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

Location:

575 Colfax 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.

STATE OF NEW YORK
DANIEL P. NOLL
No. 081996
LICENSED PROFESSIONAL ENGINEER

081996	9/10/18	
NYS Professional Engineer #	Date	Signature

1.0 Introduction

LaBella Associates, D.P.C. (LaBella) is pleased to submit this Construction Completion Report (CCR) for activation of a Sub-Slab Depressurization System (SSDS) at 575 Colfax 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 activation was conducted in accordance with the *Sub-Slab Depressurization Work Plan* by LaBella dated November 2016 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 owned by First Student and has been utilized as a bus garage including bus repair since approximately 1982. There is also office space in a portion of the building (refer to Figure 2). The Site is bounded to the north by a school, Edison Tech, to the west-northwest by a municipal plot of land where a solar field was recently constructed, to the east by Colfax Street and to the south by vacant and improved commercial properties.

A groundwater plume of chlorinated volatile organic compounds (CVOCs) is located to the west of the Site at 1700 Emerson Street (formerly 1655 Lexington Avenue) within Quadrant A. The CVOC plume is known as the P-1 Plume and has undergone several years of remedial investigation. 1700 Emerson Street as well as 1740 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.

The building at the Site is located in Quadrant B of the FESL. Quadrant B is characterized by landfill gas flux measurements that range between 15 and 140 $\mu g/m^2$-minute. An apparent discrete CVOC plume in groundwater is also present in this quadrant (i.e., separate from the P-1 plume in Quadrant A); however, this plume appears limited in extent and generally is within the 535 Colfax Street parcel. Due to the lack of direct burial in this quadrant determined based on a review of aerial photographs and other historical documentation, the groundwater impacts in this area were concluded to be unrelated to the FESL.

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 FESL:

- *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, Draft 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 575 Colfax Street, warranted SVI testing. 575 Colfax Street was recommended for mitigation due to elevated methane readings in the Site building. Subsequently, SVI testing was completed at the seven (7) buildings recommended for further investigation beginning in March 2016. Findings of the FESL-wide SVI investigation were detailed in a draft *SVI Investigation Report* dated March 2018.

Initial SVI testing was completed at the Site in March 2016 in accordance with the February 2016 SVI Investigation Work Plan. Two (2) collocated sub-slab and indoor air samples were collected in addition to an outdoor air sample as a control. Samples were collected within the heating season, and in accordance with the New York State Department of Health (NYSDOH) *Guidance for Evaluating Soil Vapor Intrusion in the State of New* York dated October 2006 with updates in 2013 and 2015. The initial SVI testing results for the Site indicated mitigation of the Site Building was warranted. The results are summarized below.

Soil Vapor Intrusion Testing Results- March 2016

Trichloroethene (TCE) was detected in indoor air samples at 3.4 micrograms per cubic meter (ug/m^3) and 3.1 ug/m^3 which exceed the NYSDOH air guideline of 2 ug/m^3 for TCE derived by the NYSDOH in Table 3.1 of the NYSDOH Guidance Document as amended in 2015. In addition, tetrachloroethylene (PCE) was detected in indoor air samples at 4.1 ug/m^3 and 3.7 ug/m^3, which do not exceed the air guideline of 30 ug/m^3 for PCE derived by the NYSDOH in Table 3.1 of the NYSDOH Guidance Document as amended in 2013. A comparison of detected compounds in sub-slab and indoor air to the NYSDOH Guidance Document Decision Matrices indicate mitigation is warranted due to the concentrations of TCE and PCE detected.

Refer to Figure 2 for testing location and a summary of the SVI results. Tabulated data for the March 2016 sampling is included as Table 1. 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 March 2016 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 converting the passive SSDS installed during building construction (refer to Section 6.1) into an active SSDS by installing a fan on the exterior of the building. Additional measures including floor drain repairs were conducted to prevent VOCs associated with building operations from affecting the sub-slab soil vapor and indoor air.

6.0 System Activation

6.1 *System Overview*

A passive SSDS was installed in the Site building during its construction. A 1981 Site Plan depicts a "Methane Vent Schematic" consisting of several laterals connected to a header pipe through the center of the building as well as two (2) additional 4-in. perforated pipes parallel to the header pipe to the north and south, equidistant between the center header pipe and the north and south exterior walls. The 1981 plan is included as Appendix 6.

To evaluate the existing system infrastructure, LaBella retained AP Plumbing in July 2016 to scope the existing sub-slab piping using a sewer camera. The assessment was conducted from the vertical riser pipe on the west side of the building. The assessment determined that there is a 4-inch (in.) diameter east-west header pipe centered in the building which is solid for approximately 83-ft. from the west wall and perforated from 83-ft. from the west wall to 111-ft. from the west wall where it terminates. Twelve (12) north-south branches (assumed to be perforated) were observed connected to the header pipe; however, the camera was not able to travel down the north-south pipes. Refer to Figure 3 for observed piping. It should be noted that additional sub-slab piping may be present based on the 1981 Site Plan.

6.2 *Pilot Test*

LaBella retained Mitigation Tech to conduct a pilot test in September 2016 to determine if the existing passive SSDS infrastructure is sufficient to mitigate the entire building with the addition of a fan and to size the appropriate fan. The pilot test consisted of drilling several small diameter (approximately ½-in.) holes through the slab within the bus repair area and measuring sub-slab pressure while operating a blower connected to the existing SSDS vertical riser pipe. The blower was an intrinsically safe blower (due to potential methane issues) and was operated outside the building, and methane and photoionization detector (PID) readings were continuously measured at the riser pipe. Methane was detected up to 34% of the lower explosive limit (LEL) and PID readings were detected up to 19 ppm. Sub-slab pressure at previously installed sampling points in the office area (Vapor Pins®) and newly installed points in the garage area were measured (refer to Figure 4 for monitoring locations).

Negative pressure was observed in the sub-slab at each of the points measured, ranging between -0.02 and -0.06 inches of water column ("wc). The 2016 pilot test determined the existing passive venting piping in the subsurface is adequate to provide complete coverage for the 16,153 sq. ft. building with a single fan. The information obtained during the pilot test was used to size the fan.

6.3 *Fan Installation*

System activation began in February 2017. First, the vertical riser was rerouted with new 4-inch PVC to the exterior of the building and building penetrations were sealed around the piping. The existing interior vertical riser was abandoned in place. An OBAR GBR 89 intrinsically safe blower was connected to the exterior vent piping. A vacuum indicator (U-Tube manometer) was installed in the interior portion of the vertical riser on the suction side of the fan. An alarm (RadonAway Checkpoint IIA) was also installed on the interior and suction side of the fan. The discharge point was 12 inches above the roof and not within 10-feet of any air intakes. A photograph log is included as Appendix 3. The fan was started up on March 28, 2018. Pressure field extension PFE testing was completed upon startup (refer to Section 7.1). Refer to Figure 5 for fan location and system layout.

LaBella attempted to conduct post-mitigation indoor air sampling in April 2017 and could not complete the testing due to water infiltration to the SSDS piping which resulted in the fan shutting down. In addition, water in the crock in the northwestern portion of the building (refer to Figure 3) was observed to move with the fan on and was stagnant with the fan off. Subsequently, Mitigation Tech returned to the Site to install a knock-out tank beneath the fan to remove water infiltrating the SSDS piping and to allow continued operation and to prevent damage to the fan. The knock-out tank consisted of a 55-gallon drum with filters installed on the vertical PVC riser (refer to photographs in Appendix 3). Water entering the drum is filtered out and settles at the bottom of the drum. A ball valve was installed in the bottom of the drum to allow accumulated water to be collected from the knock-out tank. Water that accumulates in the knock-out tank is transferred to the oil-water separator. AP Plumbing conducted a dye test in May 2017, which confirmed that water from at least one floor drain ended up in the knock-out tank and was being pulled into the system when the fan was operating. Refer to Figure 5 for SSDS Details.

6.4 Floor Drain Evaluation

Due to the presence of water in the SSDS piping confirmed to be associated with floor drains by the May 2017 dye test, an evaluation of the floor drain network was completed to identify the specific floor drains allowing discharges to the subsurface and thus needing repair. The floor drain evaluation was conducted between May 15 and June 21, 2017. LaBella retained AP Plumbing to jet and scope the floor drains within the automotive garage/ repair portion of the Site building. Each of the eleven (11) floor drains were jetted from their origin to the oil water separator at which time Safety Kleen removed the material from the oil water separator using a vac-truck. Over 3,000 gallons of water were introduced/ removed in order to clean the floor drain network. Historical mapping for the Site indicated there is a skimmer tank associated with the oil-water separator. Attempts were made to locate the skimmer tank outside of the building; however, this tank was not located.

Following jetting the drains, each drain was scoped using a camera to assess the integrity of each line. The north/ south pipes were scoped; however, the camera could not turn to scope east/west piping. A representation of inferred floor drain piping based on this limited evaluation is included on Figure 3.

The following observations regarding integrity of the floor drains have been made:

- Drains 1, 2, 3, 4, 8, and 10 had a gap in the vertical riser between the horizontal piping and finished floor ranging from 1 to 6-inches in thickness.
- A break in the horizontal floor drain piping was present approximately 6-feet north of Drain 1.
- Drain 5 is not the same 2-inch floor drain as the others; rather, it is an approximate 12-inch diameter crock. The northern portion of the crock is open to sub-slab soil. Specifically, there is an approximate 4-inch diameter opening that may have been intended for piping that was not installed and this allows for a direct connection with the subsurface. Based on a dye test conducted, this location appears to be the main source of the water in the SSDS piping.
- Remaining drains appear to be functional and discharge to the oil water separator.

The City provided a letter to First Student dated July 27, 2017 requesting that the floor drain integrity problems listed above be addressed to eliminate discharges to the sub-slab and/or indoor air. First Student reportedly retained AP Plumbing to conduct the repairs recommended based on the May-June 2017 floor drain evaluation. It is understood that the repairs were completed with the exception of the crock (Drain 5) which was not repaired as of the date of post-mitigation indoor air sampling on April 3, 2018. LaBella was not present during the repairs which were the responsibility of the owner.

7.0 Post-SSDS 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 (March 28, 2017). Pressure field extension (PFE) testing points consisted of approximately ½-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 -0.06 to -0.2 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. The PFE testing indicates sufficient sub-slab pressure differentials were achieved across the entire building.

7.2 Indoor Air Sampling

Indoor air sampling was conducted on April 3, 2018 at the same two (2) locations as the baseline SVI sampling conducted in March 2016. In addition, an outdoor air sample was collected from an upwind location on the Site. Samples were collected using 1-liter Summa canisters. The sampling was conducted within the heating season and in accordance with the NYSDOH Guidance Document. 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 IAQ-01 location.

Chloromethane was detected in each indoor air sample at similar concentrations to the outdoor air sample. There is no NYSDOH Air Guideline or Decision Matrix for chloromethane.

PCE was detected in each of the indoor air samples at concentrations ranging from 2.2 to 2.6 μg/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 in Matrix B of the NYSDOH Guidance updated in 2017. Concentrations of PCE in indoor air decreased in IAQ-01 and IAQ-02 from 4.1 μg/m^3 and 3.7 μg/m^3 respectively, prior to SSDS activation to 2.2 μg/m^3 (2.5 μg/m^3 from the duplicate) and 2.6 μg/m^3 respectively, following SSDS activation.

Concentrations of TCE in indoor air decreased in IAQ-01 and IAQ-02 from 3.4 μg/m^3 and 3.1 μg/m^3 respectively, prior to SSDS activation to non-detect in both indoor air samples following SSDS activation.

All detected compounds in indoor air reduced in concentration from pre-SSDS activation testing in March 2016 to post-SSDS activation testing in April 2018. It should be noted that the Site Building is utilized as a bus repair facility; thus, chemicals associated with daily operations may also contribute to indoor air quality. Refer to Table 2 and Figure 2 for April 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 both sample locations and PFE testing indicating negative pressure beneath the Site building, the SSDS is adequate in addressing SVI. In addition, the floor drain repairs are anticipated to further reduce VOCs in the sub-slab and indoor air. 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 and an annual inspection form are included as Appendix 1.

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FIGURES

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CITY OF ROCHESTER

FORMER EMERSON STREET LANDFILL ROCHESTER, NEW YORK

575 COLFAX STREET CONSTRUCTION COMPLETION REPORT

FORMER EMERSON STREET LANDFILL PROJECT MAP

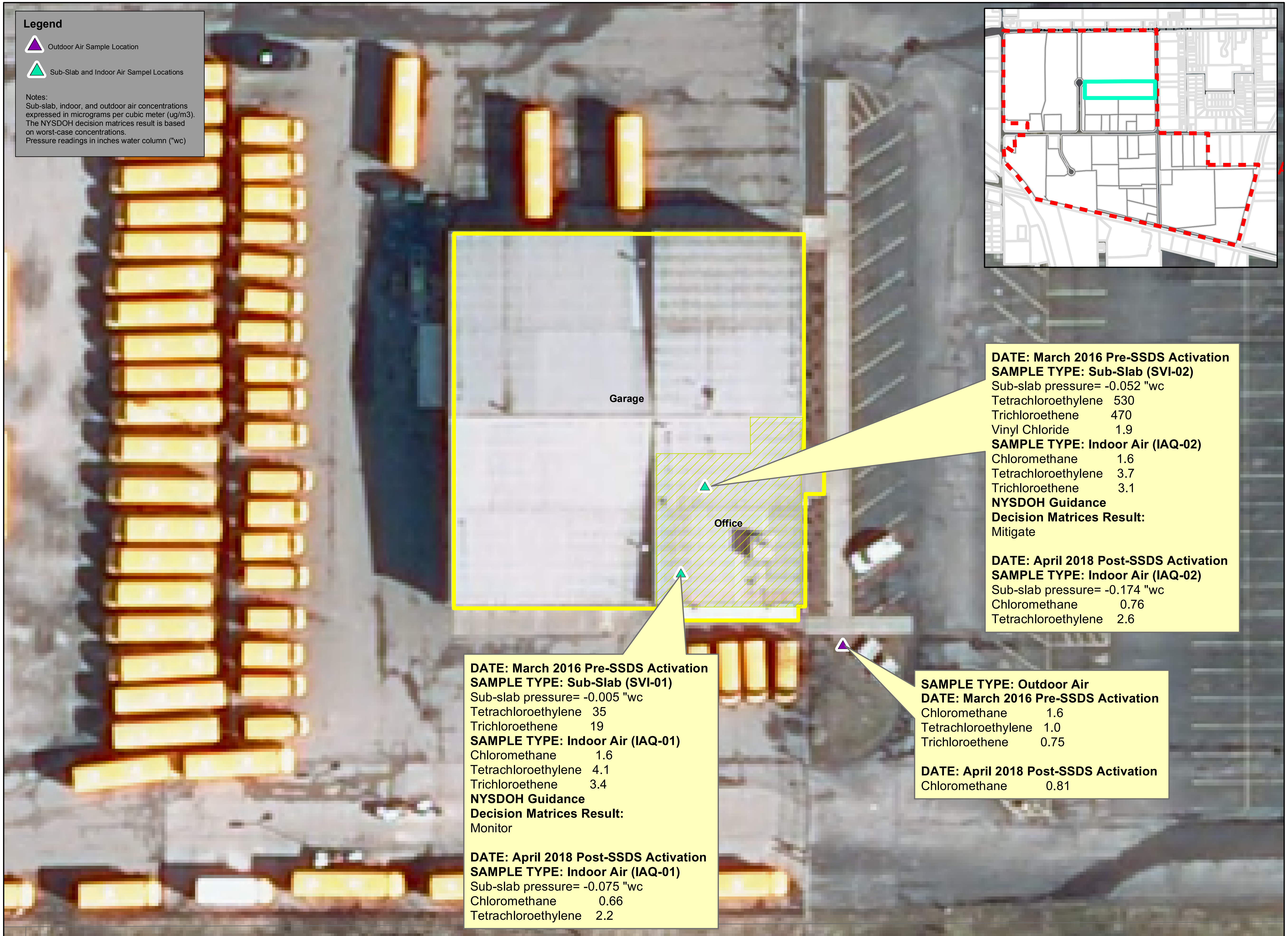
N
W E
S

0 400 Feet

1 inch = 400 feet

210173

FIGURE 1



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CITY OF ROCHESTER

FORMER EMERSON STREET LANDFILL
ROCHESTER, NEW YORK

575 COLFAX STREET
CONSTRUCTION
COMPLETION REPORT

SOIL VAPOR INTRUSION
SAMPLING RESULTS

N
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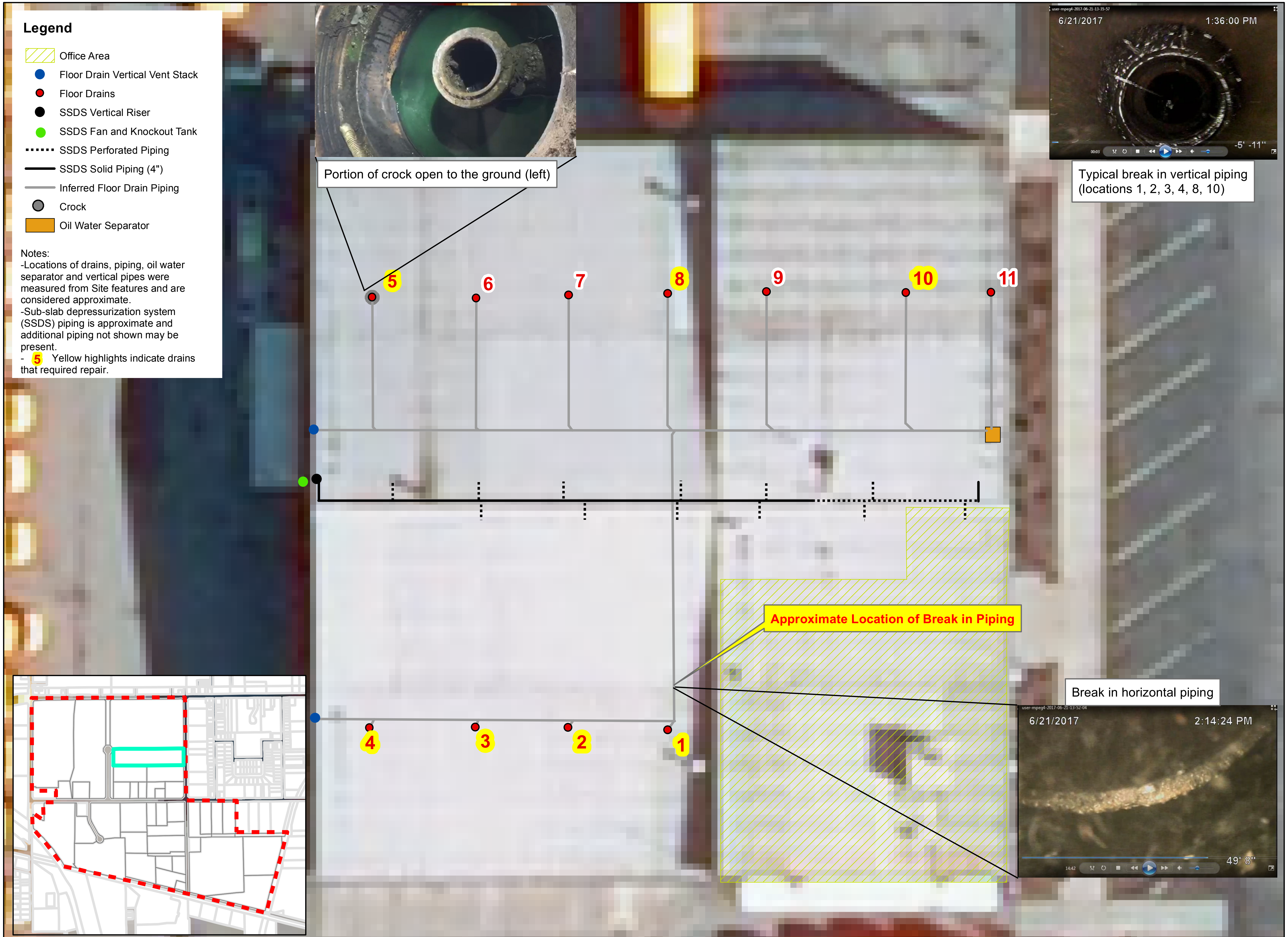
0 30 Feet
1 inch = 30 feet

210173

FIGURE 2

9/10/2018

Path: \\Projects2\ProjectsNZ-2\Rochester, City\210173 FESL\Drawings\SVI Testing\575 Colfax CCR\Figure 2- 575 Colfax SVI Results.mxd



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CITY OF ROCHESTER

FORMER EMERSON STREET LANDFILL ROCHESTER, NEW YORK

575 COLFAX STREET CONSTRUCTION COMPLETION REPORT

FLOOR DRAIN & SSDS PIPING EVALUATION RESULTS

STATE OF NEW YORK
DANIEL P. NOLL
No. 081996
LICENSED PROFESSIONAL ENGINEER

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.

N
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0 15 Feet
1 inch = 15 feet

210173

FIGURE 3

8/17/2018

Path: \\Projects2\ProjectsNZ-2\Rochester, City\210173 FESL\Drawings\SVI Testing\575 Colfax CCR\Figure 3- 575 Colfax.mxd

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CITY OF ROCHESTER

FORMER EMERSON STREET LANDFILL ROCHESTER, NEW YORK

575 COLFAX STREET CONSTRUCTION COMPLETION REPORT

SSDS AS-BUILT PLAN & PRESSURE FIELD EXTENSION TESTING RESULTS MARCH 2017

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.

N
W E
S

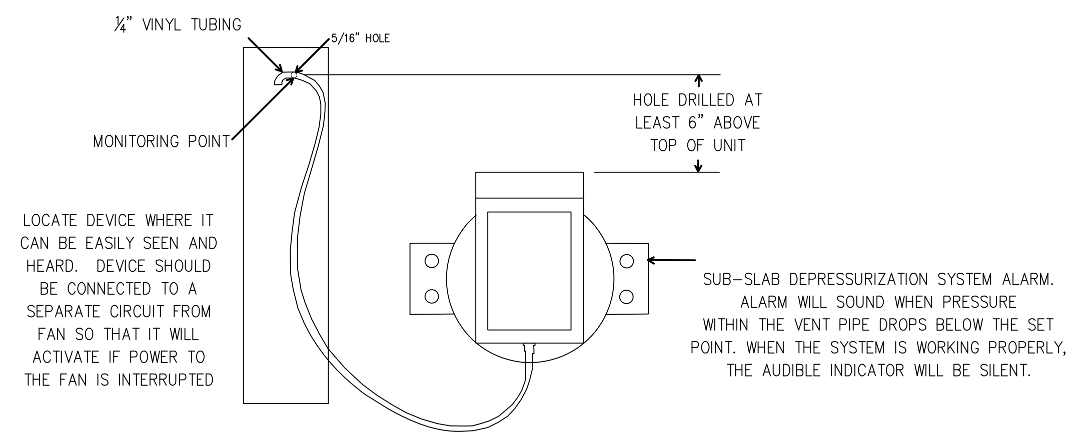
0 15 Feet
1 inch = 15 feet

210173

FIGURE 4

9/10/2018

Path: \\Projects2\ProjectsNZ-2\Rochester, City\210173 FESL\Drawings\SVI Testing\575 Colfax CCR\Figure 4- PFE contours.mxd

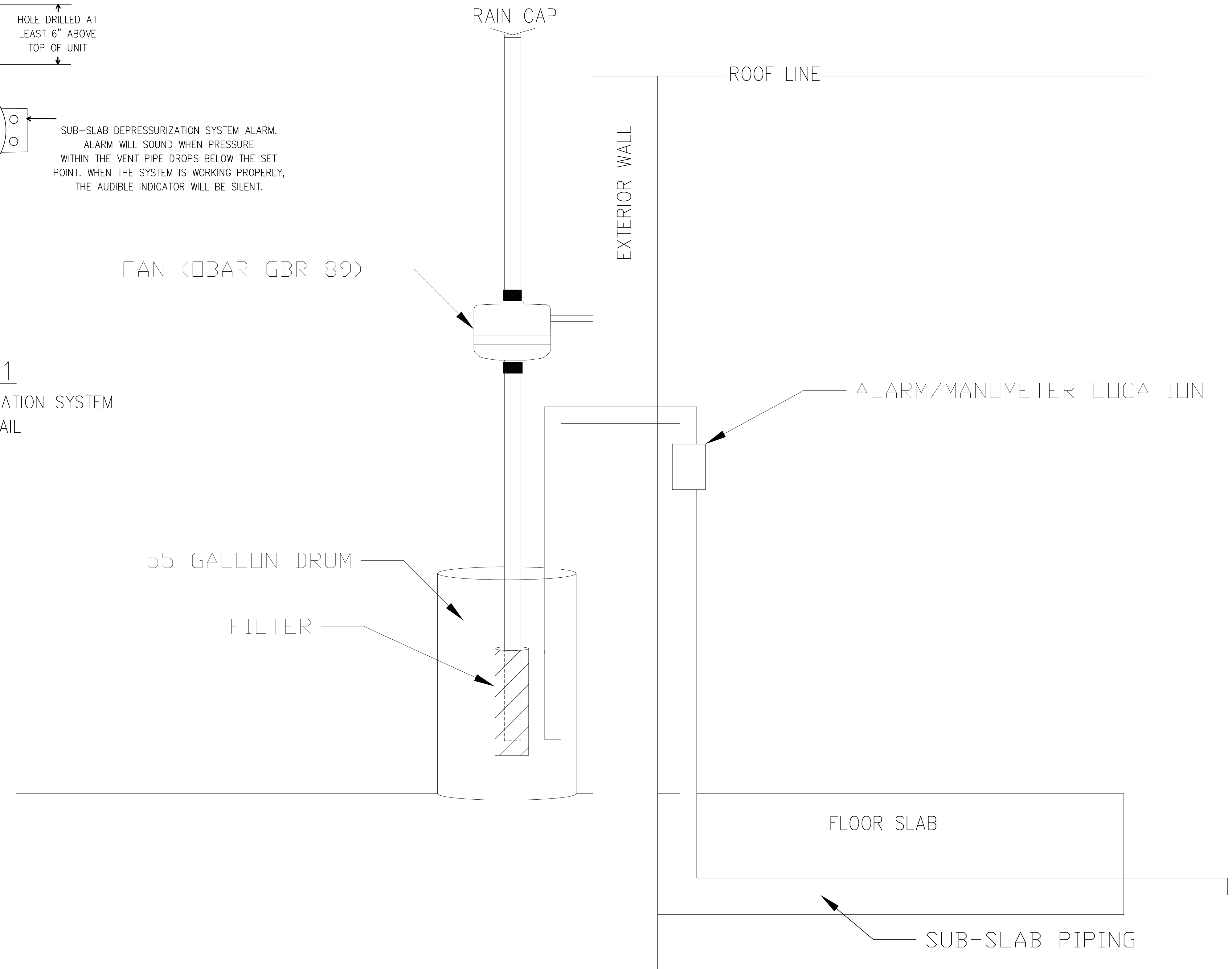


NOTES:

1. PRESSURE SET POINT: −0.25 INCHES WC.

DETAIL 1

SUBSLAB DEPRESSURIZATION SYSTEM ALARM DETAIL



DETAIL 2

RISER, FAN, & KNOCK OUT TANK DETAIL

LEGEND

↑ SYSTEM FLOW DIRECTION

DRAWING NOT TO SCALE

\\Projects2\ProjectsNZ-2\Rochester, City\210173 FESL\Drawings\SVI Testing\575 Colfax CCR

STATE OF NEW YORK DANIEL P. NOLL No. 081895 LICENSED PROFESSIONAL ENGINEER

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PROJECT/CLIENT

CITY OF ROCHESTER
FORMER EMERSON ST LANDFILL
ROCHESTER, NEW YORK

575 COLFAX STREET
CONSTRUCTION
COMPLETION REPORT

DRAWING TITLE

SUB-SLAB DEPRESSURIZATION
SYSTEM DETAILS

DESIGNED BY: DPN
DRAWN BY: DRP
REVIEWED BY: DPN

ISSUED FOR FINAL

DATE: AUGUST 2018

PROJECT/DRAWING NUMBER

210173

FIGURE 5

TABLES

Former Emerson Street Landfill
575 Colfax Street
Table 1
Soil Vapor Intrusion Testing Results
March 2016

Sample ID	575-SVI-1	575-SVI-2	575-IAQ-1	575-IAQ-2	575-Outdoor	NYSDOH Sub-Slab Vapor Concentration Decision Matrix (minimum action level) (1)	NYSDOH Indoor Air Concentration (minimum action level) (1)	USEPA (2001) (BASE) Database - 90th Percentile (2)
Sample Location	Sub-Slab	Sub-Slab	Indoor Air	Indoor Air	Outdoor Air			
Sample Date	3/19/2016	3/19/2016	3/19/2016	3/19/2016	3/19/2016			
1,1,1-Trichloroethane	<0.82	<0.82	<0.82	<0.82	<0.82	<100***	<3***	20.6
1,1-Dichloroethane	<0.61	<0.61	<0.61	<0.61	<0.61	NL	NL	<0.7
1,1-Dichloroethene	<0.59	<0.59	<0.59	<0.59	<0.59	<100***	<3***	<1.4
Chloroethane	<0.40	<0.40	<0.40	<0.40	<0.40	NL	NL	<1.1
Chloromethane	<0.31	<0.31	1.6 J	1.6 J	1.6	NL	NL	3.7
cis-1,2-Dichloroethene	<0.59	<0.59	<0.59	<0.59	<0.59	<100***	<3***	<1.9
Tetrachloroethylene	35	**530**	4.1 J	3.7 J	1.0	<100***	<3*** / 30*	15.9
trans-1,2-Dichloroethene	<0.59	<0.59	<0.59	<0.59	<0.59	NL	NL	NL
Trichloroethene	**19 J**	**470 J**	3.4 J	3.1 J	0.75	<5 **	<0.25** / 2*	4.2
Vinyl Chloride	<0.38	1.9	<0.10	<0.10	<0.10	<5**	<0.25**	<1.9

Notes:

Concentrations in micrograms per cubic meter (ug/m^3)

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).

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

U indicates the DUSR deemed the concentration undetected

Former Emerson Street Landfill
575 Colfax Street
Table 1 (cont.)
Soil Vapor Intrusion Testing Results
March 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)

	Sample IDs				IAQ-1 (3.4) IAQ-2 (3.1)	
			<0.25	0.25 to <1	1 to <5.0	5.0 and above
SUB-SLAB VAPOR CONCENTRATION (ug/m^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-1 (19)	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
	SVI-2 (470)	250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

MATRIX 1- VINYL CHLORIDE
INDOOR AIR CONCENTRATION (ug/m^3)

	Sample IDs		IAQ-2 (<0.10)			
			<0.25	0.25 to <1	1 to <5.0	5.0 and above
SUB-SLAB VAPOR CONCENTRATION (ug/m^3)	SVI-2 (1.9)	<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

MATRIX 2- TETRACHLOROETHYLENE
INDOOR AIR CONCENTRATION (ug/m^3)

	Sample IDs			IAQ-1 (4.1) IAQ-2 (3.7)		
			<3	3 to <30	30 to <100	100 and above
SUB-SLAB VAPOR CONCENTRATION (ug/m^3)	SVI-1 (35)	<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 (530)	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
575 Colfax Street
Table 2
Post-SSDS Startup Indoor Air Sampling Results
April 2018

Sample ID	575-IAQ-01 April 2018	575-Dupe April 2018 (575-IAQ-01 April 2018)	575-IAQ-02 April 2018	575-Outside-April 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		
Sample Date	4/3/2018	4/3/2018	4/3/2018	4/3/2018		
1,1,1-Trichloroethane	<0.82	<0.82	<0.82	<0.82	10***	20.6
1,1-Dichloroethane	<0.61	<0.61	<0.61	<0.61	NL	<0.7
1,1-Dichloroethene	<0.16	<0.16	<0.16	<0.16	1**	<1.4
Chloroethane	<0.40	<0.40	<0.40	<0.40	NL	<1.1
Chloromethane	0.66	0.68	0.76	0.81	NL	3.7
cis-1,2-Dichloroethene	<0.16	<0.16	<0.16	<0.16	1**	<1.9
Tetrachloroethylene	2.2 J	2.5 J	2.6 J	<1.0 J	10***/30*	15.9
trans-1,2-Dichloroethene	<0.59	<0.59	<0.59	<0.59	NL	NL
Trichloroethene	<0.16	<0.16	<0.16	<0.16	1** / 2*	4.2
Vinyl Chloride	<0.10	<0.10	<0.10	<0.10	0.2****	<1.9

Notes:

Concentrations in micrograms per cubic meter (ug/m^3)

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)

APPENDIX 1

Annual Certification and Operation and Maintenance

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

Site: 575 Colfax Street

Site Acreage: 9.36

Square Footage: 16,153
Construction Date: 1982

Site Owner: First Student

Owner Address: 575 Colfax Street
City/Town: Rochester, NY 14606

Reporting Period:

		YES	NO
1.	Is the information above correct?	☐	☐
	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?	☐	☐
3.	Has there been any change of use (new tenant, significantly different operations, etc.) at the site during this Reporting Period?	☐	☐
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)?	☐	☐
	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.)?	☐	☐
6.	Is the venting fan operating properly and has the fan been down at any time throughout the year?	☐	☐

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
575 Colfax 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 575 Colfax 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 components were presumably installed during building construction in approximately 1981 and the system was activated by installing a fan in 2017. The SSDS consists of one venting fan (OBAR GBR 89) on the western exterior of the building that connects to a header pipe running east west beneath the floor slab. North-south piping branches off the header pipe. A knock-out tank consisting of a 55-gallon drum is located on the western exterior of the building beneath the fan allowing any water pulled in from the sub-slab piping to settle at the bottom of the drum. The riser pipe has a filter on the end within the 55-gallon drum to prevent water from being pulled into the fan. An audible and visual alarm is connected to the vacuum side of the system 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 4. 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 of the system 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:

- <u>Alarm Test</u> – On February 14, 2017, 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.
- <u>Pressure Field Extension Testing</u> - On March 28, 2017, 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 and knock-out tank 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.

The knock-out tank should be regularly checked for water and emptied as needed. Any water accumulated should be emptied into the oil-water separator within the building.

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:

OBAR Systems Inc.
2969 Route 23 South
Newfoundland, NJ 07435
1-800-949-6227

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, knock-out tank, 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.

APPENDIX 2

Field Logs

LABELLA Associates, D.P.C.

Soil Vapor Instrusion Sampling Log

Former Emerson Street Landfill
575 Colfax Street

Project Name: Former Emerson Street Landfill- 575 Colfax St
Project No: 210173
Sampled By: AA and KM
Date: 19-Mar-16
Weather: ~30 degress clear skies
Wind Speed/Direction: from E ~5-10 mph

ID: 575-SVI-1	
Sub-Slab Pressure: -0.005 "wc	
Canister: 141	
Regulator: 258	
Helium Tracer in shroud: 75%	
Helium Tracer at point: 2.5%	
Sub-Slab	
Time	Vacuum Reading ("Hg)
Start 843	30+
1015	25
1140	20
1312	14.5
1409	11
1445	9
End 1515	2.5

ID: 575-SVI-2	
Sub-Slab Pressure: -0.052 "wc	
Canister: 136	
Regulator: 249	
Helium Tracer in shroud: 75%	
Helium Tracer at point: 2.5%	
Sub-Slab	
Time	Vacuum Reading ("Hg)
Start 1047	30
1149	24
1313	15
1415	7.5
1442	4
End 1514	1

ID: 575-Outdoor	
Sub-Slab Pressure: NA	
Canister: 223	
Regulator: 388	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Outdoor Air	
Time	Vacuum Reading ("Hg)
Start 843	30+
1017	23
1137	16
1306	8
End 1410	1.5

Notes/Activities:

LABELLA Associates, D.P.C.

Soil Gas Testing Log

Former Emerson Street Landfill
575 Colfax Street

Project Name: Former Emerson Street Landfill- 575 Colfax St
Project No: 210173
Sampled By: AA and KM
Date: 19-Mar-16
Weather: ~30 degress clear skies
Wind Speed/Direction: from E ~5-10 mph

ID: 575-IAQ-1	
Sub-Slab Pressure: NA "wc	
Canister: 128	
Regulator: 296	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 853	30+
1016	27
1139	22
1311	17
1408	13
1445	11.0
End 1536	8

ID: 575-IAQ-2	
Sub-Slab Pressure: NA "wc	
Canister: 1195	
Regulator: 187	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 1050	30
1151	25.0
1313	18
1415	13
1442	11
1514	8.0
1535	6.5
End 1618	3

Notes/Activities:

LaBella Associates, D.P.C.	Soil Vapor Intrusion Sampling Log Former Emerson Street Landfill 575 Colfax Street	
		Project Name: Former Emerson Street Landfill- 575 Colfax Street
		Project No: 210173
		Sampled By: AA
		Date: April 3 2018
		Weather: ~37 degress overcast
		Wind Speed/Direction: from E <5 mph

ID: 575- IAQ-01 April 2018	
Canister: 370	
Regulator: 1166	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 805	30+
820	30
845	27
930	22
1040	16
1140	11
1240	7
1330	5

ID: 575- IAQ-02 April 2018	
Canister: 85	
Regulator: 1158	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 800	30
820	29
845	27
930	23
1040	17
1140	12.0
1240	8
1340	5

ID: 575-Dupe April 2018 (575- IAQ-01 April 2018)	
Canister: 419	
Regulator: 1166	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 805	30+
820	30
845	27
930	22
1040	16
1140	11
1240	7
1330	5

ID: 575-Outside April 2018	
Canister: 214	
Regulator: 1344	
Outdoor Air	
Time	Vacuum Reading ("Hg)
Start 756	30+
820	30
845	28
930	22
1040	19
1140	14
1240	10
1345	5

Notes/Activities: 575-Outside March 2018 MS/MSD
Light rain started at ~1230. Placed plastic bag over regulator to prevent water infiltration

APPENDIX 3

Photograph Log

575 Colfax Street CCR

Knock-out tank filter (April 2017)

Exterior piping, knock-out tank and fan (April 2017)

Alarm and labeling (March 2017)

New interior vertical riser pipe (March 2017)

575 Colfax Street CCR

Fan label (March 2017)

Fan and vent stack (March 2017)

Fan power switch (March 2017)

APPENDIX 4

Laboratory Reports

Centek Laboratories TO-15 Package Review CheckList

Client: LaBella Associates **Project:** Emerson St Landfill SDG: **C1804010**

		YES	NO	NA
Analytical Results	Present and Complete	✓		
TIC's Present	Present and Complete	✓		
	Holdin Times Met	✓		

Comments:

		YES	NO	NA
Chain of Custody	Present and Complete	✓		
Surrogate	Present and Complete	✓		
	Recoveries within Limits	✓		
	Sample(s) reanalyzed		✓	
Internal Standards Recovery	Present and Complete	✓		
	Recoveries within Limits		✓	
	Sample(s) reanalyzed	✓		

Comments:

* SEE CASE NARRATIVE *

		YES	NO	NA
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:

		YES	NO	NA
Sample Raw Data	Present and Complete	✓		
	Spectra present	✓		

Comments:

Centek Laboratories TO-15 Package Review CheckList

Client: LaBella Associates **Project:** Emerson St Landfill **SDG:** C1804010

		YES	NO	NA
Standards Data				
Intial Calibration	Present and Complete	✓		
	Calibration meets criteria	✓		
Continuing Calibration	Present and Complete	✓		
	Calibration meets criteria	✓		
Standards Raw Data	Present and Complete	✓		

Comments:

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

Comments:

	YES	NO	NA
Logbooks			
Injection Log	✓		
Standards Log	✓		
Can Cleaning Log	✓		
Calculation Sheet	✓		
IDL's	✓		
Canister Order Form	✓		
Sample Tracking Form	✓		

Additional Comments:

Section Supervisor: Will Dolt Date: 5/15/18

QC Supervisor: Lisa Dale Date: 5/15/18

ASP CAT B DELIVERABLE PACKAGE
Table of Contents

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

Monday, April 09, 2018
Order No.: C1804010

TEL: (585) 454-6110
FAX (585) 454-3066

RE: Former Emerson St Landfill

Dear Ann Aquilina:

Centek Laboratories, LLC received 4 sample(s) on 4/5/2018 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 silcon 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 dameges 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.

CENTEK LABORATORIES, LLC

Date: *14-May-18*

CLIENT: LaBella Associates, P.C.

Project: Former Emerson St Landfill

Lab Order: C1804010

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: [3726] IS did not meet criteria.

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 06-Apr-18 **Corrective Action Report ID:** 3726

Initiated By: Russell Pellegrino **Department:** MSVOA

Corrective Action Description

CAR Summary: IS did not meet criteria.

Description of Nonconformance Root/Cause(s): IS was high and did not meet criteria for samples C1804010-003 & 004. Based on the chromatographic evidence, it appears that the contamination is from a high concentration of interfering compounds.

Description of Corrective Action w/Proposed C.A.: Samples were reanalyzed with similar results. Due to matrix being in a canister it is difficult to see any signs of problems. All sets of data submitted.

