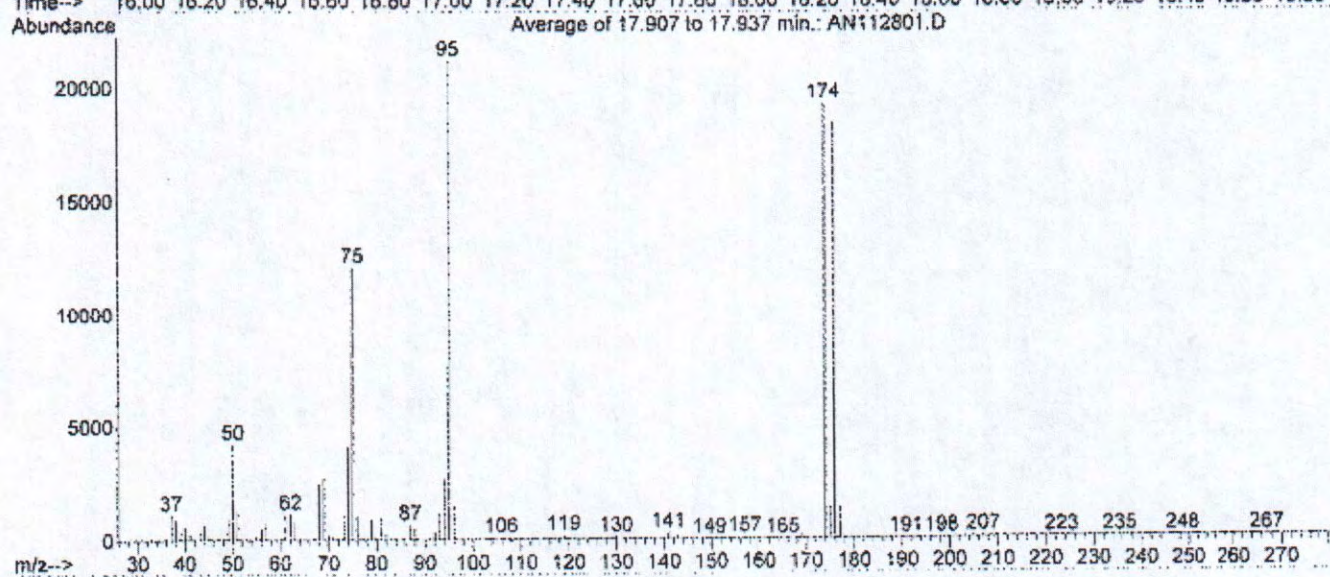
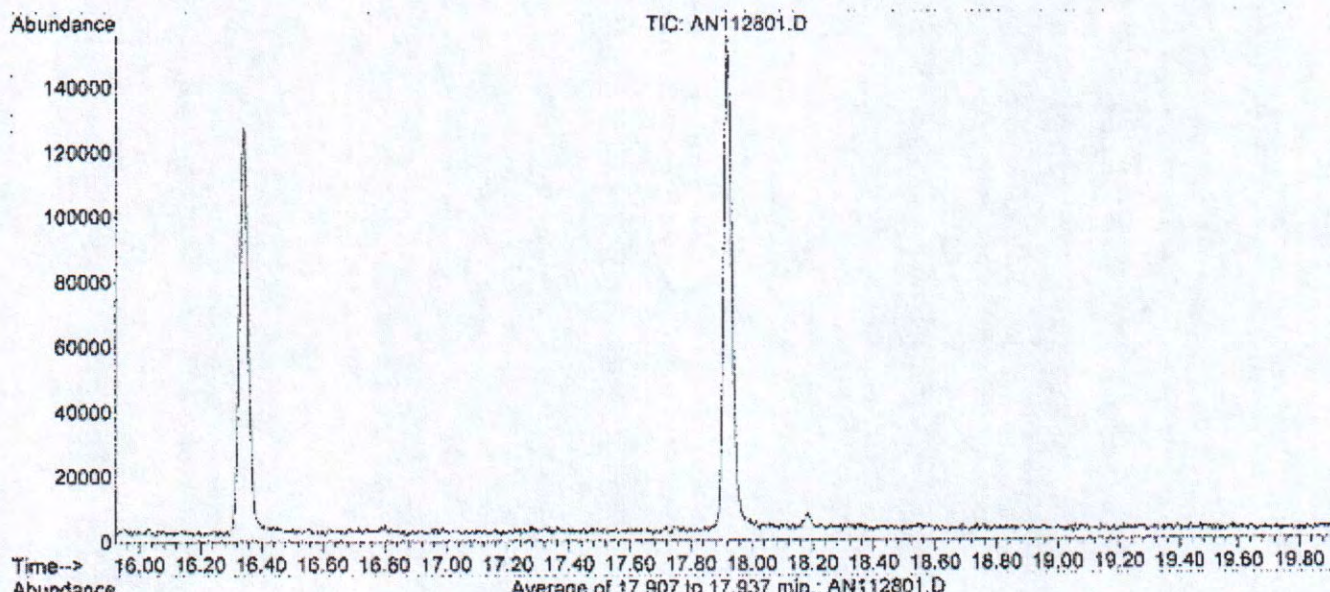