Performed By: Russell Pellegrino **Completion Date:** 07-Apr-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.: Will Dobbin Close Date: 08-Apr-18

William Dobbin

QA Officer Approval: Nick Scala QA Date: 07-Apr-18

Nick Scala

Last Updated BY LEO Updated: 14-May-2018 4:57 PM Reported: 14-May-2018 4:57 P

Centek Labs - Chain of Custody

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

Vapor Intrusion & IAQ

Site Name: Former Emerson St Landfill
Project: 575 Colfax Street
PO#: 210173
Quote # Q- SP / 7700
Canister Order #:

Detection Limit	Report Level
☐ 5ppbv	☐ Level I
☐ 1ug/M3	☐ Level II
☒ 1ug/M3 + 0.2 NYS	☒ Cat "B" Like
☐	☐

TAT Turnaround Time:	Check One	Rush TAT Surcharge %	Due Date:
5 Business Days	☒	0%	
4 Business Days	☐	25%	
3 Business Days	☐	50%	
2 Business Days	☐	75%	
*Next Day by 5pm	☐	100%	
*Next Day by Noon	☐	150%	
*Same Day	☐	200%	

*For Same and Next Day TAT Please Notify Lab

Company: LABELLA - ROCHESTER
Report to: Ann Aquilina
Address: 300 State Street
City, State, Zip: Rochester NY 14614
Email: aaquilina@labellapc.com
Phone: 585-295-6289

Company:
Check Here If Same: ☒
Invoice to:
Address:
City, State, Zip: SAME
Email: ap@labellapc.com
Phone:

Sample ID	Date Sampled	Canister Number	Regulator Number	Analysis Request	Field Vacuum Start / Stop	Labs Vacuum** RecV/Analysis	Comments
~~575-Outside~~					/	/	NA
575-Outside-April 2018	4/3/18	214	1344	TO-15 VOC	30+ / 5	-5 / -5	MS/MSD
575-IAQ-01 April 2018	↓	370	1166	Select List	30+ / 4.5	-5 / -5	
575-Dupe April 2018		419	1166	↓	30+ / 4.5	-5 / -5	
575-IAQ-02 April 2018	↓	85	1158		30 / 4.5	-5 / -5	
					/	/	
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Chain of Custody	Print Name	Signature	Date/Time	Courier: CIRCLE ONE
Sampled by:	Ann Aquilina	[signature]	4/3/18 / 1400	FedEx UPS Pickup/Dropoff
Relinquished by:				**For LAB USE ONLY
Received at Lab by:	Nick Mandarano	[signature]	4-5-18	Work Order # C1804010

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

CENTEK LABORATORIES, LLC

Sample Receipt Checklist

Client Name LABELLA - ROCHESTER

Date and Time Receive 4/5/2018

Work Order Numbe C1804010

Received by NM

Checklist completed by [signature] 4-5-18
Signature Date

Reviewed by WD 4/5/18
Initials Date

Matrix:

Carrier name: FedEx Ground

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Presen ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Presen ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Presen ☑
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 by ____________

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 ____________

CENTEK LABORATORIES, LLC

Date: *14-May-18*

CLIENT: LaBella Associates, P.C.
Project: Former Emerson St Landfill
Lab Order: C1804010

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1804010-001A	575-Outside-April 2018	214.1344	4/3/2018	4/5/2018
C1804010-002A	575-IAQ-01 April 2018	370.1166	4/3/2018	4/5/2018
C1804010-003A	575-Dupe April 2018	419.1166	4/3/2018	4/5/2018
C1804010-004A	575-IAQ-02 April 2018	85.1158	4/3/2018	4/5/2018

Lab Order: C1804010
Client: LaBella Associates, P.C.
Project: Former Emerson St Landfill

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C1804010-001A	575-Outside-April 2018	4/3/2018	Air	1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			4/6/2018
C1804010-002A	575-IAQ-01 April 2018			1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			4/7/2018
C1804010-003A	575-Dupe April 2018			1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			4/6/2018
C1804010-004A	575-IAQ-02 April 2018			1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE-1,1DCE			4/6/2018

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

CANISTER ORDER

7136

14-May-18

SHIPPED TO:

Company:	LaBella Associates, P.C.	Submitted By:	
Contact:	Ann Aquilina	MadeBy:	NM
Address:	300 State Street, Suite 201 Rochester, NY 14614	Ship Date:	3/30/2018
Phone:	(585) 454-6110	VIA:	FedEx Ground
Quote ID:	0	Due Date:	4/2/2018
Project:			
PO:	Former Emerson		

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	3

Can / Reg ID	Description
85	1L Mini-Can - 1098 VI
214	1.4L Mini-Can - 1120 VI
370	1L Mini-Can - 1319 VI
419	1L Mini-Can - 1343 VI
1158	Time-Set Reg-0671 VI
1166	Time-Set Reg-0791 VI
1344	Time-Set Reg-2200 IAQ

Comments: (3) 1L @ 6hrs (includes an extra), (1) 1.4L @ 6hrs (MS/MSD), "T" for dupe WAC 011518C-D, 032318 A-C

1 of 1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories, LLC

Date: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-Outside-April 2018
Lab Order:	C1804010	**Tag Number:**	214.1344
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-001A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		**FLD**				Analyst:
Lab Vacuum In	-5			"Hg		4/5/2018
Lab Vacuum Out	-30			"Hg		4/5/2018
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	4/6/2018 2:11:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/6/2018 2:11:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 2:11:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/6/2018 2:11:00 PM
Chloromethane	0.39	0.15		ppbV	1	4/6/2018 2:11:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 2:11:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/6/2018 2:11:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/6/2018 2:11:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	4/6/2018 2:11:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/6/2018 2:11:00 PM
Surr: Bromofluorobenzene	105	70-130		%REC	1	4/6/2018 2:11:00 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: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-Outside-April 2018
Lab Order:	C1804010	**Tag Number:**	214.1344
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-001A	**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	4/6/2018 2:11:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/6/2018 2:11:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 2:11:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/6/2018 2:11:00 PM
Chloromethane	0.81	0.31		ug/m3	1	4/6/2018 2:11:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 2:11:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/6/2018 2:11:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/6/2018 2:11:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 2:11:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/6/2018 2:11:00 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: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-01 April 2018
Lab Order:	C1804010	**Tag Number:**	370.1166
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-002A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		**FLD**				Analyst:
Lab Vacuum In	-5			"Hg		4/5/2018
Lab Vacuum Out	-30			"Hg		4/5/2018
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	4/7/2018 7:24:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/7/2018 7:24:00 AM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	4/7/2018 7:24:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/7/2018 7:24:00 AM
Chloromethane	0.32	0.15		ppbV	1	4/7/2018 7:24:00 AM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	4/7/2018 7:24:00 AM
Tetrachloroethylene	0.33	0.15		ppbV	1	4/7/2018 7:24:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/7/2018 7:24:00 AM
Trichloroethene	< 0.030	0.030		ppbV	1	4/7/2018 7:24:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/7/2018 7:24:00 AM
Surr: Bromofluorobenzene	104	70-130		%REC	1	4/7/2018 7:24:00 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: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-01 April 2018
Lab Order:	C1804010	**Tag Number:**	370.1166
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-002A	**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	4/7/2018 7:24:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/7/2018 7:24:00 AM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/7/2018 7:24:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/7/2018 7:24:00 AM
Chloromethane	0.66	0.31		ug/m3	1	4/7/2018 7:24:00 AM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/7/2018 7:24:00 AM
Tetrachloroethylene	2.2	1.0		ug/m3	1	4/7/2018 7:24:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/7/2018 7:24:00 AM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/7/2018 7:24:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/7/2018 7:24:00 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:** *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-Dupe April 2018
Lab Order:	C1804010	**Tag Number:**	419,1166
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-5			"Hg		4/5/2018
Lab Vacuum Out	-30			"Hg		4/5/2018
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	4/6/2018 5:11:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/6/2018 5:11:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 5:11:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/6/2018 5:11:00 PM
Chloromethane	0.33	0.15		ppbV	1	4/6/2018 5:11:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 5:11:00 PM
Tetrachloroethylene	0.37	0.15		ppbV	1	4/6/2018 5:11:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/6/2018 5:11:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	4/6/2018 5:11:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/6/2018 5:11:00 PM
Surr: Bromofluorobenzene	96.0	70-130		%REC	1	4/6/2018 5:11:00 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:** *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-Dupe April 2018
Lab Order:	C1804010	**Tag Number:**	419.1166
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-003A	**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	4/6/2018 5:11:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/6/2018 5:11:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:11:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/6/2018 5:11:00 PM
Chloromethane	0.68	0.31		ug/m3	1	4/6/2018 5:11:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:11:00 PM
Tetrachloroethylene	2.5	1.0		ug/m3	1	4/6/2018 5:11:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/6/2018 5:11:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:11:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/6/2018 5:11:00 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:** *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-02 April 2018
Lab Order:	C1804010	**Tag Number:**	85.1158
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-004A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-5			"Hg		4/5/2018
Lab Vacuum Out	-30			"Hg		4/5/2018
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	4/6/2018 5:52:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/6/2018 5:52:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 5:52:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/6/2018 5:52:00 PM
Chloromethane	0.37	0.15		ppbV	1	4/6/2018 5:52:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 5:52:00 PM
Tetrachloroethylene	0.39	0.15		ppbV	1	4/6/2018 5:52:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/6/2018 5:52:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	4/6/2018 5:52:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/6/2018 5:52:00 PM
Surr: Bromofluorobenzene	107	70-130		%REC	1	4/6/2018 5:52:00 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: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-02 April 2018
Lab Order:	C1804010	**Tag Number:**	85.1158
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-004A	**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	4/6/2018 5:52:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/6/2018 5:52:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:52:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/6/2018 5:52:00 PM
Chloromethane	0.76	0.31		ug/m3	1	4/6/2018 5:52:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:52:00 PM
Tetrachloroethylene	2.6	1.0		ug/m3	1	4/6/2018 5:52:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/6/2018 5:52:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:52:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/6/2018 5:52:00 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: 26-Apr-18

CENTEK LABORATORIES, LLC

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ							
ALCS1UG-040618	118							
ALCS1UGD-040618	120							
AMB1UG-040618	71.0							
C1804010-001A	105							
C1804010-001A MS	121							
C1804010-001A MSD	116							
C1804010-002A	104							
C1804010-003A	96.0							
C1804010-004A	107							

Acronym		Surrogate	QC Limits
BR4FBZ	=	Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

1

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AP040602.D
Tune Time : 6 Apr 2018 10:50 am

Daily Calibration File : C:\HPCHEM\1\DATA\AP040602.D

File	Sample	DL	Surrogate Recovery % (BFB)	Internal Standard Responses (IS1) 45520	(IS2) 167591	(IS3) 122040
AP040603.D	ALCS1UG-040618		118	46264	164874	122799
AP040604.D	AMB1UG-040618		71	43238	148450	96685
AP040605.D	C1804009-002A		105	42585	158434	162667
AP040606.D	C1804009-003A		104	45296	161344	140578
AP040607.D	C1804010-001A		105	44875	156076	125772
AP040608.D	C1804010-001A MS		121	46477	164117	132628
AP040609.D	C1804010-001A MSD		116	46501	168175	134293
AP040611.D	C1804010-003A		96	51553	218342	216907*
AP040612.D	C1804010-004A		107	53267	218626	224696*
AP040621.D	ALCS1UGD-040618		120	40232	143111	105966
AP040633.D	C1804010-002A		104	42622	176398	194892
AP040634.D	C1804010-003A RE		92	47725	195989	201715*
AP040635.D	C1804010-004A RE		107	48802	190174	210502*

t - fails 24hr time check   * - fails criteria

Created: Thu Apr 26 08:27:28 2018 MSD #1/

CENTEK LABORATORIES, LLC

Date: *26-Apr-18*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **AMB1UG-040618** SampType: **MBLK** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156463**

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									

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: *26-Apr-18*

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **ALCS1UG-040618** SampType: **LCS** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156464**

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	116	70	130				
1,1-Dichloroethane	0.9900	0.15	1	0	99.0	70	130				
1,1-Dichloroethene	1.010	0.040	1	0	101	70	130				
Chloroethane	1.000	0.15	1	0	100	70	130				
Chloromethane	0.9800	0.15	1	0	98.0	70	130				
cis-1,2-Dichloroethene	0.9100	0.040	1	0	91.0	70	130				
Tetrachloroethylene	1.190	0.15	1	0	119	70	130				
trans-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
Trichloroethene	1.130	0.030	1	0	113	70	130				
Vinyl chloride	0.9200	0.040	1	0	92.0	70	130				

Sample ID: **ALCS1UGD-040618** SampType: **LCSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.210	0.15	1	0	121	70	130	1.16	4.22	30	
1,1-Dichloroethane	1.050	0.15	1	0	105	70	130	0.99	5.88	30	
1,1-Dichloroethene	1.100	0.040	1	0	110	70	130	1.01	8.53	30	
Chloroethane	0.9900	0.15	1	0	99.0	70	130	1	1.01	30	
Chloromethane	1.030	0.15	1	0	103	70	130	0.98	4.98	30	
cis-1,2-Dichloroethene	0.9500	0.040	1	0	95.0	70	130	0.91	4.30	30	
Tetrachloroethylene	1.250	0.15	1	0	125	70	130	1.19	4.92	30	
trans-1,2-Dichloroethene	1.070	0.15	1	0	107	70	130	0.99	7.77	30	
Trichloroethene	1.190	0.030	1	0	119	70	130	1.13	5.17	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: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **ALCS1UGD-040618** SampType: **LCSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.9400	0.040	1	0	94.0	70	130	0.92	2.15	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

CENTEK LABORATORIES, LLC

Date: *26-Apr-18*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **C1804010-001A MS** SampType: **MS** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **575-Outside-April 20** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156470**

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	115	70	130				
1,1-Dichloroethane	1.000	0.15	1	0	100	70	130				
1,1-Dichloroethene	0.9900	0.040	1	0	99.0	70	130				
Chloroethane	1.020	0.15	1	0	102	70	130				
Chloromethane	1.300	0.15	1	0.39	91.0	70	130				
cis-1,2-Dichloroethene	0.9000	0.040	1	0	90.0	70	130				
Tetrachloroethylene	1.220	0.15	1	0	122	70	130				
trans-1,2-Dichloroethene	0.9700	0.15	1	0	97.0	70	130				
Trichloroethene	1.140	0.030	1	0	114	70	130				
Vinyl chloride	0.9400	0.040	1	0	94.0	70	130				

Sample ID: **C1804010-001A MS** SampType: **MSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **575-Outside-April 20** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156471**

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	115	70	130	1.15	0	30	
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130	1	1.98	30	
1,1-Dichloroethene	0.9900	0.040	1	0	99.0	70	130	0.99	0	30	
Chloroethane	1.030	0.15	1	0	103	70	130	1.02	0.976	30	
Chloromethane	1.440	0.15	1	0.39	105	70	130	1.3	10.2	30	
cis-1,2-Dichloroethene	0.9200	0.040	1	0	92.0	70	130	0.9	2.20	30	
Tetrachloroethylene	1.210	0.15	1	0	121	70	130	1.22	0.823	30	
trans-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	0.97	4.04	30	
Trichloroethene	1.150	0.030	1	0	115	70	130	1.14	0.873	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: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **C1804010-001A MS** SampType: **MSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **575-Outside-April 20** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156471**

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	0.94	10.1	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%	0.066
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	0.05	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	0.3	0.32	0.37	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
Allyl 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	0.31	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	104.8%	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	104.8%	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

1,4-dioxane	0.3	0.28	0.29	0.31	0.32	0.32	0.24	0.26	0.29	0.03	96.2%	0.097
2,2,4-trimethylpentane	0.3	0.32	0.31	0.31	0.28	0.31	0.31	0.31	0.31	0.01	102.4%	0.039
Heptane	0.3	0.32	0.3	0.3	0.33	0.33	0.3	0.31	0.31	0.01	104.3%	0.043
Trichloroethene	0.3	0.3	0.3	0.29	0.28	0.3	0.3	0.28	0.29	0.01	97.6%	0.030
1,2-dichloropropane	0.3	0.32	0.31	0.31	0.35	0.31	0.31	0.32	0.32	0.01	106.2%	0.046
Bromodichloromethane	0.3	0.32	0.33	0.33	0.34	0.33	0.32	0.31	0.33	0.01	108.6%	0.031
cis-1,3-dichloropropene	0.3	0.31	0.32	0.31	0.34	0.32	0.31	0.32	0.32	0.01	106.2%	0.034
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%	0.030
1,1,2-trichloroethane	0.3	0.32	0.34	0.33	0.32	0.33	0.3	0.32	0.32	0.01	107.6%	0.039
Toluene	0.3	0.32	0.31	0.32	0.32	0.32	0.31	0.29	0.31	0.01	104.3%	0.035
Methyl Isobutyl Ketone	0.3	0.27	0.29	0.28	0.31	0.31	0.2	0.23	0.27	0.04	90.0%	0.130
Dibromochloromethane	0.3	0.32	0.32	0.32	0.32	0.33	0.31	0.3	0.32	0.01	105.7%	0.030
Methyl Butyl Ketone	0.3	0.23	0.25	0.26	0.29	0.29	0.2	0.2	0.25	0.04	81.9%	0.119
1,2-dibromoethane	0.3	0.32	0.31	0.32	0.32	0.32	0.29	0.3	0.31	0.01	103.8%	0.038
Tetrachloroethylene	0.3	0.31	0.3	0.32	0.31	0.31	0.29	0.3	0.31	0.01	101.9%	0.031
Chlorobenzene	0.3	0.31	0.31	0.31	0.29	0.31	0.3	0.29	0.30	0.01	101.0%	0.030
Ethylbenzene	0.3	0.31	0.32	0.32	0.3	0.32	0.28	0.3	0.31	0.01	102.4%	0.047
m&p-xylene	0.6	0.64	0.61	0.63	0.65	0.64	0.63	0.63	0.63	0.01	105.5%	0.039
Nonane	0.3	0.31	0.35	0.32	0.32	0.32	0.3	0.3	0.32	0.02	105.7%	0.054
Styrene	0.3	0.27	0.31	0.3	0.3	0.31	0.29	0.31	0.30	0.01	99.5%	0.046
Bromoform	0.3	0.3	0.32	0.32	0.32	0.33	0.31	0.31	0.32	0.01	105.2%	0.031
o-xylene	0.3	0.32	0.32	0.32	0.32	0.32	0.35	0.31	0.32	0.01	107.6%	0.039
Cumene	0.3	0.32	0.31	0.32	0.31	0.32	0.29	0.3	0.31	0.01	103.3%	0.036
Bromofluorobenzene	1	1.01	1	1	0.99	1.01	1	1.02	1.00	0.01	100.4%	0.031
1,1,2,2-tetrachloroethane	0.3	0.32	0.33	0.32	0.33	0.33	0.31	0.31	0.32	0.01	107.1%	0.028
Propylbenzene	0.3	0.32	0.3	0.31	0.3	0.3	0.29	0.3	0.30	0.01	101.0%	0.030
2-Chlorotoluene	0.3	0.31	0.31	0.31	0.31	0.31	0.27	0.3	0.30	0.01	101.0%	0.047
4-ethyltoluene	0.3	0.31	0.3	0.3	0.3	0.32	0.29	0.3	0.30	0.01	101.0%	0.030
1,3,5-trimethylbenzene	0.3	0.31	0.31	0.31	0.31	0.31	0.29	0.29	0.30	0.01	101.4%	0.031
1,2,4-trimethylbenzene	0.3	0.3	0.31	0.31	0.31	0.31	0.27	0.3	0.30	0.01	100.5%	0.046
1,3-dichlorobenzene	0.3	0.31	0.3	0.3	0.3	0.3	0.27	0.3	0.30	0.01	99.0%	0.039
benzyl chloride	0.3	0.32	0.33	0.34	0.32	0.34	0.28	0.32	0.32	0.02	107.1%	0.064
1,4-dichlorobenzene	0.3	0.3	0.29	0.3	0.3	0.3	0.28	0.28	0.29	0.01	97.6%	0.030
1,2,3-trimethylbenzene	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-dichlorobenzene	0.3	0.3	0.3	0.3	0.3	0.3	0.27	0.3	0.30	0.01	98.6%	0.036
1,2,4-trichlorobenzene	0.3	0.27	0.26	0.27	0.27	0.28	0.25	0.27	0.27	0.01	90.0%	0.031
Naphthalene	0.3	0.27	0.27	0.27	0.27	0.28	0.22	0.25	0.26	0.02	87.1%	0.064
Hexachloro-1,3-butadiene	0.3	0.3	0.3	0.3	0.3	0.3	0.27	0.28	0.29	0.01	98.1%	0.036

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

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

$$RRF = \frac{Ax * Cis}{Ais * Cx}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Cx = concentration of the compound being measured (ppbv)
Cis = 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)

$$\% D = \frac{(RRFc - \text{mean } RRFi) * 100}{\text{mean } RRFi}$$

where: RRFc = relative response factor from the continuing calibration
mean RRFi = mean relative response factor from the initial calibration

Sample Calculations

$$ppbv = \frac{Ax * Is * Df}{Ais * RRF}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Is = Concentration of the internal standard injected (ppbv)
RRF= relative response factor for the compound being measured
Df = Dilution factor

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

SAMPLE DATA

Centek Laboratories, LLC **Date:** *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-Outside-April 2018
Lab Order:	C1804010	**Tag Number:**	214.1344
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-001A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-5			"Hg		4/5/2018
Lab Vacuum Out	-30			"Hg		4/5/2018
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	4/6/2018 2:11:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/6/2018 2:11:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 2:11:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/6/2018 2:11:00 PM
Chloromethane	0.39	0.15		ppbV	1	4/6/2018 2:11:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 2:11:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/6/2018 2:11:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/6/2018 2:11:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	4/6/2018 2:11:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/6/2018 2:11:00 PM
Surr: Bromofluorobenzene	105	70-130		%REC	1	4/6/2018 2:11:00 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:** *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-Outside-April 2018
Lab Order:	C1804010	**Tag Number:**	214.1344
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-001A	**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	4/6/2018 2:11:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/6/2018 2:11:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 2:11:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/6/2018 2:11:00 PM
Chloromethane	0.81	0.31		ug/m3	1	4/6/2018 2:11:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 2:11:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/6/2018 2:11:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/6/2018 2:11:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 2:11:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/6/2018 2:11:00 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\AP040607.D Vial: 7
Acq On : 6 Apr 2018 2:11 pm Operator: RJP
Sample : C1804010-001A Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 14:56:25 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 Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.51	128	44875	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.74	114	156076	1.00 ppb	0.00
50) Chlorobenzene-d5	17.49	117	125772	1.00 ppb	0.00
System Monitoring Compounds					
65) Bromofluorobenzene	19.22	95	91415	1.05 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	105.00%	
Target Compounds					Qvalue
4) Chloromethane	4.84	50	25334	0.39 ppb	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AP040607.D A318_1UG.M Thu Apr 26 08:35:20 2018 MSD1

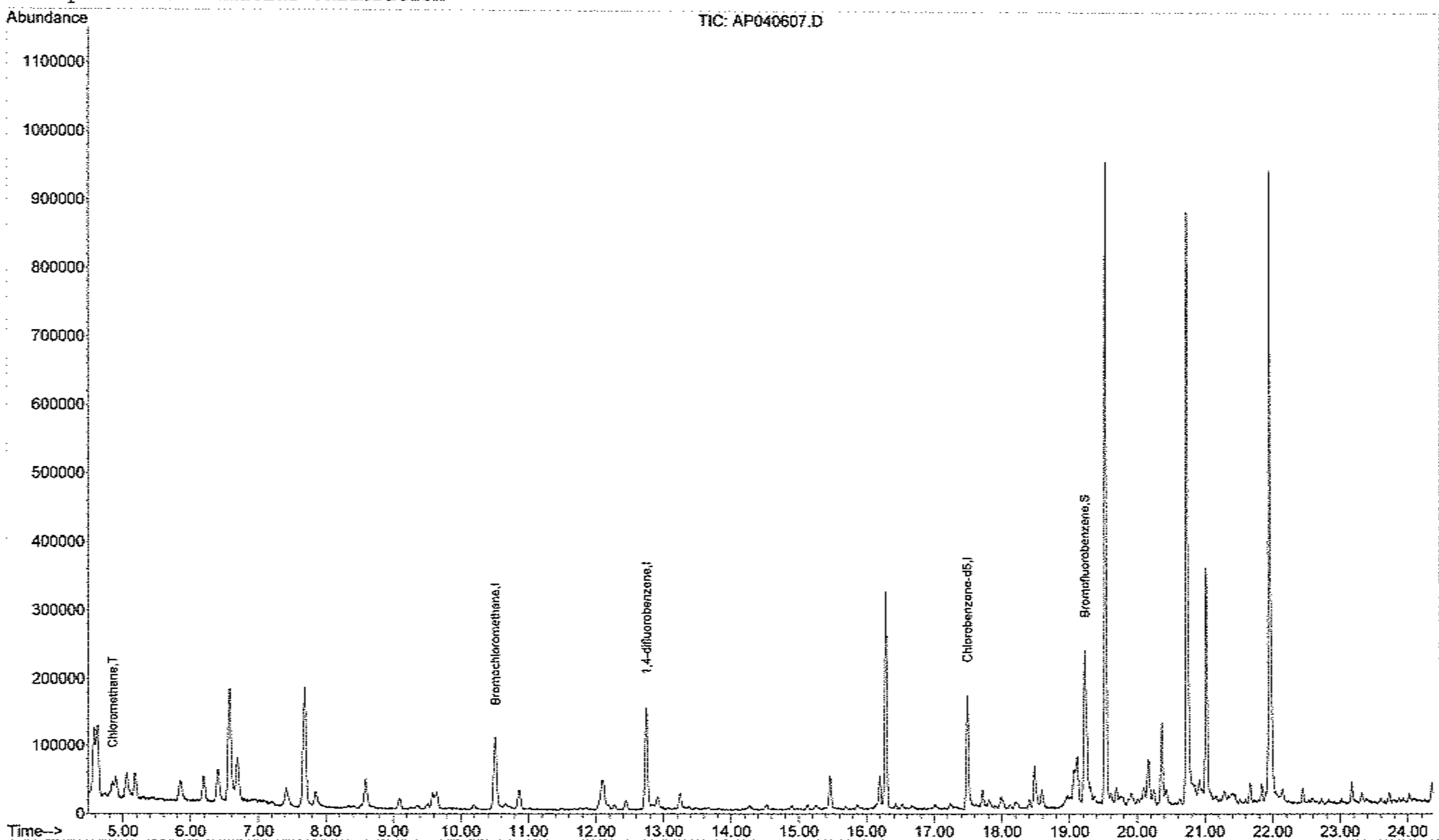
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040607.D
Acq On : 6 Apr 2018 2:11 pm
Sample : C1804010-001A
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 26 8:34 2018

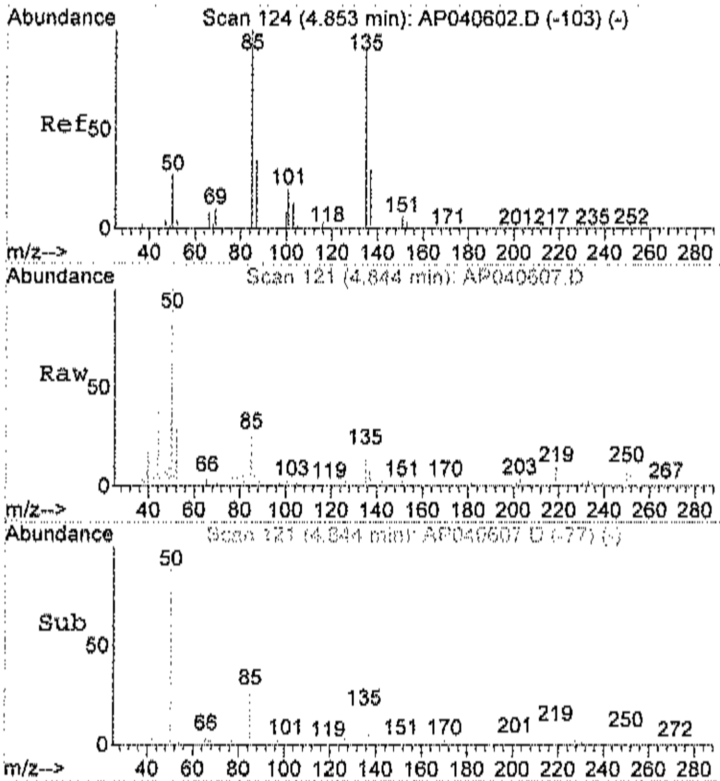
Vial: 7
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

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 : Thu Apr 26 08:23:50 2018
Response via : Initial Calibration



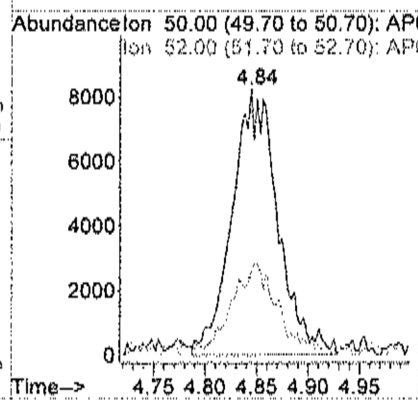
AP040607.D A318_1UG.M Thu Apr 26 08:35:20 2018 MSD1 Page 2



#4
Chloromethane
Concen: 0.39 ppb
RT: 4.84 min Scan# 121
Delta R.T. -0.02 min
Lab File: AP040607.D
Acq: 6 Apr 2018 2:11 pm

Tgt Ion: 50 Resp: 25334

Ion	Ratio	Lower	Upper
50	100		
52	35.2	3.9	43.9



Centek Laboratories, LLC

Date: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-01 April 2018
Lab Order:	C1804010	**Tag Number:**	370,1166
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-002A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-5			"Hg		4/5/2018
Lab Vacuum Out	-30			"Hg		4/5/2018
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	4/7/2018 7:24:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/7/2018 7:24:00 AM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	4/7/2018 7:24:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/7/2018 7:24:00 AM
Chloromethane	0.32	0.15		ppbV	1	4/7/2018 7:24:00 AM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	4/7/2018 7:24:00 AM
Tetrachloroethylene	0.33	0.15		ppbV	1	4/7/2018 7:24:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/7/2018 7:24:00 AM
Trichloroethene	< 0.030	0.030		ppbV	1	4/7/2018 7:24:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/7/2018 7:24:00 AM
Surr: Bromofluorobenzene	104	70-130		%REC	1	4/7/2018 7:24:00 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: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-01 April 2018
Lab Order:	C1804010	**Tag Number:**	370.1166
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-002A	**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	4/7/2018 7:24:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/7/2018 7:24:00 AM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/7/2018 7:24:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/7/2018 7:24:00 AM
Chloromethane	0.66	0.31		ug/m3	1	4/7/2018 7:24:00 AM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/7/2018 7:24:00 AM
Tetrachloroethylene	2.2	1.0		ug/m3	1	4/7/2018 7:24:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/7/2018 7:24:00 AM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/7/2018 7:24:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/7/2018 7:24:00 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		

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AP040633.D                 Vial: 21
Acq On    :  7 Apr 2018   7:24 am                   Operator: RJP
Sample    : C1804010-002A                           Inst     : MSD #1
Misc      : A318_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 07 08:20:55 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 Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN
```

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.50	128	42622	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.74	114	176398	1.00 ppb	0.00
50) Chlorobenzene-d5	17.48	117	194892	1.00 ppb	-0.01
System Monitoring Compounds					
65) Bromofluorobenzene	19.21	95	140173	1.04 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 104.00%	
Target Compounds					Qvalue
4) Chloromethane	4.84	50	19967	0.32 ppb	73
56) Tetrachloroethylene	16.52	164	39172	0.33 ppb	98

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

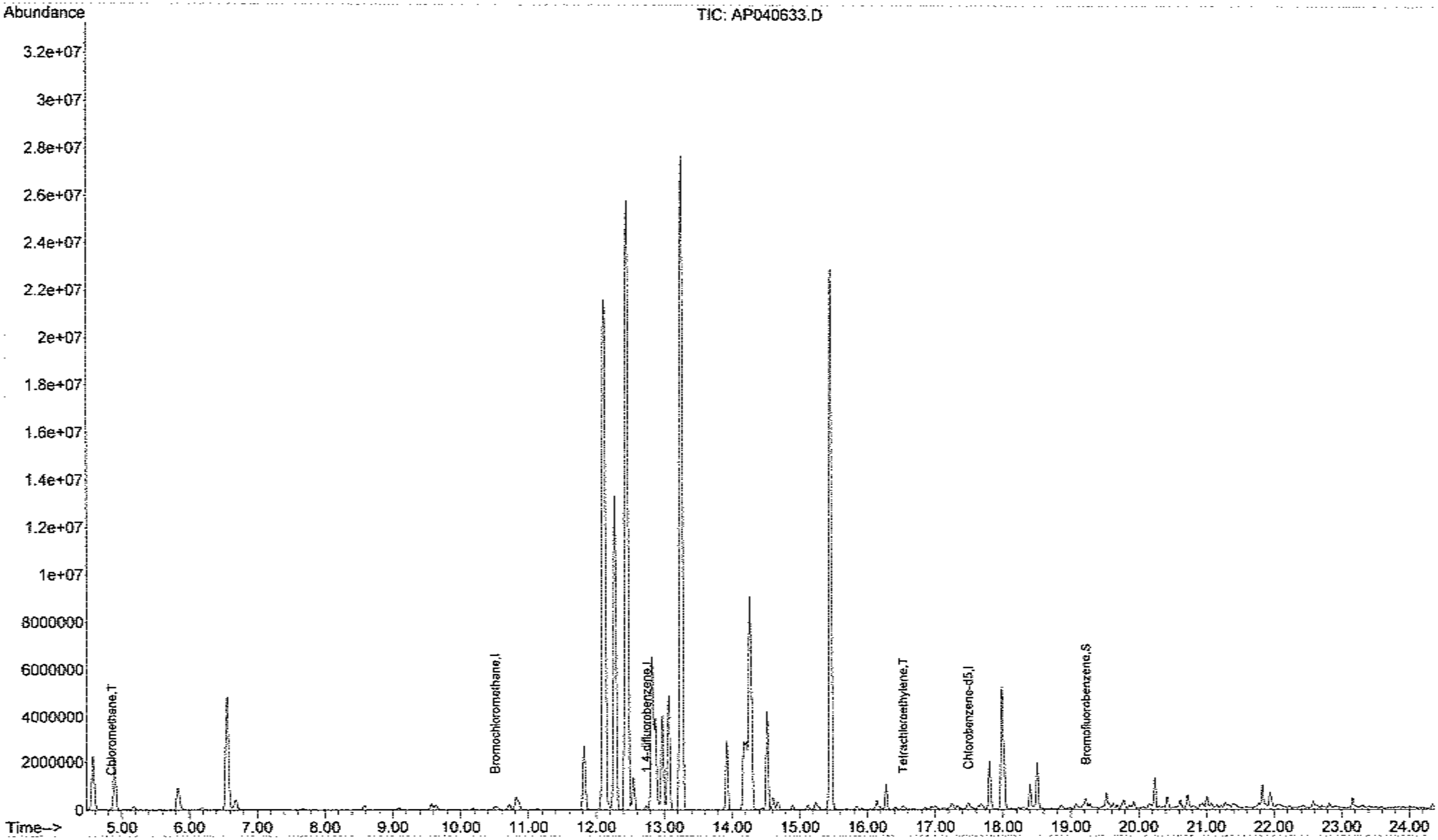
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040633.D
Acq On : 7 Apr 2018 7:24 am
Sample : C1804010-002A
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 9 12:03 2018

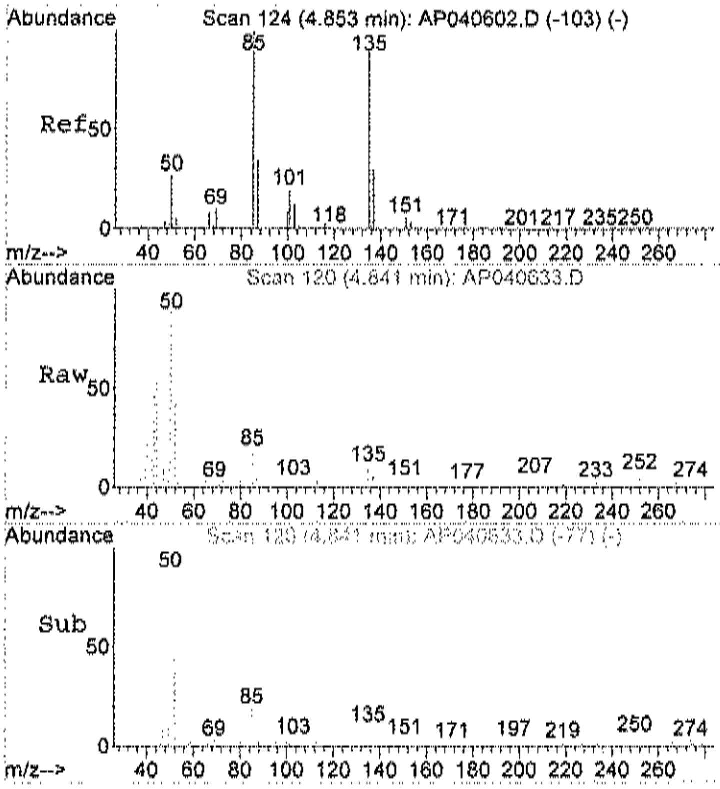
Vial: 21
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

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 : Thu Apr 26 08:23:50 2018
Response via : Initial Calibration



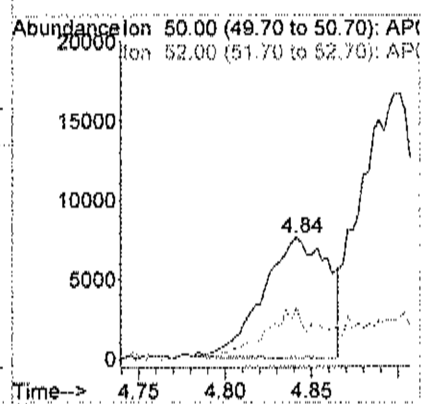
AP040633.D A318_1UG.M Thu Apr 26 08:24:55 2018 MSD1 Page 2

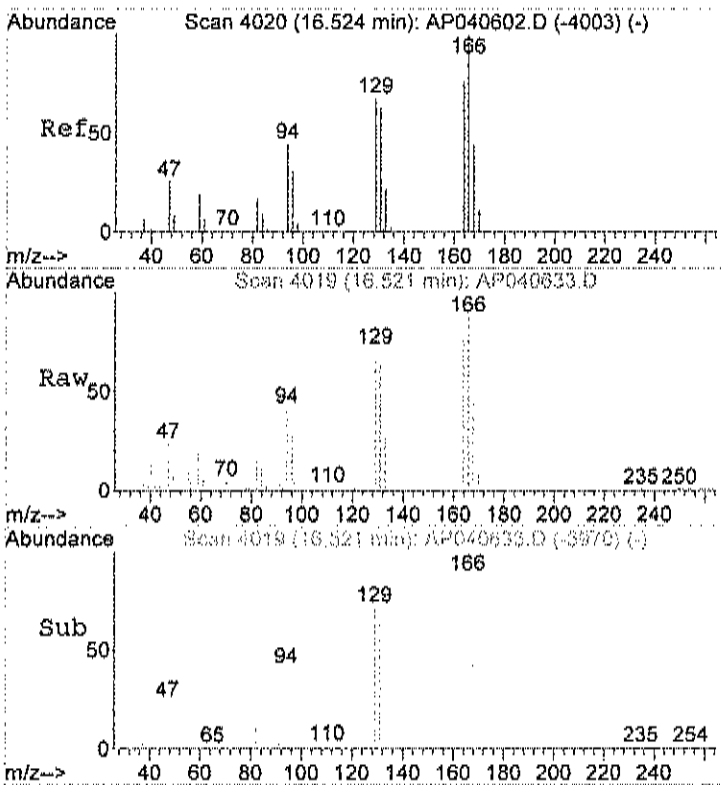


#4
Chloromethane
Concen: 0.32 ppb
RT: 4.84 min Scan# 120
Delta R.T. -0.02 min
Lab File: AP040633.D
Acq: 7 Apr 2018 7:24 am

Tgt Ion: 50 Resp: 19967

Ion	Ratio	Lower	Upper
50	100		
52	37.1	3.9	43.9

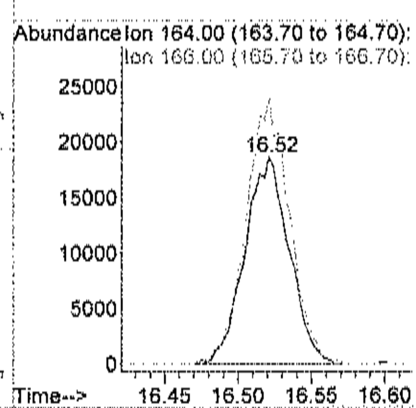




#56
Tetrachloroethylene
Concen: 0.33 ppb
RT: 16.52 min Scan# 4019
Delta R.T. -0.00 min
Lab File: AP040633.D
Acq: 7 Apr 2018 7:24 am

Tgt Ion:164 Resp: 39172

Ion	Ratio	Lower	Upper
164	100		
166	124.5	106.7	146.7



Centek Laboratories, LLC

Date: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-Dupe April 2018
Lab Order:	C1804010	**Tag Number:**	419.1166
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		**FLD**				Analyst:
Lab Vacuum In	-5			"Hg		4/5/2018
Lab Vacuum Out	-30			"Hg		4/5/2018
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	4/6/2018 5:11:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/6/2018 5:11:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 5:11:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/6/2018 5:11:00 PM
Chloromethane	0.33	0.15		ppbV	1	4/6/2018 5:11:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 5:11:00 PM
Tetrachloroethylene	0.37	0.15		ppbV	1	4/6/2018 5:11:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/6/2018 5:11:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	4/6/2018 5:11:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/6/2018 5:11:00 PM
Surr: Bromofluorobenzene	96.0	70-130		%REC	1	4/6/2018 5:11:00 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: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-Dupe April 2018
Lab Order:	C1804010	**Tag Number:**	419.1166
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-003A	**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	4/6/2018 5:11:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/6/2018 5:11:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:11:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/6/2018 5:11:00 PM
Chloromethane	0.68	0.31		ug/m3	1	4/6/2018 5:11:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:11:00 PM
Tetrachloroethylene	2.5	1.0		ug/m3	1	4/6/2018 5:11:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/6/2018 5:11:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:11:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/6/2018 5:11:00 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\AP040611.D Vial: 11
Acq On : 6 Apr 2018 5:11 pm Operator: RJP
Sample : C1804010-003A Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 21:30:49 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 Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

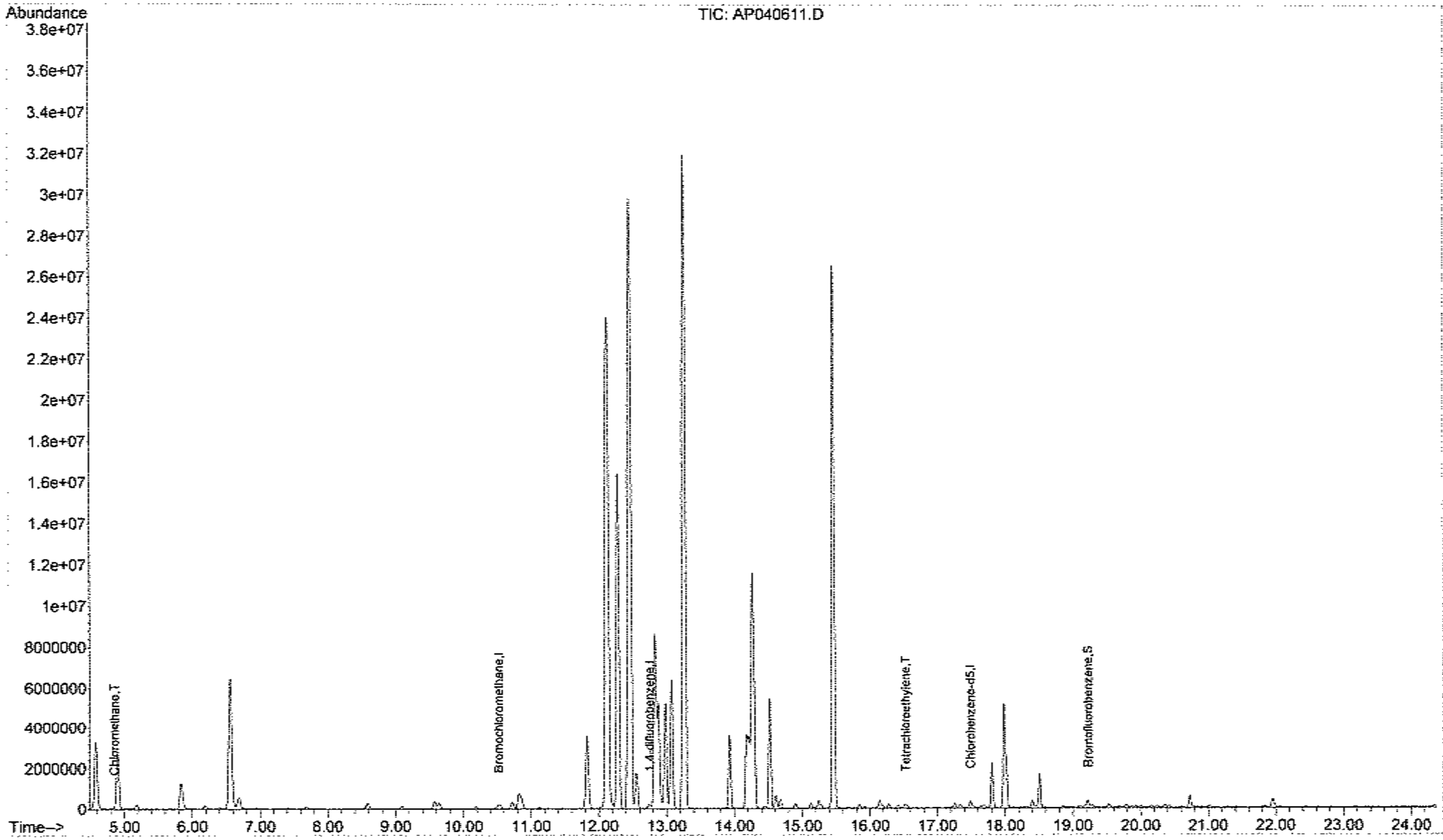
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.51	128	51553	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.74	114	218342	1.00 ppb	0.00
50) Chlorobenzene-d5	17.49	117	216907	1.00 ppb	0.00
System Monitoring Compounds					
65) Bromofluorobenzene	19.22	95	144365	0.96 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	96.00%	
Target Compounds					Qvalue
4) Chloromethane	4.84	50	24477m	0.33 ppb	
56) Tetrachloroethylene	16.52	164	48568	0.37 ppb	99

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

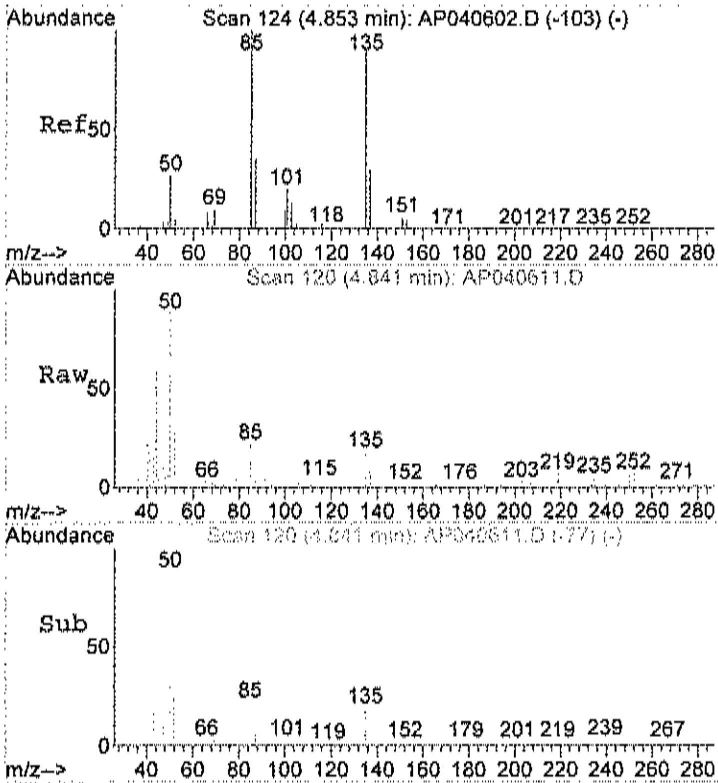
Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AP040611.D                 Vial: 11
Acq On    :  6 Apr 2018   5:11 pm                   Operator: RJP
Sample    : C1804010-003A                           Inst     : MSD #1
Misc      : A318_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  6 21:36 2018                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    : Thu Apr 26 08:23:50 2018
Response via   : Initial Calibration
```



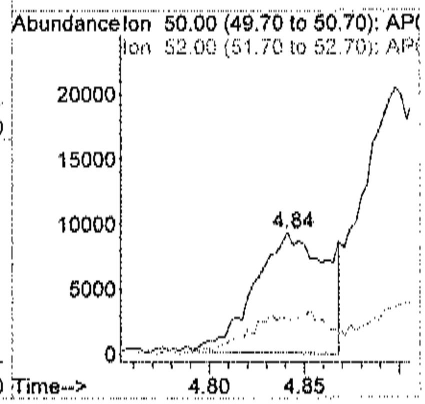
AP040611.D   A318_1UG.M   Thu Apr 26 08:24:45 2018   MSD1

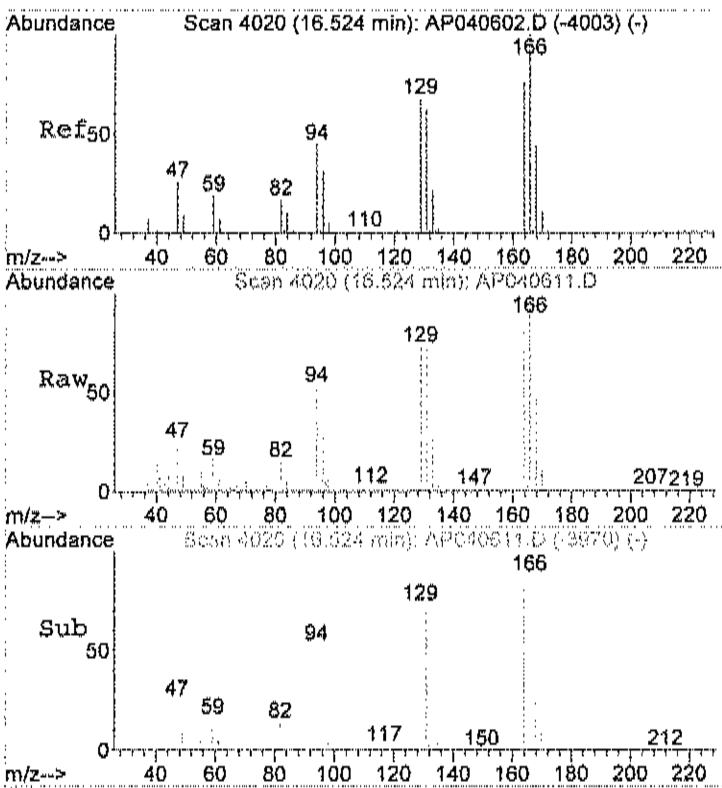


#4
Chloromethane
Concen: 0.33 ppb m
RT: 4.84 min Scan# 120
Delta R.T. -0.02 min
Lab File: AP040611.D
Acq: 6 Apr 2018 5:11 pm

Tgt Ion: 50 Resp: 24477

Ion	Ratio	Lower	Upper
50	100		
52	33.8	3.9	43.9

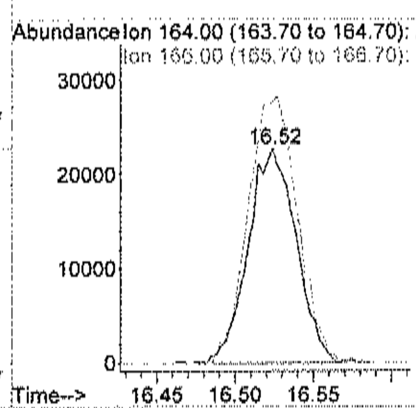




#56
Tetrachloroethylene
Concen: 0.37 ppb
RT: 16.52 min Scan# 4020
Delta R.T. -0.00 min
Lab File: AP040611.D
Acq: 6 Apr 2018 5:11 pm

Tgt Ion:164 Resp: 48568

Ion	Ratio	Lower	Upper
164	100		
166	128.3	106.7	146.7



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040634.D Vial: 22
Acq On : 7 Apr 2018 8:07 am Operator: RJP
Sample : C1804010-003A RE Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 09 12:00:39 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

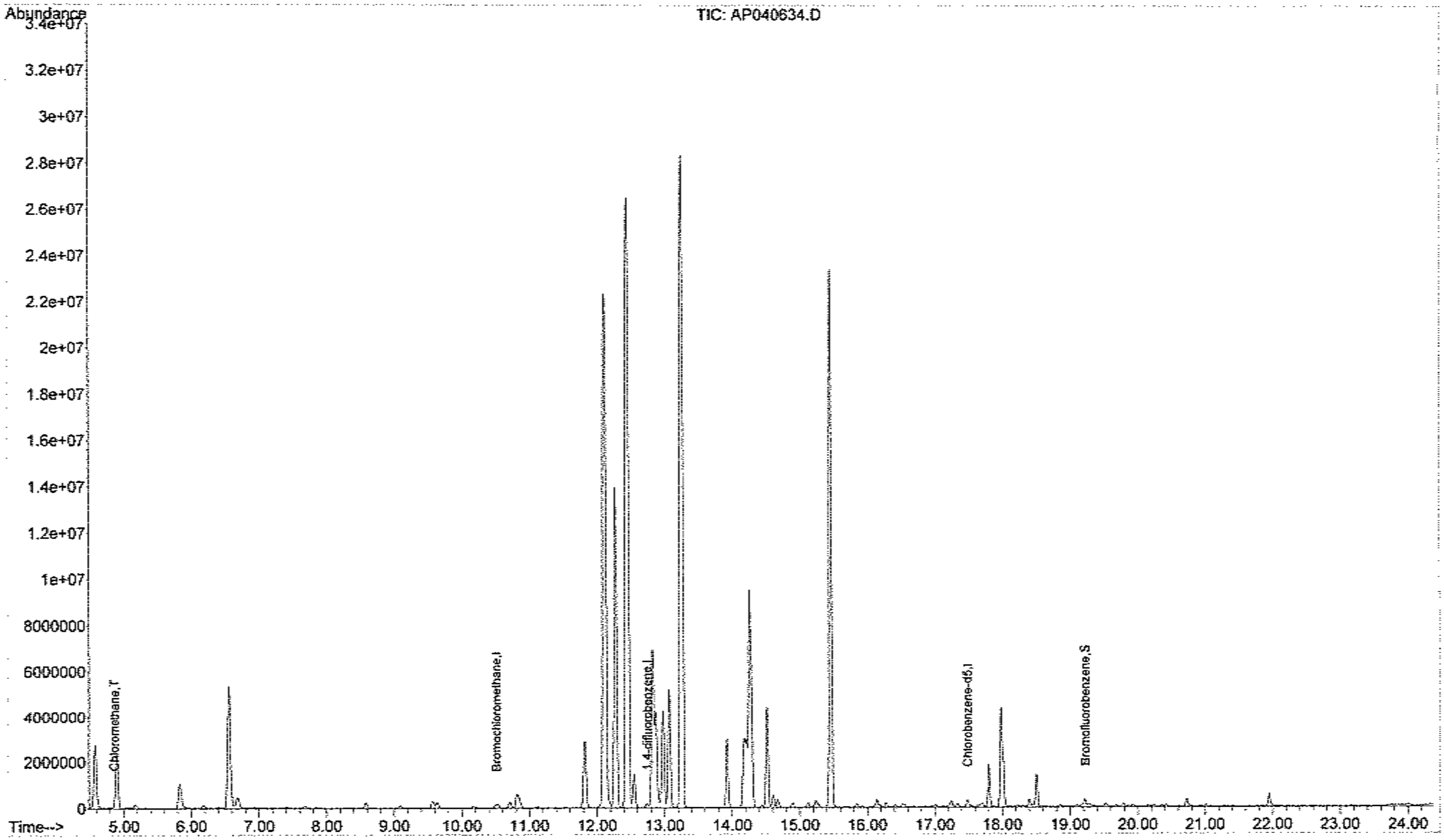
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.50	128	47725	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.74	114	195989	1.00 ppb	0.00
50) Chlorobenzene-d5	17.48	117	201715	1.00 ppb	0.00
System Monitoring Compounds					
65) Bromofluorobenzene	19.21	95	128064	0.92 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	92.00%	
Target Compounds					Qvalue
4) Chloromethane	4.85	50	18985	0.28 ppb	64

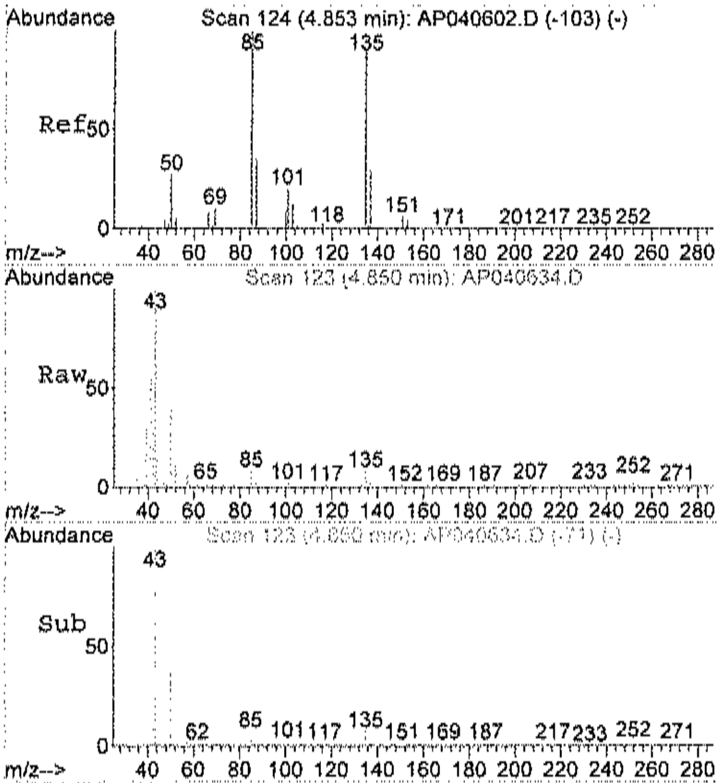
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AP040634.D                  Vial: 22
Acq On    :  7 Apr 2018   8:07 am                     Operator: RJP
Sample    : C1804010-003A RE                          Inst    : MSD #1
Misc      : A318_1UG                                  Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  9 12:04 2018              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   : Thu Apr 26 08:23:50 2018
Response via  : Initial Calibration
```

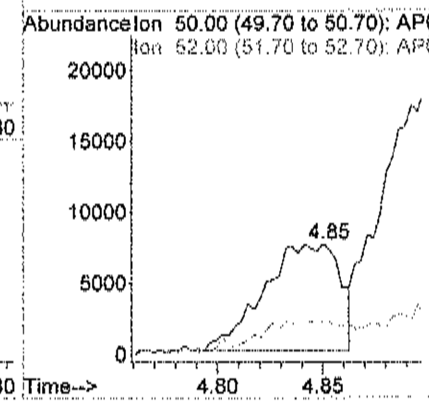




#4
Chloromethane
Concen: 0.28 ppb
RT: 4.85 min Scan# 123
Delta R.T. 0.01 min
Lab File: AP040634.D
Acq: 7 Apr 2018 8:07 am

Tgt Ion: 50 Resp: 18985

Ion	Ratio	Lower	Upper
50	100		
52	41.7	3.9	43.9



Centek Laboratories, LLC

Date: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-02 April 2018
Lab Order:	C1804010	**Tag Number:**	85.1158
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-004A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		**FLD**				Analyst:
Lab Vacuum In	-5			"Hg		4/5/2018
Lab Vacuum Out	-30			"Hg		4/5/2018
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	4/6/2018 5:52:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/6/2018 5:52:00 PM
1,1-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 5:52:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/6/2018 5:52:00 PM
Chloromethane	0.37	0.15		ppbV	1	4/6/2018 5:52:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	4/6/2018 5:52:00 PM
Tetrachloroethylene	0.39	0.15		ppbV	1	4/6/2018 5:52:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/6/2018 5:52:00 PM
Trichloroethene	< 0.030	0.030		ppbV	1	4/6/2018 5:52:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/6/2018 5:52:00 PM
Surr: Bromofluorobenzene	107	70-130		%REC	1	4/6/2018 5:52:00 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: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-02 April 2018
Lab Order:	C1804010	**Tag Number:**	85.1158
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-004A	**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	4/6/2018 5:52:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/6/2018 5:52:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:52:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/6/2018 5:52:00 PM
Chloromethane	0.76	0.31		ug/m3	1	4/6/2018 5:52:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:52:00 PM
Tetrachloroethylene	2.6	1.0		ug/m3	1	4/6/2018 5:52:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/6/2018 5:52:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:52:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/6/2018 5:52:00 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\AP040612.D Vial: 12
Acq On : 6 Apr 2018 5:52 pm Operator: RJP
Sample : C1804010-004A Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 21:31:15 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 Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

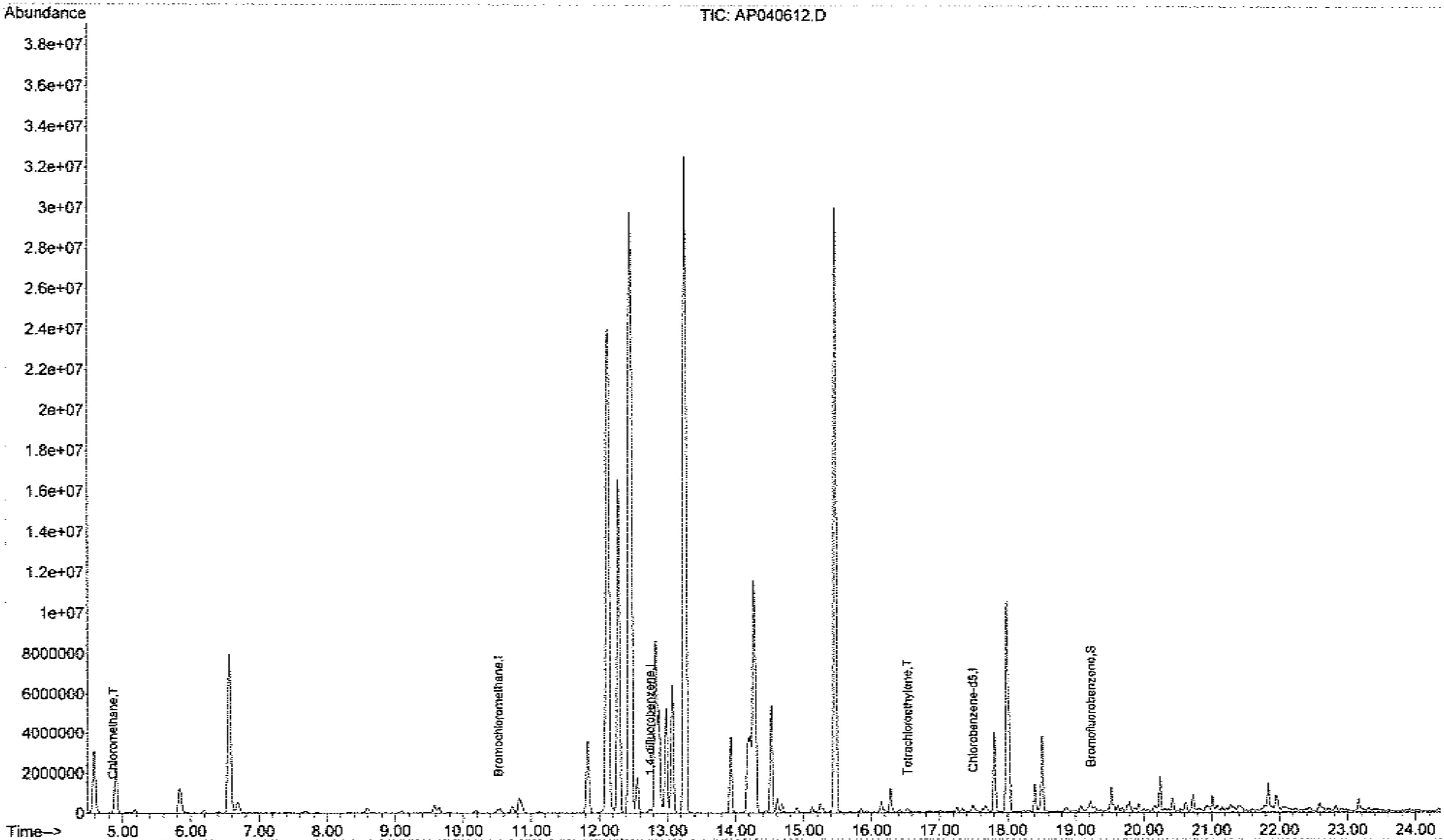
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.51	128	53267	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.74	114	218626	1.00 ppb	0.00
50) Chlorobenzene-d5	17.49	117	224696	1.00 ppb	0.00
System Monitoring Compounds					
65) Bromofluorobenzene	19.22	95	165249	1.07 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 107.00%	
Target Compounds					Qvalue
4) Chloromethane	4.85	50	28841	0.37 ppb	85
56) Tetrachloroethylene	16.53	164	52717	0.39 ppb	98

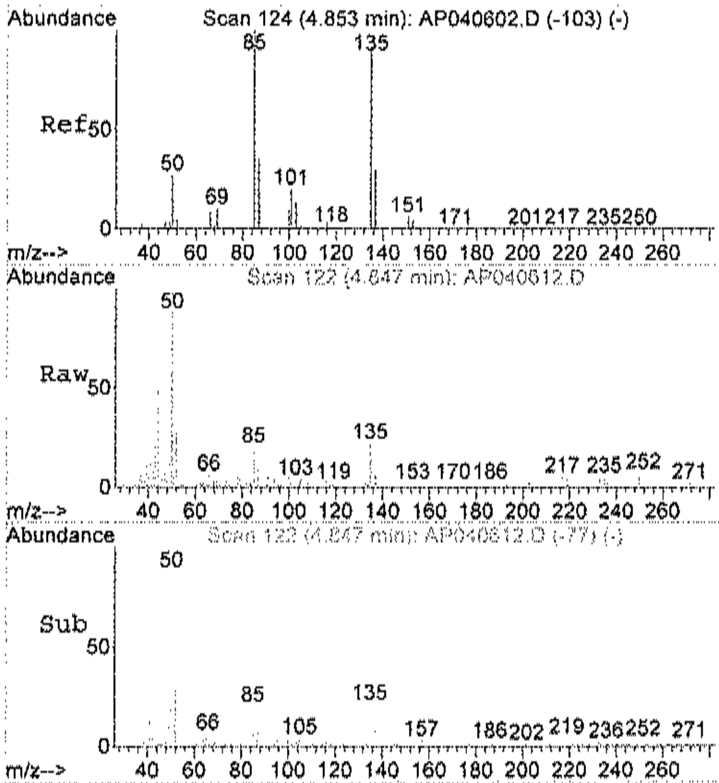
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AP040612.D                  Vial: 12
Acq On    :  6 Apr 2018   5:52 pm                    Operator: RJP
Sample    : C1804010-004A                            Inst    : MSD #1
Misc      : A318_1UG                                 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  6 21:38 2018               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   : Thu Apr 26 08:23:50 2018
Response via  : Initial Calibration
```

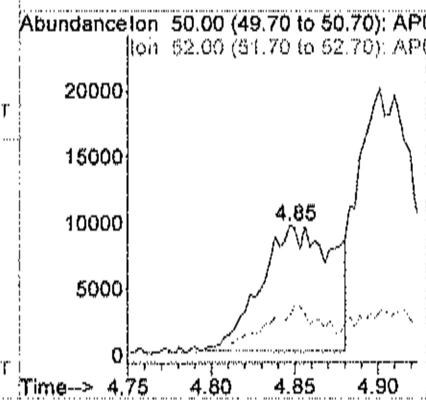


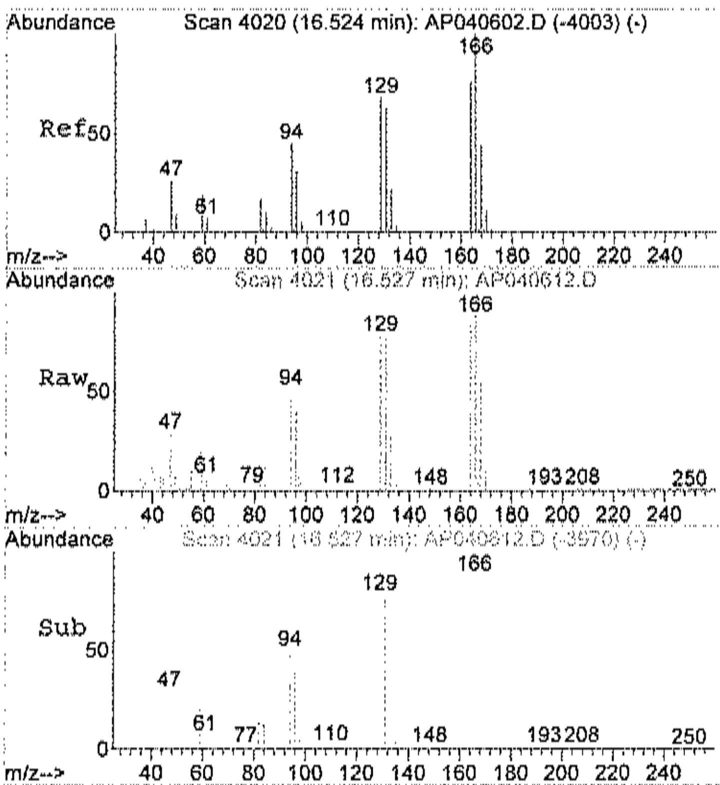


#4
Chloromethane
Concen: 0.37 ppb
RT: 4.85 min Scan# 122
Delta R.T. -0.02 min
Lab File: AP040612.D
Acq: 6 Apr 2018 5:52 pm

Tgt Ion: 50 Resp: 28841

Ion	Ratio	Lower	Upper
50	100		
52	31.4	3.9	43.9

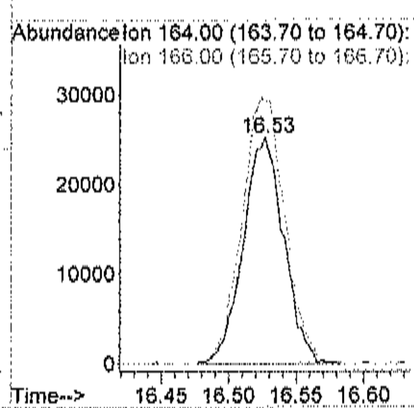




#56
Tetrachloroethylene
Concen: 0.39 ppb
RT: 16.53 min Scan# 4021
Delta R.T. 0.00 min
Lab File: AP040612.D
Acq: 6 Apr 2018 5:52 pm

Tgt Ion:164 Resp: 52717

Ion	Ratio	Lower	Upper
164	100		
166	124.7	106.7	146.7



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040635.D Vial: 23
Acq On : 7 Apr 2018 8:49 am Operator: RJP
Sample : C1804010-004A RE Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 09 12:00:46 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

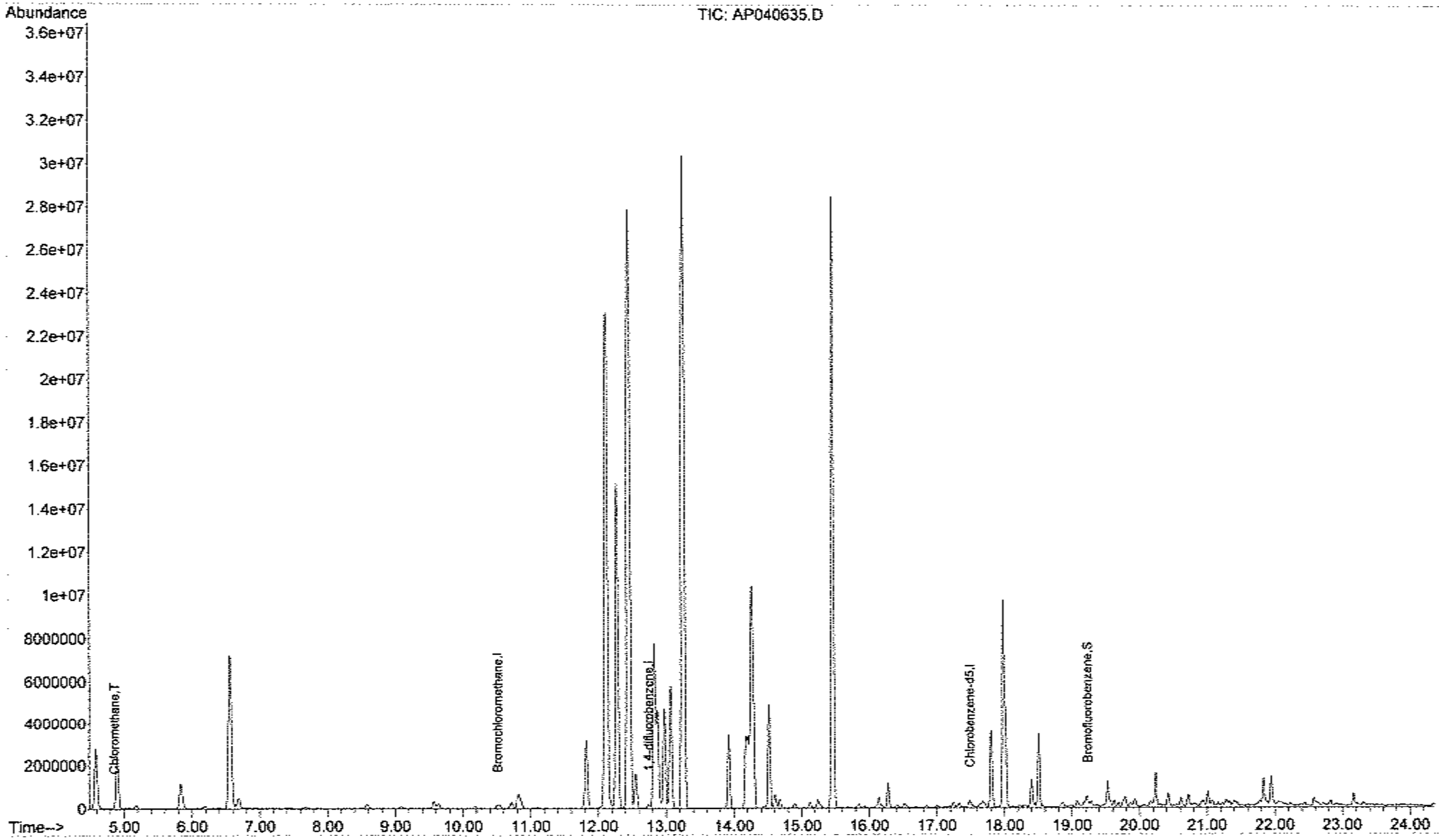
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.50	128	48802	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.74	114	190174	1.00 ppb	0.00
50) Chlorobenzene-d5	17.49	117	210502	1.00 ppb	0.00
System Monitoring Compounds					
65) Bromofluorobenzene	19.22	95	155967	1.07 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 107.00%		
Target Compounds					Qvalue
4) Chloromethane	4.84	50	24687	0.35 ppb	85