Spectrum Information: Average of 17.913 to 17.919 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.1	9904	PASS
75	95	30	66	50.1	27480	PASS
95	95	100	100	100.0	54842	PASS
96	95	5	9	6.0	3296	PASS
173	174	0.00	2	0.3	145	PASS
174	95	50	120	90.5	49656	PASS
175	174	4	9	7.1	3548	PASS
176	174	95	101	96.9	48128	PASS
177	176	5	9	7.4	3574	PASS

BFE

Data File : C:\HPCHEM\1\DATA2\AN112801.D Vial: 1
 Acq On : 28 Nov 2016 8:42 am Operator: RJP
 Sample : BFB1UG Inst : MSD #1
 Misc : AN23_1UG Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 17.907 to 17.937 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	4230	PASS
75	95	30	66	57.0	12080	PASS
95	95	100	100	100.0	21199	PASS
96	95	5	9	7.1	1510	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.8	19247	PASS
175	174	4	9	7.1	1365	PASS
176	174	95	101	96.0	18483	PASS
177	176	5	9	7.4	1368	PASS

DATA USABILITY SUMMARY REPORT

for

LaBella Associates, P.C.

300 State Street

Rochester, NY 14614

FORMER EMERSON LANDFILL

Project 210173

SDG: C1803052

Sampled 03/19/2018

TO-15 AIR SAMPLES

IAQ-01-MARCH 2018	(C1803052-01)
IAQ-02-MARCH 2018	(C1803052-02)
IAQ-03-MARCH 2018	(C1803052-03)
OUTDOOR-MARCH 2018	(C1803052-04)
DUPE-MARCH 2018	(C1803052-05)

DATA ASSESSMENT

A TO-15 data package containing analytical results for five air samples was received from LaBella Associates, P.C. on 04Apr18. 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 results reported from OUTDOOR-MARCH 2018 have been rejected and the results from DUPE-MARCH 2018 have been qualified as estimations because the sampling equipment failed to function properly.

The tetrachloroethene results from IAQ-02-MARCH 2018 and IAQ-03-MARCH 2018 have been qualified as estimations due to a high internal standard response.


The 1,1-dichloroethene and chloromethane results from IAQ-02-MARCH 2018 due to low spiked sample recoveries.

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" or "UJ". 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:

13 May 18

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 five air samples that were collected from the Former Emerson Landfill Site on 19Mar18. With the exception of IAQ-02-MARCH 2018, the samples were collected in 1-liter SUMMA canisters. IAQ-02-MARCH 2018 was collected in a 1.4-liter canister to facilitate the preparation of MS/MSD samples. The canisters were shipped to the laboratory, via FedEx, on the day of collection and were received on 21Mar18. Although the canisters were received intact, a custody seal was not found on the packaging.

Although each SUMMA canister was set in the laboratory to collect a 6-hour sample, the collection of samples was terminated after between 2.0 and 6.5 hours based on the canister vacuum readings. At that time the vacuum reading from every cylinder except OUTDOOR-MARCH 2018 satisfied the ASP requirement of -5 ± 1 "Hg. The OUTDOOR-MARCH 2018 sample produced a reading of 22.5"Hg prior to sampling and a final reading of -3"Hg after two hours of sample collection. The results from this sample have been rejected because the sampling equipment did not function properly.

The results from the DUPLICATE have been qualified as estimations due to the change in vacuum between the end of sample collection and the time of laboratory receipt.

SAMPLE	PRIOR TO SHIPMENT ("Hg)	PRIOR TO SAMPLING ("Hg)	POST SAMPLING ("Hg)	LAB RECEIPT ("Hg)	LAB ANALYSIS ("Hg)
IAQ-01	-30	-29	-4	-4	-4
IAQ-02	-30	-30	-5	-3	-3
IAQ-03	-30	-30	-4	-3	-3
OUTDOOR	-30	-22.5	-3	-2	-2
DUPLICATE	-30	-26	-4	-1	-1

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 for this project were cleaned in three batches. A blank analysis of a clean canister from each batch was free of targeted analyte contamination exceeding 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 standards run before the initial instrument calibration and prior to the analysis of program samples on 21Mar18. Both of these checks 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 check standards verify instrument stability.