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

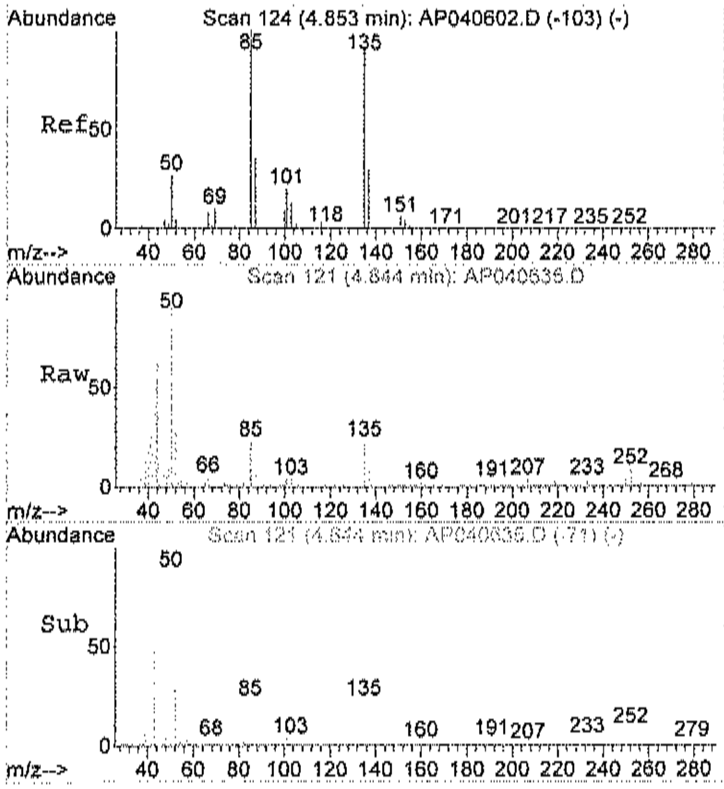
Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AP040635.D                Vial: 23
Acq On    :  7 Apr 2018   8:49 am                  Operator: RJP
Sample    : C1804010-004A RE                       Inst    : MSD #1
Misc      : A318_1UG                               Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  9 12:05 2018             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  : Thu Apr 26 08:23:50 2018
Response via : Initial Calibration
```



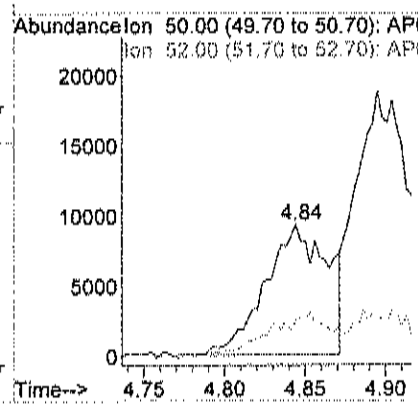
AP040635.D A318_1UG.M Thu Apr 26 08:25:04 2018 MSD1 Page 2



#4
Chloromethane
Concen: 0.35 ppb
RT: 4.84 min Scan# 121
Delta R.T. -0.00 min
Lab File: AP040635.D
Acq: 7 Apr 2018 8:49 am

Tgt Ion: 50 Resp: 24687

Ion	Ratio	Lower	Upper
50	100		
52	16.3	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 alcoh	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

(#) = Out of Range ### Number of calibration levels exceeded format ###

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

(#) = Out of Range ### Number of calibration levels exceeded format ###

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

	R.T.	QIon	Response	Conc	Units	Dev(Min)
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
AP031804.D A318_1UG.M Wed Mar 28 06:59:17 2018 MSD1 Page 1

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

	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

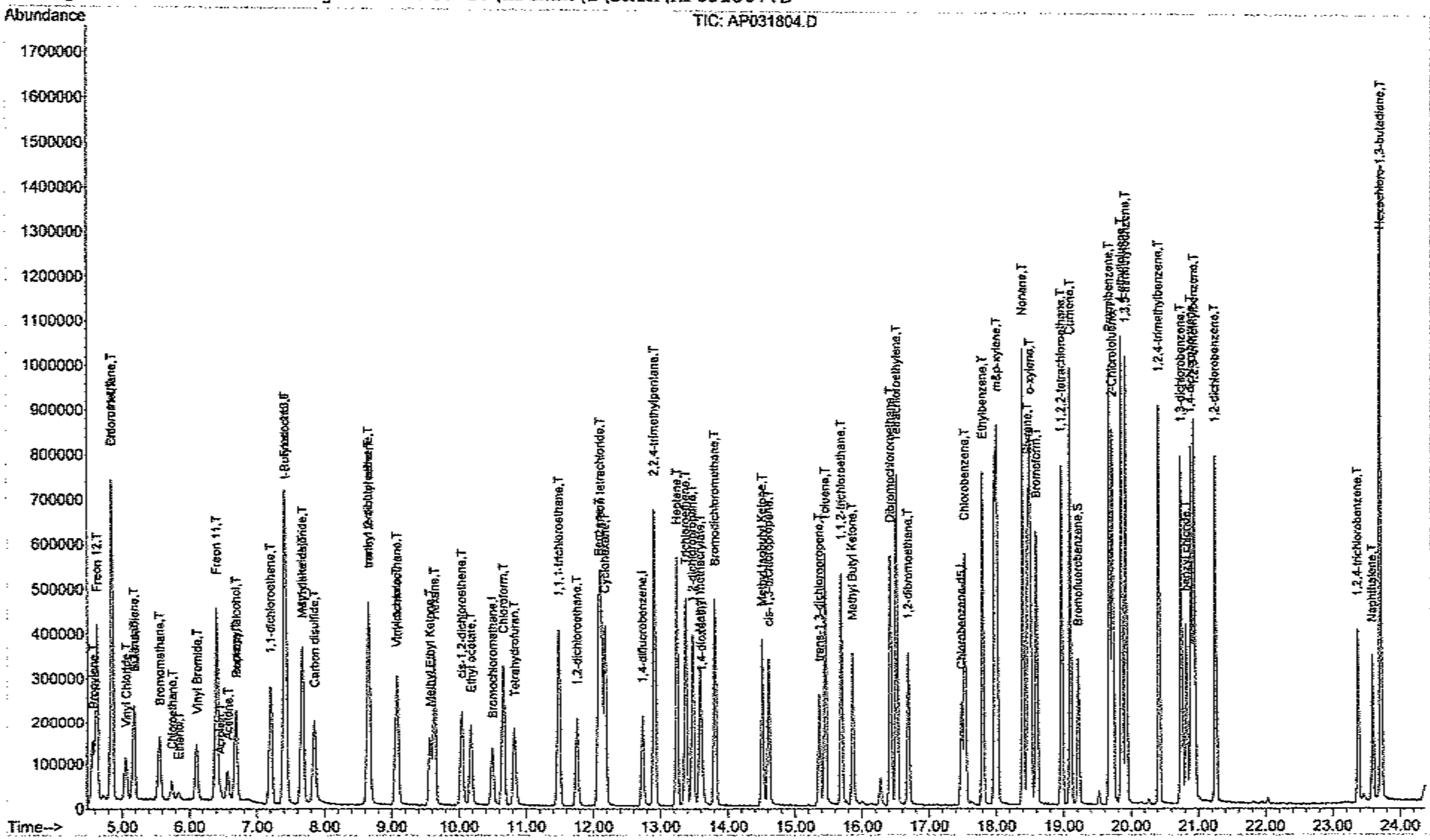
Quantitation Report (QT Reviewed)

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 8:39 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 21 12:56:38 2018
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D



AP031804.D A318_1UG.M Wed Mar 28 06:59:19 2018 MSD1 Page 3

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

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

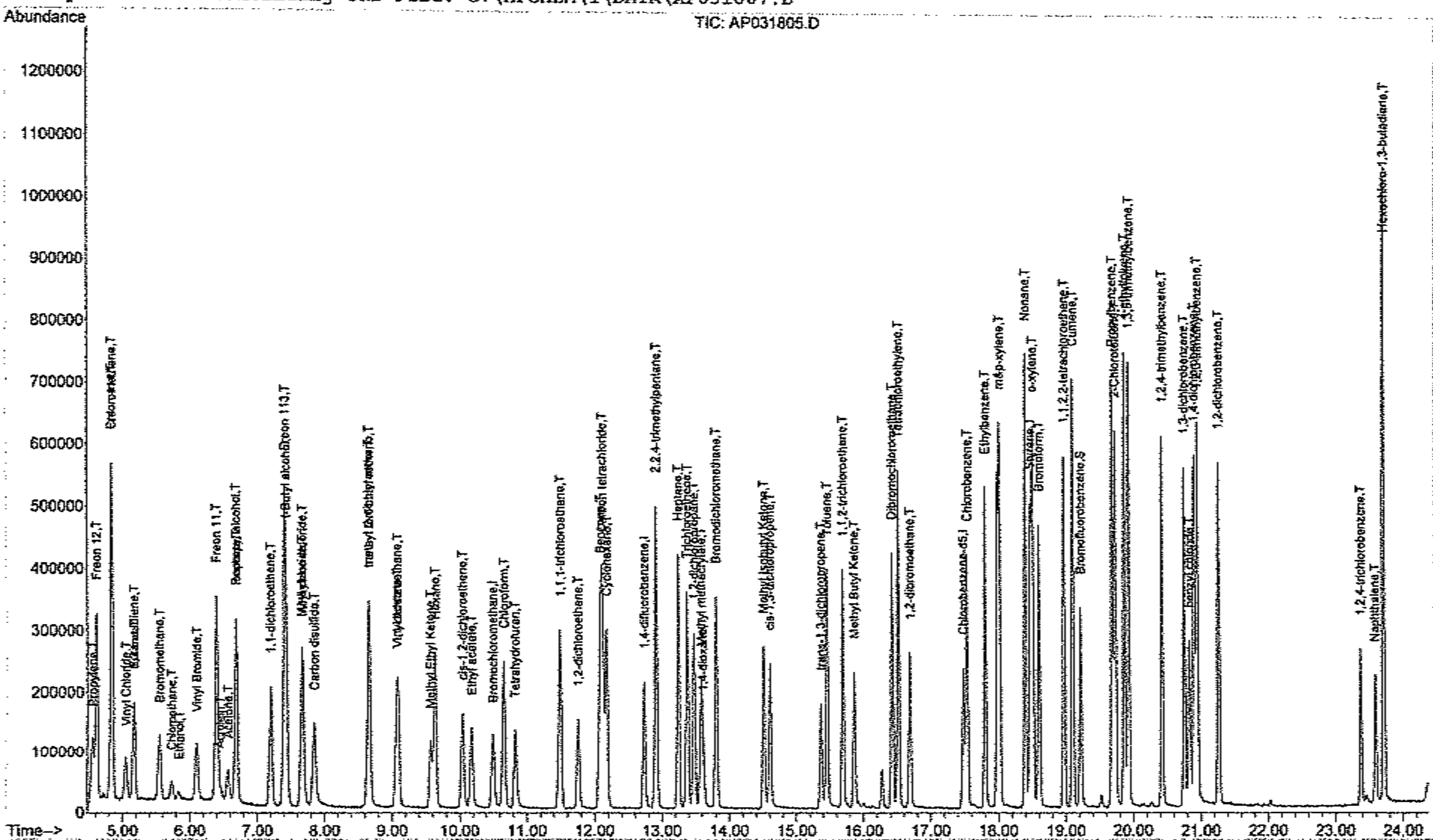
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	Bromodichloromethane	13.80	83	288092	1.51	ppb	99
47)	cis-1,3-dichloropropene	14.61	75	175264	1.63	ppb	97
48)	trans-1,3-dichloropropene	15.36	75	122974	1.62	ppb	97
49)	1,1,2-trichloroethane	15.69	97	148122	1.57	ppb	100
51)	Toluene	15.45	92	200346	1.59	ppb	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

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 8:34 2018 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



AP031805.D A318_1UG.M Wed Mar 28 06:59:22 2018 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031806.D Vial: 6
Acq On : 18 Mar 2018 7:09 pm Operator: RJP
Sample : A1UG_1.25 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 19 08:34:24 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	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						
65) Bromofluorobenzene	19.22	95	125469	1.01 ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 101.00%		
Target Compounds						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	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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031806.D Vial: 6
Acq On : 18 Mar 2018 7:09 pm Operator: RJP
Sample : A1UG_1.25 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 19 08:34:24 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

	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

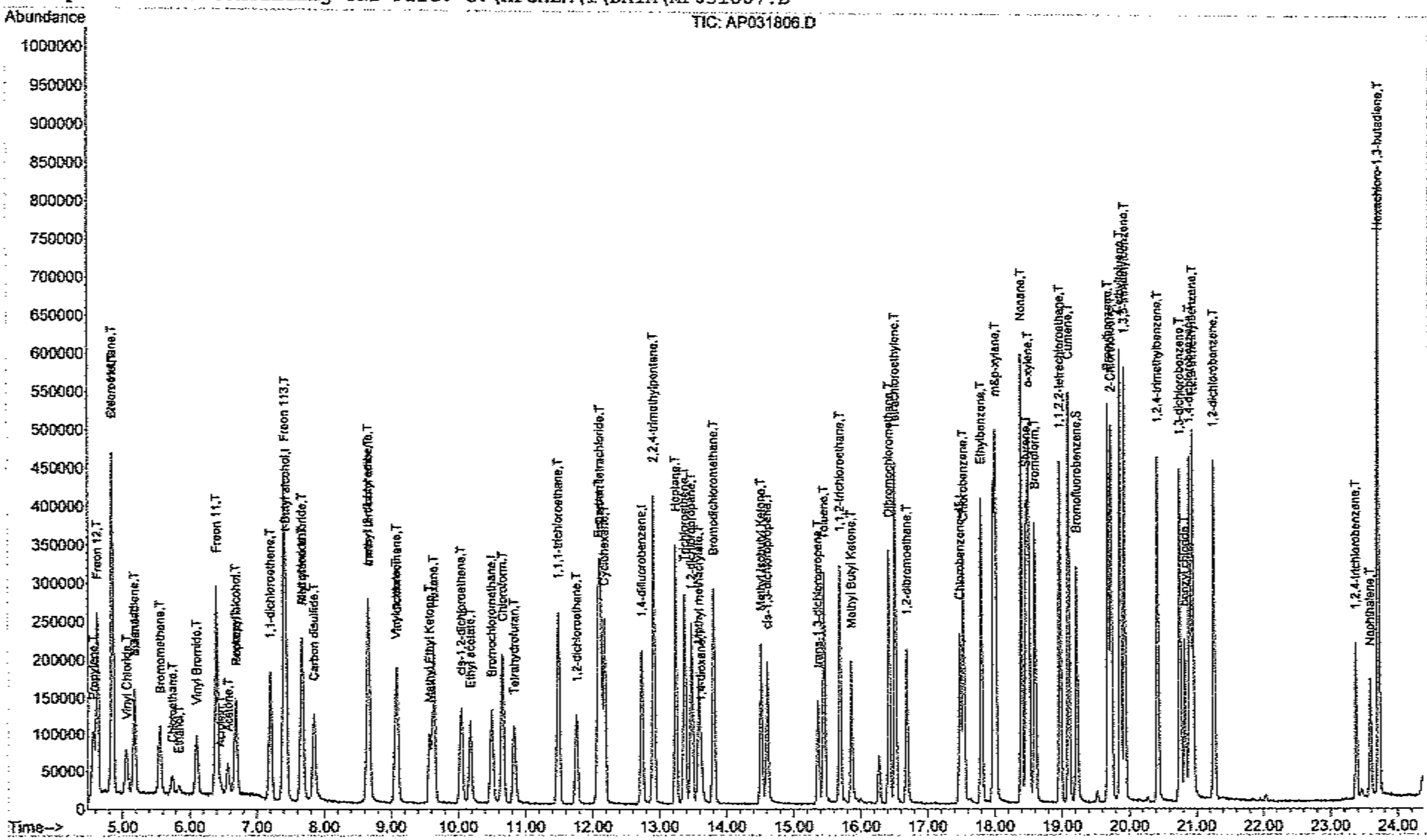
Quantitation Report (QT Reviewed)

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 8:40 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 21 12:56:38 2018
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D



AP031806.D A318_1UG.M Wed Mar 28 06:59:25 2018 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031807.D Vial: 7
Acq On : 18 Mar 2018 7:48 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 19 08:33:58 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	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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031807.D Vial: 7
Acq On : 18 Mar 2018 7:48 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 19 08:33:58 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

	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

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AP031807.D              Vial: 7
Acq On    : 18 Mar 2018   7:48 pm                 Operator: RJP
Sample    : A1UG_1.0                              Inst    : MSD #1
Misc      : A318_1UG                              Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 19  8:33 2018               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
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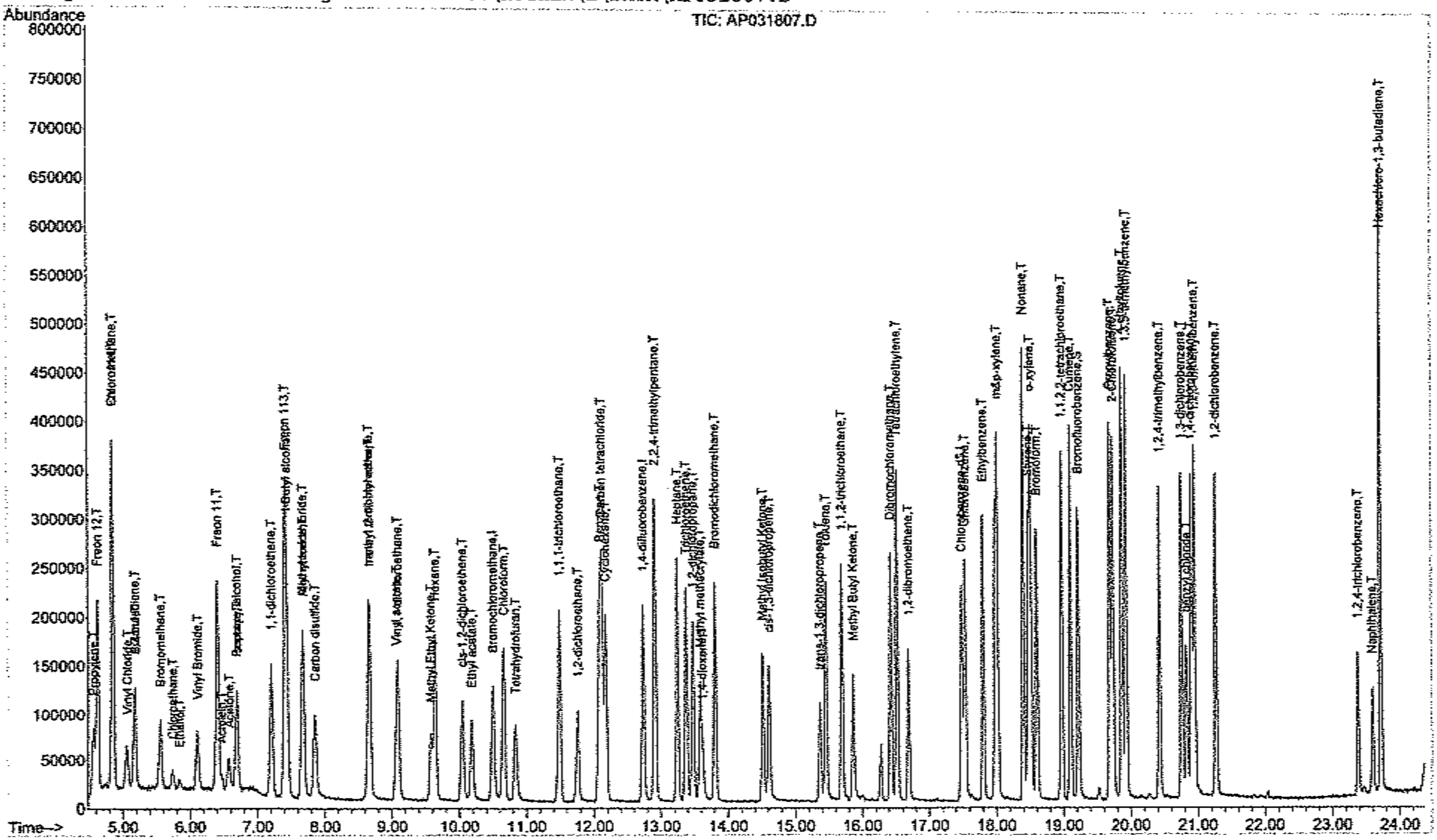


AP031807.D A318_1UG.M Wed Mar 28 06:59:28 2018 MSD1 Page 3

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 Multiplr: 1.00
MS Integration Params: RTEINT.P
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

	R.T.	QIon	Response	Conc Units	Dev(Min)
65) Bromofluorobenzene	19.21	95	116546	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	4.57	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 M	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 Vial: 8
Acq On : 18 Mar 2018 8:27 pm Operator: RJP
Sample : A1UG_0.75 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
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

	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

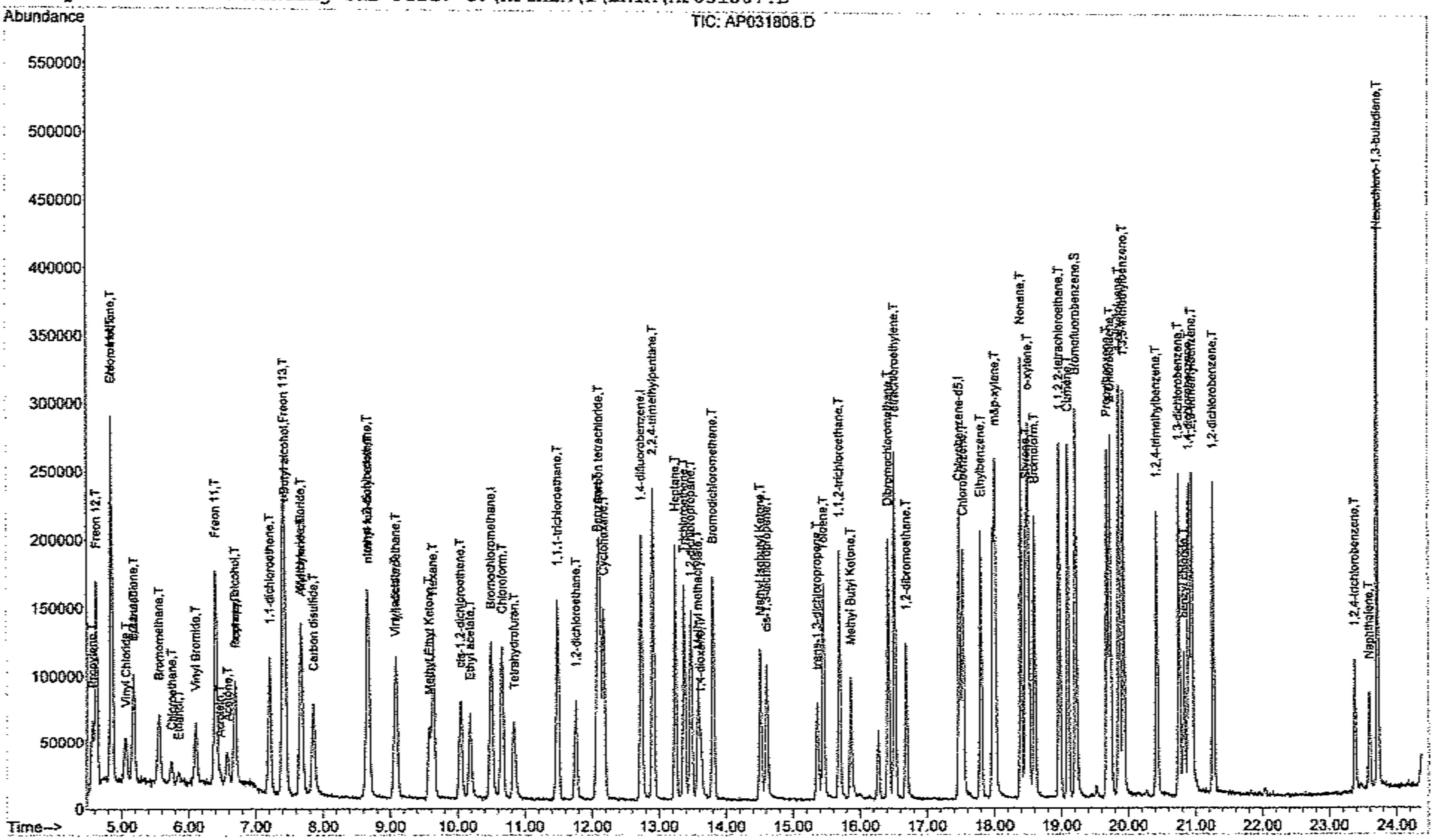
Quantitation Report (QT Reviewed)

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



AP031808.D A318_1UG.M Wed Mar 28 06:59:32 2018 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031809.D Vial: 9
Acq On : 18 Mar 2018 9:05 pm Operator: RJP
Sample : A1UG_0.50 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 19 08:36:20 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	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						
65) Bromofluorobenzene	19.21	95	103699	0.94 ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 94.00%		
Target Compounds						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	0.54 ppb		
12) Acrolein	6.47	56	8078m	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 Vial: 9
Acq On : 18 Mar 2018 9:05 pm Operator: RJP
Sample : A1UG_0.50 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 19 08:36:20 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

	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

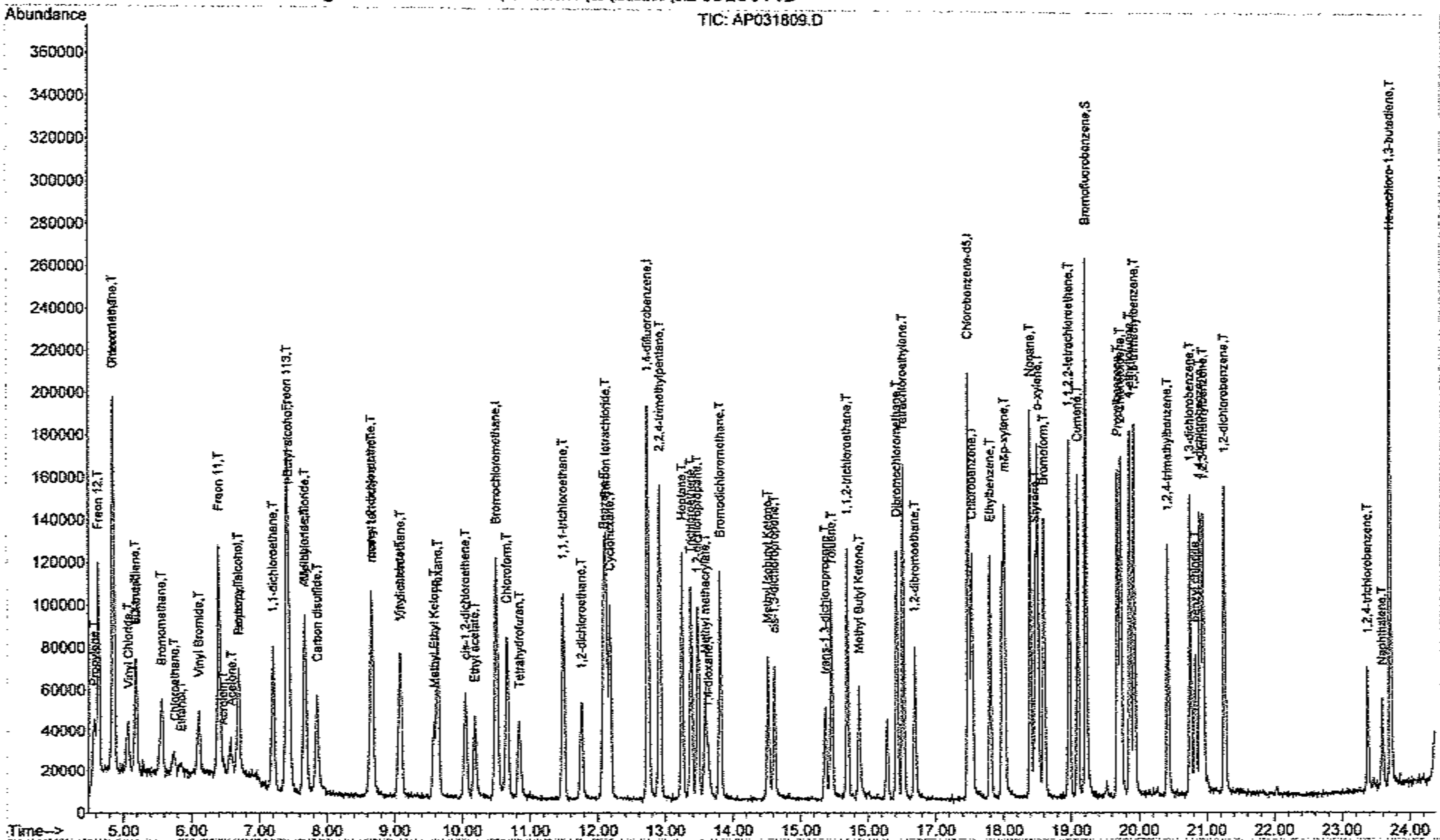
Quantitation Report (QT Reviewed)

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 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



AP031809.D A318_1UG.M Wed Mar 28 06:59:36 2018 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP031810.D Vial: 10
Acq On : 18 Mar 2018 9:42 pm Operator: RJP
Sample : A1UG_0.30 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 19 08:36:46 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	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	R.T.	QIon	Response	Conc Units		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 Vial: 10
Acq On : 18 Mar 2018 9:42 pm Operator: RJP
Sample : A1UG_0.30 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 19 08:36:46 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

	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 ß	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

Quantitation Report (QT Reviewed)

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Data File : C:\HPCHEM\1\DATA\AP031810.D                Vial: 10
Acq On    : 18 Mar 2018   9:42 pm                  Operator: RJP
Sample    : A1UG_0.30                              Inst    : MSD #1
Misc      : A318_1UG                               Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 19  8:44 2018             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
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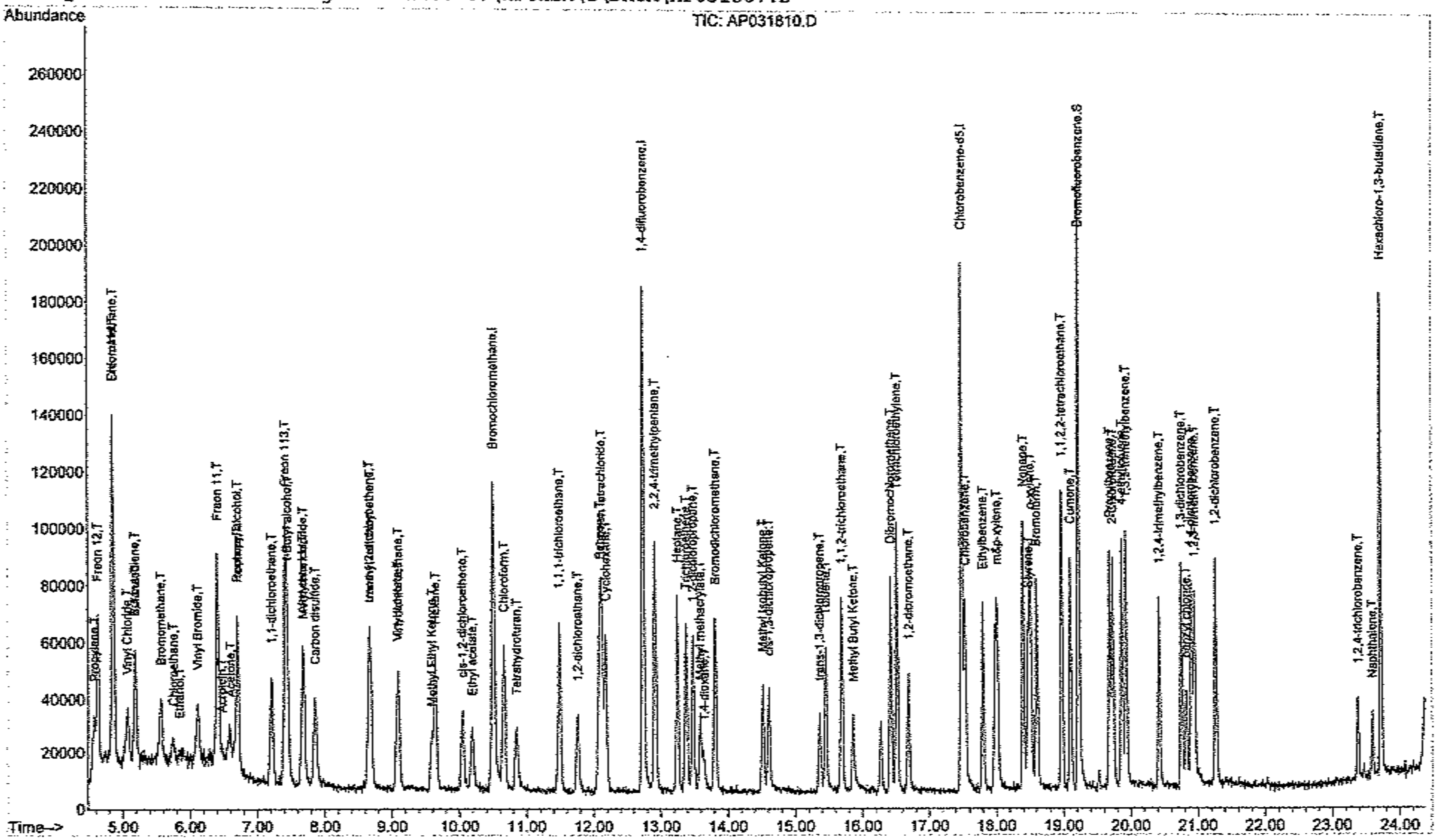


AP031810.D A318_1UG.M Wed Mar 28 06:59:39 2018 MSD1 Page 3

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 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

	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

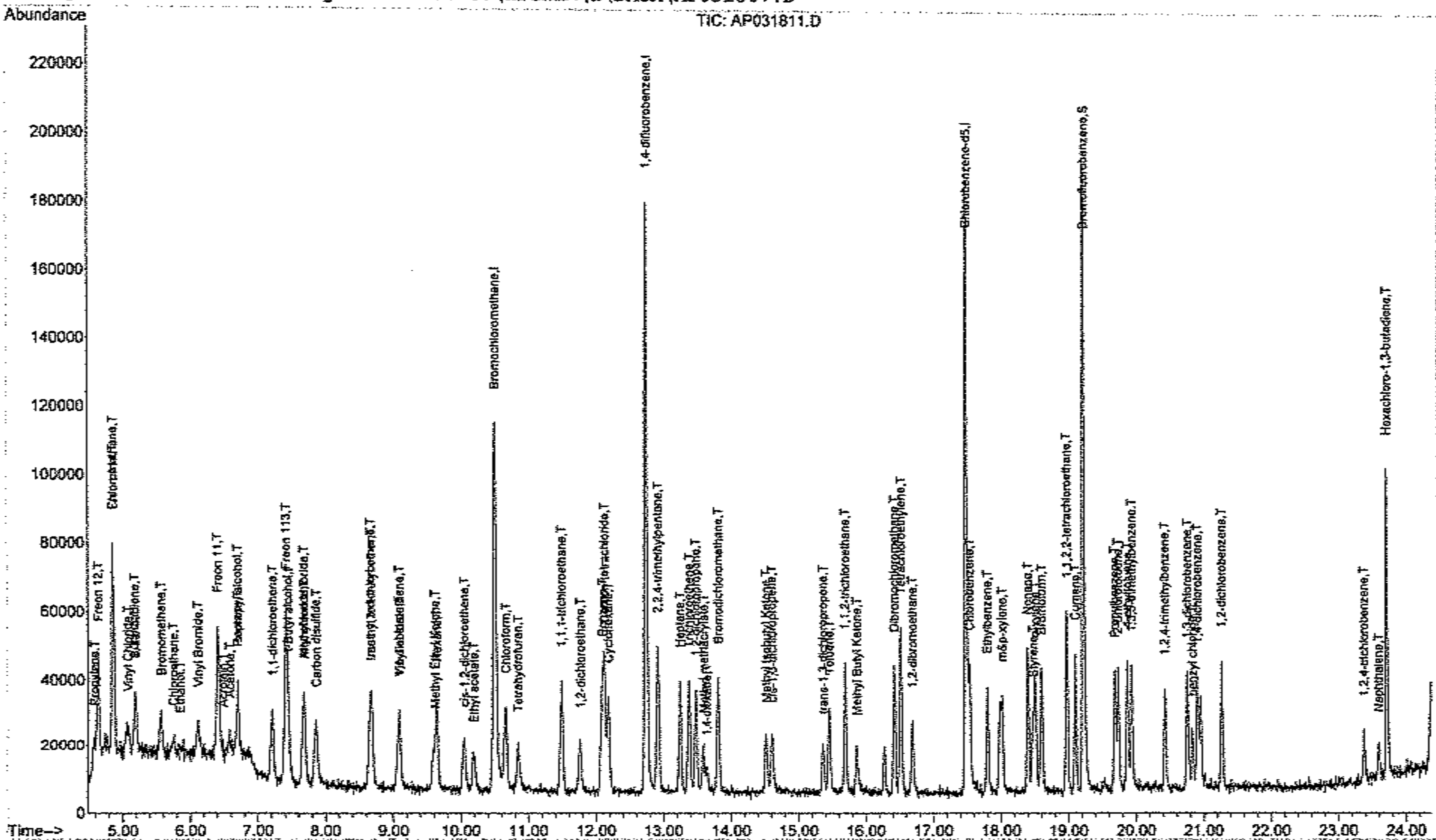
Quantitation Report (QT Reviewed)

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 (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



AP031811.D A318_1UG.M Wed Mar 28 06:59:42 2018 MSD1 Page 3

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

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  8:52 2018             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
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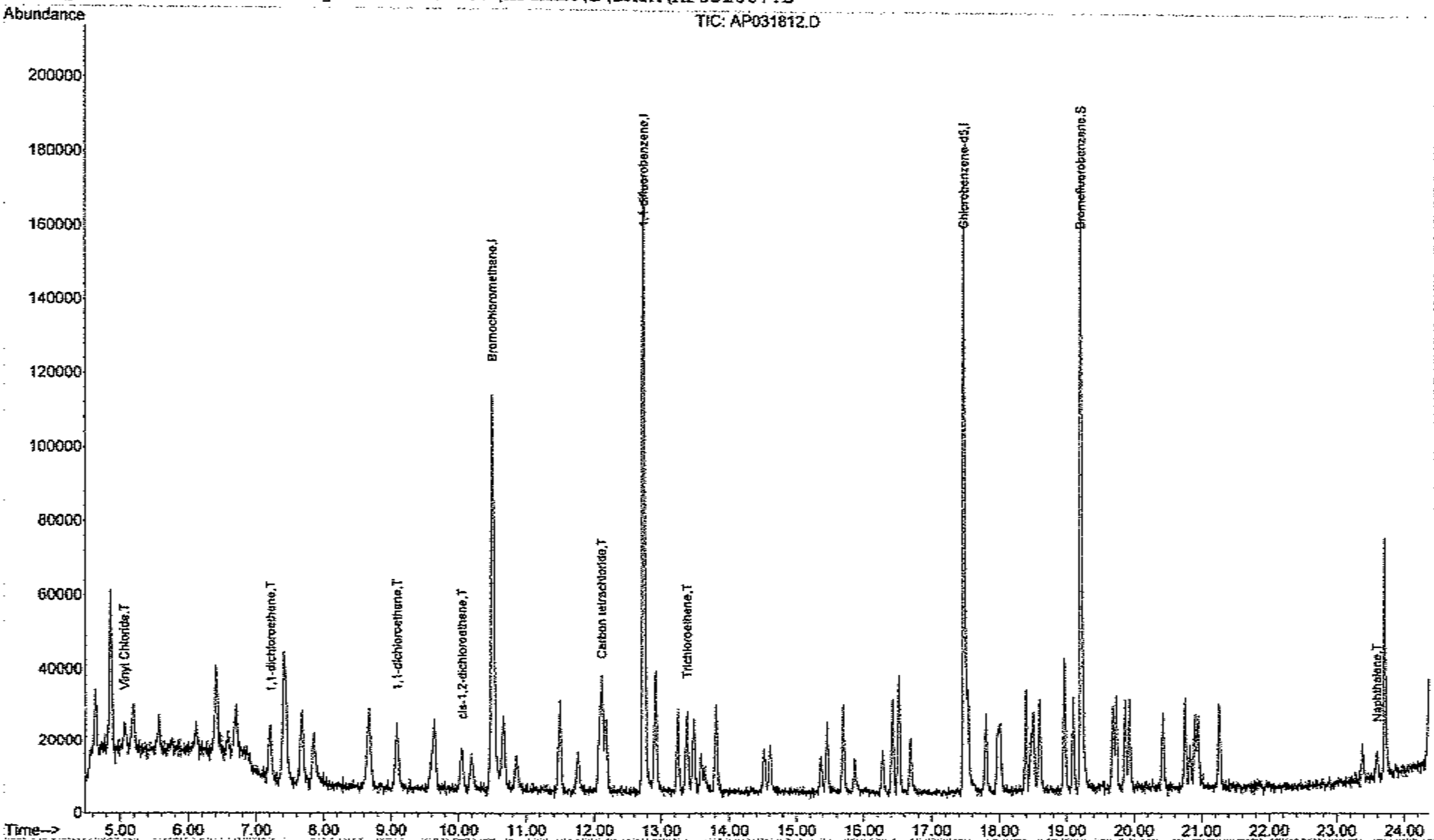


AP031812.D A318_1UG.M Wed Mar 28 06:59:46 2018 MSD1 Page 2

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						
65) Bromofluorobenzene	19.21	95	63362m	0.71	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	71.00%		
Target Compounds						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

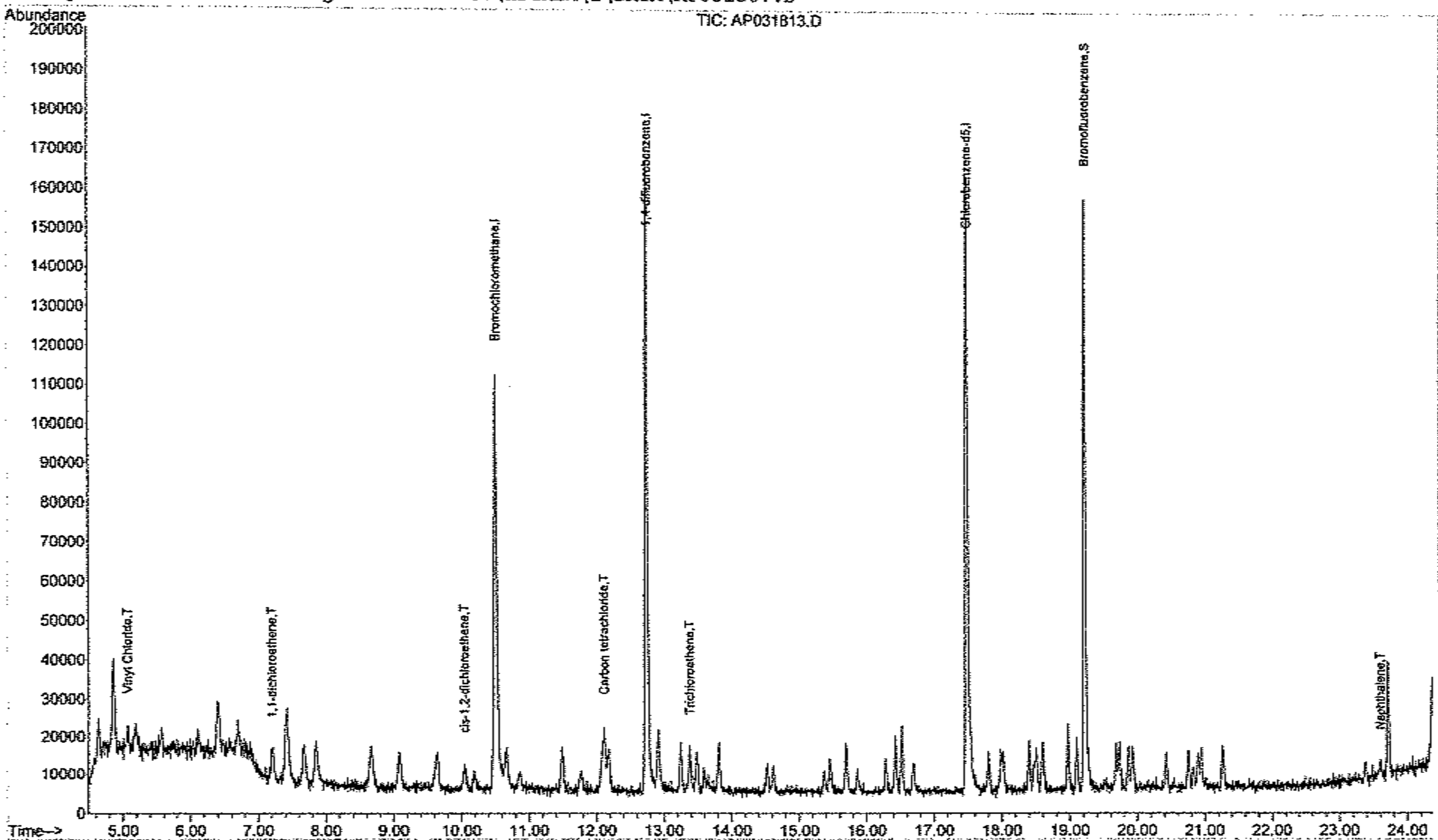
Quantitation Report (QT Reviewed)

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



AP031813.D A318_1UG.M Wed Mar 28 06:59:49 2018 MSD1 Page 2

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

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AP031814.D A318_1UG.M Wed Mar 28 06:59:51 2018 MSD1 Page 1

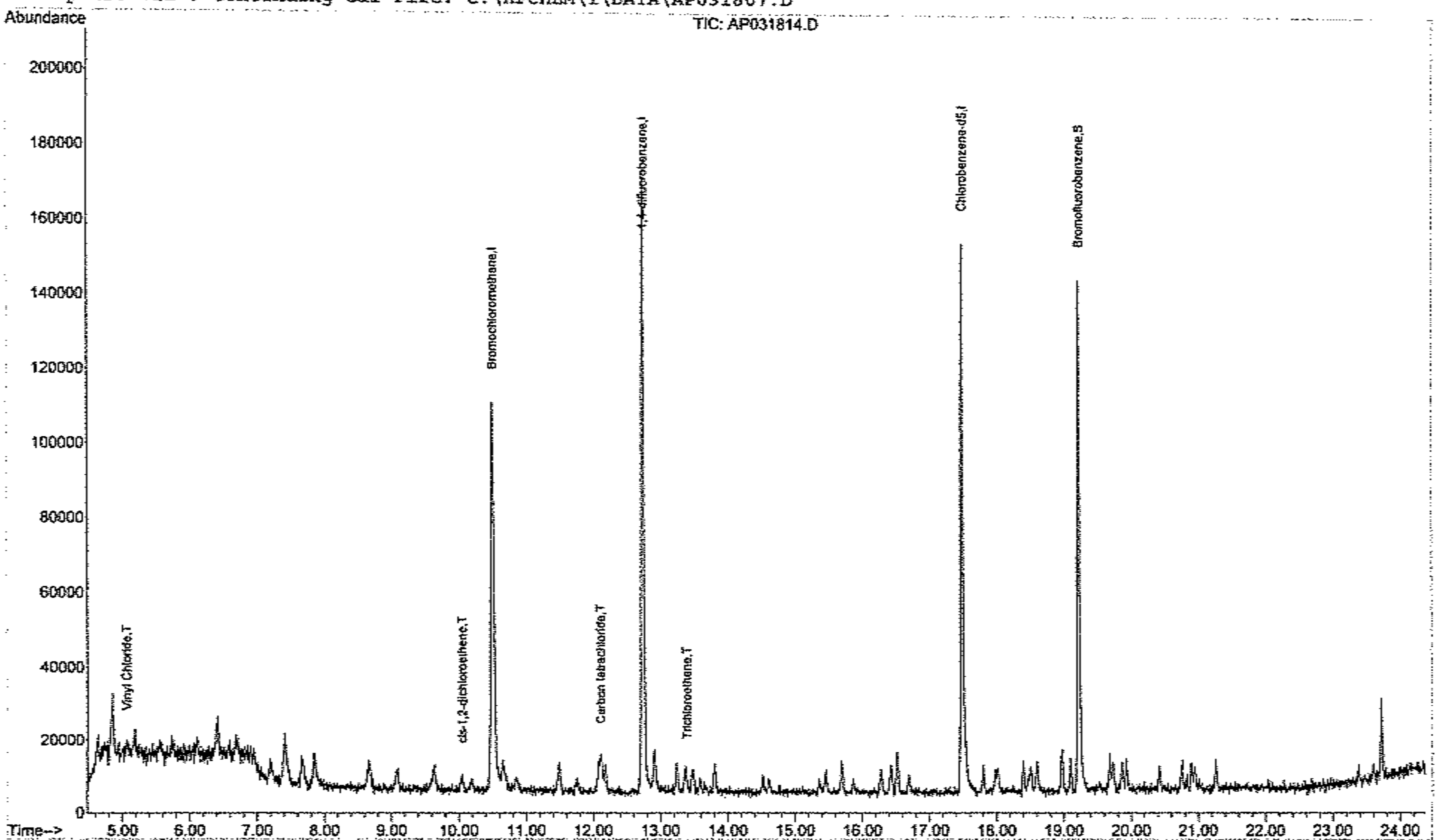
Quantitation Report (QT Reviewed)

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
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



AP031814.D A318_1UG.M Wed Mar 28 06:59:52 2018 MSD1 Page 2

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AP040602.D   Vial: 2
Acq On   : 6 Apr 2018 10:50 am   Operator: RJP
Sample   : A1UG_1.0   Inst   : MSD #1
Misc   : A318_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
Last Update   : Thu Apr 26 08:23:50 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	92	0.00
2	T	Propylene	1.300	1.324	-1.8	97	0.00
3	T	Freon 12	5.814	6.494	-11.7	105	0.00
4	T	Chloromethane	1.445	1.397	3.3	97	0.00
5	T	Freon 114	4.917	4.973	-1.1	97	0.00
6	T	Vinyl Chloride	1.350	1.216	9.9	93	0.00
7	T	Butane	1.563	1.580	-1.1	100	0.00
8	T	1,3-butadiene	1.030	1.001	2.8	96	0.00
9	T	Bromomethane	1.559	1.526	2.1	95	0.00
10	T	Chloroethane	0.522	0.518	0.8	97	0.00
11	T	Ethanol	0.341	0.289	15.2	83	0.00
12	T	Acrolein	0.329	0.303	7.9	94	0.00
13	T	Vinyl Bromide	1.447	1.392	3.8	93	0.00
14	T	Freon 11	5.991	5.920	1.2	95	0.00
15	T	Acetone	0.379	0.389	-2.6	97	0.00
16	T	Pentane	0.866	0.847	2.2	96	0.00
17	T	Isopropyl alcohol	1.399	1.095	21.7	85	0.00
18	T	1,1-dichloroethene	1.715	1.705	0.6	99	0.00
19	T	Freon 113	3.720	4.194	-12.7	103	0.00
20	t	t-Butyl alcohol	2.517	2.022	19.7	76	0.00
21	T	Methylene chloride	1.519	1.606	-5.7	103	0.00
22	T	Allyl chloride	1.828	1.624	11.2	80	0.00
23	T	Carbon disulfide	3.533	3.561	-0.8	98	0.00
24	T	trans-1,2-dichloroethene	1.967	1.932	1.8	90	0.00
25	T	methyl tert-butyl ether	3.255	2.819	13.4	81	0.00
26	T	1,1-dichloroethane	3.197	3.158	1.2	95	0.00
27	T	Vinyl acetate	2.877	2.544	11.6	79	0.00
28	T	Methyl Ethyl Ketone	0.646	0.632	2.2	92	0.00
29	T	cis-1,2-dichloroethene	2.054	1.900	7.5	91	0.00
30	T	Hexane	1.999	1.845	7.7	85	0.00
31	T	Ethyl acetate	3.018	2.818	6.6	86	0.00
32	T	Chloroform	3.756	3.898	-3.8	97	0.00
33	T	Tetrahydrofuran	1.414	1.252	11.5	82	0.00
34	T	1,2-dichloroethane	2.352	2.353	-0.0	93	0.00
35	I	1,4-difluorobenzene	1.000	1.000	0.0	82	0.00
36	T	1,1,1-trichloroethane	0.873	0.984	-12.7	95	0.00
37	T	Cyclohexane	0.461	0.490	-6.3	87	0.00
38	T	Carbon tetrachloride	1.033	1.110	-7.5	98	0.00
39	T	Benzene	1.059	1.191	-12.5	94	0.00
40	T	Methyl methacrylate	0.380	0.346	8.9	75	0.00
41	T	1,4-dioxane	0.200	0.188	6.0	76	0.00
42	T	2,2,4-trimethylpentane	1.523	1.625	-6.7	87	0.00
43	T	Heptane	0.524	0.532	-1.5	82	0.00
44	T	Trichloroethene	0.489	0.540	-10.4	97	0.00
45	T	1,2-dichloropropane	0.442	0.500	-13.1	97	0.00
46	T	Bromodichloromethane	0.930	1.063	-14.3	95	0.00
47	T	cis-1,3-dichloropropene	0.511	0.527	-3.1	83	0.00
48	T	trans-1,3-dichloropropene	0.363	0.373	-2.8	83	0.00
49	T	1,1,2-trichloroethane	0.471	0.554	-17.6	100	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AP040602.D Vial: 2
Acq On : 6 Apr 2018 10:50 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A318_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
Last Update : Thu Apr 26 08:23:50 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	0.823	-10.8	86	0.00
52	T	Methyl Isobutyl Ketone	0.827	0.641	22.5	60	0.00
53	T	Dibromochloromethane	1.125	1.337	-18.8	96	0.00
54	T	Methyl Butyl Ketone	0.715	0.517	27.7	56	0.00
55	T	1,2-dibromoethane	0.848	1.006	-18.6	93	0.00
56	T	Tetrachloroethylene	0.607	0.718	-18.3	98	0.00
57	T	Chlorobenzene	1.124	1.219	-8.5	85	0.00
58	T	Ethylbenzene	1.526	1.555	-1.9	79	0.00
59	T	m&p-xylene	1.329	1.530	-15.1	83	0.00
60	T	Nonane	0.958	1.056	-10.2	80	0.00
61	T	Styrene	1.072	1.320	-23.1	90	0.00
62	T	Bromoform	1.060	1.360	-28.3	101	0.00
63	T	o-xylene	1.621	2.087	-28.7	95	0.00
64	T	Cumene	1.711	1.863	-8.9	83	0.00
65	S	Bromofluorobenzene	0.690	0.826	-19.7	84	0.00
66	T	1,1,2,2-tetrachloroethane	1.459	1.789	-22.6	99	0.00
67	T	Propylbenzene	0.469	0.521	-11.1	85	0.00
68	T	2-Chlorotoluene	0.557	0.693	-24.4	93	0.00
69	T	4-ethyltoluene	1.911	2.260	-18.3	87	0.00
70	T	1,3,5-trimethylbenzene	1.693	2.129	-25.8	91	0.00
71	T	1,2,4-trimethylbenzene	1.311	1.336	-1.9	78	0.00
72	T	1,3-dichlorobenzene	1.113	1.350	-21.3	92	0.00
73	T	benzyl chloride	0.897	1.066	-18.8	92	0.00
74	T	1,4-dichlorobenzene	1.073	1.329	-23.9	93	0.00
75	T	1,2,3-trimethylbenzene	1.449	1.713	-18.2	85	0.00
76	T	1,2-dichlorobenzene	1.090	1.326	-21.7	93	0.00
77	T	1,2,4-trichlorobenzene	0.340	0.375	-10.3	84	0.00
78	T	Naphthalene	0.646	0.617	4.5	70	0.00
79	T	Hexachloro-1,3-butadiene	0.885	1.079	-21.9	98	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040602.D Vial: 2
Acq On : 6 Apr 2018 10:50 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 15:00:27 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 Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane	10.51	128	45520	1.00 ppb		0.00
35) 1,4-difluorobenzene	12.74	114	167591	1.00 ppb		0.00
50) Chlorobenzene-d5	17.49	117	122040	1.00 ppb		0.00
System Monitoring Compounds						
65) Bromofluorobenzene	19.22	95	100808	1.20 ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 120.00%		
Target Compounds						Qvalue
2) Propylene	4.57	41	60246	1.02 ppb		97
3) Freon 12	4.63	85	295619	1.12 ppb		99
4) Chloromethane	4.85	50	63581	0.97 ppb		82
5) Freon 114	4.86	85	226383	1.01 ppb		97
6) Vinyl Chloride	5.07	62	55362	0.90 ppb		96
7) Butane	5.18	43	71904	1.01 ppb		99
8) 1,3-butadiene	5.19	39	45582	0.97 ppb		99
9) Bromomethane	5.57	94	69454	0.98 ppb		96
10) Chloroethane	5.75	64	23583	0.99 ppb		100
11) Ethanol	5.84	45	13140	0.85 ppb		95
12) Acrolein	6.47	56	13814	0.92 ppb		97
13) Vinyl Bromide	6.11	106	63384	0.96 ppb		98
14) Freon 11	6.41	101	269456	0.99 ppb		100
15) Acetone	6.58	58	17689	1.03 ppb	#	81
16) Pentane	6.70	42	38537	0.98 ppb		96
17) Isopropyl alcohol	6.69	45	49853	0.78 ppb		91
18) 1,1-dichloroethene	7.21	96	77598	0.99 ppb		90
19) Freon 113	7.41	101	190930	1.13 ppb		90
20) t-Butyl alcohol	7.45	59	92027	0.80 ppb	#	83
21) Methylene chloride	7.69	84	73118	1.06 ppb	#	83
22) Allyl chloride	7.67	41	73926	0.89 ppb		91
23) Carbon disulfide	7.86	76	162083	1.01 ppb		95
24) trans-1,2-dichloroethene	8.66	61	87928	0.98 ppb		92
25) methyl tert-butyl ether	8.68	73	128337	0.87 ppb		79
26) 1,1-dichloroethane	9.09	63	143744	0.99 ppb		100
27) Vinyl acetate	9.07	43	115786	0.88 ppb		94
28) Methyl Ethyl Ketone	9.59	72	28775	0.98 ppb	#	100
29) cis-1,2-dichloroethene	10.05	61	86509	0.93 ppb		92
30) Hexane	9.64	57	84000	0.92 ppb		94
31) Ethyl acetate	10.19	43	128293	0.93 ppb		99
32) Chloroform	10.67	83	177458	1.04 ppb		100
33) Tetrahydrofuran	10.84	42	57003	0.89 ppb		83
34) 1,2-dichloroethane	11.77	62	107123	1.00 ppb		100
36) 1,1,1-trichloroethane	11.50	97	164983	1.13 ppb		99
37) Cyclohexane	12.18	56	82085	1.06 ppb		88
38) Carbon tetrachloride	12.12	117	185953	1.07 ppb		99
39) Benzene	12.09	78	199534	1.12 ppb		98
40) Methyl methacrylate	13.59	41	58038	0.91 ppb	#	93
41) 1,4-dioxane	13.63	88	31446	0.94 ppb		88
42) 2,2,4-trimethylpentane	12.92	57	272307	1.07 ppb		94
43) Heptane	13.25	43	89084	1.01 ppb		90
44) Trichloroethene	13.38	130	90543	1.10 ppb		96
45) 1,2-dichloropropane	13.48	63	83733	1.13 ppb		98

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040602.D Vial: 2
Acq On : 6 Apr 2018 10:50 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 06 15:00:27 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 Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.81	83	178085	1.14 ppb	99
47)	cis-1,3-dichloropropene	14.62	75	88353	1.03 ppb	96
48)	trans-1,3-dichloropropene	15.37	75	62459	1.03 ppb	99
49)	1,1,2-trichloroethane	15.70	97	92844	1.18 ppb	99
51)	Toluene	15.46	92	100390	1.11 ppb	99
52)	Methyl Isobutyl Ketone	14.52	43	78216	0.77 ppb	90
53)	Dibromochloromethane	16.43	129	163227	1.19 ppb	99
54)	Methyl Butyl Ketone	15.87	43	63132	0.72 ppb	89
55)	1,2-dibromoethane	16.69	107	122807	1.19 ppb	96
56)	Tetrachloroethylene	16.52	164	87648	1.18 ppb	100
57)	Chlorobenzene	17.54	112	148784	1.09 ppb	94
58)	Ethylbenzene	17.81	91	189714	1.02 ppb	100
59)	m&p-xylene	18.02	91	373559	2.30 ppb	100
60)	Nonane	18.41	43	128868	1.10 ppb	86
61)	Styrene	18.48	104	161109	1.23 ppb	100
62)	Bromoform	18.60	173	165916	1.28 ppb	100
63)	o-xylene	18.51	91	254663	1.29 ppb	100
64)	Cumene	19.11	105	227374	1.09 ppb	99
66)	1,1,2,2-tetrachloroethane	18.97	83	218334	1.23 ppb	99
67)	Propylbenzene	19.69	120	63639	1.11 ppb	86
68)	2-Chlorotoluene	19.74	126	84573	1.24 ppb	99
69)	4-ethyltoluene	19.87	105	275825	1.18 ppb	99
70)	1,3,5-trimethylbenzene	19.93	105	259808	1.26 ppb	98
71)	1,2,4-trimethylbenzene	20.43	105	163014	1.02 ppb	97
72)	1,3-dichlorobenzene	20.76	146	164745	1.21 ppb	99
73)	benzyl chloride	20.83	91	130062	1.19 ppb	99
74)	1,4-dichlorobenzene	20.90	146	162239	1.24 ppb	98
75)	1,2,3-trimethylbenzene	20.95	105	209030	1.18 ppb	99
76)	1,2-dichlorobenzene	21.27	146	161857	1.22 ppb	98
77)	1,2,4-trichlorobenzene	23.38	180	45708	1.10 ppb	96
78)	Naphthalene	23.60	128	75258	0.95 ppb	98
79)	Hexachloro-1,3-butadiene	23.72	225	131666	1.22 ppb	100

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

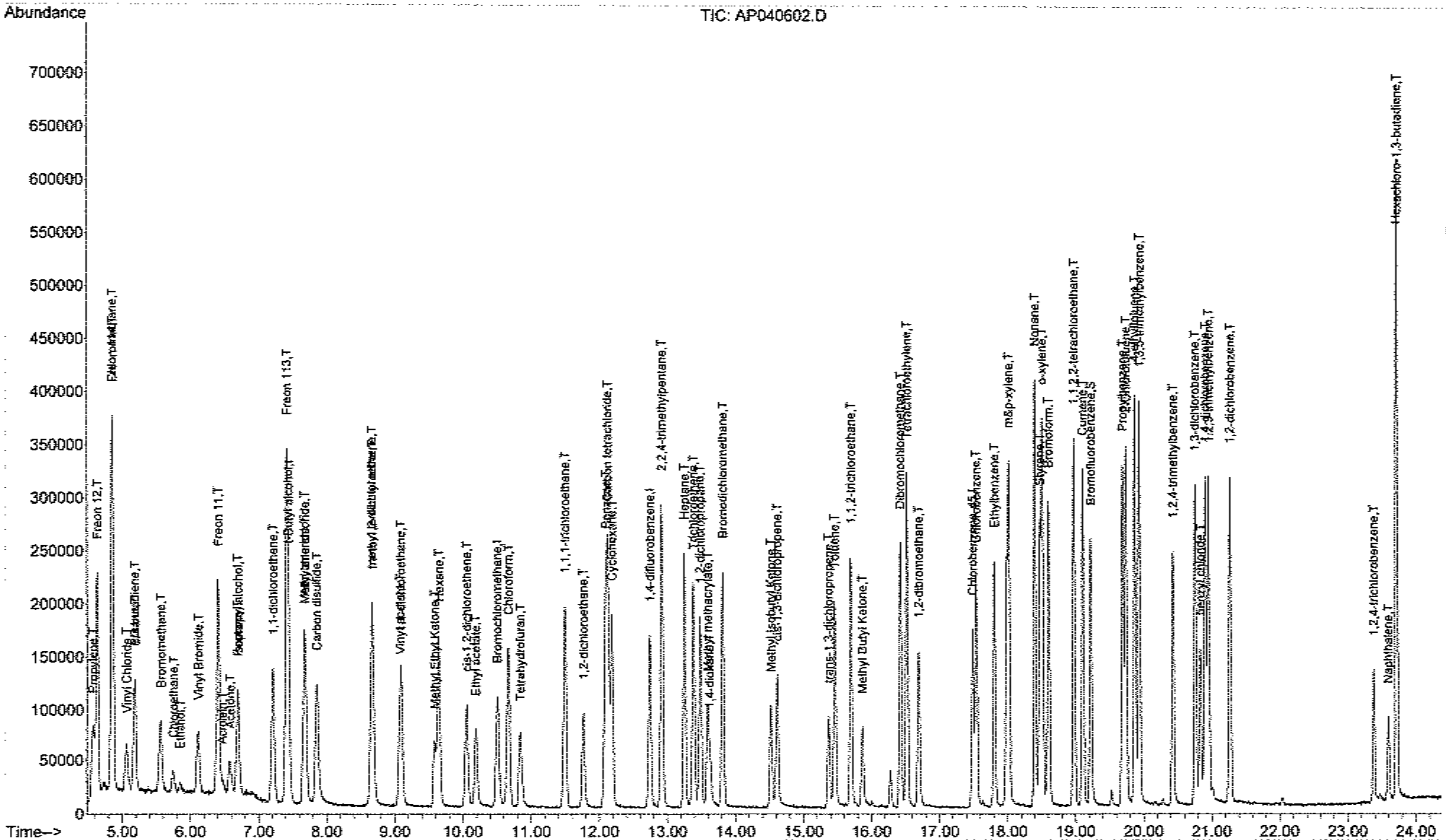
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040602.D
Acq On : 6 Apr 2018 10:50 am
Sample : A1UG_1.0
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 6 15:00 2018

Vial: 2
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 : Thu Apr 26 08:23:50 2018
Response via : Initial Calibration



GC/MS VOLATILES-WHOLE AIR

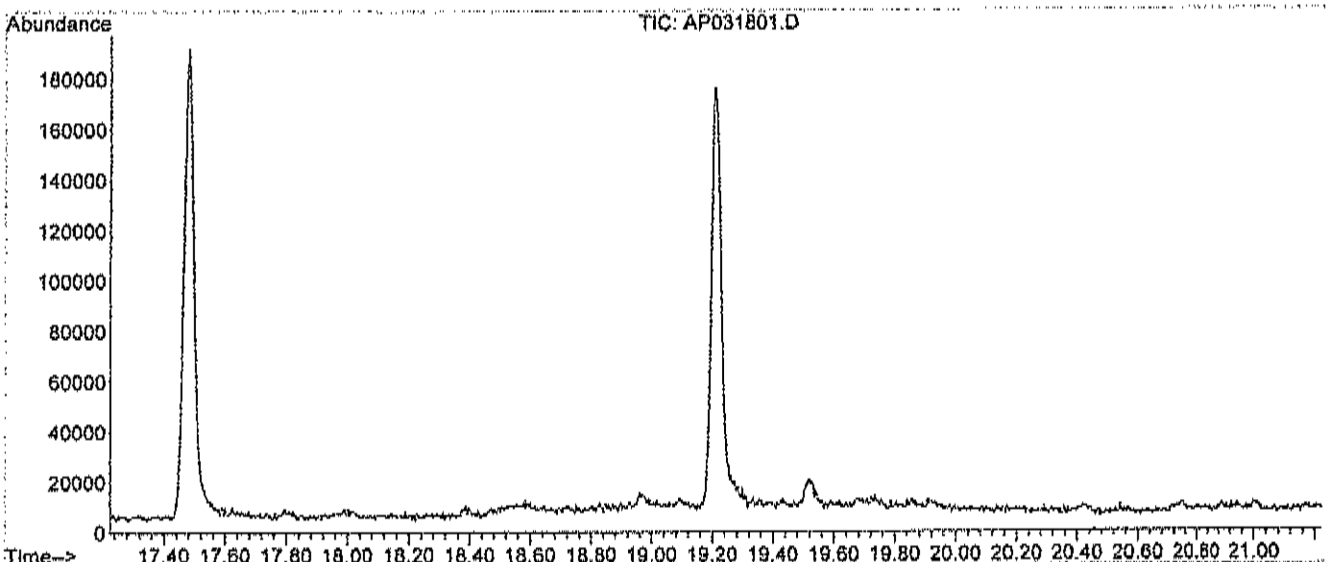
METHOD TO-15

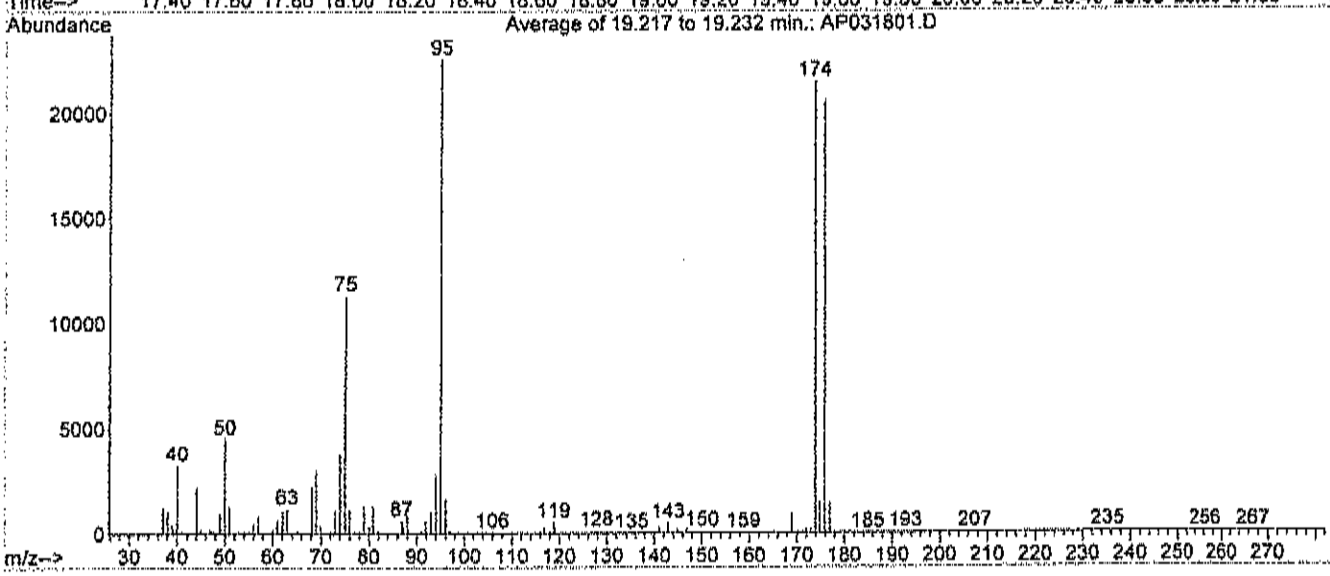
RAW DATA

BFB

Data File : C:\HPCHEM\1\DATA\AP031801.D
Acq On : 18 Mar 2018 2:19 pm
Sample : BFB1UG
Misc : A301_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





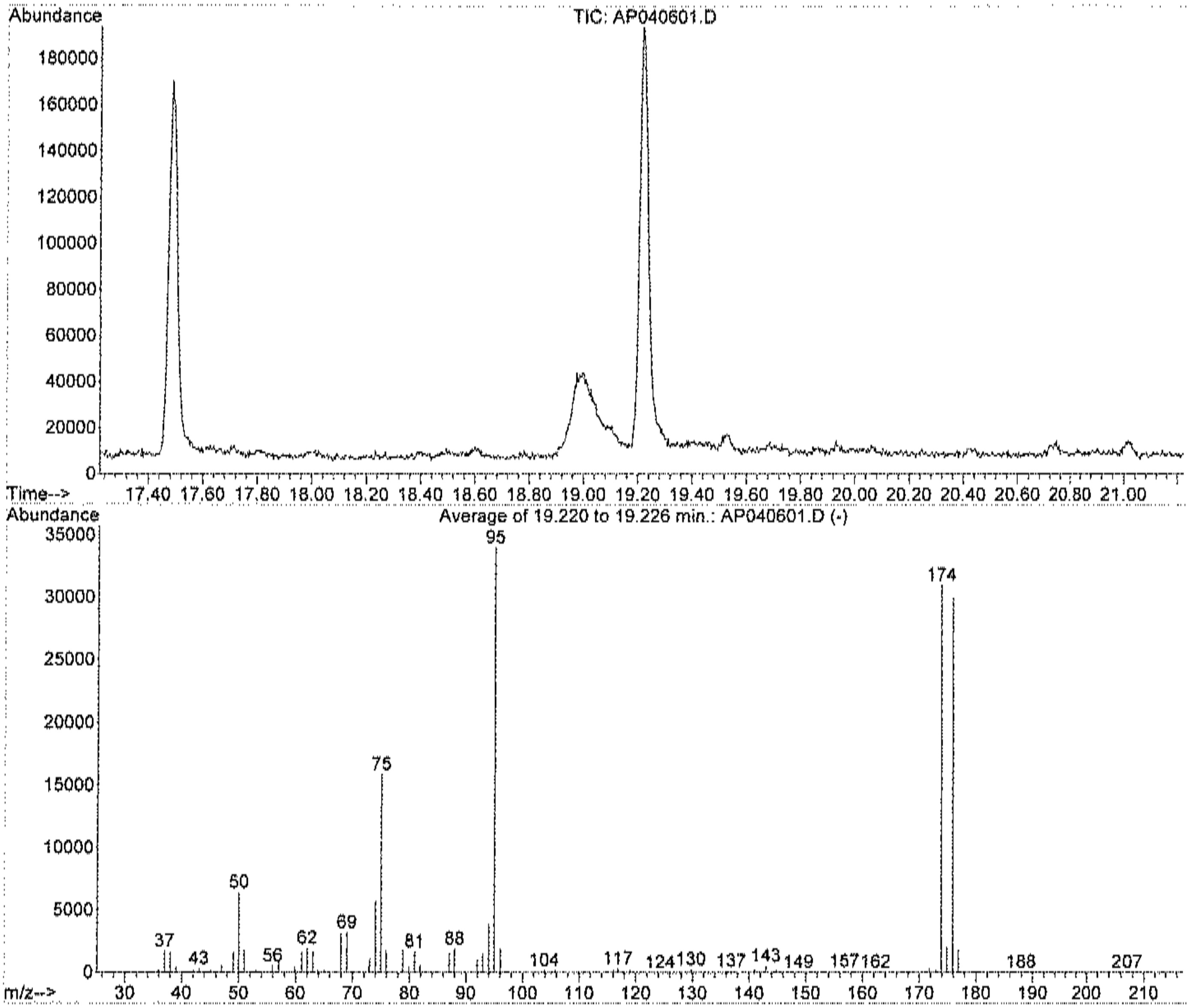
Spectrum Information: Average of 19.217 to 19.232 min.

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

AP031801.D A318_1UG.M Wed Mar 28 06:58:25 2018 MSD1

BFB