The initial instrument calibration was performed on 18Mar18. Standards of 0.03, 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 analyzed on 21Mar18, prior to the 24-hour period of instrument operation that included samples from this program. When compared to the initial calibration, each targeted analyte demonstrated an acceptable level of instrument stability during this check.

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, an unacceptably high response was reported for the chlorobenzene-d5 additions to IAQ-02-MARCH 2018 and IAQ-03-MARCH 2018. The tetrachloroethene (1122DCE) results from IAQ-02-MARCH 2018 and IAQ-03-MARCH 2018 have been qualified as estimations based on this performance. It is noted that a high internal standard response produces a negative bias in samples.

Internal standard retention times were not addressed by the laboratory. The ASP retention time acceptance criteria was calculated by this reviewer. The retention times produced by each program sample satisfied these requirements.

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.

IAQ-02-MARCH 2018 was selected for matrix spiking. The entire list of targeted analytes was added to two volumes of this sample. The recoveries reported for these additions included low results for 1,1-dichloroethene(64%) and chloromethane (56%). The 1,1-dichloroethene (11DCE) and chloromethane (CLMANE) results from IAQ-02-MARCH 2018 have been qualified as estimations based on these indications of negative bias.

A pair of spiked blanks (LCS/LCSD) was also analyzed with this group of samples. The recoveries reported from these LCS samples demonstrated acceptable levels of measurement precision and accuracy.

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.

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

SAMPLED MARCH 2018

690 ST PAUL SITE

	SAMPLING VOC	INT STD 1122DCE	SPIKES 11DCE	SPIKES CLMANE
IAQ-01-MARCH 2018 (C1803052-01)		1.2J	0.16UJ	0.76J
IAQ-02-MARCH 2018 (C1803052-02)		0.75J		
IAQ-03-MARCH 2018 (C1803052-03)				
OUTDOOR-MARCH 2018 (C1803052-04)	ALL R			
DUPE-MARCH 2018 (C1803052-05)	ALL J/UJ			

Date: 28-Mar-18

Centek Laboratories, LLC

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	IAQ-01 March 2018
Lab Order:	C1803052	Tag Number:	202,402
Project:	1740 Emerson St	Collection Date:	3/19/2018
Lab ID:	C1803052-001A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VG-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 7:58:00 PM
Chloromethane	0.58	0.31		ug/m3	1	3/21/2018 7:58:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Tetrachloroethylene	0.81	1.0	J	ug/m3	1	3/21/2018 7:58:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 7:58:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 7:58:00 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: 28-Mar-18

CLIENT: LaBella Associates, P.C.
 Lab Order: C1803052
 Project: 1740 Emerson St
 Lab ID: C1803052-002A

Client Sample ID: IAQ-02 March 2018
 Tag Number: 487,1419
 Collection Date: 3/19/2018
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE			TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 5:44:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 5:44:00 PM
1,1-Dichloroethene	< 0.16 J	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 5:44:00 PM
Chloromethane	0.76 J	0.31		ug/m3	1	3/21/2018 5:44:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Tetrachloroethylene	1.2 J	1.0		ug/m3	1	3/21/2018 5:44:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 5:44:00 PM
Trichloroethene	0.43	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 5:44:00 PM

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Qualifiers: ** Quantitation Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 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: 28-Mar-18

CLIENT: LaBella Associates, P.C.
 Lab Order: C1803052
 Project: 1740 Emerson St
 Lab ID: C1803052-003A

Client Sample ID: IAQ-03 March 2018
 Tag Number: 459,381
 Collection Date: 3/19/2018
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 8:38:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 8:38:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 8:38:00 PM
Chloromethane	0.89	0.31		ug/m3	1	3/21/2018 8:38:00 PM
cis-1,2-Dichloroethane	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Tetrachloroethylene	0.75 J	1.0	J	ug/m3	1	3/21/2018 8:38:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 8:38:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 8:38:00 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

Date: 28-Mar-18

Centek Laboratories, LLC

CLIENT: LaBella Associates, P.C.	Client Sample ID: Outdoor March 2018
Lab Order: C1803052	Tag Number: 290,1152
Project: 1740 Emerson St	Collection Date: 3/19/2018
Lab ID: C1803052-004A	Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 9:19:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 9:19:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:19:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 9:19:00 PM
Chloromethane	0.34	0.31		ug/m3	1	3/21/2018 9:19:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:19:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	3/21/2018 9:19:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 9:19:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:19:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 9:19:00 PM