```
Data File : C:\HPCHEM\1\DATA\AP040601.D                        Vial: 1
Acq On    :  6 Apr 2018   8:48 am                          Operator: RJP
Sample    : BFB1UG                                         Inst     : MSD #1
Misc      : A318_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 19.220 to 19.226 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.9	6436	PASS
75	95	30	66	46.8	15906	PASS
95	95	100	100	100.0	34023	PASS
96	95	5	9	5.7	1952	PASS
173	174	0.00	2	0.8	258	PASS
174	95	50	120	91.1	31010	PASS
175	174	4	9	6.8	2112	PASS
176	174	95	101	96.7	29997	PASS
177	176	5	9	6.1	1826	PASS

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW QC DATA

CENTEK LABORATORIES, LLC

Date: *26-Apr-18*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **AMB1UG-040618** SampType: **MBLK** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156463**

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									

Qualifiers:

.	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
S	Spike Recovery outside accepted recovery limits	H	Holding times for preparation or analysis exceeded
		R	RPD outside accepted recovery limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040604.D   Vial: 4
Acq On : 6 Apr 2018 12:06 pm   Operator: RJP
Sample : AMB1UG-040618   Inst : MSD #1
Misc : A318_1UG   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 09 11:04:15 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	10.52	128	43238	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.74	114	148450	1.00	ppb	0.00
50) Chlorobenzene-d5	17.49	117	96685	1.00	ppb	0.00
System Monitoring Compounds						
65) Bromofluorobenzene	19.22	95	47225m	0.71	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 71.00%			

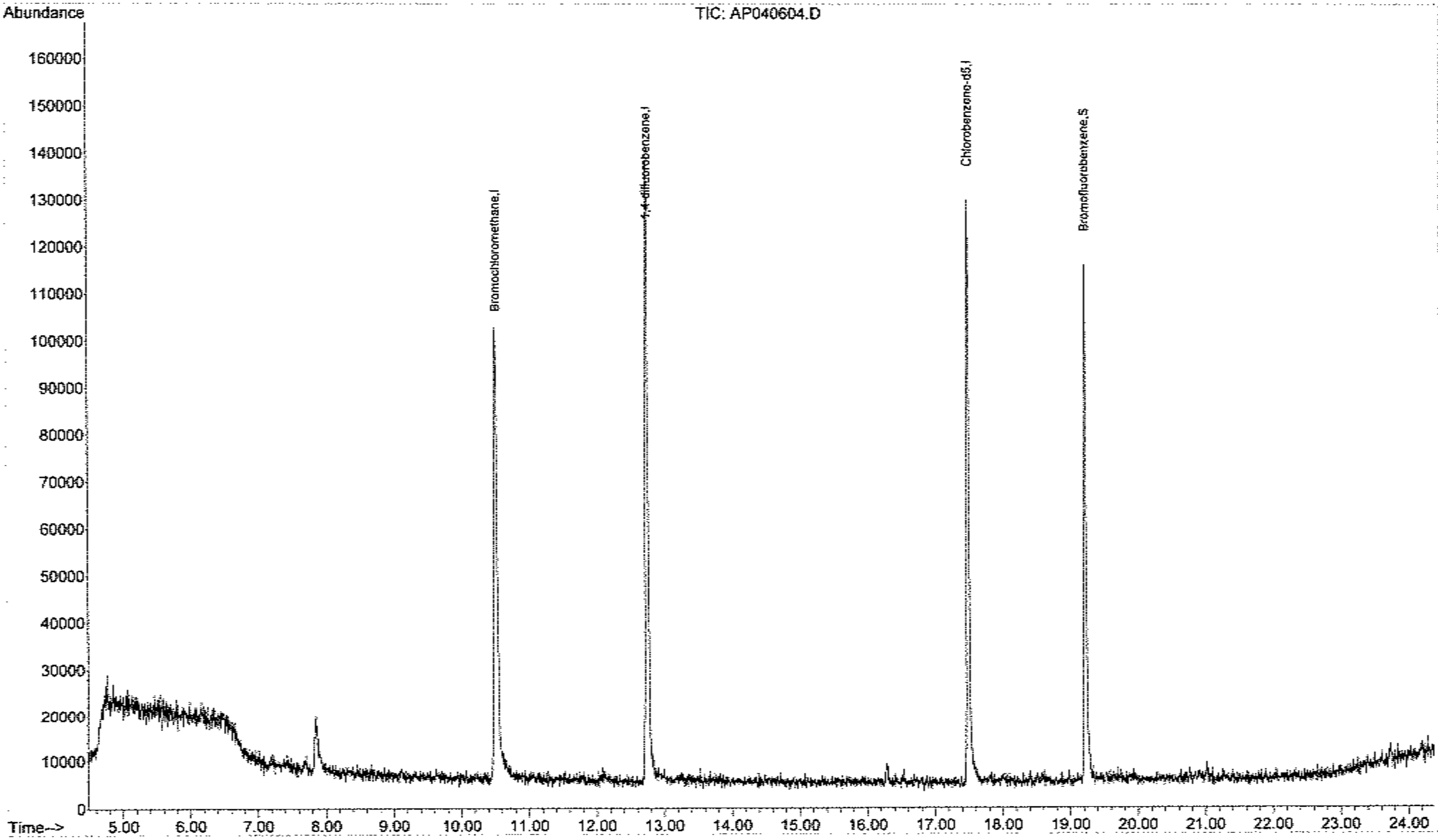
Target Compounds   Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AP040604.D A318_1UG.M Thu Apr 26 08:29:21 2018 MSD1   Page 1

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AP040604.D                    Vial: 4
Acq On    :  6 Apr 2018  12:06 pm                      Operator: RJP
Sample    : AMB1UG-040618                              Inst    : MSD #1
Misc      : A318_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  9 11:05 2018             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    : Thu Apr 26 08:23:50 2018
Response via   : Initial Calibration
```



AP040604.D A318_1UG.M Thu Apr 26 08:29:22 2018 MSD1 Page 2

CENTEK LABORATORIES, LLC

Date: *26-Apr-18*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **ALCS1UG-040618** SampType: **LCS** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156464**

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	116	70	130				
1,1-Dichloroethane	0.9900	0.15	1	0	99.0	70	130				
1,1-Dichloroethene	1.010	0.040	1	0	101	70	130				
Chloroethane	1.000	0.15	1	0	100	70	130				
Chloromethane	0.9800	0.15	1	0	98.0	70	130				
cis-1,2-Dichloroethene	0.9100	0.040	1	0	91.0	70	130				
Tetrachloroethylene	1.190	0.15	1	0	119	70	130				
trans-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
Trichloroethene	1.130	0.030	1	0	113	70	130				
Vinyl chloride	0.9200	0.040	1	0	92.0	70	130				

Sample ID: **ALCS1UGD-040618** SampType: **LCSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.210	0.15	1	0	121	70	130	1.16	4.22	30	
1,1-Dichloroethane	1.050	0.15	1	0	105	70	130	0.99	5.88	30	
1,1-Dichloroethene	1.100	0.040	1	0	110	70	130	1.01	8.53	30	
Chloroethane	0.9900	0.15	1	0	99.0	70	130	1	1.01	30	
Chloromethane	1.030	0.15	1	0	103	70	130	0.98	4.98	30	
cis-1,2-Dichloroethene	0.9500	0.040	1	0	95.0	70	130	0.91	4.30	30	
Tetrachloroethylene	1.250	0.15	1	0	125	70	130	1.19	4.92	30	
trans-1,2-Dichloroethene	1.070	0.15	1	0	107	70	130	0.99	7.77	30	
Trichloroethene	1.190	0.030	1	0	119	70	130	1.13	5.17	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: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: ALCS1UGD-040618	SampType: LCSD	TestCode: 0.20_NYS	Units: ppbV	Prep Date:	RunNo: 13501
Client ID: ZZZZZ	Batch ID: R13501	TestNo: TO-15		Analysis Date: 4/6/2018	SeqNo: 156465

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.9400	0.040	1	0	94.0	70	130	0.92	2.15	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				

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040603.D Vial: 3
Acq On : 6 Apr 2018 11:30 am Operator: RJP
Sample : ALCS1UG-040618 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 09 11:04:07 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	10.51	128	46264	1.00 ppb		0.01
35) 1,4-difluorobenzene	12.74	114	164874	1.00 ppb		0.00
50) Chlorobenzene-d5	17.49	117	122799	1.00 ppb		0.00
System Monitoring Compounds						
65) Bromofluorobenzene	19.22	95	99739	1.18 ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	118.00%		
Target Compounds						**Qvalue**
2) Propylene	4.57	41	62543	1.04 ppb		95
3) Freon 12	4.63	85	297901	1.11 ppb		99
4) Chloromethane	4.85	50	65684	0.98 ppb		98
5) Freon 114	4.85	85	229972	1.01 ppb		97
6) Vinyl Chloride	5.07	62	57532	0.92 ppb		98
7) Butane	5.18	43	73265	1.01 ppb		99
8) 1,3-butadiene	5.18	39	45778	0.96 ppb		96
9) Bromomethane	5.56	94	73059	1.01 ppb		98
10) Chloroethane	5.75	64	24165	1.00 ppb	#	79
11) Ethanol	5.85	45	12619	0.80 ppb	#	78
12) Acrolein	6.47	56	12949	0.85 ppb		77
13) Vinyl Bromide	6.11	106	67054	1.00 ppb		100
14) Freon 11	6.41	101	273169	0.99 ppb		100
15) Acetone	6.58	58	17937	1.02 ppb	#	80
16) Pentane	6.69	42	37997	0.95 ppb		98
17) Isopropyl alcohol	6.69	45	49793	0.77 ppb		90
18) 1,1-dichloroethene	7.21	96	80478	1.01 ppb		90
19) Freon 113	7.41	101	198495	1.15 ppb		88
20) t-Butyl alcohol	7.44	59	96709	0.83 ppb	#	82
21) Methylene chloride	7.68	84	76135	1.08 ppb	#	88
22) Allyl chloride	7.67	41	75290	0.89 ppb		91
23) Carbon disulfide	7.86	76	164562	1.01 ppb		97
24) trans-1,2-dichloroethene	8.66	61	90039	0.99 ppb		94
25) methyl tert-butyl ether	8.68	73	133433	0.89 ppb		77
26) 1,1-dichloroethane	9.09	63	146223	0.99 ppb		100
27) Vinyl acetate	9.07	43	114846	0.86 ppb		96
28) Methyl Ethyl Ketone	9.58	72	27663	0.92 ppb	#	100
29) cis-1,2-dichloroethene	10.05	61	86340	0.91 ppb		93
30) Hexane	9.65	57	85406	0.92 ppb		95
31) Ethyl acetate	10.18	43	125446	0.90 ppb		98
32) Chloroform	10.66	83	183008	1.05 ppb		99
33) Tetrahydrofuran	10.84	42	54993	0.84 ppb		85
34) 1,2-dichloroethane	11.76	62	108313	1.00 ppb		100
36) 1,1,1-trichloroethane	11.49	97	166920	1.16 ppb		98
37) Cyclohexane	12.18	56	82688	1.09 ppb		88
38) Carbon tetrachloride	12.12	117	186732	1.10 ppb		99
39) Benzene	12.09	78	202611	1.16 ppb		99
40) Methyl methacrylate	13.59	41	63464	1.01 ppb	#	88
41) 1,4-dioxane	13.62	88	32025	0.97 ppb		83
42) 2,2,4-trimethylpentane	12.92	57	273923	1.09 ppb		94
43) Heptane	13.25	43	90294	1.05 ppb		91
44) Trichloroethene	13.38	130	91180	1.13 ppb		95
45) 1,2-dichloropropane	13.48	63	83366	1.14 ppb		99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040603.D Vial: 3
Acq On : 6 Apr 2018 11:30 am Operator: RJP
Sample : ALCS1UG-040618 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 09 11:04:07 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	13.81	83	179453	1.17	ppb	98
47)	cis-1,3-dichloropropene	14.61	75	90252	1.07	ppb	97
48)	trans-1,3-dichloropropene	15.37	75	60303	1.01	ppb	97
49)	1,1,2-trichloroethane	15.70	97	96108	1.24	ppb	98
51)	Toluene	15.46	92	101782	1.12	ppb	97
52)	Methyl Isobutyl Ketone	14.52	43	87242	0.86	ppb	90
53)	Dibromochloromethane	16.43	129	164847	1.19	ppb	99
54)	Methyl Butyl Ketone	15.87	43	74332	0.85	ppb	92
55)	1,2-dibromoethane	16.69	107	123277	1.18	ppb	99
56)	Tetrachloroethylene	16.52	164	88713	1.19	ppb	98
57)	Chlorobenzene	17.54	112	151963	1.10	ppb	96
58)	Ethylbenzene	17.81	91	192990	1.03	ppb	99
59)	m&p-xylene	18.02	91	384189	2.35	ppb	100
60)	Nonane	18.41	43	132377	1.12	ppb	86
61)	Styrene	18.48	104	164749	1.25	ppb	99
62)	Bromoform	18.60	173	169496	1.30	ppb	99
63)	o-xylene	18.51	91	257196	1.29	ppb	98
64)	Cumene	19.10	105	233115	1.11	ppb	100
66)	1,1,2,2-tetrachloroethane	18.98	83	224049	1.25	ppb	99
67)	Propylbenzene	19.69	120	64581	1.12	ppb	90
68)	2-Chlorotoluene	19.73	126	88369	1.29	ppb	95
69)	4-ethyltoluene	19.87	105	277555	1.18	ppb	98
70)	1,3,5-trimethylbenzene	19.93	105	264040	1.27	ppb	99
71)	1,2,4-trimethylbenzene	20.43	105	166593	1.03	ppb	98
72)	1,3-dichlorobenzene	20.76	146	169450	1.24	ppb	99
73)	benzyl chloride	20.83	91	134586	1.22	ppb	97
74)	1,4-dichlorobenzene	20.90	146	167726	1.27	ppb	99
75)	1,2,3-trimethylbenzene	20.95	105	215677	1.21	ppb	99
76)	1,2-dichlorobenzene	21.27	146	165302	1.23	ppb	99
77)	1,2,4-trichlorobenzene	23.38	180	46955	1.13	ppb	98
78)	Naphthalene	23.59	128	81886	1.03	ppb	98
79)	Hexachloro-1,3-butadiene	23.72	225	131936	1.21	ppb	99

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

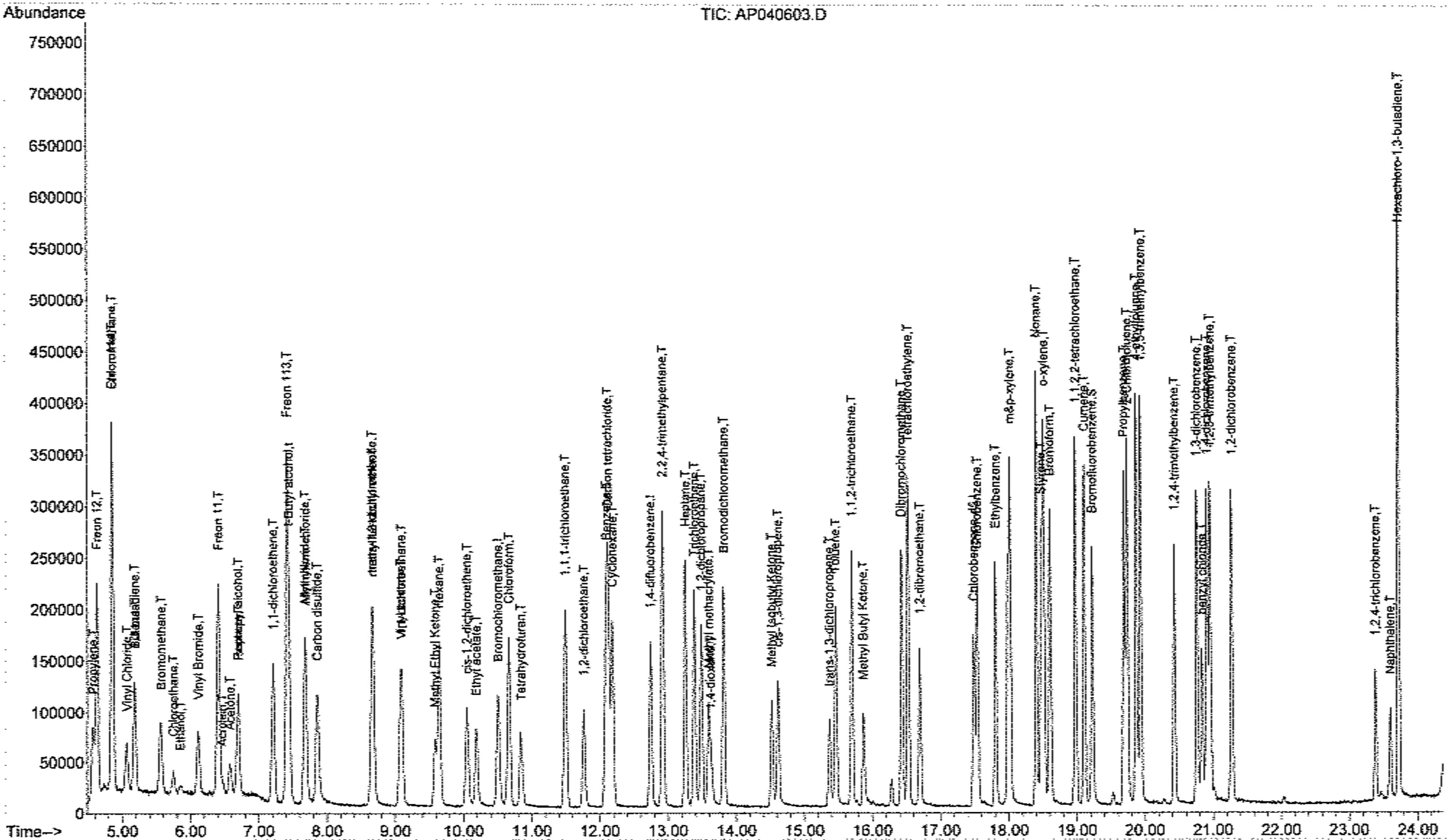
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040603.D
Acq On : 6 Apr 2018 11:30 am
Sample : ALCS1UG-040618
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 9 11:04 2018

Vial: 3
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 : Thu Apr 26 08:23:50 2018
Response via : Initial Calibration



AP040603.D A318_1UG.M Thu Apr 26 08:29:18 2018 MSD1 Page 3

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AP040621.D                 Vial: 9
Acq On    :  6 Apr 2018  11:35 pm                   Operator: RJP
Sample    : ALCS1UGD-040618                         Inst    : MSD #1
Misc      : A318_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 07 07:23:15 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 Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN
```

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.51	128	40232	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.74	114	143111	1.00 ppb	0.00
50) Chlorobenzene-d5	17.49	117	105966	1.00 ppb	0.00

System Monitoring Compounds

	R.T.	QIon	Response	Conc Units	Dev(Min)
65) Bromofluorobenzene	19.22	95	87675	1.20 ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 120.00%

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.57	41	50831	0.97 ppb		98
3) Freon 12	4.63	85	273196	1.17 ppb		99
4) Chloromethane	4.85	50	59983	1.03 ppb		100
5) Freon 114	4.85	85	209878	1.06 ppb		97
6) Vinyl Chloride	5.06	62	50865	0.94 ppb		98
7) Butane	5.18	43	65120	1.04 ppb		97
8) 1,3-butadiene	5.19	39	43305	1.04 ppb		96
9) Bromomethane	5.56	94	64848	1.03 ppb		98
10) Chloroethane	5.75	64	20674	0.99 ppb		97
11) Ethanol	5.84	45	15425m	1.12 ppb		
12) Acrolein	6.46	56	12908	0.98 ppb		98
13) Vinyl Bromide	6.11	106	60970	1.05 ppb		97
14) Freon 11	6.40	101	255294	1.06 ppb		99
15) Acetone	6.57	58	16097	1.06 ppb	#	84
16) Pentane	6.69	42	34761	1.00 ppb		99
17) Isopropyl alcohol	6.69	45	41323	0.73 ppb	#	74
18) 1,1-dichloroethene	7.21	96	75864	1.10 ppb		95
19) Freon 113	7.41	101	180267	1.20 ppb		90
20) t-Butyl alcohol	7.44	59	70957m	0.70 ppb		
21) Methylene chloride	7.69	84	68969	1.13 ppb	#	86
22) Allyl chloride	7.67	41	68570	0.93 ppb		90
23) Carbon disulfide	7.86	76	148037	1.04 ppb		98
24) trans-1,2-dichloroethene	8.65	61	84645	1.07 ppb		90
25) methyl tert-butyl ether	8.67	73	116515	0.89 ppb		74
26) 1,1-dichloroethane	9.09	63	134827	1.05 ppb		99
27) Vinyl acetate	9.07	43	104033	0.90 ppb		93
28) Methyl Ethyl Ketone	9.57	72	24424	0.94 ppb	#	100
29) cis-1,2-dichloroethene	10.05	61	78813	0.95 ppb		94
30) Hexane	9.64	57	77594	0.96 ppb		93
31) Ethyl acetate	10.19	43	114862	0.95 ppb		98
32) Chloroform	10.67	83	167327	1.11 ppb		100
33) Tetrahydrofuran	10.84	42	50831	0.89 ppb		84
34) 1,2-dichloroethane	11.77	62	100198	1.06 ppb		100
36) 1,1,1-trichloroethane	11.49	97	150683	1.21 ppb		100
37) Cyclohexane	12.18	56	75424	1.14 ppb		87
38) Carbon tetrachloride	12.12	117	171494	1.16 ppb		99
39) Benzene	12.09	78	185483	1.22 ppb		99
40) Methyl methacrylate	13.59	41	55725	1.02 ppb	#	89
41) 1,4-dioxane	13.63	88	21651	0.76 ppb		81
42) 2,2,4-trimethylpentane	12.91	57	249468	1.14 ppb		93
43) Heptane	13.25	43	82633	1.10 ppb		90
44) Trichloroethene	13.38	130	83523	1.19 ppb		94
45) 1,2-dichloropropane	13.48	63	76875	1.22 ppb		99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040621.D Vial: 9
Acq On : 6 Apr 2018 11:35 pm Operator: RJP
Sample : ALCS1UGD-040618 Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 07 07:23:15 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 Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	Bromodichloromethane	13.81	83	169295	1.27	ppb	97
47)	cis-1,3-dichloropropene	14.61	75	79531	1.09	ppb	98
48)	trans-1,3-dichloropropene	15.37	75	53730	1.03	ppb	98
49)	1,1,2-trichloroethane	15.70	97	88719	1.32	ppb	99
51)	Toluene	15.46	92	91175	1.16	ppb	99
52)	Methyl Isobutyl Ketone	14.52	43	53341m	0.61	ppb	
53)	Dibromochloromethane	16.43	129	152826	1.28	ppb	100
54)	Methyl Butyl Ketone	15.87	43	22402	0.30	ppb	91
55)	1,2-dibromoethane	16.70	107	115295	1.28	ppb	96
56)	Tetrachloroethylene	16.52	164	80372m	1.25	ppb	
57)	Chlorobenzene	17.54	112	134560	1.13	ppb	93
58)	Ethylbenzene	17.81	91	168660	1.04	ppb	100
59)	m&p-xylene	18.02	91	349224	2.48	ppb	99
60)	Nonane	18.40	43	121653	1.20	ppb	85
61)	Styrene	18.48	104	142716m	1.26	ppb	
62)	Bromoform	18.60	173	147122m	1.31	ppb	
63)	o-xylene	18.51	91	242544	1.41	ppb	100
64)	Cumene	19.10	105	209148	1.15	ppb	99
66)	1,1,2,2-tetrachloroethane	18.97	83	205221	1.33	ppb	99
67)	Propylbenzene	19.69	120	57715	1.16	ppb	85
68)	2-Chlorotoluene	19.74	126	79604	1.35	ppb	93
69)	4-ethyltoluene	19.87	105	257935	1.27	ppb	99
70)	1,3,5-trimethylbenzene	19.93	105	242605	1.35	ppb	100
71)	1,2,4-trimethylbenzene	20.42	105	145065	1.04	ppb	97
72)	1,3-dichlorobenzene	20.75	146	155565	1.32	ppb	100
73)	benzyl chloride	20.83	91	119218	1.25	ppb	98
74)	1,4-dichlorobenzene	20.90	146	147146m	1.29	ppb	
75)	1,2,3-trimethylbenzene	20.95	105	189152	1.23	ppb	100
76)	1,2-dichlorobenzene	21.27	146	143815m	1.24	ppb	
77)	1,2,4-trichlorobenzene	23.38	180	40412	1.12	ppb	98
78)	Naphthalene	23.60	128	58234	0.85	ppb	98
79)	Hexachloro-1,3-butadiene	23.71	225	116194	1.24	ppb	98

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

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AP040621.D                    Vial: 9
Acq On    :  6 Apr 2018  11:35 pm                      Operator: RJP
Sample    : ALCS1UGD-040618                            Inst    : MSD #1
Misc      : A318_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  9 11:06 2018            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  : Thu Apr 26 08:23:50 2018
Response via : Initial Calibration
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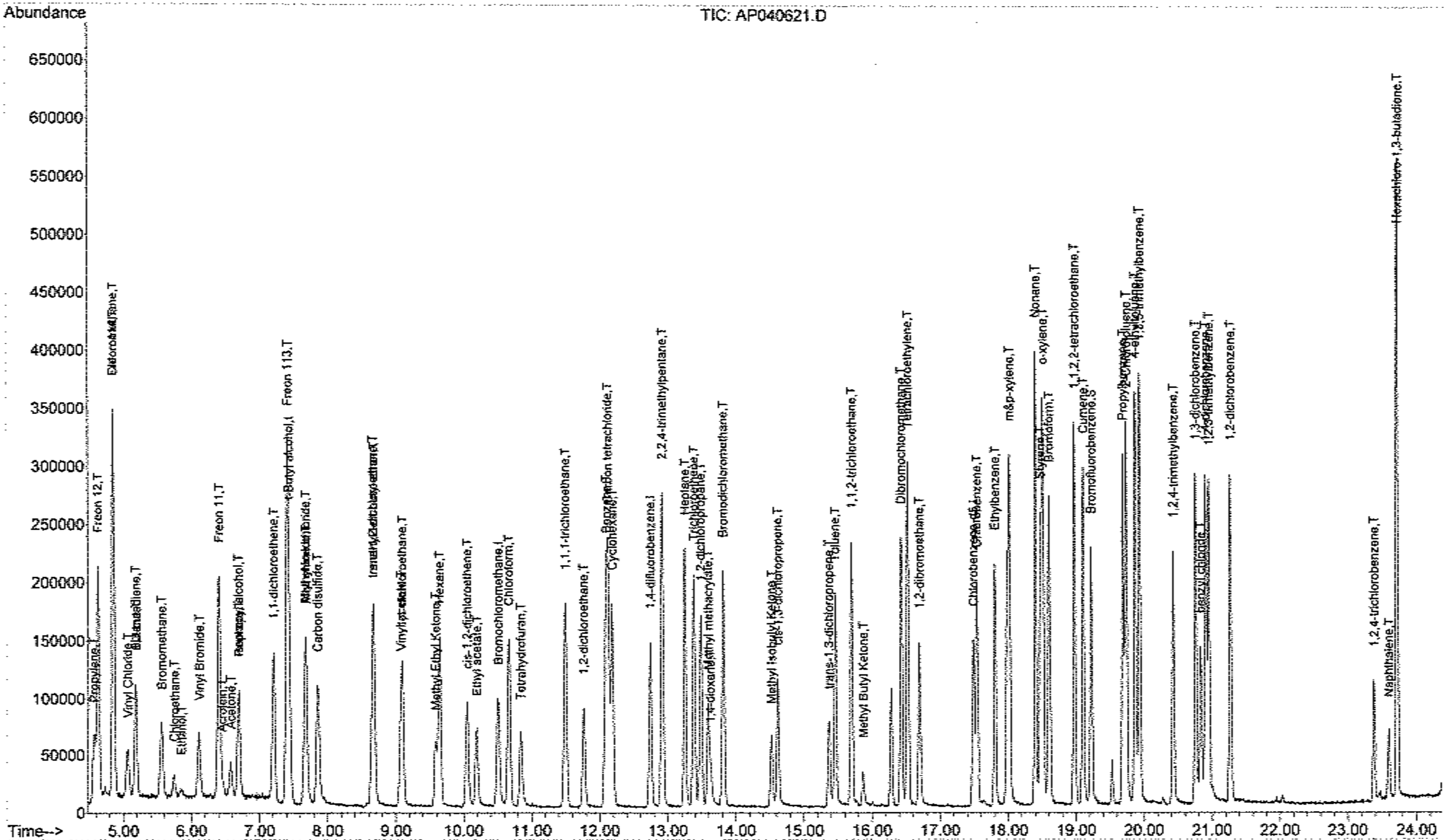


AP040621.D A318_1UG.M Thu Apr 26 08:29:34 2018 MSD1 Page 3

CENTEK LABORATORIES, LLC

Date: *26-Apr-18*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **C1804010-001A MS** SampType: **MS** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **575-Outside-April 20** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156470**

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	115	70	130				
1,1-Dichloroethane	1.000	0.15	1	0	100	70	130				
1,1-Dichloroethene	0.9900	0.040	1	0	99.0	70	130				
Chloroethane	1.020	0.15	1	0	102	70	130				
Chloromethane	1.300	0.15	1	0.39	91.0	70	130				
cis-1,2-Dichloroethene	0.9000	0.040	1	0	90.0	70	130				
Tetrachloroethylene	1.220	0.15	1	0	122	70	130				
trans-1,2-Dichloroethene	0.9700	0.15	1	0	97.0	70	130				
Trichloroethene	1.140	0.030	1	0	114	70	130				
Vinyl chloride	0.9400	0.040	1	0	94.0	70	130				

Sample ID: **C1804010-001A MS** SampType: **MSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **575-Outside-April 20** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156471**

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	115	70	130	1.15	0	30	
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130	1	1.98	30	
1,1-Dichloroethene	0.9900	0.040	1	0	99.0	70	130	0.99	0	30	
Chloroethane	1.030	0.15	1	0	103	70	130	1.02	0.976	30	
Chloromethane	1.440	0.15	1	0.39	105	70	130	1.3	10.2	30	
cis-1,2-Dichloroethene	0.9200	0.040	1	0	92.0	70	130	0.9	2.20	30	
Tetrachloroethylene	1.210	0.15	1	0	121	70	130	1.22	0.823	30	
trans-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	0.97	4.04	30	
Trichloroethene	1.150	0.030	1	0	115	70	130	1.14	0.873	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: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **C1804010-001A MS** SampType: **MSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **575-Outside-April 20** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156471**

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	0.94	10.1	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				

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040608.D Vial: 8
Acq On : 6 Apr 2018 3:03 pm Operator: RJP
Sample : C1804010-001A MS Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 07 07:23:12 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 : Wed Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane	10.50	128	46477	1.00 ppb		0.00
35) 1,4-difluorobenzene	12.74	114	164117	1.00 ppb		0.00
50) Chlorobenzene-d5	17.48	117	132628	1.00 ppb		-0.01
System Monitoring Compounds						
65) Bromofluorobenzene	19.22	95	110704	1.21 ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 121.00%		
Target Compounds						Qvalue
2) Propylene	4.57	41	101753	1.68 ppb		92
3) Freon 12	4.63	85	405742	1.50 ppb		99
4) Chloromethane	4.85	50	87232	1.30 ppb		92
5) Freon 114	4.84	85	234042	1.02 ppb		97
6) Vinyl Chloride	5.06	62	58908	0.94 ppb		100
7) Butane	5.18	43	113557	1.56 ppb		99
8) 1,3-butadiene	5.18	39	56013	1.17 ppb		88
9) Bromomethane	5.56	94	75168	1.04 ppb		98
10) Chloroethane	5.74	64	24753	1.02 ppb		100
11) Ethanol	5.84	45	70224	4.43 ppb		90
12) Acrolein	6.46	56	17744	1.16 ppb		97
13) Vinyl Bromide	6.11	106	65684	0.98 ppb		96
14) Freon 11	6.40	101	329330	1.18 ppb		100
15) Acetone	6.56	58	132439	7.53 ppb	#	72
16) Pentane	6.69	42	54753	1.36 ppb		93
17) Isopropyl alcohol	6.68	45	107427	1.65 ppb	#	76
18) 1,1-dichloroethene	7.21	96	78545	0.99 ppb		90
19) Freon 113	7.41	101	206587	1.19 ppb		89
20) t-Butyl alcohol	7.44	59	99027	0.85 ppb	#	76
21) Methylene chloride	7.68	84	259241	3.67 ppb		88
22) Allyl chloride	7.67	41	81330	0.96 ppb		86
23) Carbon disulfide	7.86	76	167127	1.02 ppb		94
24) trans-1,2-dichloroethene	8.65	61	88338	0.97 ppb		97
25) methyl tert-butyl ether	8.67	73	131270	0.87 ppb		75
26) 1,1-dichloroethane	9.09	63	149278	1.00 ppb		100
27) Vinyl acetate	9.07	43	120041	0.90 ppb		95
28) Methyl Ethyl Ketone	9.58	72	38212	1.27 ppb	#	100
29) cis-1,2-dichloroethene	10.04	61	85747	0.90 ppb		95
30) Hexane	9.64	57	98946	1.06 ppb		94
31) Ethyl acetate	10.18	43	141670	1.01 ppb		98
32) Chloroform	10.66	83	190106	1.09 ppb		99
33) Tetrahydrofuran	10.84	42	60545	0.92 ppb		79
34) 1,2-dichloroethane	11.76	62	112652	1.03 ppb		99
36) 1,1,1-trichloroethane	11.49	97	164042	1.15 ppb		100
37) Cyclohexane	12.18	56	83448	1.10 ppb		87
38) Carbon tetrachloride	12.11	117	201069	1.19 ppb		100
39) Benzene	12.09	78	250057	1.44 ppb		98
40) Methyl methacrylate	13.59	41	61113	0.98 ppb	#	91
41) 1,4-dioxane	13.63	88	33999	1.04 ppb		81
42) 2,2,4-trimethylpentane	12.91	57	294598	1.18 ppb		93
43) Heptane	13.24	43	103027	1.20 ppb		90
44) Trichloroethene	13.38	130	91728	1.14 ppb		94
45) 1,2-dichloropropane	13.48	63	84823	1.17 ppb		99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040608.D Vial: 8
Acq On : 6 Apr 2018 3:03 pm Operator: RJP
Sample : C1804010-001A MS Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 07 07:23:12 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 : Wed Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.81	83	182005	1.19 ppb	98
47)	cis-1,3-dichloropropene	14.61	75	91669	1.09 ppb	98
48)	trans-1,3-dichloropropene	15.37	75	61464	1.03 ppb	96
49)	1,1,2-trichloroethane	15.69	97	94502	1.22 ppb	100
51)	Toluene	15.46	92	142943	1.45 ppb	100
52)	Methyl Isobutyl Ketone	14.52	43	94704	0.86 ppb	89
53)	Dibromochloromethane	16.43	129	173246	1.16 ppb	98
54)	Methyl Butyl Ketone	15.86	43	81404	0.86 ppb	89
55)	1,2-dibromoethane	16.69	107	129874	1.16 ppb	97
56)	Tetrachloroethylene	16.52	164	98127	1.22 ppb	97
57)	Chlorobenzene	17.54	112	163640	1.10 ppb	96
58)	Ethylbenzene	17.81	91	240664	1.19 ppb	98
59)	m&p-xylene	18.02	91	435810	2.47 ppb	99
60)	Nonane	18.40	43	143950	1.13 ppb	87
61)	Styrene	18.47	104	186174	1.31 ppb	99
62)	Bromoform	18.60	173	167490	1.19 ppb	100
63)	o-xylene	18.51	91	283119	1.32 ppb	99
64)	Cumene	19.10	105	302641	1.33 ppb	99
66)	1,1,2,2-tetrachloroethane	18.97	83	221898	1.15 ppb	98
67)	Propylbenzene	19.69	120	90907	1.46 ppb	89
68)	2-Chlorotoluene	19.73	126	97949	1.33 ppb	96
69)	4-ethyltoluene	19.87	105	315202	1.24 ppb	100
70)	1,3,5-trimethylbenzene	19.93	105	293114	1.31 ppb	98
71)	1,2,4-trimethylbenzene	20.42	105	273971	1.58 ppb	99
72)	1,3-dichlorobenzene	20.75	146	239041	1.62 ppb	100
73)	benzyl chloride	20.83	91	167995	1.41 ppb	95
74)	1,4-dichlorobenzene	20.90	146	201478	1.42 ppb	99
75)	1,2,3-trimethylbenzene	20.95	105	252438	1.31 ppb	100
76)	1,2-dichlorobenzene	21.26	146	186994	1.29 ppb	98
77)	1,2,4-trichlorobenzene	23.38	180	70972	1.58 ppb	99
78)	Naphthalene	23.59	128	126410	1.48 ppb	98
79)	Hexachloro-1,3-butadiene	23.72	225	152038	1.29 ppb	98

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

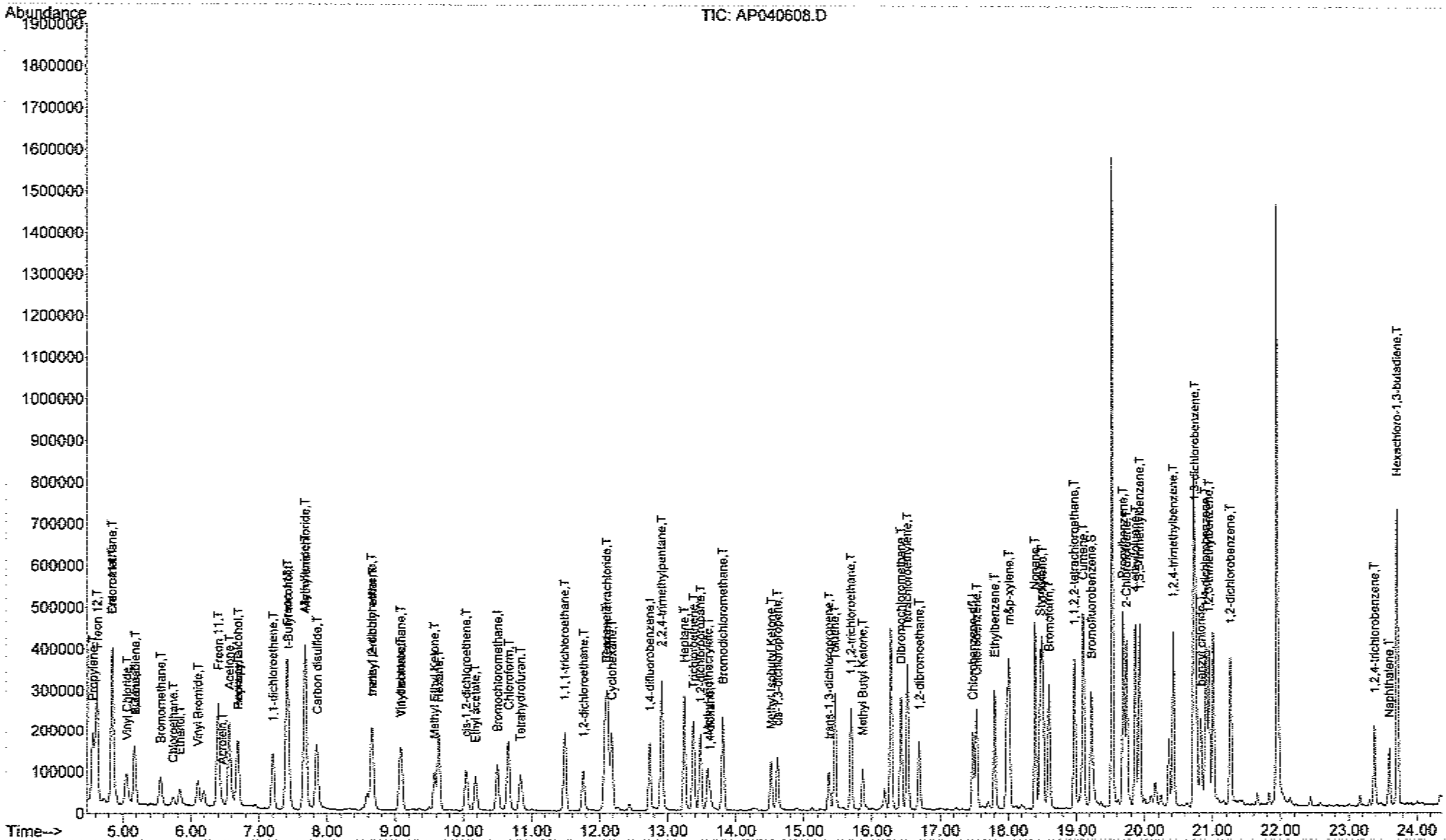
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040608.D
Acq On : 6 Apr 2018 3:03 pm
Sample : C1804010-001A MS
Misc : A318_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 7 7:23 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 : Thu Apr 26 08:23:50 2018
Response via : Initial Calibration



AP040608.D A318_1UG.M Thu Apr 26 08:29:25 2018 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040609.D Vial: 9
Acq On : 6 Apr 2018 3:49 pm Operator: RJP
Sample : C1804010-001A MSD Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 07 07:23:13 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 Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.50	128	46501	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.74	114	168175	1.00 ppb	-0.01
50) Chlorobenzene-d5	17.49	117	134293	1.00 ppb	0.00

System Monitoring Compounds

	R.T.	QIon	Response	Conc Units	Dev(Min)
65) Bromofluorobenzene	19.22	95	107871	1.16 ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 116.00%

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.57	41	100847	1.67 ppb		97
3) Freon 12	4.63	85	398412	1.47 ppb		99
4) Chloromethane	4.85	50	96777	1.44 ppb		93
5) Freon 114	4.85	85	258618	1.13 ppb		99
6) Vinyl Chloride	5.06	62	65492	1.04 ppb		100
7) Butane	5.18	43	121546	1.67 ppb		97
8) 1,3-butadiene	5.18	39	59575	1.24 ppb		93
9) Bromomethane	5.56	94	76831	1.06 ppb		100
10) Chloroethane	5.75	64	24962	1.03 ppb	#	75
11) Ethanol	5.84	45	67125	4.23 ppb		92
12) Acrolein	6.47	56	16264	1.06 ppb		95
13) Vinyl Bromide	6.11	106	66674	0.99 ppb		98
14) Freon 11	6.40	101	326165	1.17 ppb		100
15) Acetone	6.57	58	113290	6.44 ppb	#	79
16) Pentane	6.70	42	80330	1.99 ppb		96
17) Isopropyl alcohol	6.70	45	135276	2.08 ppb		86
18) 1,1-dichloroethene	7.21	96	79058	0.99 ppb		90
19) Freon 113	7.41	101	207493	1.20 ppb		89
20) t-Butyl alcohol	7.44	59	101491	0.87 ppb	#	78
21) Methylene chloride	7.68	84	313000	4.43 ppb		89
22) Allyl chloride	7.67	41	86419	1.02 ppb		84
23) Carbon disulfide	7.86	76	173230	1.05 ppb		95
24) trans-1,2-dichloroethene	8.65	61	92495	1.01 ppb		94
25) methyl tert-butyl ether	8.67	73	132653	0.88 ppb		73
26) 1,1-dichloroethane	9.09	63	151093	1.02 ppb		100
27) Vinyl acetate	9.07	43	120325	0.90 ppb		95
28) Methyl Ethyl Ketone	9.58	72	39253	1.31 ppb	#	100
29) cis-1,2-dichloroethene	10.05	61	88240	0.92 ppb		91
30) Hexane	9.64	57	100766	1.08 ppb		96
31) Ethyl acetate	10.18	43	140104	1.00 ppb		97
32) Chloroform	10.66	83	193072	1.11 ppb		100
33) Tetrahydrofuran	10.84	42	62070	0.94 ppb		79
34) 1,2-dichloroethane	11.76	62	110269	1.01 ppb		99
36) 1,1,1-trichloroethane	11.49	97	169002	1.15 ppb		100
37) Cyclohexane	12.18	56	84669	1.09 ppb		89
38) Carbon tetrachloride	12.12	117	206106	1.19 ppb		100
39) Benzene	12.08	78	247201	1.39 ppb		99
40) Methyl methacrylate	13.59	41	62340	0.97 ppb	#	91
41) 1,4-dioxane	13.63	88	35271	1.05 ppb		85
42) 2,2,4-trimethylpentane	12.92	57	299769	1.17 ppb		93
43) Heptane	13.25	43	106493	1.21 ppb		87
44) Trichloroethene	13.38	130	94517	1.15 ppb		95
45) 1,2-dichloropropane	13.48	63	86021	1.16 ppb		99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040609.D Vial: 9
Acq On : 6 Apr 2018 3:49 pm Operator: RJP
Sample : C1804010-001A MSD Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 07 07:23:13 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 Apr 04 10:47:46 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

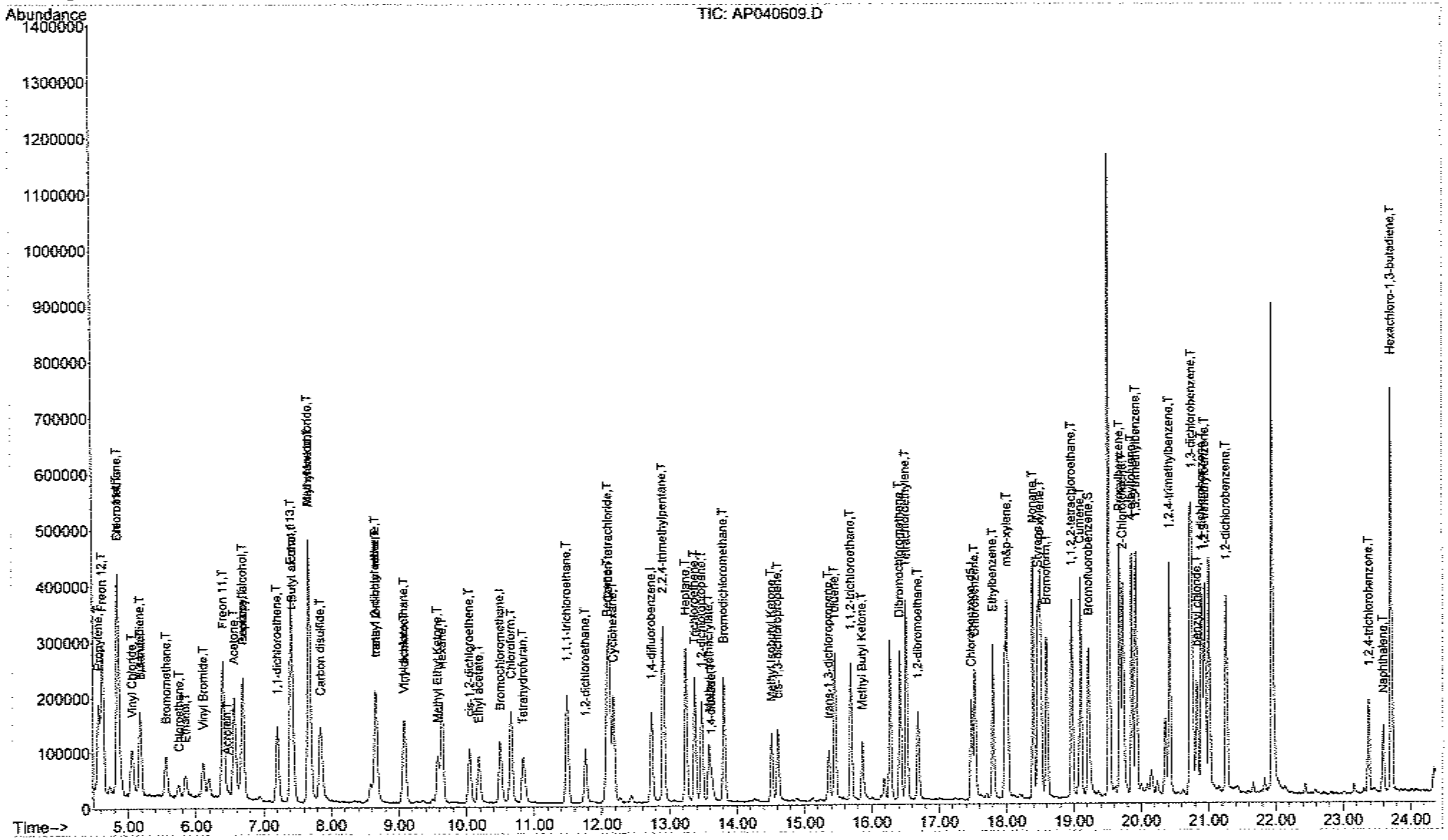
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.81	83	183021	1.17 ppb	100
47)	cis-1,3-dichloropropene	14.61	75	92499	1.08 ppb	98
48)	trans-1,3-dichloropropene	15.37	75	61794	1.01 ppb	94
49)	1,1,2-trichloroethane	15.70	97	96781	1.22 ppb	98
51)	Toluene	15.46	92	137174	1.38 ppb	100
52)	Methyl Isobutyl Ketone	14.52	43	94435	0.85 ppb	91
53)	Dibromochloromethane	16.43	129	173981	1.15 ppb	100
54)	Methyl Butyl Ketone	15.86	43	86538	0.90 ppb	89
55)	1,2-dibromoethane	16.69	107	130573	1.15 ppb	99
56)	Tetrachloroethylene	16.52	164	98526	1.21 ppb	98
57)	Chlorobenzene	17.54	112	162696	1.08 ppb	95
58)	Ethylbenzene	17.81	91	222429	1.09 ppb	100
59)	m&p-xylene	18.02	91	423346	2.37 ppb	100
60)	Nonane	18.40	43	138308	1.07 ppb	87
61)	Styrene	18.47	104	180686	1.26 ppb	100
62)	Bromoform	18.61	173	165463	1.16 ppb	99
63)	o-xylene	18.51	91	278847	1.28 ppb	100
64)	Cumene	19.10	105	267312	1.16 ppb	99
66)	1,1,2,2-tetrachloroethane	18.97	83	221256	1.13 ppb	99
67)	Propylbenzene	19.69	120	87597	1.39 ppb	89
68)	2-Chlorotoluene	19.73	126	95702	1.28 ppb	97
69)	4-ethyltoluene	19.87	105	308661	1.20 ppb	99
70)	1,3,5-trimethylbenzene	19.93	105	287135	1.26 ppb	99
71)	1,2,4-trimethylbenzene	20.42	105	273312	1.55 ppb	99
72)	1,3-dichlorobenzene	20.75	146	226107	1.51 ppb	100
73)	benzyl chloride	20.83	91	158359	1.31 ppb	98
74)	1,4-dichlorobenzene	20.90	146	190600	1.32 ppb	100
75)	1,2,3-trimethylbenzene	20.95	105	250523	1.29 ppb	100
76)	1,2-dichlorobenzene	21.26	146	183502	1.25 ppb	97
77)	1,2,4-trichlorobenzene	23.37	180	65422	1.43 ppb	98
78)	Naphthalene	23.59	128	116800	1.35 ppb	97
79)	Hexachloro-1,3-butadiene	23.72	225	155573	1.31 ppb	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP040609.D Vial: 9
Acq On : 6 Apr 2018 3:49 pm Operator: RJP
Sample : C1804010-001A MSD Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 7 7:23 2018 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 : Thu Apr 26 08:23:50 2018
Response via : Initial Calibration



AP040609.D A318_1UG.M Thu Apr 26 08:29:29 2018 MSD1 Page 3

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INJECTION LOG

Injection Log

Directory: C:\HPCHEM\1\DATA

Instrument # 1
Internal Standard Stock # A2449
Standard Stock # A2450
LCS Stock # A2451
Method Ref: EPA TO-15 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

Directory: C:\HPCHEM\1\DATA

Instrument # 1
Internal Standard Stock # A2485
Standard Stock # A2486
LCS Stock # A2487
Method Ref: EPA TO-15 / Jan. 1999

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
166	19	Ap040525.d	1.	C1804004-006A 270X	A318_1UG	6 Apr 2018 02:48
167	20	Ap040526.d	1.	C1804004-007A 10X	A318_1UG	6 Apr 2018 03:25
168	21	Ap040527.d	1.	C1804004-007A 40X	A318_1UG	6 Apr 2018 04:01
169	22	Ap040528.d	1.	C1804004-008A 27X	A318_1UG	6 Apr 2018 04:41
170	23	Ap040529.d	1.	C1804004-008A 540X	A318_1UG	6 Apr 2018 05:17
171	24	Ap040530.d	1.	ALCS1UGD-040518	A318_1UG	6 Apr 2018 05:57
172	25	Ap040531.d	1.	C1804008-001A	A318_1UG	6 Apr 2018 06:37
173	26	Ap040532.d	1.	C1804008-002A	A318_1UG	6 Apr 2018 07:18
174	27	Ap040533.d	1.	C1804009-001A	A318_1UG	6 Apr 2018 07:58
175		Ap040534.d	1.	No MS or GC data present		
176	1	Ap040601.d	1.	BFB1UG	A318_1UG	6 Apr 2018 08:48
177	2	Ap040602.d	1.	A1UG_1.0	A318_1UG	6 Apr 2018 10:50
178	3	Ap040603.d	1.	ALCS1UG-040618	A318_1UG	6 Apr 2018 11:30
179	4	Ap040604.d	1.	AMB1UG-040618	A318_1UG	6 Apr 2018 12:06
180	5	Ap040605.d	1.	C1804009-002A	A318_1UG	6 Apr 2018 12:50
181	6	Ap040606.d	1.	C1804009-003A	A318_1UG	6 Apr 2018 13:31
182	7	Ap040607.d	1.	C1804010-001A	A318_1UG	6 Apr 2018 14:11
183	8	Ap040608.d	1.	C1804010-001A MS	A318_1UG	6 Apr 2018 15:03
184	9	Ap040609.d	1.	C1804010-001A MSD	A318_1UG	6 Apr 2018 15:49
185	10	Ap040610.d	1.	C1804010	A318_1UG -002A	6 Apr 2018 16:30
186	11	Ap040611.d	1.	C1804010-003A	A318_1UG	6 Apr 2018 17:11
187	12	Ap040612.d	1.	C1804010-004A	A318_1UG	6 Apr 2018 17:52
188	1	Ap040613.d	1.	WAC040618A	A318_1UG	6 Apr 2018 18:30
189	2	Ap040614.d	1.	WAC040618B	A318_1UG	6 Apr 2018 19:08
190	3	Ap040615.d	1.	WAC040618C	A318_1UG	6 Apr 2018 19:46
191	4	Ap040616.d	1.	WAC040618D	A318_1UG	6 Apr 2018 20:24
192	5	Ap040617.d	1.	WAC040618E	A318_1UG	6 Apr 2018 21:02
193	6	Ap040618.d	1.	WAC040618F	A318_1UG	6 Apr 2018 21:40
194	7	Ap040619.d	1.	WAC040618G	A318_1UG	6 Apr 2018 22:18
195	8	Ap040620.d	1.	WAC040618H	A318_1UG	6 Apr 2018 22:56
196	9	Ap040621.d	1.	ALCS1UGD-040618	A318_1UG	6 Apr 2018 23:35
197	10	Ap040622.d	1.	C1804012-001A	A318_1UG	7 Apr 2018 00:16
198	11	Ap040623.d	1.	C1804012-002A	A318_1UG	7 Apr 2018 00:56
199	12	Ap040624.d	1.	C1804012-003A	A318_1UG	7 Apr 2018 01:36
200	13	Ap040625.d	1.	C1804012-004A	A318_1UG	7 Apr 2018 02:16
201	14	Ap040626.d	1.	C1804012-005A	A318_1UG	7 Apr 2018 02:57
202	15	Ap040627.d	1.	C1804008-001A 27X	A318_1UG	7 Apr 2018 03:37
203	16	Ap040628.d	1.	C1804008	A318_1UG -001A 1080X	7 Apr 2018 04:13
204	17	Ap040629.d	1.	C1804008-002A 10X	A318_1UG	7 Apr 2018 04:50
205	18	Ap040630.d	1.	C1804009-001A 10X	A318_1UG	7 Apr 2018 05:27
206	19	Ap040631.d	1.	C1804009-002A 10X	A318_1UG	7 Apr 2018 06:04
207	20	Ap040632.d	1.	C1804009-003A 10X	A318_1UG	7 Apr 2018 06:41
208	21	Ap040633.d	1.	C1804010-002A	A318_1UG	7 Apr 2018 07:24
209	22	Ap040634.d	1.	C1804010-003A RE	A318_1UG	7 Apr 2018 08:07
210	23	Ap040635.d	1.	C1804010-004A RE	A318_1UG	7 Apr 2018 08:49
211	25	Ap040636.d	1.		A318_1UG	7 Apr 2018 10:02
212	24	Ap040701.d	1.	BFB1UG	A318_1UG	7 Apr 2018 09:26
213	25	Ap040702.d	1.	A1UG	A318_1UG	7 Apr 2018 11:25
214	26	Ap040703.d	1.	ALCS1UG-040718	A318_1UG	7 Apr 2018 12:18
215	27	Ap040704.d	1.	AMB1UG-040718	A318_1UG	7 Apr 2018 12:54
216	28	Ap040705.d	1.	C1804008	A318_1UG -001A 7290X	7 Apr 2018 13:31
217	29	Ap040706.d	1.	C1804008-001A 14580X	A318_1UG	7 Apr 2018 14:08
218	30	Ap040707.d	1.	C1804012-001A 10X	A318_1UG	7 Apr 2018 14:45
219	31	Ap040708.d	1.	C1804012-001A 40X	A318_1UG	7 Apr 2018 15:21
220	32	Ap040709.d	1.	C1804012-002A 5X	A318_1UG	7 Apr 2018 15:59

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial 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 1UG 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	1 PPM	ZZ	
A-2317	12/13/17	12/12/18	STOCK TO15 STD	FF-47281		LINDE	2200 PSIG	1 PPM	ZZ	
A-2318	12/18/17	12/18/18	TO15 LCS	A1807	1ppm	A1807	STD IS NOW LCS		ZZ	
A-2319	12/16/17	12/24/17	TO15 IS	A2316	1ppm	1.5	30	50	M	
A-2320			STD	A2317						
A-2321			LCS	A2318						
A-2322			4 PCH	9519	1ppm	1.5		50		
A-2323			4PCH5	A2322	50ppb	3.0		5		
A-2324			FORM	A0974	11.5ppm	0.20	45	50		
A-2325			SILOX	A1098/A08	500ppb	3.0	30			
A-2326			SULF	A0264	A0270 1ppm	1.5				
A-2327			H2S	A0269	10ppm			500		
A-2328			TO15 1UG IS	A2319	50ppb	0.9	45	1.0		
A-2329			STD	A2320						
A-2330			LCS	A2321						
A-2331			M							

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Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-2436	3/6/18	3/13/18	TO15 H2S	~~10 ppm~~ A2069	~~1.5~~ 10 ppm	~~30~~ 1.5	30	500	WJ	
A-2437			TO15 1uG IS	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	WJ	
A-2441			STD	A2317						
A-2442			LCS	A2318						
A-2443			4PCH	9519						
A-2444			4PCHS	A2443	50 ppb	3.0	30	5		
A-2445			FORM	A2331	11.9 ppm	0.19	45	50		
A-2446			SILOX	~~A1055~~ A1089	500 ppb	3.0	30	50		
A-2447			SULF	A0270	1 ppm	1.5	30	50		
A-2448			H2S	A0269	10 ppm	1.5	30	500		
A-2449			TO15 1uG IS	A2440	50 ppb	0.9	45	1		
A-2450			STD	A2441						
A-2451			LCS	A2442						
A-2452	3/20/18	3/27/18	TO15 IS	A2316	1 ppm	1.5	30	50	WJ	
A-2453			STD	A2317						
A-2454			LCS	A2318						
A-2455			4PCH	9519						
A-2456			4PCHS	A2455	50 ppb	3.0	30	5		

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Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-2457	3/20/18	3/27/18	TO15 FORM	A2331	11.9 ppm	0.19	45	50	WD	
A-2458	↓	↓	↓ SILOX	~~A1088~~ A1089	500ppb	3.0	30	50	↓	
A-2459	↓	↓	↓ SULF	A0270	1ppm	1.5	30	50	↓	
A-2460	↓	↓	↓ H2S	A0269	10 ppm	1.5	30	500	↓	
A-2461	↓	↓	TO15 1uG IS	A2452	50 ppb	0.9	45	1	↓	
A-2462	↓	↓	↓ STD	A2453	↓	↓	↓	↓	↓	
A-2463	↓	↓	↓ LCS	A2454	↓	↓	↓	↓	↓	
A-2464	3/27/18	4/3/18	TO15 IS	A2316	1 ppm	1.5	30	50	WD	
A-2465	↓	↓	↓ STD	A2317	↓	↓	↓	↓	↓	
A-2466	↓	↓	↓ LCS	A2318	↓	↓	↓	↓	↓	
A-2467	↓	↓	↓ 4PCH	9519	↓	↓	↓	↓	↓	
A-2468	↓	↓	↓ 4PCHS	A2467	50 ppb	3.0	30	5	↓	
A-2469	↓	↓	↓ FORM	A2331	11.9 ppm	0.19	45	50	↓	
A-2470	↓	↓	↓ SILOX	~~A1088~~ A1089	500ppb	3.0	30	50	↓	
A-2471	↓	↓	↓ SULF	A0270	1ppm	1.5	30	50	↓	
A-2472	↓	↓	↓ H2S	A0269	10ppm	1.5	30	500	↓	
A-2473	↓	↓	TO15 1uG IS	A2464	50ppb	0.9	45	1	↓	
A-2474	↓	↓	↓ STD	A2465	↓	↓	↓	↓	↓	
A-2475	↓	↓	↓ LCS	A2466	↓	↓	↓	↓	↓	
A-2476	4/3/18	4/10/18	TO15 IS	A2316	1ppm	1.5	30	50	WD	
A-2477	↓	↓	↓ STD	A2317	↓	↓	↓	↓	↓	

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Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-2478	4/3/18	4/10/18	TO15 LCS	A2318	1ppm	1.5	30	50	WD	
A-2479	↓	↓	↓ 4PCH	9519	↓	↓	↓	↓	↓	
A-2480			4PCH5	A2479	50ppb	3.0	30	5		
A-2481			FORM	A2331	11.9 ppm	0.19	45	50		
A-2482			SILOX	A1088 / A1089	500ppb	3.0	30	50		
A-2483			SULF	A0270	1 ppm	1.5	30	50		
A-2484			↓ H2S	A0269	10 ppm	1.5	30	500		
A-2485			TO15 1uG IS	A2476	50 ppb	0.9	45	1		
A-2486			↓ STD	A2477	↓	↓	↓	↓		
A-2487	↓	↓	↓ LCS	A2478					↓	
A-2488	4/10/18	4/17/18	TO15 IS	A2316	1ppm	1.5	30	50	LL	
A-2489	↓	↓	↓ STD	A2317	↓	↓	↓	↓	↓	
A-2490			LCS	A2318						
A-2491			4PCH	9519	↓	↓		↓		
A-2492			4PCH5	A2491	50ppb	3.0	↓	5		
A-2493			FORM	A2331	11.9ppm	0.19	45	50		
A-2494			SILX	A1088 / A1089	500ppb	3.0	30	50		
A-2495			SULF	A0270	1ppm	1.5	↓	↓		
A-2496			↓ H2S	A0269	10ppm	↓	↓	500		
A-2497			TO15 1uG IS	A2488	50ppb	0.9	45	1		
A-2498	↓	↓	↓ STD	A2489	↓	↓	↓	↓	↓	

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GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

tek Laboratories, LLC

ument: Entech 3100

QC Canister Cleaning Logbook

ter Number	Canister Size	QC Can Number	# of Cycles	Int & Date Cleaned	QC Batch Number	Detection Limits	Leak Test 24hr Int & Date	
205	1.4	211	20	1/13/18	WAC011518B	1µg + 0.2	+ 30	+ 30 1/16/18
96							+ 30	+
87							+ 30	+
206							+ 30	+
11							+ 30	+
17		485					+ 30	+
18					C		+ 30	+
208							+ 30	+
84							+ 30	+
85							+ 30	+
203		1322			D		+ 30	+
323							+ 30	+
19							+ 30	+
21							+ 30	+
22							+ 30	+
00		1201			E		+ 30	+
20							+ 30	+
4							+ 30	+
10							+ 30	+
501							+ 30	+
							+ 30	+
							+ 30	+
							+ 30	+
							+ 30	+
							+ 30	+

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Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\2018JAN\AP011507.D        Vial: 7
Acq On    : 15 Jan 2018   2:01 pm                       Operator: RJP
Sample    : WAC011518C                                  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%	

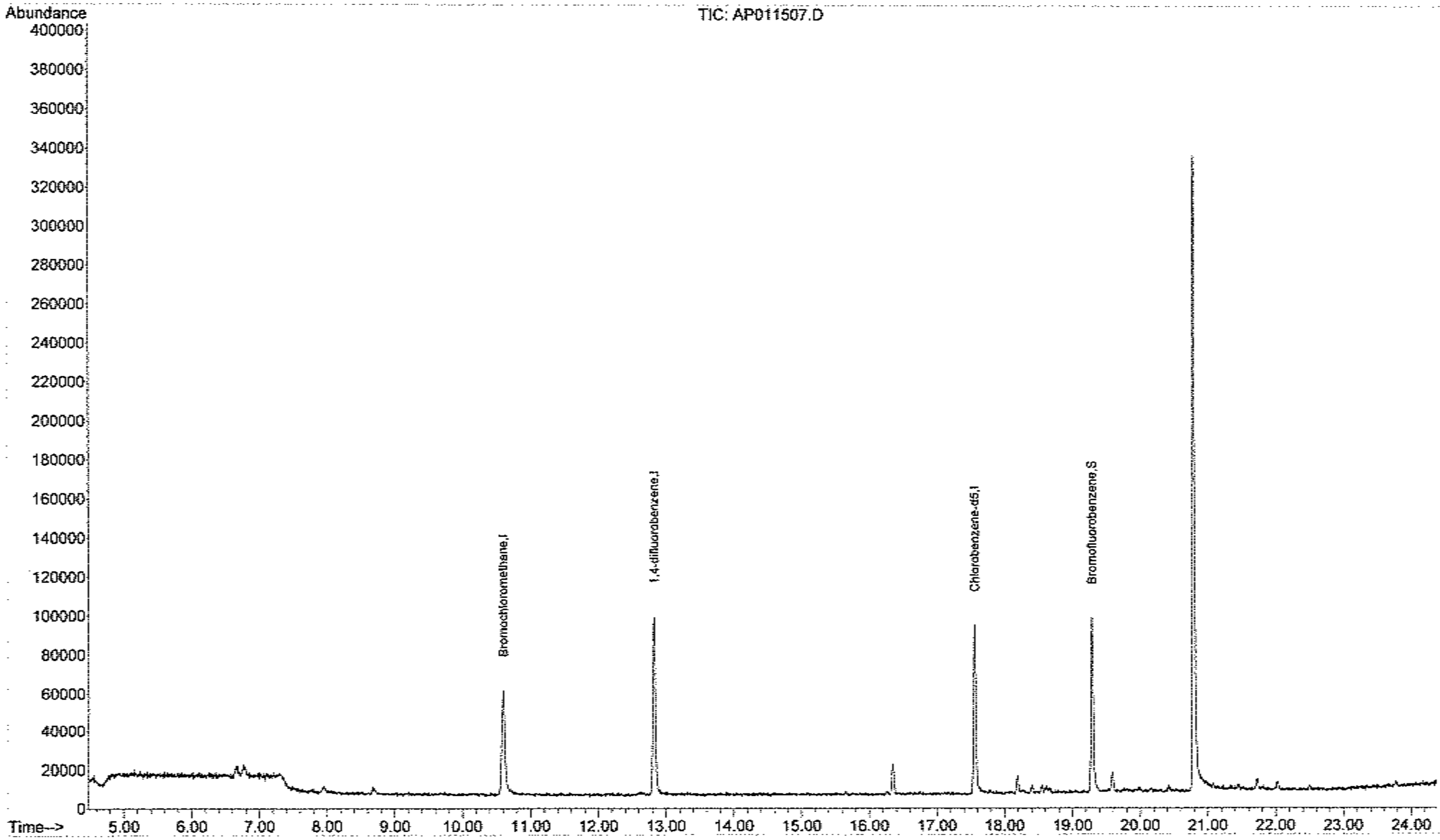
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\2018JAN\AP011507.D        Vial: 7
Acq On    : 15 Jan 2018   2:01 pm                   Operator: RJP
Sample    : WAC011518C                              Inst    : MSD #1
Misc      : A113_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 16:53 2018           Quant Results File: A113_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A113_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Mon Feb 12 09:37:11 2018
Response via  : Initial Calibration
```



Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\2018JAN\AP011508.D          Vial: 8
Acq On    : 15 Jan 2018   2:39 pm                     Operator: RJP
Sample    : WAC011518D                                Inst    : MSD #1
Misc      : A113_1UG                                  Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 15:52:15 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	28081	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.82	114	104261	1.00 ppb	0.00
50) Chlorobenzene-d5	17.56	117	70876	1.00 ppb	0.00
System Monitoring Compounds					
65) Bromofluorobenzene	19.29	95	36956	0.79 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 79.00%		

Target Compounds Qvalue

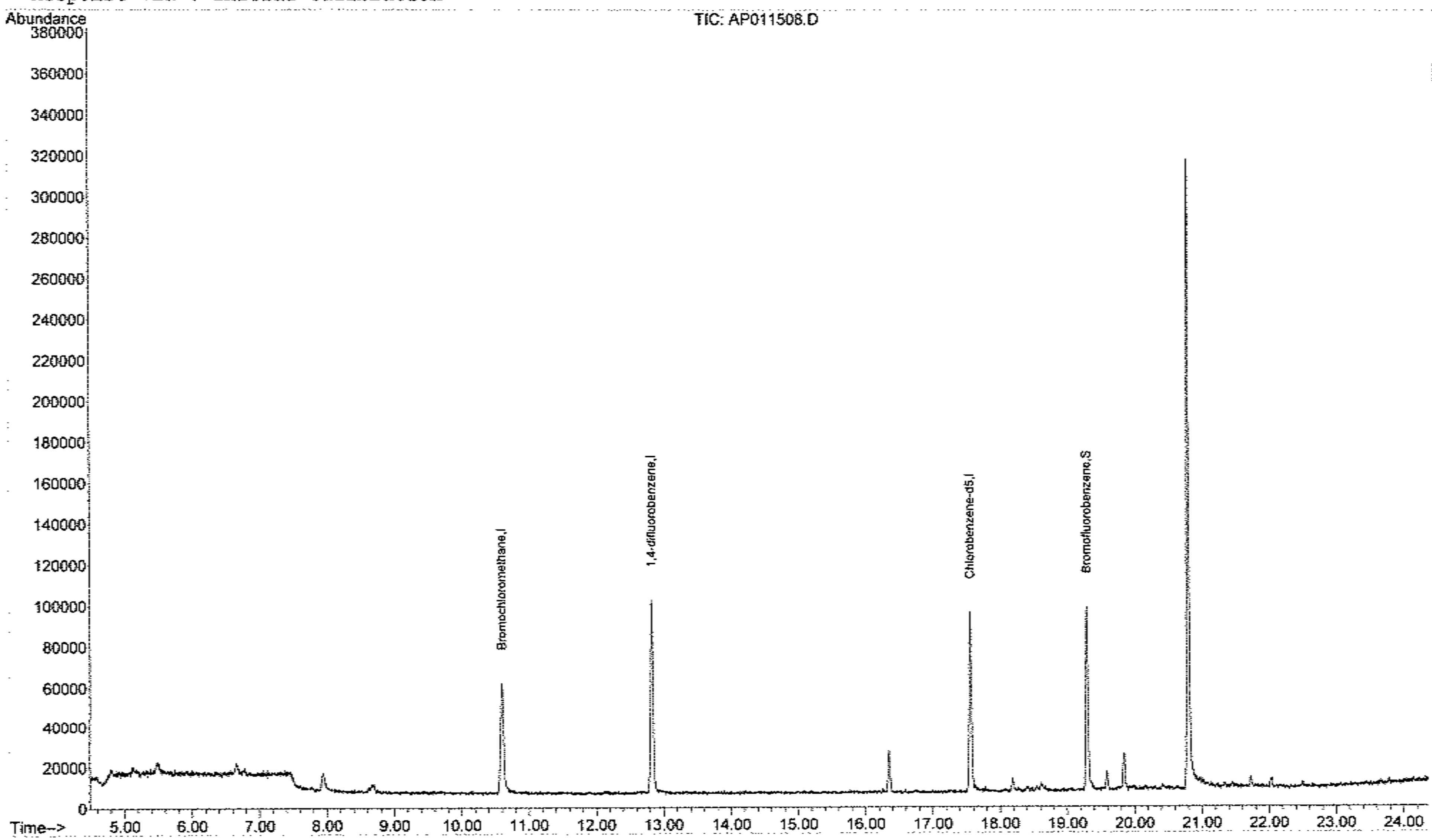
(#) = qualifier out of range (m) = manual integration (+) = signals summed

AP011508.D A113_1UG.M Mon May 14 17:07:31 2018 MSD1 Page 1

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\2018JAN\AP011508.D          Vial: 8
Acq On    : 15 Jan 2018   2:39 pm                     Operator: RJP
Sample    : WAC011518D                                Inst    : MSD #1
Misc      : A113_1UG                                  Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 15 16:52 2018             Quant Results File: A113_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A113_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Mon Feb 12 09:37:11 2018
Response via  : Initial Calibration
```



Centek Laboratories, LLC

QC Canister Cleaning Logbook

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	
93	1L	202	20	3/23/18 WD	WAC032318A	1ug/m^3 +0.20	+ 30	+ 30 3-24-18 RP
106							+ 30	+
223							+ 30	+
1289							+ 30	+
202							+ 30	+
419		161			WAC 032318 B		+ 30	+
370							+ 30	+
237							+ 30	+
248							+ 30	+
161							+ 30	+
168		232			WAC 032318C		+ 30	+
171							+ 30	+
358							+ 30	+
352							+ 30	+
232							+ 30	+
1188	1L	275	20		WAC032318 D		+ 30	+
1192							+ 30	+
550							+ 30	+
1193							+ 30	+
275							+ 30	+
545		555			WAC032318 E		+ 30	+
225							+ 30	+
552							+ 30	+
496							+ 30	+
555							+ 30	+

Form C151

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Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\2018MAR\AP032306.D          Vial: 6
Acq On    : 23 Mar 2018   3:11 pm                      Operator: RJP
Sample    : WAC032318A                                 Inst     : MSD #1
Misc      : A318_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 10:58:34 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	40207	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.73	114	146342	1.00 ppb	0.00
50) Chlorobenzene-d5	17.48	117	92083	1.00 ppb	0.00

System Monitoring Compounds

65) Bromofluorobenzene	19.21	95	45380	0.71 ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 71.00%

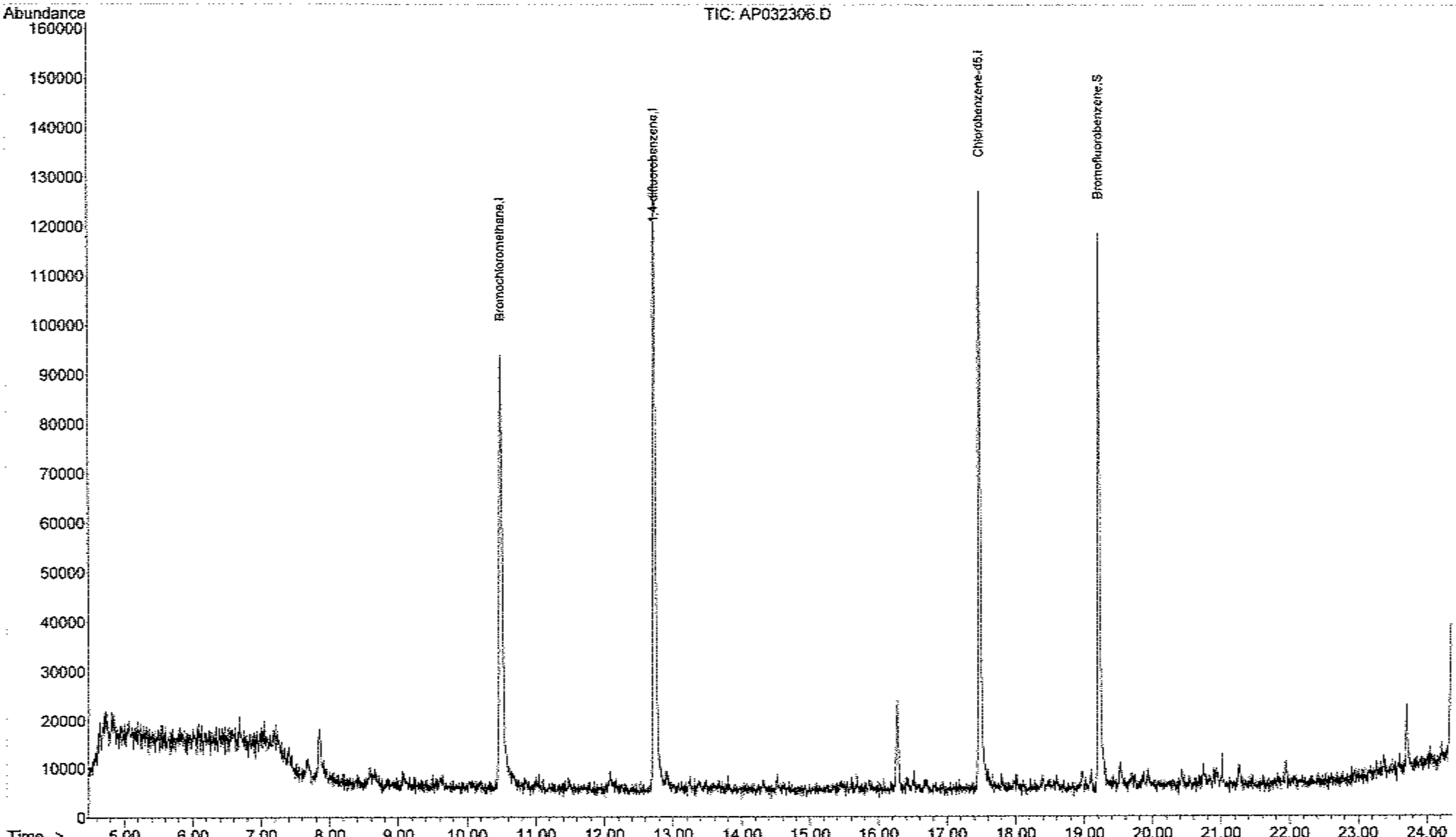
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2018MAR\AP032306.D Vial: 6
Acq On : 23 Mar 2018 3:11 pm Operator: RJP
Sample : WAC032318A Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 10:58 2018 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 : Initial Calibration



AP032306.D A318_1UG.M Mon May 14 17:09:22 2018 MSD1 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2018MAR\AP032307.D Vial: 7
Acq On : 23 Mar 2018 3:49 pm Operator: RJP
Sample : WAC032318B Inst : MSD #1
Misc : A318_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 10:58:42 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	10.50	128	37041	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.73	114	140815	1.00	ppb	0.00
50) Chlorobenzene-d5	17.48	117	95723	1.00	ppb	0.00
System Monitoring Compounds						
65) Bromofluorobenzene	19.22	95	47070m	0.71	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 71.00%			

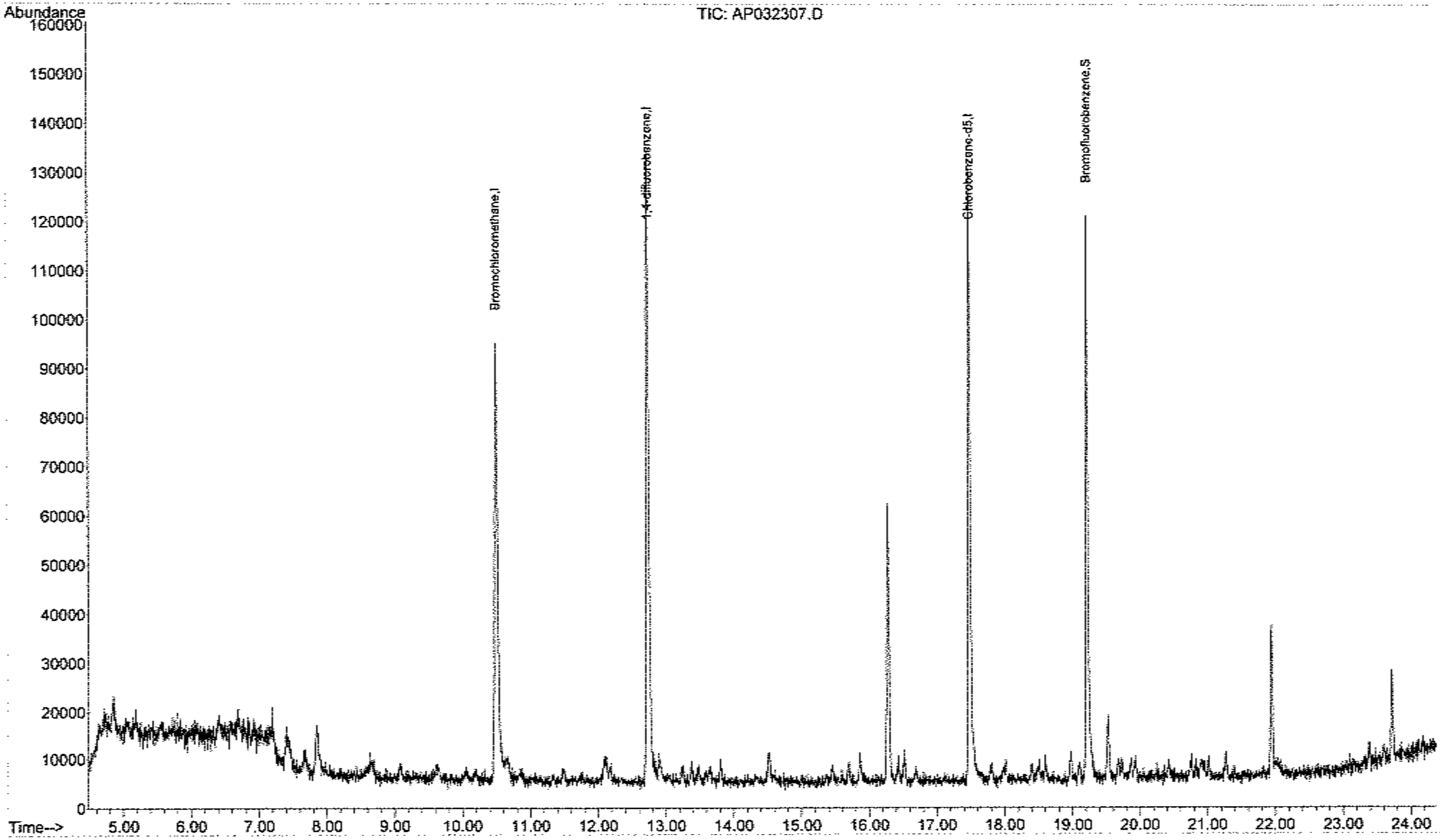
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\2018MAR\AP032307.D          Vial: 7
Acq On    : 23 Mar 2018   3:49 pm                      Operator: RJP
Sample    : WAC032318B                                 Inst    : MSD #1
Misc      : A318_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 29  6:39 2018              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  : Initial Calibration
```



AP032307.D A318_1UG.M Mon May 14 17:09:25 2018 MSD1 Page 2

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\2018MAR\AP032308.D          Vial: 8
Acq On    : 23 Mar 2018   4:48 pm                      Operator: RJP
Sample    : WAC032318C                                 Inst    : MSD #1
Misc      : A318_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24 09:17:23 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	39018	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.73	114	143271	1.00 ppb	0.00
50) Chlorobenzene-d5	17.48	117	94081	1.00 ppb	0.00
System Monitoring Compounds					
65) Bromofluorobenzene	19.21	95	47270	0.73 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 73.00%		

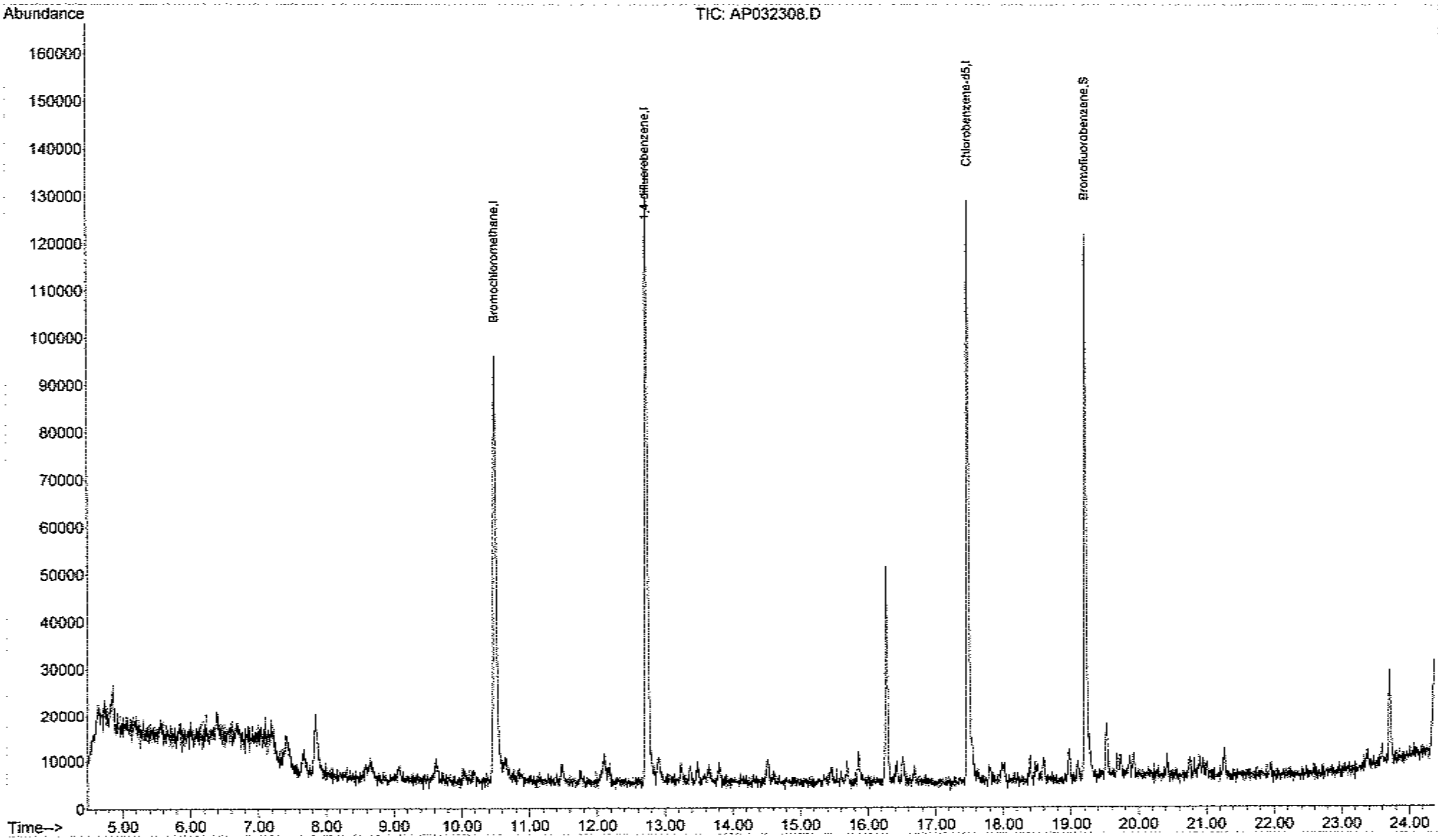
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\2018MAR\AP032308.D        Vial: 8
Acq On    : 23 Mar 2018   4:48 pm                    Operator: RJP
Sample    : WAC032318C                               Inst    : MSD #1
Misc      : A318_1UG                                 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 24  9:17 2018            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 : Initial Calibration
```



TO-15 Package Review Checklist

Client: LABELLA Project: 575 COLFAX SDG: C1603074

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

Comments:

		YES	NO	NA
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: *SEE CASE NARRATIVE
- NO MS/MSD

		YES	NO	NA
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:

		YES	NO	NA
Sample Raw Data	Present and Complete	✓		
	Spectra present for all samples	✓		

Comments:

TO-15 Package Review Checklist

Client: LABELLA   Project: 575 COLFAX   SDG: C1603074

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

Comments:

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

Comments:

		YES	NO	NA
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: Wick Dall   Date: 4/27/16

QC Supervisor: [signature]   Date: 4/27/16

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

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

Monday, April 04, 2016
Order No.: C1603074

TEL: (585) 454-6110
FAX (585) 454-3066

RE: 575 Colfax FESL SVI

Dear Daniel Noll:

Centek Laboratories, LLC received 5 sample(s) on 3/29/2016 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, 4-PCH, sulfur derived and silcon 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 dameges of equipment.