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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	

Date: 28-Mar-18

Centek Laboratories, LLC

CLIENT: LaBella Associates, P.C.
 Lab Order: C1803052
 Project: 1740 Emerson St
 Lab ID: C1803052-005A

Client Sample ID: Dupe March 2018
 Tag Number: 1181,209
 Collection Date: 3/19/2018
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE				TO-15		Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 9:59:00 PM
1,1-Dichloroethane	< 0.61	0.61	S	ug/m3	1	3/21/2018 9:59:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:59:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 9:59:00 PM
Chloromethane	0.62 J	0.31		ug/m3	1	3/21/2018 9:59:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:59:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	3/21/2018 9:59:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	S	ug/m3	1	3/21/2018 9:59:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 9:59:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 9:59:00 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

Date: 28-Mar-18



CEN TEK LABORATORIES, LLC

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: LaBella Associates, P.C.
 Work Order: C1803052
 Project: 1740 Emerson St
 Test No: TO-15 Matrix: A

Sample ID	BR4FBZ						
ALCSIUG-032118	116						
ALCSIUGD-032118	118						
AMBIUG-032118	72.0						
C1803052-001A	92.0						
C1803052-002A	96.0						
C1803052-002A MS	106						
C1803052-002A MSD	98.0						
C1803052-003A	97.0						
C1803052-004A	81.0						
C1803052-005A	81.0						

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\AP032103.D

Tune Time : 21 Mar 2018 12:00 pm

Daily Calibration File : C:\HPCHEM\1\DATA\AP032103.D

File	Sample	DL	Surrogate	Recovery %	Internal	Standard	Responses	
AP032104.D	ALCS1UG-032118	116			48374 ✓	197048 ✓	153239	
AP032105.D	AMB1UG-032118	72			44328	177221	120583	
AP032109.D	C1803052-002A	96	10.49	12.73	17.48	52789	220422	210982
AP032110.D	C1803052-002A MS	106			58783	248824	249590*	
AP032111.D	C1803052-002A MSD	98			58695	244768	232175	
AP032112.D	C1803052-001A	92	10.50	12.74	17.48	53864	224944	200948
AP032113.D	C1803052-003A	97	10.50	12.73	17.48	59062	248077	240796*
AP032114.D	C1803052-004A	81	10.50	12.73	17.48	54582	214431	160200
AP032115.D	C1803052-005A	81	10.50	12.73	17.48	50312	195257	134671
AP032132.D	ALCS1UGD-032118	118			48657	205600	162411	

t - fails 24hr time check * - fails criteria

Created: Wed Mar 28 07:48:37 2018 MSD #1/

Date: 02-Apr-18



ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1803052

Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: AMB1UG-032118	SampType: MBLK	TestCode: 0.20_NYS	Units: ppbV	Prep Date:	RunNo: 13411						
Client ID: ZZZZZ	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/21/2018	SeqNo: 155453						
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-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.040	0.040									
Chloroethane	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.040	0.040									
Tetrachloroethylene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
Trichloroethene	< 0.030	0.030									
Vinyl chloride	< 0.040	0.040									
Surr: Bromofluorobenzene	0.7200	0	1	0	72.0	70	130				

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: 28-Mar-18



ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
 Work Order: C1803052
 Project: 1740 Emerson St
 TestCode: 0.20_NYS

Sample ID: ALCS1UG-032118	SampType: LCS	Batch ID: R13411	TestCode: 0.20_NYS	Units: ppbV	Prep Date:	RunNo: 13411					
Client ID: ZZZZ	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-Dichloroethane	0.8700	0.15	1	0	87.0	70	130				
1,1-Dichloroethene	0.8500	0.040	1	0	85.0	70	130				
Chloroethane	0.8500	0.15	1	0	85.0	70	130				
Chloromethane	0.8400	0.15	1	0	84.0	70	130				
cis-1,2-Dichloroethane	0.8400	0.040	1	0	84.0	70	130				
Tetrachloroethylene	0.8200	0.15	1	0	82.0	70	130				
trans-1,2-Dichloroethene	0.9000	0.15	1	0	90.0	70	130				
Trichloroethene	0.8700	0.030	1	0	87.0	70	130				
Vinyl chloride	0.7900	0.040	1	0	79.0	70	130				

Sample ID: ALCS1UGD-032118	SampType: LCSD	Batch ID: R13411	TestCode: 0.20_NYS	Units: ppbV	Prep Date:	RunNo: 13411					
Client ID: ZZZZ	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9000	0.15	1	0	90.0	70	130	0.89	1.12	30	
1,1-Dichloroethane	0.9100	0.15	1	0	91.0	70	130	0.87	4.49	30	
1,1-Dichloroethene	0.8700	0.040	1	0	87.0	70	130	0.85	2.33	30	
Chloroethane	0.8300	0.15	1	0	83.0	70	130	0.85	2.38	30	
Chloromethane	0.8900	0.15	1	0	89.0	70	130	0.84	5.78	30	
cis-1,2-Dichloroethane	0.8700	0.040	1	0	87.0	70	130	0.84	3.51	30	
Tetrachloroethylene	0.8700	0.15	1	0	87.0	70	130	0.88	1.14	30	
trans-1,2-Dichloroethene	0.9400	0.15	1	0	94.0	70	130	0.9	4.35	30	
Trichloroethene	0.8900	0.030	1	0	89.0	70	130	0.87	2.27	30	

Qualifiers: J Results reported are not blank corrected
 S Analyte detected below quantitation limit
 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: C1803052

Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: ALCS1UGD-032118	Sample Type: LCSD	TestCode: 0.20_NYS	Units: ppbV	Prep Date:	RunNo: 13411						
Client ID: ZZZZ	Batch ID: R13411	TestNo: 10-15		Analysis Date: 3/22/2018	SeqNo: 155455						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.6200	0.040	1	0	82.0 ✓	70	130	0.79	3.73	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

Date: 28-Mar-18



ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
 Work Order: C1803052
 Project: 1740 Emerson St
 TestCode: 0.20_NYS

Sample ID: C1803052-002A MS	Samp Type: MS	TestCode: 0.20_NYS	Units: ppbv	Prep Date:	RunNo: 13411						
Client ID: IAQ-02 March 2018	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/21/2018	SeqNo: 155462						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	1	0	79.0	70	130				
1,1-Dichloroethane	0.8100	0.15	1	0	81.0	70	130				
1,1-Dichloroethene	0.6800	0.040	1	0	68.0	70	130	130	6.5		S
Chloroethane	0.7300	0.15	1	0	73.0	70	130				
Chloromethane	1.020	0.15	1	0.37	65.0	70	130	130	6.5		S
cis-1,2-Dichloroethene	0.8300	0.040	1	0	83.0	70	130				
Tetrachloroethylene	0.8600	0.15	1	0.18	68.0	70	130	130	6.5		S
trans-1,2-Dichloroethene	0.8500	0.15	1	0	85.0	70	130				
Trichloroethene	0.9200	0.030	1	0.08	84.0	70	130				
Vinyl chloride	0.7100	0.040	1	0	71.0	70	130				

Sample ID: C1803052-002A MS	Samp Type: MSD	TestCode: 0.20_NYS	Units: ppbv	Prep Date:	RunNo: 13411						
Client ID: IAQ-02 March 2018	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/21/2018	SeqNo: 155463						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	1	0	79.0	70	130	0.79	0	30	
1,1-Dichloroethane	0.8100	0.15	1	0	81.0	70	130	0.81	0	30	
1,1-Dichloroethene	0.6400	0.040	1	0	64.0	70	130	0.68	6.06	30	S
Chloroethane	0.7300	0.15	1	0	73.0	70	130	0.73	0	30	
Chloromethane	0.9300	0.15	1	0.37	56.0	70	130	1.02	9.23	30	S
cis-1,2-Dichloroethene	0.8300	0.040	1	0	83.0	70	130	0.83	0	30	
Tetrachloroethylene	0.8700	0.15	1	0.18	69.0	70	130	0.86	1.16	30	S
trans-1,2-Dichloroethene	0.8500	0.15	1	0	85.0	70	130	0.85	0	30	
Trichloroethene	0.9000	0.030	1	0.08	82.0	70	130	0.92	2.20	30	

Qualifiers: J Results reported are not blank corrected
 S Analyte detected below quantitation limit
 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: C1803052

Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: C1803052-002A MS	SampType: MSD	TestCode: 0.20_NYS	Units: ppbv	Prep Date:	RunNo: 13411					
Client ID: IAQ-02 March 2018	Batch ID: R13411	TestNo: TO-15		Analysis Date: 3/21/2018	SeqNo: 155463					
Analyte	Result	PQL	SPK value	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.7000	0.040	1	70.0 ✓	70	130	0.71	1.42	30	

Vinyl chloride

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