Turn Around time (TAT)

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

Reporting

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

Payment Terms

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

Rush Turnaround Samples

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

Applicable Surcharges for Rush Turnaround Samples:
Same day TAT = 200%
Next business day TAT by Noon = 150%
Next business day TAT by 6:00pm = 100%
Second business day TAT by 6:00pm = 75%
Third business day TAT by 6:00pm = 50%
Fourth business day TAT by 6:00pm = 35%
Fifth business day = Standard

Statement of Confidentiality

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

Limitation on Liability

Centek Laboratories, LLC warrants the test results to be accurate to the methodology and sample type for each sample submitted to Centek Laboratories, LLC. In no event shall Centek Laboratories, LLC be liable for direct, indirect, special, punitive, incidental, exemplary or consequential damages, or any damages whatsoever, even if Centek Laboratories, LLC has been previously advised of the possibility of such damages whether in an action under contract, negligence, or any other theory, arising out of or in connection with the use, inability to use or performance of the information, services, products and materials available from the laboratory or this site. These limitations shall apply notwithstanding any failure of essential purpose of any limited remedy. Because some jurisdictions do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of liability for consequential or incidental damages, the above limitations may not apply to you. This is a comprehensive limitation of liability that applies to all damages of any kind, including (without limitation) compensatory, direct, indirect or consequential damages, loss of data, income or profit and or loss of or damage to property and claims of third parties.

ASP CAT B DELIVERABLE PACKAGE
Table of Contents

CENTEK LABORATORIES, LLC

Date: *27-Apr-16*

CLIENT: LaBella Associates, P.C.

Project: 575 Colfax FESL SVI

Lab Order: C1603074

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: [3360] IS did not meet criteria.
See Corrective Action: [3361] Surrogate did not meet criteria for sample

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 01-Apr-16 **Corrective Action Report ID:** 3360

Initiated By: Russell Pellegrino **Department:** MSVOA

Corrective Action Description

CAR Summary: IS did not meet criteria.

Description of Nonconformance Root/Cause(s): IS was high and did not meet criteria for samples C1603074-004 & 004. Based on the chromatographic evidence, it appears that the contamination is from a high concentration of interfering compounds that may be associated with a fuel.

Description of Corrective Action w/Proposed C.A.: Samples were analyzed further as a dilution with criteria being met. Due to matrix being in a canister it is difficult to see any signs of problems. All sets of data submitted.

Performed By: Russell Pellegrino **Completion Date:** 03-Apr-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.: Will Dobb — William Dobbin Close Date: 04-Apr-16

QA Officer Approval: /NS — Nick Scala QA Date: 04-Apr-16

Last Updated BY russ Updated: 27-Apr-2016 10:26 AM Reported: 27-Apr-2016 10:29 A

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 01-Apr-16 **Corrective Action Report ID:** 3361

Initiated By: Russell Pellegrino **Department:** MSVOA

Corrective Action Description

CAR Summary: Surrogate did not meet criteria for sample

Description of Nonconformance Root/Cause(s): Surrogate was high and did not meet criteria for samples C1603074-004. Based on the chromatographic evidence, it appears that the contamination is from a high concentration of interfering compounds that may be associated with a fuel.

Description of Corrective Action w/Proposed C.A.: Sample was analyzed further as a dilution with criteria being met. Due to matrix being in a canister it is difficult to see any signs of problems. All sets of data submitted.

Performed By: Russell Pellegrino **Completion Date:** 01-Apr-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.: Will Dobbin Close Date: 04-Apr-16

William Dobbin

QA Officer Approval: /NS QA Date: 04-Apr-16

Nick Scala

Last Updated BY russ Updated: 27-Apr-2016 10:29 AM Reported: 27-Apr-2016 10:29 A

Centek Chain of Custody

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

Vapor Intrusion & IAQ

Site Name: 575 Colfax
Project: FESL SVI
PO#: 210173
Quote #: [illegible]
Other: [illegible]

Detection Limit		Report Level	
☐	5ppbv	☐	Level I
☑	1ug/M3	☐	Level II
☐	1ug/M3 +TCE .25	☑	Cal "B" Like

TAT Turnaround Time:	Check One	Rush TAT Surcharge %	Due Date:
5 Business Days	☑	0%	
4 Business Days	☐	25%	
3 Business Days	☐	50%	
2 Business Days	☐	75%	
*Next Day by 5pm	☐	100%	
*Next Day by Noon	☐	150%	
*Same Day	☐	200%	

*For Same and Next Day TAT Please Notify Lab

Company:
Report to: LABELLA
Address: 300 State St
City, State, Zip: Rochester, NY
Email: dnollo@labellapc.com
Phone:

Company:
Check Here If Same: ☐
Invoice to:
Address:
City, State, Zip
Email:
Phone:

Sample ID	Date Sampled	Canister Number	Regulator Number	Analysis Request	Comments	Vacuum Start/Stop (*in Hg)
575 Outdoor	3/19/16	227	388	~~[illegible]~~		30+ / 1.5
575-SVI-1		141	258			30+ / 2.5
575-IAQ-1		128	296	Select		30+ / 8
575-SVI 2		136	249	List		30 / 1
575-IAQ-2		1195	187			30 / 3

Chain of Custody	Print Name	Signature	Date/Time	Courier: CIRCLE ONE
Sampled by:	Kyle R. Miller	Kyle R Miller	3/28/16 800	FedEx UPS Pickup/Dropoff
Relinquished by:				For LAB USE ONLY
Received at Lab by:	Jan Scale	[signature]	3/29/16	Work Order # C1603074

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

Date: *27-Apr-16*

CENTEK LABORATORIES, LLC

CLIENT: LaBella Associates, P.C.
Project: 575 Colfax FESL SVI
Lab Order: C1603074

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1603074-001A	575 Outdoor	223,388	3/19/2016	3/29/2016
C1603074-002A	575-SVI-1	141,258	3/19/2016	3/29/2016
C1603074-003A	575-IAQ-1	128,296	3/19/2016	3/29/2016
C1603074-004A	575-SVI-2	136,249	3/19/2016	3/29/2016
C1603074-005A	575-IAQ-2	1195,187	3/19/2016	3/29/2016

CENTEK LABORATORIES, LLC

Sample Receipt Checklist

Client Name LABELLA - ROCHESTER

Work Order Numbe C1603074

Date and Time Receive 3/29/2016

Received by JDS

Checklist completed by 3-29-16
Signature Date

Reviewed by WD 3/29/16
Initials Date

Matrix:

Carrier name FedEx Ground

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Presen ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Presen ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Presen ☑
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 be

Client contacted ______________ Date contacted: ______________ Person contacted ______________

Contacted by: ______________ Regarding: ______________

Comments: ______________

Corrective Action ______________

Lab Order: C1603074
Client: LaBella Associates, P.C.
Project: 575 Colfax FESL SVI

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C1603074-001A	575 Outdoor	3/19/2016	Air	1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			4/1/2016
C1603074-002A	575-SVI-1			1ug/M3 by Method TO15			4/2/2016
				1ug/M3 by Method TO15			4/1/2016
C1603074-003A	575-IAQ-1			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			4/1/2016
C1603074-004A	575-SVI-2			1ug/M3 by Method TO15			4/2/2016
				1ug/M3 by Method TO15			4/1/2016
C1603074-005A	575-IAQ-2			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			4/1/2016

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

CANISTER ORDER

5692

27-Apr-16

SHIPPED TO:

Company:	LaBella Associates, P.C.	Submitted By:	
Contact:	Ann Aquilina	MadeBy:	rjp
Address:	300 State Street, Suite 201		
	Rochester, NY 14614	Ship Date:	3/16/2016
Phone:	(585) 454-6110	VIA:	FedEx Ground
Quote ID:	0	Due Date:	3/17/2016
Project:			
PO:	Emerson Landfill		

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	22
DOME	Encloser Dome	Helium Leak Test	2

Can / Reg ID	Description
89	1L Mini-Can - 1090 VI
93	1L Mini-Can - 1109 VI
128	1L Mini-Can - 1076 VI
131	1L Mini-Can - 1079 VI
136	1L Mini-Can - 1110 VI
139	1L Mini-Can - 1113 VI
141	1L Mini-Can - 1115 VI
174	Time-Set Reg - 659 VI
187	Time-Set Reg - 625 VI
188	1L Mini-Can - 1143 VI
192	1L Mini-Can - 1147 VI
223	1L Mini-Can - 1185 VI
249	Time-Set Reg - 687 VI
258	Time-Set Reg - 696 VI
266	Time-Set Reg - 704 VI
286	1L Mini-Can - 1262 VI
292	Time-Set Reg - 715 VI
296	Time-Set Reg - 719 VI
297	Time-Set Reg - 720 VI
301	Time-Set Reg - 724 VI
308	Time-Set Reg - 809R VI
332	1L Mini-Can - 1295 VI
339	Time-Set Reg - 736 VI
342	Time-Set Reg - 739 VI
343	Time-Set Reg - 740 VI
366	1L Mini-Can - 1315 VI
387	Time-Set Reg - 761 VI
388	Time-Set Reg - 762 VI
419	1L Mini-Can - 1343 VI
447	Time-Set Reg - 826 VI
465	1L Mini-Can - 1369 VI

SHIPPED TO:

Company:	LaBella Associates, P.C.	Submitted By:	
Contact:	Ann Aquilina	MadeBy:	rjp
Address:	300 State Street, Suite 201		
	Rochester, NY 14614	Ship Date:	3/16/2016
Phone:	(585) 454-6110	VIA:	FedEx Ground
Quote ID:	0	Due Date:	3/17/2016
Project:			
PO:	Emerson Landfill		

Bottle Code	Bottle Type	TEST(s)	QTY
564	1L Mini-Can - 135 VI		
567	1L Mini-Can - 138 VI		
1157	Time-Set Reg-VI		
1160	Time-Set Reg-0673 VI		
1165	Time-Set Reg-0678 VI		
1166	Time-Set Reg-0791 VI		
1178	1L Mini-Can - 1236 VI		
1179	1L Mini-Can - 1249 VI		
1183	1L Mini-Can - 1250 VI		
1193	1L Mini-Can - 1246 VI		
1195	1L Mini-Can - 1254 VI		
1320	1.4L Mini-Can - 1197 VI		

Comments: 20 1L @ 6hr + 2 dupe + 1.4L @ 6hr + 10'tubing + 2 dome (updated) wac 021916 j-k, 030816 a-f

2 of 2

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

$$RRF = \frac{Ax * Cis}{Ais * Cx}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Cx = concentration of the compound being measured (ppbv)
Cis = 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)

$$\% D = \frac{(RRFc - \text{mean } RRFi) * 100}{\text{mean } RRFi}$$

where: RRFc = relative response factor from the continuing calibration
mean RRFi = mean relative response factor from the initial calibration

Sample Calculations

$$ppbv = \frac{Ax * Is * Df}{Ais * RRF}$$

where: Ax = area of the characteristic ion for the compound being measured
Ais = area of the characteristic ion for the specific internal standard of the compound being measured
Is = Concentration of the internal standard injected (ppbv)
RRF= relative response factor for the compound being measured
Df = Dilution factor

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575 Outdoor
Lab Order:	C1603074	**Tag Number:**	223,388
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-001A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-2			"Hg		3/29/2016
Lab Vacuum Out	-30			"Hg		3/29/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
Chloromethane	0.78	0.15		ppbV	1	4/1/2016 2:22:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
Tetrachloroethylene	0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
Trichloroethene	0.14	0.040		ppbV	1	4/1/2016 2:22:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/1/2016 2:22:00 AM
Surr: Bromofluorobenzene	103	70-130		%REC	1	4/1/2016 2:22:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575 Outdoor
Lab Order:	C1603074	**Tag Number:**	223,388
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-001A	**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	4/1/2016 2:22:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 2:22:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:22:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 2:22:00 AM
Chloromethane	1.6	0.31		ug/m3	1	4/1/2016 2:22:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:22:00 AM
Tetrachloroethylene	1.0	1.0		ug/m3	1	4/1/2016 2:22:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:22:00 AM
Trichloroethene	0.75	0.21		ug/m3	1	4/1/2016 2:22:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/1/2016 2:22:00 AM

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-SVI-1
Lab Order:	C1603074	**Tag Number:**	141,258
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-002A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-3			"Hg		3/29/2016
Lab Vacuum Out	-30			"Hg		3/29/2016
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
Tetrachloroethylene	5.2	1.5		ppbV	10	4/2/2016 2:50:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
Trichloroethene	3.6	1.5		ppbV	10	4/2/2016 2:50:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
Surr: Bromofluorobenzene	119	70-130		%REC	1	4/1/2016 2:58:00 PM

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-SVI-1
Lab Order:	C1603074	**Tag Number:**	141,258
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-002A	**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	4/1/2016 2:58:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 2:58:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:58:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 2:58:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	4/1/2016 2:58:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:58:00 PM
Tetrachloroethylene	35	10		ug/m3	10	4/2/2016 2:50:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:58:00 PM
Trichloroethene	19	8.1		ug/m3	10	4/2/2016 2:50:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	4/1/2016 2:58:00 PM

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-1
Lab Order:	C1603074	**Tag Number:**	128,296
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-8			"Hg		3/29/2016
Lab Vacuum Out	-30			"Hg		3/29/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
Chloromethane	0.78	0.15		ppbV	1	4/1/2016 3:00:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
Tetrachloroethylene	0.61	0.15		ppbV	1	4/1/2016 3:00:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
Trichloroethene	0.63	0.040		ppbV	1	4/1/2016 3:00:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/1/2016 3:00:00 AM
Surr: Bromofluorobenzene	128	70-130		%REC	1	4/1/2016 3:00:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-1
Lab Order:	C1603074	**Tag Number:**	128,296
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-003A	**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	4/1/2016 3:00:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 3:00:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:00:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 3:00:00 AM
Chloromethane	1.6	0.31		ug/m3	1	4/1/2016 3:00:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:00:00 AM
Tetrachloroethylene	4.1	1.0		ug/m3	1	4/1/2016 3:00:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:00:00 AM
Trichloroethene	3.4	0.21		ug/m3	1	4/1/2016 3:00:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/1/2016 3:00:00 AM

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

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-SVI-2
Lab Order:	C1603074	**Tag Number:**	136,249
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-004A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-2			"Hg		3/29/2016
Lab Vacuum Out	-30			"Hg		3/29/2016
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
Tetrachloroethylene	78	14		ppbV	90	4/2/2016 3:27:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
Trichloroethene	87	14		ppbV	90	4/2/2016 3:27:00 PM
Vinyl chloride	0.75	0.15		ppbV	1	4/1/2016 3:39:00 PM
Surr: Bromofluorobenzene	135	70-130	S	%REC	1	4/1/2016 3:39:00 PM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-SVI-2
Lab Order:	C1603074	**Tag Number:**	136,249
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-004A	**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	4/1/2016 3:39:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 3:39:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 3:39:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	4/1/2016 3:39:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 PM
Tetrachloroethylene	530	95		ug/m3	90	4/2/2016 3:27:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 PM
Trichloroethene	470	75		ug/m3	90	4/2/2016 3:27:00 PM
Vinyl chloride	1.9	0.38		ug/m3	1	4/1/2016 3:39:00 PM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-2
Lab Order:	C1603074	**Tag Number:**	1195,187
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-3			"Hg		3/29/2016
Lab Vacuum Out	-30			"Hg		3/29/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
Chloromethane	0.79	0.15		ppbV	1	4/1/2016 3:39:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
Tetrachloroethylene	0.54	0.15		ppbV	1	4/1/2016 3:39:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
Trichloroethene	0.57	0.040		ppbV	1	4/1/2016 3:39:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/1/2016 3:39:00 AM
Surr: Bromofluorobenzene	122	70-130		%REC	1	4/1/2016 3:39:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-2
Lab Order:	C1603074	**Tag Number:**	1195,187
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-005A	**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	4/1/2016 3:39:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 3:39:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 3:39:00 AM
Chloromethane	1.6	0.31		ug/m3	1	4/1/2016 3:39:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 AM
Tetrachloroethylene	3.7	1.0		ug/m3	1	4/1/2016 3:39:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 AM
Trichloroethene	3.1	0.21		ug/m3	1	4/1/2016 3:39:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/1/2016 3:39:00 AM

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

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

QUALITY CONTROL SUMMARY

Date: 26-Apr-16

CENTEK LABORATORIES, LLC

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SV1
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ							
ALCS1UG-033116	115							
ALCS1UG-040116	116							
ALCS1UG-040216	112							
ALCS1UGD-033116	118							
ALCS1UGD-040116	108							
ALCS1UGD-040216	106							
AMB1UG-033116	88.0							
AMB1UG-040116	91.0							
AMB1UG-040216	90.0							
C1603074-001A	103							
C1603074-002A	119							
C1603074-003A	128							
C1603074-004A	135 *							
C1603074-005A	122							
C1603075-004A MS	116							
C1603075-004A MSD	107							

Acronym		Surrogate	QC Limits
BR4FBZ	=	Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

1

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA2\AN033104.D
Tune Time : 31 Mar 2016 12:19 pm

Daily Calibration File : C:\HPCHEM\1\DATA2\AN033104.D

File	Sample	DL	Surrogate Recovery % (BFB)	Internal Standard Responses (IS1) 21478	(IS2) 48888	(IS3) 36495
AN033105.D	ALCS1UG-033116		115	20235	53595	32893
AN033106.D	AMB1UG-033116		88	20032	47930	44161
AN033126.D	C1603074-001A		103	17309	45592	46759
AN033127.D	C1603074-003A		128	17481	46745	34378
AN033128.D	C1603074-005A		122	17835	48453	36257
AN033133.D	ALCS1UGD-033116		118	22710	52964	34225

t - fails 24hr time check   * - fails criteria

Created: Tue Apr 26 14:47:49 2016 MSD #1/

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN040102.D
Tune Time : 1 Apr 2016 12:06 pm

Daily Calibration File : C:\HPCHEM\1\DATA\AN040102.D

File	Sample	DL Surrogate Recovery % (BFB)	Internal Standard Responses (IS1) 20214	(IS2) 45908	(IS3) 32719
AN040103.D	ALCS1UG-040116	116	20858	46019	31397
AN040104.D	AMB1UG-040116	91	18252	46023	41257
AN040106.D	C1603074-002A	119	22278	65852*	42749
AN040107.D	C1603074-004A	135*	26461	85051*	45205
AN040125.D	ALCS1UGD-040116	108	20437	45874	33404

t - fails 24hr time check   * - fails criteria

Created: Tue Apr 26 14:49:11 2016 MSD #1/

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN040203.D
Tune Time : 2 Apr 2016 12:08 pm

Daily Calibration File : C:\HPCHEM\1\DATA\AN040203.D

File	Sample	DL	Surrogate Recovery % (BFB)	Internal Standard Responses (IS1) 23340	(IS2) 60425	(IS3) 46554
AN040204.D	ALCS1UG-040216		112	21348	52201	44220
AN040205.D	AMB1UG-040216		90	17717	49878	41390
AN040207.D	C1603074-002A	10X	113	17723	50503	51116
AN040208.D	C1603074-004A	90X	118	17272	49481	49453
AN040224.D	ALCS1UGD-040216		106	16685	39568	28434

t - fails 24hr time check * - fails criteria

Created: Tue Apr 26 15:00:25 2016 MSD #1/

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **AMB1UG-033116** SampType: **MBLK** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10817**
Client ID: **ZZZZZ** Batch ID: **R10817** TestNo: **TO-15** Analysis Date: **3/31/2016** SeqNo: **127095**

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-040116** SampType: **MBLK** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**
Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/1/2016** SeqNo: **127112**

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **AMB1UG-040116**	SampType: **MBLK**	TestCode: **0.25CT-TCE-** Units: **ppbV**	Prep Date:	RunNo: **10818**
Client ID: **ZZZZZ**	Batch ID: **R10818**	TestNo: **TO-15**	Analysis Date: **4/1/2016**	SeqNo: **127112**

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

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

CLIENT: LaBella Associates, P.C.

Work Order: C1603074

Project: 575 Colfax FESL SVI

TestCode: 1ugM3_TO15

Sample ID **AMB1UG-040216**	SampType: **MBLK**	TestCode: **1ugM3_TO15** Units: **ppbV**	Prep Date:	RunNo: **10819**
Client ID: **ZZZZZ**	Batch ID: **R10819**	TestNo: **TO-15**	Analysis Date: **4/2/2016**	SeqNo: **127124**

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 at or below quantitation limits
- S Spike Recovery outside accepted recovery limits
- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **ALCS1UG-033116** SampType: **LCS** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10817**
Client ID: **ZZZZZ** Batch ID: **R10817** TestNo: **TO-15** Analysis Date: **3/31/2016** SeqNo: **127096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.250	0.15	1	0	125	70	130				
1,1-Dichloroethane	1.120	0.15	1	0	112	70	130				
1,1-Dichloroethene	1.120	0.15	1	0	112	70	130				
Chloroethane	1.220	0.15	1	0	122	70	130				
Chloromethane	1.230	0.15	1	0	123	70	130				
cis-1,2-Dichloroethene	1.060	0.15	1	0	106	70	130				
Tetrachloroethylene	0.9200	0.15	1	0	92.0	70	130				
trans-1,2-Dichloroethene	1.050	0.15	1	0	105	70	130				
Trichloroethene	1.110	0.040	1	0	111	70	130				
Vinyl chloride	1.090	0.040	1	0	109	70	130				

Sample ID **ALCS1UG-040116** SampType: **LCS** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**
Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/1/2016** SeqNo: **127113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.290	0.15	1	0	129	70	130				
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130				
1,1-Dichloroethene	1.100	0.15	1	0	110	70	130				
Chloroethane	1.130	0.15	1	0	113	70	130				
Chloromethane	1.230	0.15	1	0	123	70	130				
cis-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130				
trans-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
Trichloroethene	1.230	0.040	1	0	123	70	130				

Qualifiers:

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **ALCS1UG-040116** SampType: **LCS** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**

Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/1/2016** SeqNo: **127113**

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				

Qualifiers:

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 1ugM3_TO15

Sample ID **ALCS1UG-040216** SampType: **LCS** TestCode: **1ugM3_TO15** Units: **ppbV** Prep Date: RunNo: **10819**

Client ID: **ZZZZZ** Batch ID: **R10819** TestNo: **TO-15** Analysis Date: **4/2/2016** SeqNo: **127125**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.290	0.15	1	0	129	70	130				
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130				
1,1-Dichloroethene	1.200	0.15	1	0	120	70	130				
Chloroethane	1.230	0.15	1	0	123	70	130				
Chloromethane	1.290	0.15	1	0	129	70	130				
cis-1,2-Dichloroethene	1.170	0.15	1	0	117	70	130				
Tetrachloroethylene	0.7800	0.15	1	0	78.0	70	130				
trans-1,2-Dichloroethene	1.180	0.15	1	0	118	70	130				
Trichloroethene	1.260	0.15	1	0	126	70	130				
Vinyl chloride	1.140	0.15	1	0	114	70	130				

Qualifiers:

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

CENTEK LABORATORIES, LLC

Date: *26-Apr-16*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **ALCS1UGD-033116** SampType: **LCSD** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10817**
Client ID: **ZZZZZ** Batch ID: **R10817** TestNo: **TO-15** Analysis Date: **4/1/2016** SeqNo: **127097**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.280	0.15	1	0	128	70	130	1.25	2.37	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.12	7.41	30	
1,1-Dichloroethene	1.120	0.15	1	0	112	70	130	1.12	0	30	
Chloroethane	1.250	0.15	1	0	125	70	130	1.22	2.43	30	
Chloromethane	1.210	0.15	1	0	121	70	130	1.23	1.64	30	
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	1.06	4.83	30	
Tetrachloroethylene	0.9000	0.15	1	0	90.0	70	130	0.92	2.20	30	
trans-1,2-Dichloroethene	1.000	0.15	1	0	100	70	130	1.05	4.88	30	
Trichloroethene	1.150	0.040	1	0	115	70	130	1.11	3.54	30	
Vinyl chloride	1.050	0.040	1	0	105	70	130	1.09	3.74	30	

Sample ID **ALCS1UGD-040116** SampType: **LCSD** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**
Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/2/2016** SeqNo: **127114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.280	0.15	1	0	128	70	130	1.29	0.778	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.04	0	30	
1,1-Dichloroethene	1.100	0.15	1	0	110	70	130	1.1	0	30	
Chloroethane	1.240	0.15	1	0	124	70	130	1.13	9.28	30	
Chloromethane	1.230	0.15	1	0	123	70	130	1.23	0	30	
cis-1,2-Dichloroethene	0.9400	0.15	1	0	94.0	70	130	0.98	4.17	30	
Tetrachloroethylene	0.8300	0.15	1	0	83.0	70	130	0.88	5.85	30	
trans-1,2-Dichloroethene	0.9600	0.15	1	0	96.0	70	130	0.99	3.08	30	
Trichloroethene	1.210	0.040	1	0	121	70	130	1.23	1.64	30	

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **ALCS1UGD-040116** SampType: **LCSD** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**
Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/2/2016** SeqNo: **127114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.070	0.040	1	0	107	70	130	1.1	2.76	30	

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 1ugM3_TO15

Sample ID **ALCS1UGD-040216** SampType: **LCSD** TestCode: **1ugM3_TO15** Units: **ppbV** Prep Date: RunNo: **10819**
Client ID: **ZZZZZ** Batch ID: **R10819** TestNo: **TO-15** Analysis Date: **4/3/2016** SeqNo: **127130**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.300	0.15	1	0	130	70	130	1.29	0.772	30	
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130	1.17	0	30	
1,1-Dichloroethene	1.110	0.15	1	0	111	70	130	1.2	7.79	30	
Chloroethane	1.090	0.15	1	0	109	70	130	1.23	12.1	30	
Chloromethane	1.190	0.15	1	0	119	70	130	1.29	8.06	30	
cis-1,2-Dichloroethene	1.110	0.15	1	0	111	70	130	1.17	5.26	30	
Tetrachloroethylene	0.8900	0.15	1	0	89.0	70	130	0.78	13.2	30	
trans-1,2-Dichloroethene	1.150	0.15	1	0	115	70	130	1.18	2.58	30	
Trichloroethene	1.220	0.15	1	0	122	70	130	1.26	3.23	30	
Vinyl chloride	1.220	0.15	1	0	122	70	130	1.14	6.78	30	

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

1ug/M3 Detection Limit
January 2016

Method TO-15A
Units=ppb

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDL#6	IDL#7	Average	StdDev	%Rec	IDL
2,2,4-trimethylpentane	0.15	0.15	0.15	0.15	0.16	0.14	0.16	0.15	0.151	0.007	99.1	0.022
Heptane	0.15	0.12	0.13	0.13	0.12	0.13	0.13	0.13	0.127	0.005	118.0	0.015
Trichloroethene	0.15	0.14	0.15	0.14	0.15	0.15	0.14	0.15	0.146	0.005	102.9	0.017
1,2-dichloropropane	0.15	0.16	0.17	0.17	0.16	0.17	0.16	0.16	0.164	0.005	91.3	0.017
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

Confidential

1/8/2016

0.25ug/M3 Detection Limit
January 2016

Method TO-15A
Units=ppb

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDL#6	IDL#7	Average	StdDev	%Rec	IDL
Vinyl Chloride	0.1	0.11	0.11	0.09	0.09	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 VOLATILES-WHOLE AIR

METHOD TO-15

SAMPLE DATA

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575 Outdoor
Lab Order:	C1603074	**Tag Number:**	223,388
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-001A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		**FLD**				Analyst:
Lab Vacuum In	-2			"Hg		3/29/2016
Lab Vacuum Out	-30			"Hg		3/29/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
Chloromethane	0.78	0.15		ppbV	1	4/1/2016 2:22:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
Tetrachloroethylene	0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:22:00 AM
Trichloroethene	0.14	0.040		ppbV	1	4/1/2016 2:22:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/1/2016 2:22:00 AM
Surr: Bromofluorobenzene	103	70-130		%REC	1	4/1/2016 2:22:00 AM

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575 Outdoor
Lab Order:	C1603074	**Tag Number:**	223,388
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-001A	**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	4/1/2016 2:22:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 2:22:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:22:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 2:22:00 AM
Chloromethane	1.6	0.31		ug/m3	1	4/1/2016 2:22:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:22:00 AM
Tetrachloroethylene	1.0	1.0		ug/m3	1	4/1/2016 2:22:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:22:00 AM
Trichloroethene	0.75	0.21		ug/m3	1	4/1/2016 2:22:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/1/2016 2:22:00 AM

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033126.D Vial: 5
Acq On : 1 Apr 2016 2:22 am Operator: RJP
Sample : C1603074-001A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 01 03:32:51 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

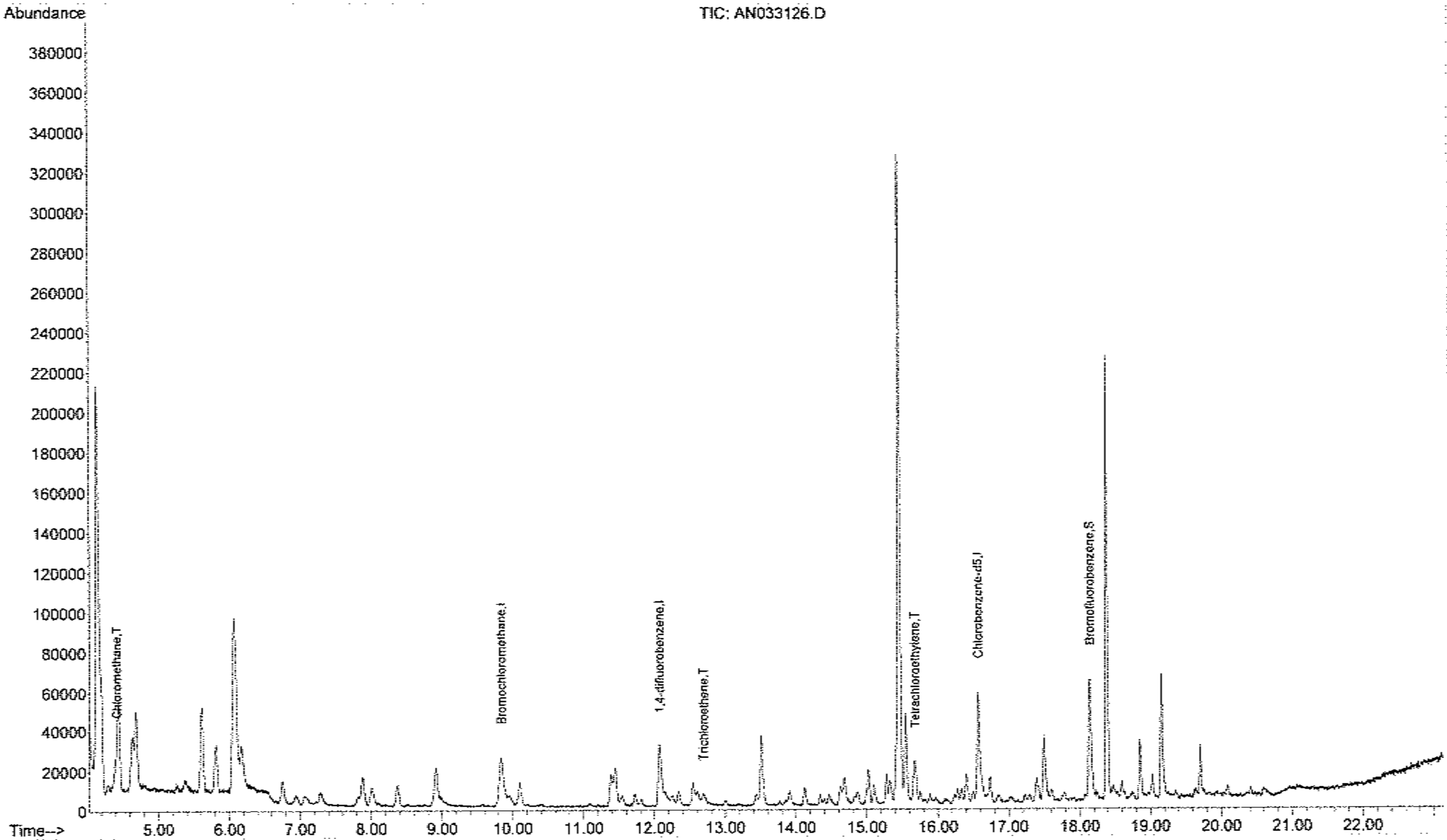
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.84	128	17309	1.00 ppb	0.03
35) 1,4-difluorobenzene	12.08	114	45592	1.00 ppb	0.02
50) Chlorobenzene-d5	16.57	117	46759	1.00 ppb	0.01
System Monitoring Compounds					
66) Bromofluorobenzene	18.15	95	30889	1.03 ppb	0.01
Spiked Amount 1.000	Range 70 - 130		Recovery	= 103.00%	
Target Compounds					Qvalue
4) Chloromethane	4.41	50	15101	0.78 ppb	91
44) Trichloroethene	12.70	130	2803	0.14 ppb	98
56) Tetrachloroethylene	15.67	164	4442	0.15 ppb	99

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

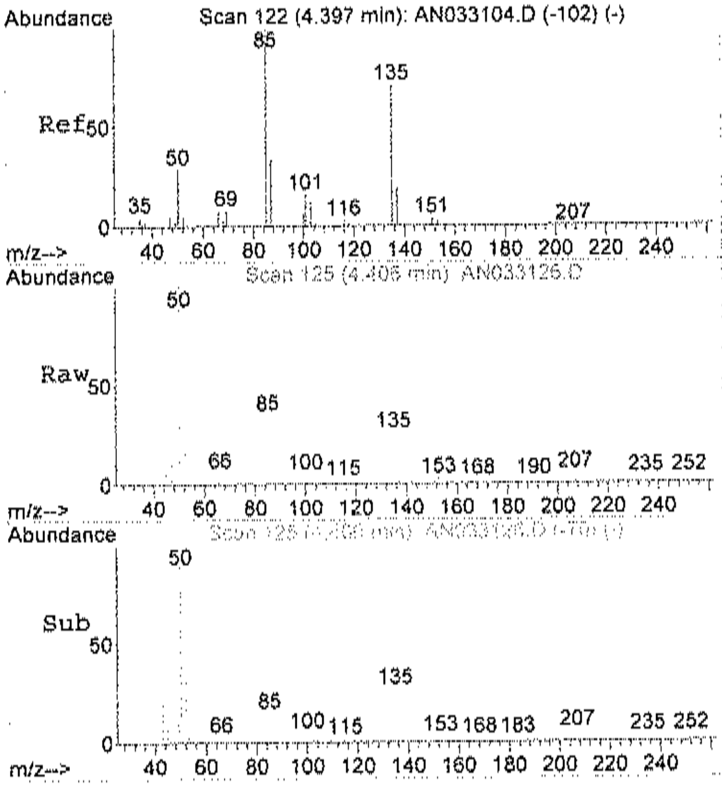
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033126.D Vial: 5
Acq On : 1 Apr 2016 2:22 am Operator: RJP
Sample : C1603074-001A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 11:40 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration



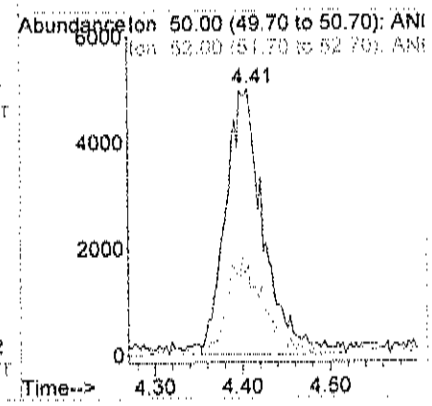
AN033126.D A316_1UG.M Tue Apr 26 14:43:37 2016 MSD1 Page 2

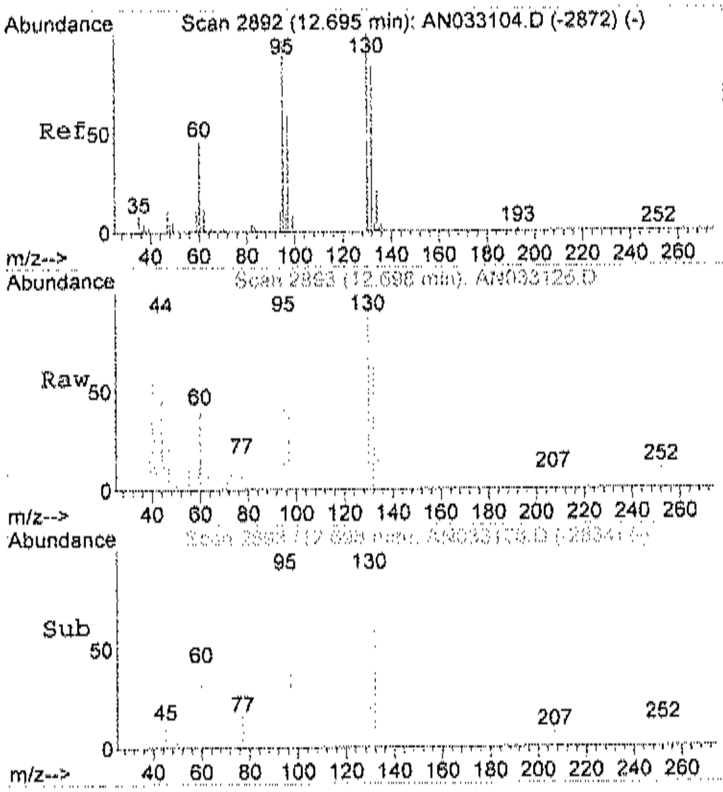


#4
Chloromethane
Concen: 0.78 ppb
RT: 4.41 min Scan# 125
Delta R.T. 0.02 min
Lab File: AN033126.D
Acq: 1 Apr 2016 2:22 am

Tgt Ion: 50 Resp: 15101

Ion	Ratio	Lower	Upper
50	100		
52	34.1	9.2	49.2

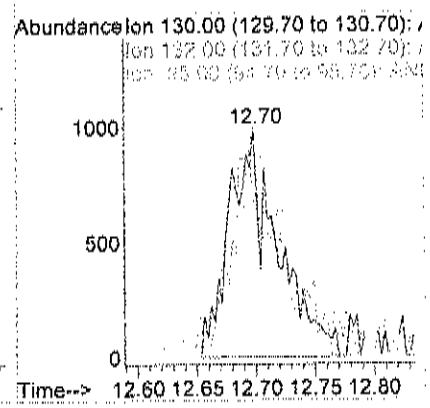


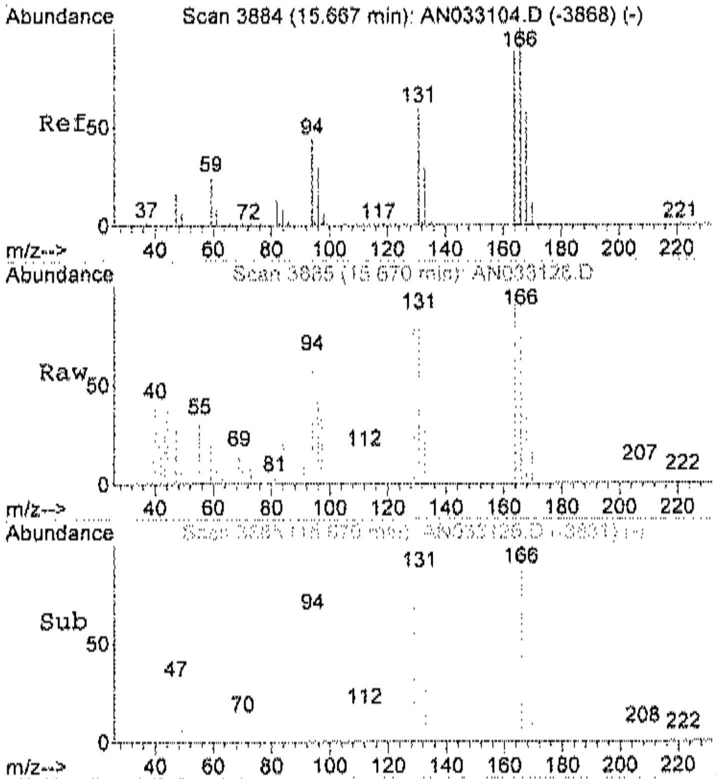


#44
Trichloroethene
Concen: 0.14 ppb
RT: 12.70 min Scan# 2893
Delta R.T. 0.03 min
Lab File: AN033126.D
Acq: 1 Apr 2016 2:22 am

Tgt Ion:130 Resp: 2803

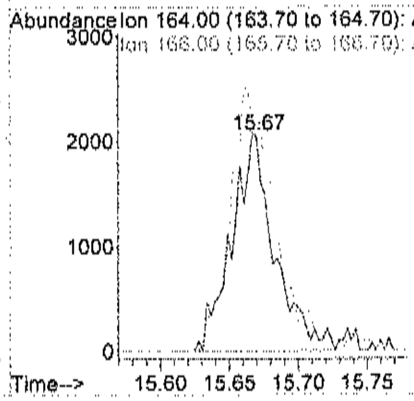
Ion	Ratio	Lower	Upper
130	100		
132	93.0	76.1	116.1
95	106.7	85.0	125.0





#56
Tetrachloroethylene
Concen: 0.15 ppb
RT: 15.67 min Scan# 3885
Delta R.T. 0.01 min
Lab File: AN033126.D
Acq: 1 Apr 2016 2:22 am

Tgt Ion:164	Resp:		4442
Ion	Ratio	Lower	Upper
164	100		
166	127.0	108.6	148.6



Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-SVI-1
Lab Order:	C1603074	**Tag Number:**	141,258
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-002A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-3			"Hg		3/29/2016
Lab Vacuum Out	-30			"Hg		3/29/2016
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
Tetrachloroethylene	5.2	1.5		ppbV	10	4/2/2016 2:50:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
Trichloroethene	3.6	1.5		ppbV	10	4/2/2016 2:50:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	4/1/2016 2:58:00 PM
Surr: Bromofluorobenzene	119	70-130		%REC	1	4/1/2016 2:58:00 PM

Qualifiers:

- ** Reporting 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 Value above quantitation range
- J Analyte detected at or below quantitation limits
- ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-SVI-1
Lab Order:	C1603074	**Tag Number:**	141,258
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-002A	**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	4/1/2016 2:58:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 2:58:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:58:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 2:58:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	4/1/2016 2:58:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:58:00 PM
Tetrachloroethylene	35	10		ug/m3	10	4/2/2016 2:50:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:58:00 PM
Trichloroethene	19	8.1		ug/m3	10	4/2/2016 2:50:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	4/1/2016 2:58:00 PM

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

Data File : C:\HPCHEM\1\DATA\AN040106.D Vial: 22
Acq On : 1 Apr 2016 2:58 pm Operator: RJP
Sample : C1603074-002A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 01 16:46:01 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

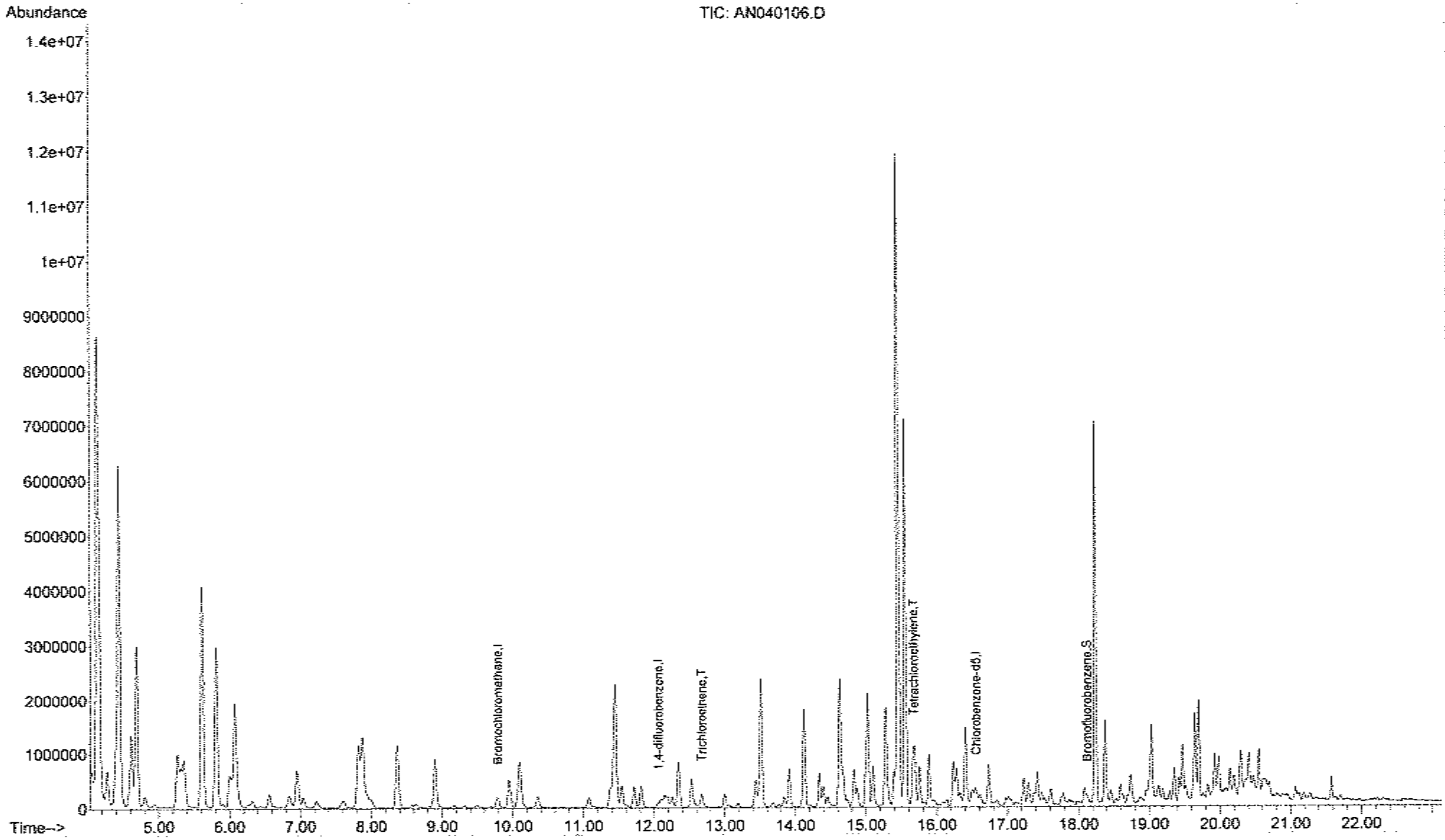
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.80	128	22278	1.00 ppb	-0.01
35) 1,4-difluorobenzene	12.06	114	65852	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	42749	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.13	95	32814m	1.19 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	119.00%	
Target Compounds					Qvalue
44) Trichloroethene	12.67	130	101410	3.63 ppb	98
56) Tetrachloroethylene	15.66	164	195798	7.06 ppb	99

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

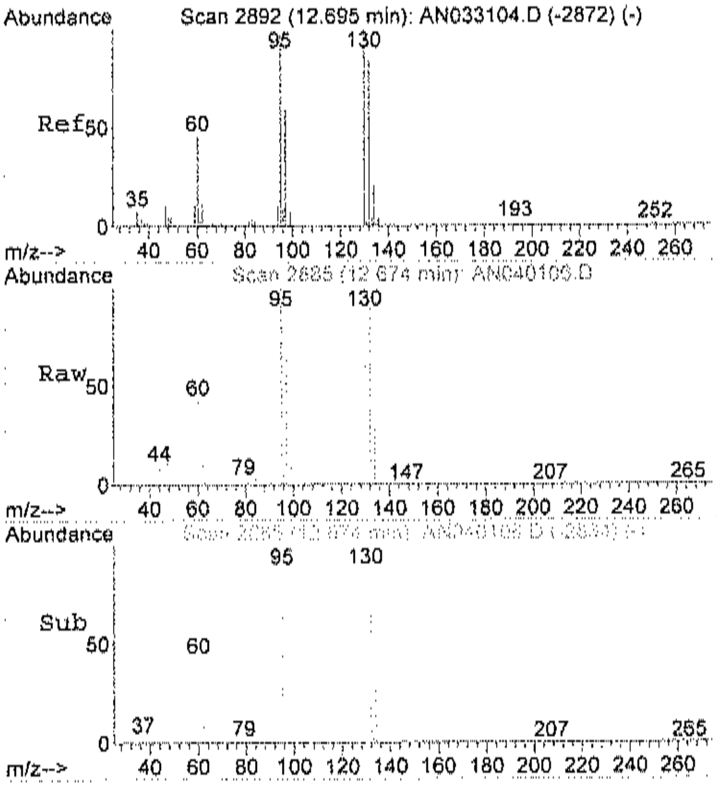
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040106.D Vial: 22
Acq On : 1 Apr 2016 2:58 pm Operator: RJP
Sample : C1603074-002A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 2 12:09 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration



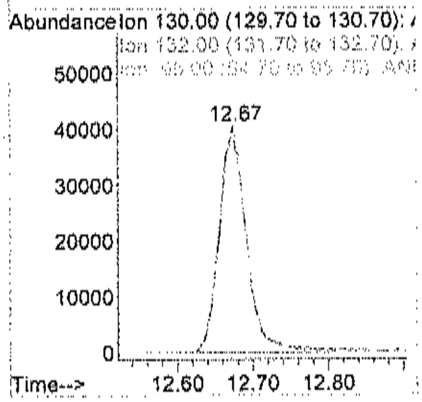
AN040106.D A316_1UG.M Tue Apr 26 14:43:26 2016 MSD1 Page 2

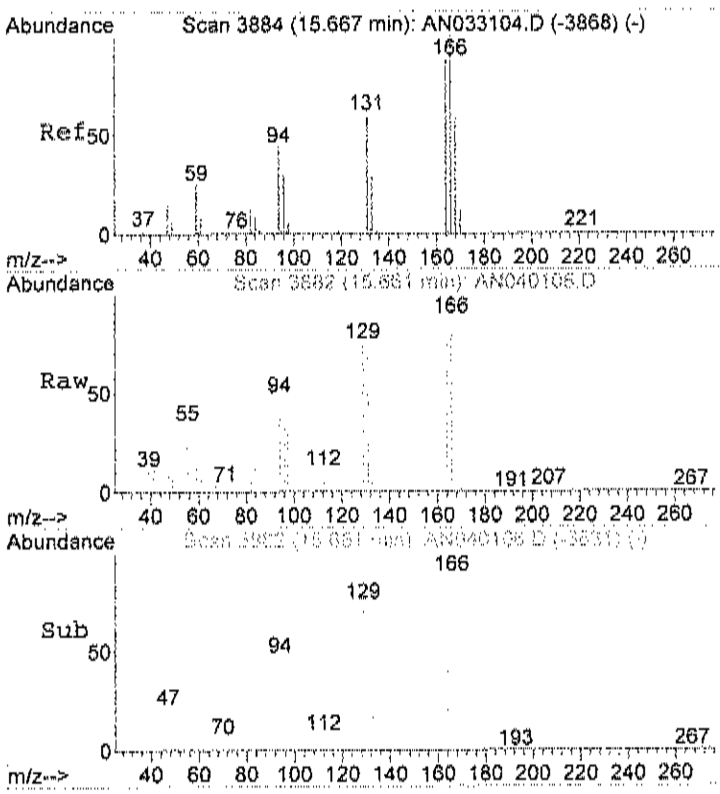


#44
Trichloroethene
Concen: 3.63 ppb
RT: 12.67 min Scan# 2885
Delta R.T. 0.00 min
Lab File: AN040106.D
Acq: 1 Apr 2016 2:58 pm

Tgt Ion:130 Resp: 101410

Ion	Ratio	Lower	Upper
130	100		
132	98.8	76.1	116.1
95	103.6	85.0	125.0

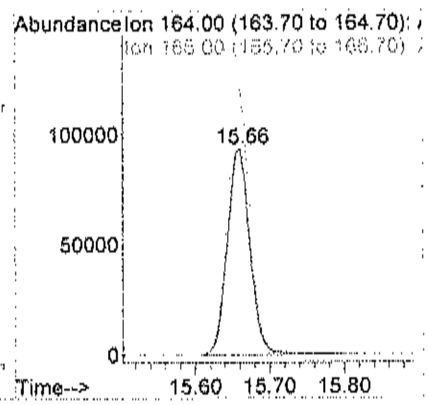




#56
Tetrachloroethylene
Concen: 7.06 ppb
RT: 15.66 min Scan# 3882
Delta R.T. 0.00 min
Lab File: AN040106.D
Acq: 1 Apr 2016 2:58 pm

Tgt Ion:164 Resp: 195798

Ion	Ratio	Lower	Upper
164	100		
166	127.9	108.6	148.6



Data File : C:\HPCHEM\1\DATA\AN040207.D Vial: 4
Acq On : 2 Apr 2016 2:50 pm Operator: RJP
Sample : C1603074-002A 10X Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 06:12:27 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.81	128	17723	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.06	114	50503	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	51116	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.14	95	37002	1.13 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	113.00%	
Target Compounds					Qvalue
44) Trichloroethene	12.68	130	7746	0.36 ppb	99
56) Tetrachloroethylene	15.66	164	17129	0.52 ppb	98

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

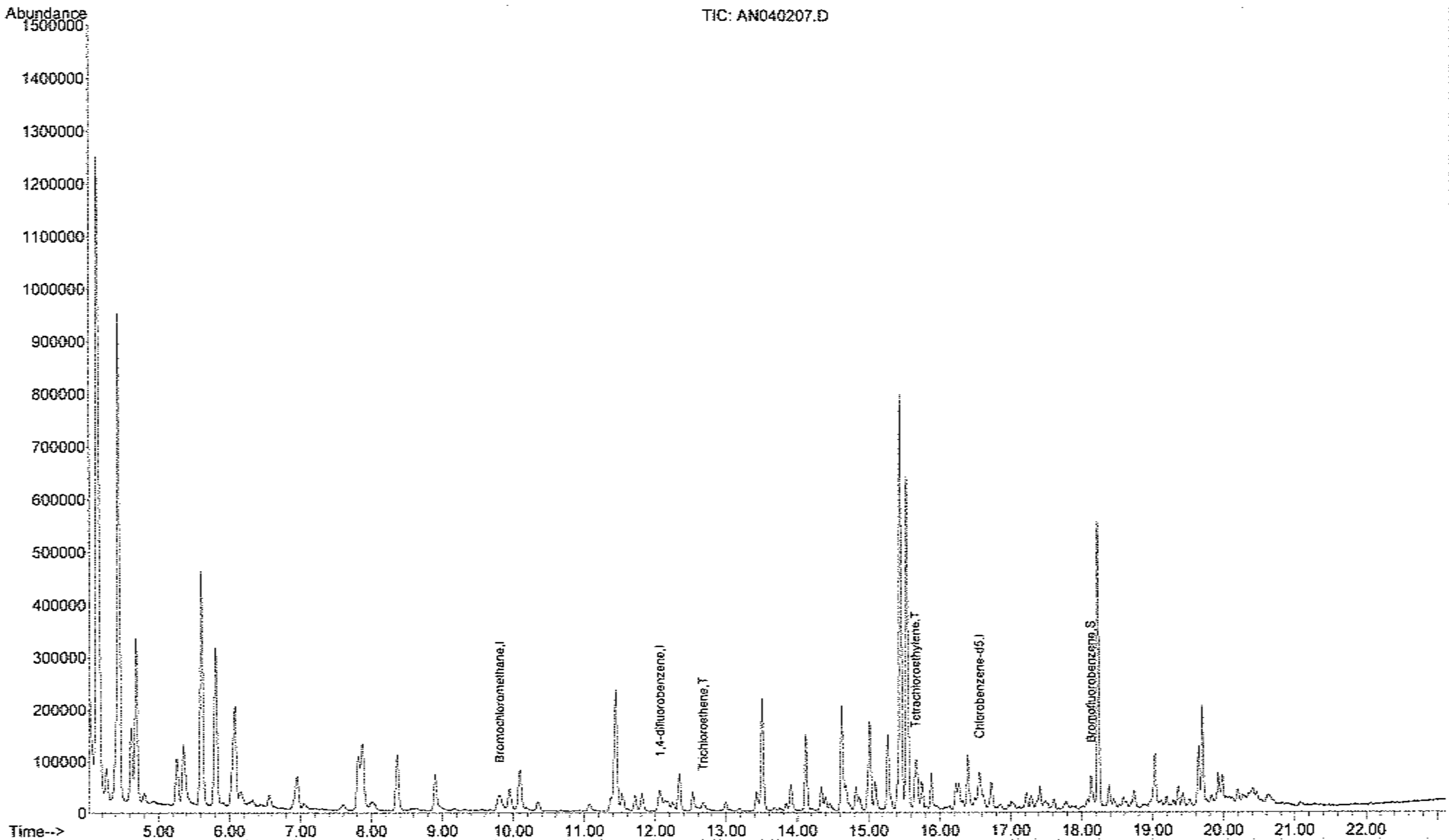
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040207.D
Acq On : 2 Apr 2016 2:50 pm
Sample : C1603074-002A 10X
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 3 11:43 2016

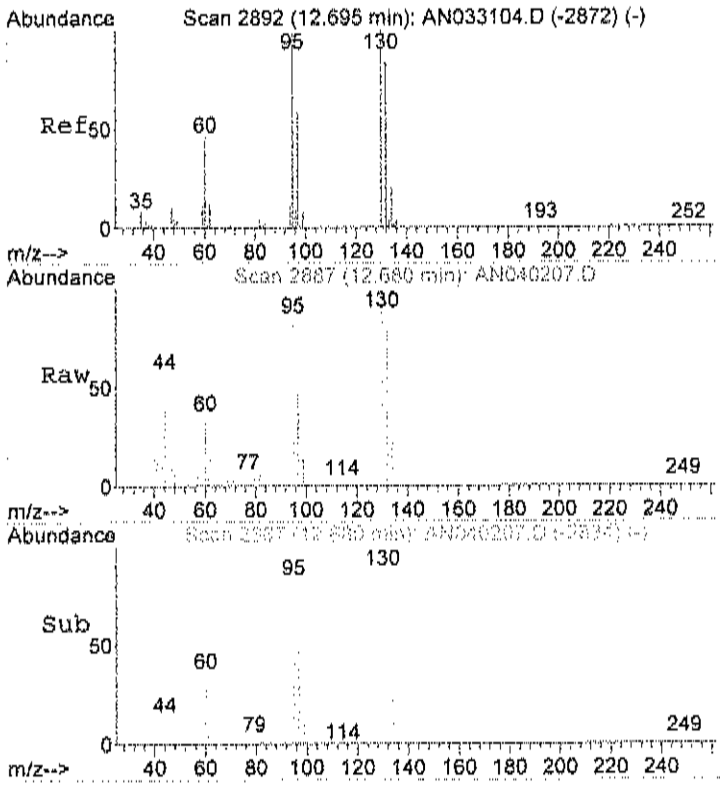
Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration



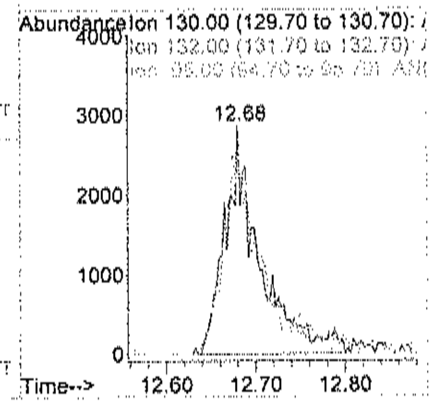
AN040207.D A316_1UG.M Tue Apr 26 14:58:30 2016 MSD1

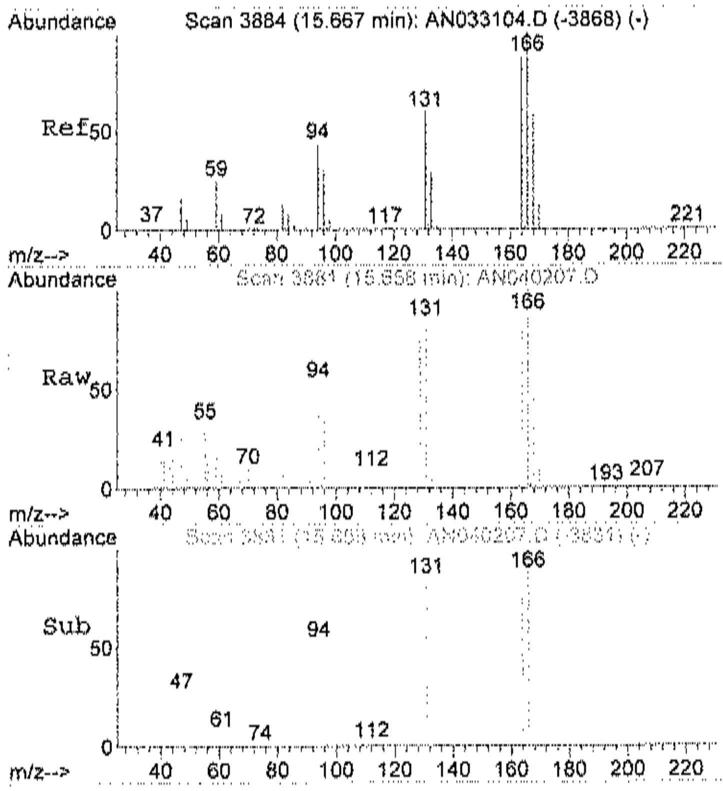


#44
Trichloroethene
Concen: 0.36 ppb
RT: 12.68 min Scan# 2887
Delta R.T. 0.01 min
Lab File: AN040207.D
Acq: 2 Apr 2016 2:50 pm

Tgt Ion:130 Resp: 7746

Ion	Ratio	Lower	Upper
130	100		
132	95.6	76.1	116.1
95	106.2	85.0	125.0

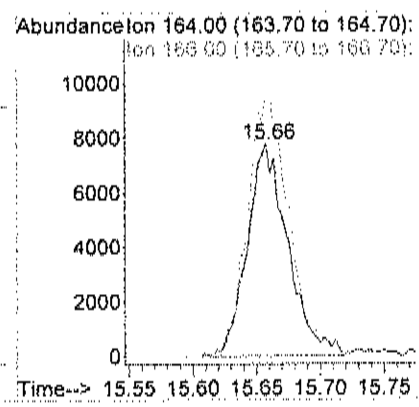




#56
Tetrachloroethylene
Concen: 0.52 ppb
RT: 15.66 min Scan# 3881
Delta R.T. 0.00 min
Lab File: AN040207.D
Acq: 2 Apr 2016 2:50 pm

Tgt Ion:164 Resp: 17129

Ion	Ratio	Lower	Upper
164	100		
166	131.4	108.6	148.6



Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-1
Lab Order:	C1603074	**Tag Number:**	128,296
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-8			"Hg		3/29/2016
Lab Vacuum Out	-30			"Hg		3/29/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
Chloromethane	0.78	0.15		ppbV	1	4/1/2016 3:00:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
Tetrachloroethylene	0.61	0.15		ppbV	1	4/1/2016 3:00:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:00:00 AM
Trichloroethene	0.63	0.040		ppbV	1	4/1/2016 3:00:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/1/2016 3:00:00 AM
Surr: Bromofluorobenzene	128	70-130		%REC	1	4/1/2016 3:00:00 AM

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-1
Lab Order:	C1603074	**Tag Number:**	128,296
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-003A	**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	4/1/2016 3:00:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 3:00:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:00:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 3:00:00 AM
Chloromethane	1.6	0.31		ug/m3	1	4/1/2016 3:00:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:00:00 AM
Tetrachloroethylene	4.1	1.0		ug/m3	1	4/1/2016 3:00:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:00:00 AM
Trichloroethene	3.4	0.21		ug/m3	1	4/1/2016 3:00:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/1/2016 3:00:00 AM

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

Data File : C:\HPCHEM\1\DATA2\AN033127.D Vial: 6
Acq On : 1 Apr 2016 3:00 am Operator: RJP
Sample : C1603074-003A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 01 03:32:52 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

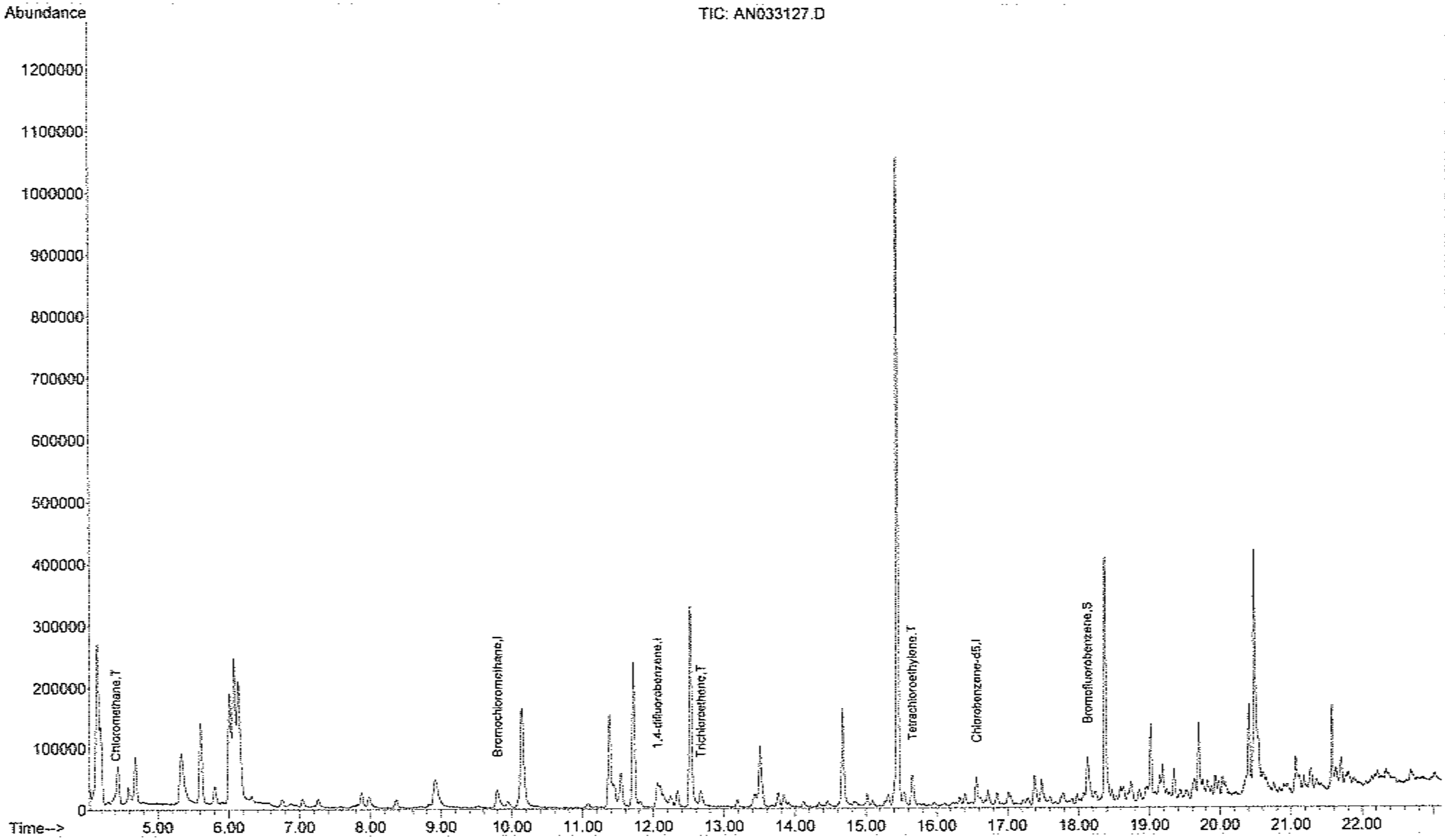
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.80	128	17481	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.06	114	46745	1.00 ppb	0.00
50) Chlorobenzene-d5	16.57	117	34378	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.14	95	28229m	1.28 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 128.00%	
Target Compounds					Qvalue
4) Chloromethane	4.40	50	15318	0.78 ppb	90
44) Trichloroethene	12.67	130	12422	0.63 ppb	99
56) Tetrachloroethylene	15.66	164	13517	0.61 ppb	97

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

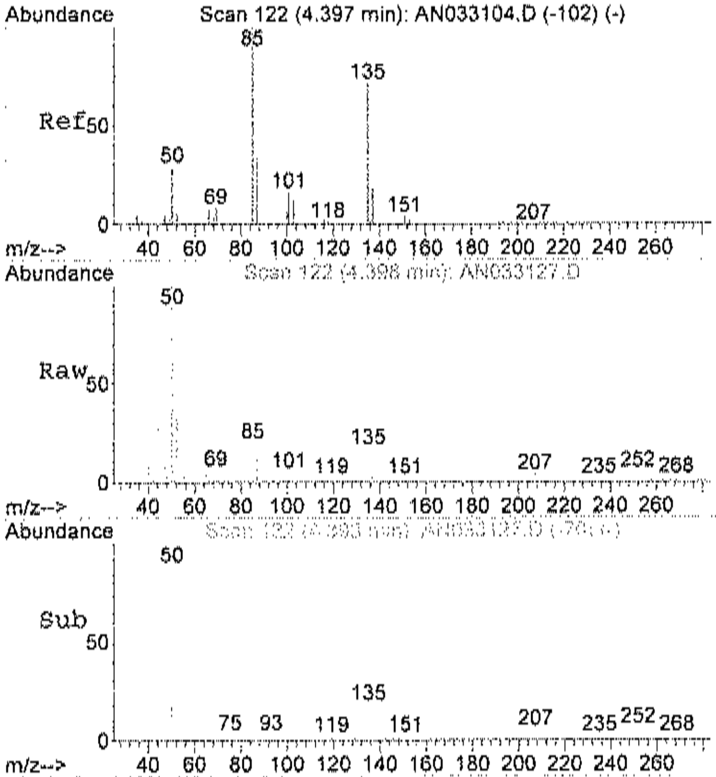
Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\AN033127.D                Vial: 6
Acq On    :  1 Apr 2016   3:00 am                   Operator: RJP
Sample    : C1603074-003A                           Inst    : MSD #1
Misc      : A316_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  1 11:42 2016             Quant Results File: A316_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Tue Apr 26 14:41:32 2016
Response via  : Initial Calibration
```



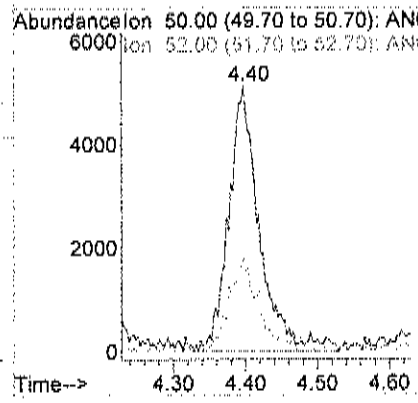
AN033127.D A316_1UG.M Tue Apr 26 14:43:43 2016 MSD1

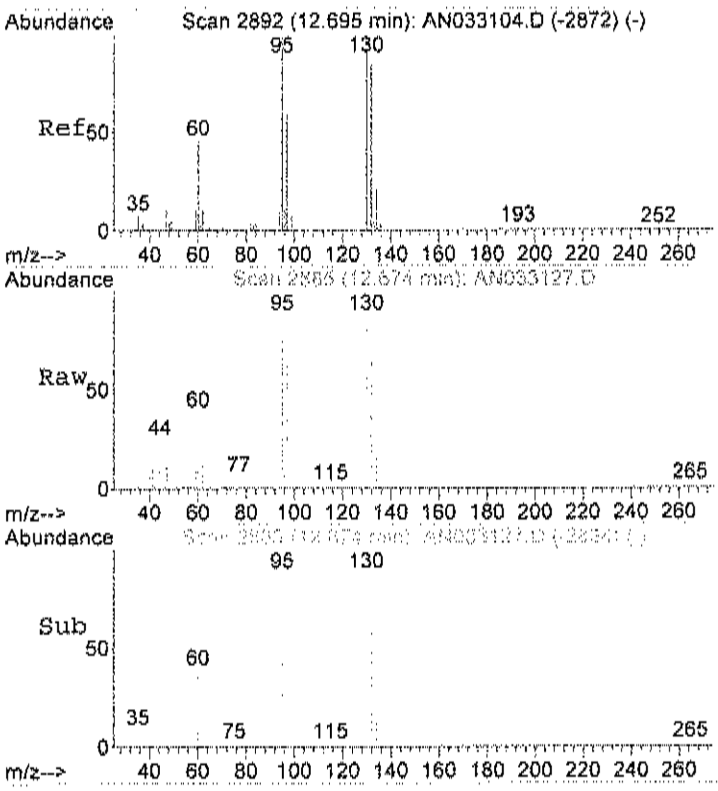


#4
Chloromethane
Concen: 0.78 ppb
RT: 4.40 min Scan# 122
Delta R.T. 0.01 min
Lab File: AN033127.D
Acq: 1 Apr 2016 3:00 am

Tgt Ion: 50 Resp: 15318

Ion	Ratio	Lower	Upper
50	100		
52	34.5	9.2	49.2

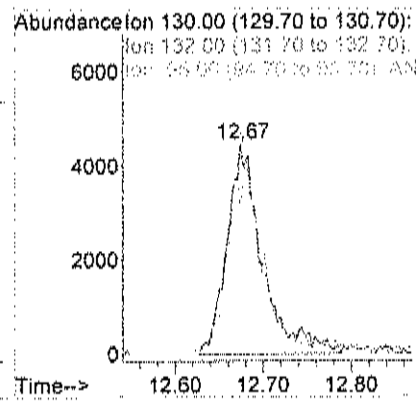


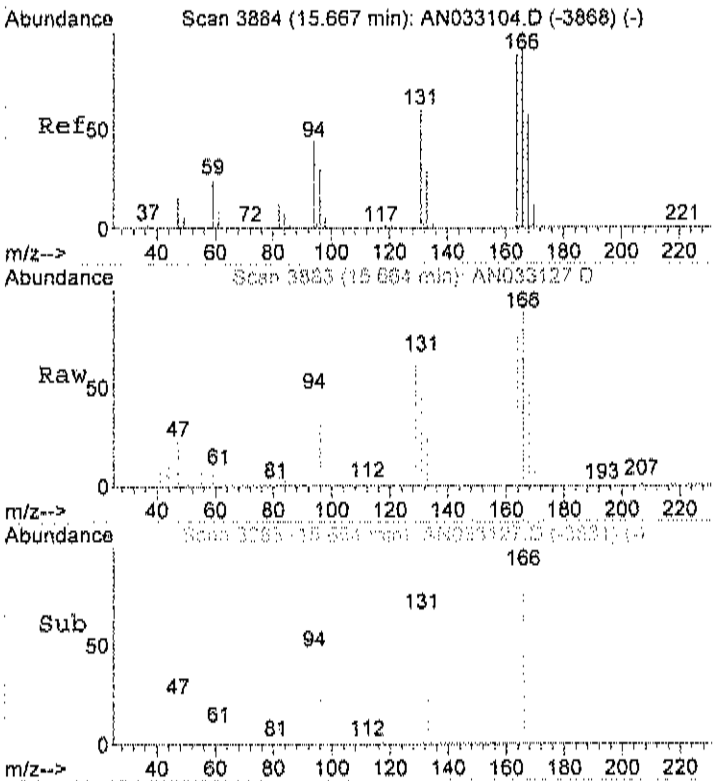


#44
Trichloroethene
Concen: 0.63 ppb
RT: 12.67 min Scan# 2885
Delta R.T. 0.00 min
Lab File: AN033127.D
Acq: 1 Apr 2016 3:00 am

Tgt Ion:130 Resp: 12422

Ion	Ratio	Lower	Upper
130	100		
132	96.5	76.1	116.1
95	106.1	85.0	125.0

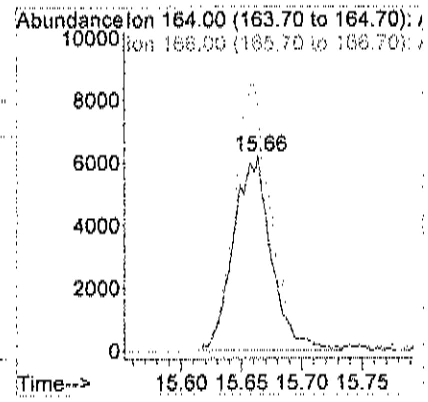




#56
Tetrachloroethylene
Concen: 0.61 ppb
RT: 15.66 min Scan# 3883
Delta R.T. 0.01 min
Lab File: AN033127.D
Acq: 1 Apr 2016 3:00 am

Tgt Ion:164 Resp: 13517

Ion	Ratio	Lower	Upper
164	100		
166	132.6	108.6	148.6



Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-SVI-2
Lab Order:	C1603074	**Tag Number:**	136,249
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-004A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-2			"Hg		3/29/2016
Lab Vacuum Out	-30			"Hg		3/29/2016
1UG/M3 BY METHOD TO15		TO-15				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
Tetrachloroethylene	78	14		ppbV	90	4/2/2016 3:27:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 PM
Trichloroethene	87	14		ppbV	90	4/2/2016 3:27:00 PM
Vinyl chloride	0.75	0.15		ppbV	1	4/1/2016 3:39:00 PM
Surr: Bromofluorobenzene	135	70-130	S	%REC	1	4/1/2016 3:39:00 PM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-SVI-2
Lab Order:	C1603074	**Tag Number:**	136,249
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-004A	**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	4/1/2016 3:39:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 3:39:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 3:39:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	4/1/2016 3:39:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 PM
Tetrachloroethylene	530	95		ug/m3	90	4/2/2016 3:27:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 PM
Trichloroethene	470	75		ug/m3	90	4/2/2016 3:27:00 PM
Vinyl chloride	1.9	0.38		ug/m3	1	4/1/2016 3:39:00 PM

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040107.D
Acq On : 1 Apr 2016 3:39 pm
Sample : C1603074-004A
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 01 16:46:36 2016

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

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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

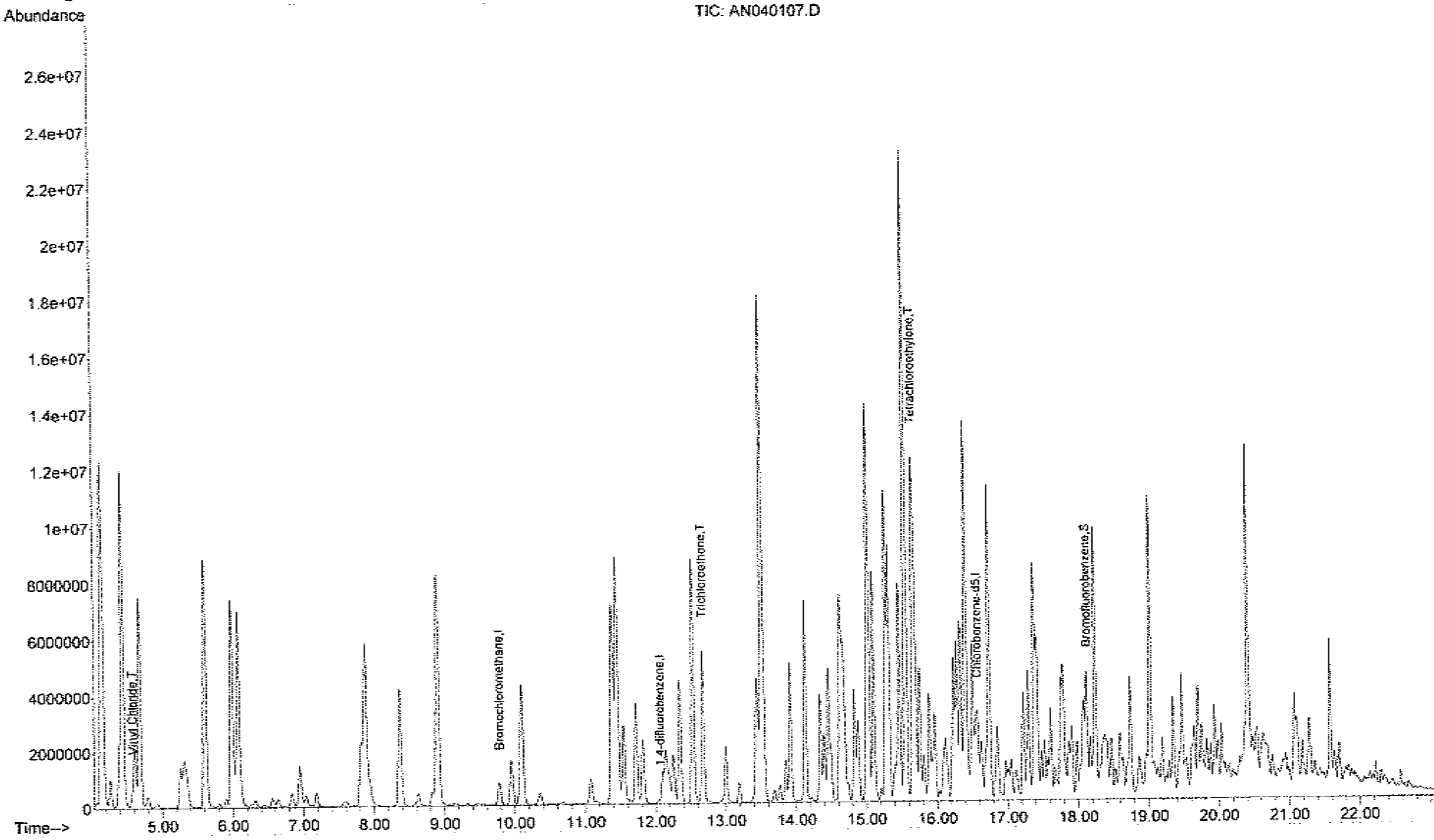
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.79	128	26461	1.00 ppb	-0.02
35) 1,4-difluorobenzene	12.05	114	85051	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	45205	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.13	95	39140m N	1.35 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 135.00%#	
Target Compounds					Qvalue
6) Vinyl Chloride	4.57	62	22265	0.75 ppb	93
44) Trichloroethene	12.67	130	2394105	66.27 ppb	97
56) Tetrachloroethylene	15.66	164	2761513	94.21 ppb	99

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

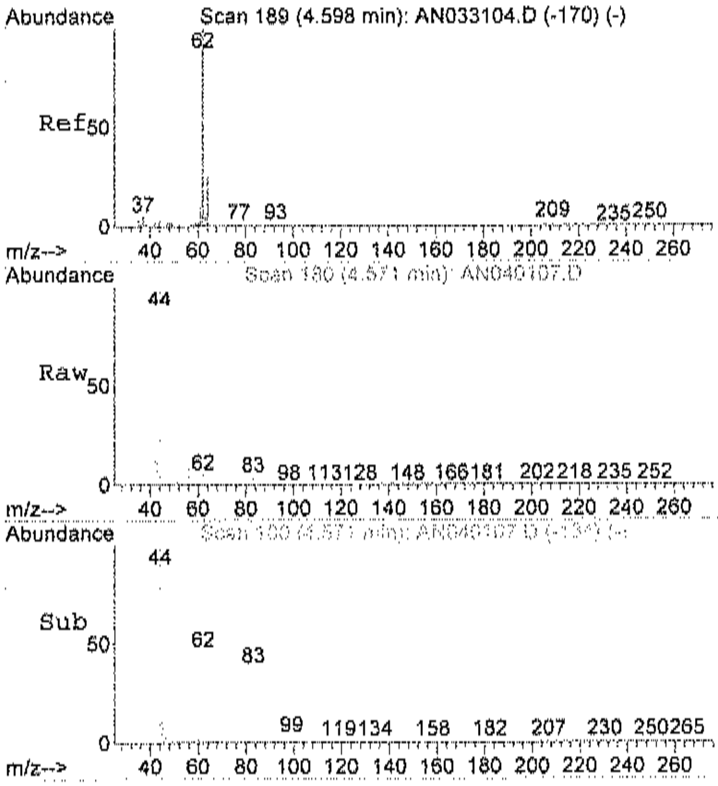
Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AN040107.D                    Vial: 23
Acq On    :  1 Apr 2016   3:39 pm                      Operator: RJP
Sample    : C1603074-004A                              Inst    : MSD #1
Misc      : A316_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  2 14:39 2016             Quant Results File: A316_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration
```



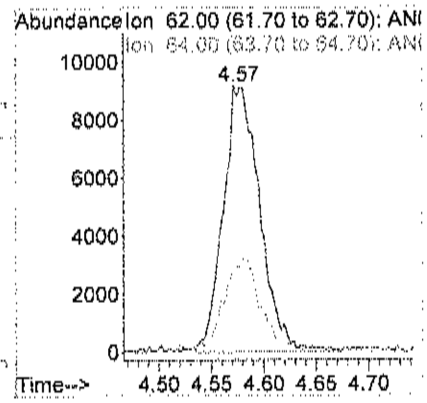
AN040107.D A316_1UG.M Tue Apr 26 14:43:31 2016 MSD1

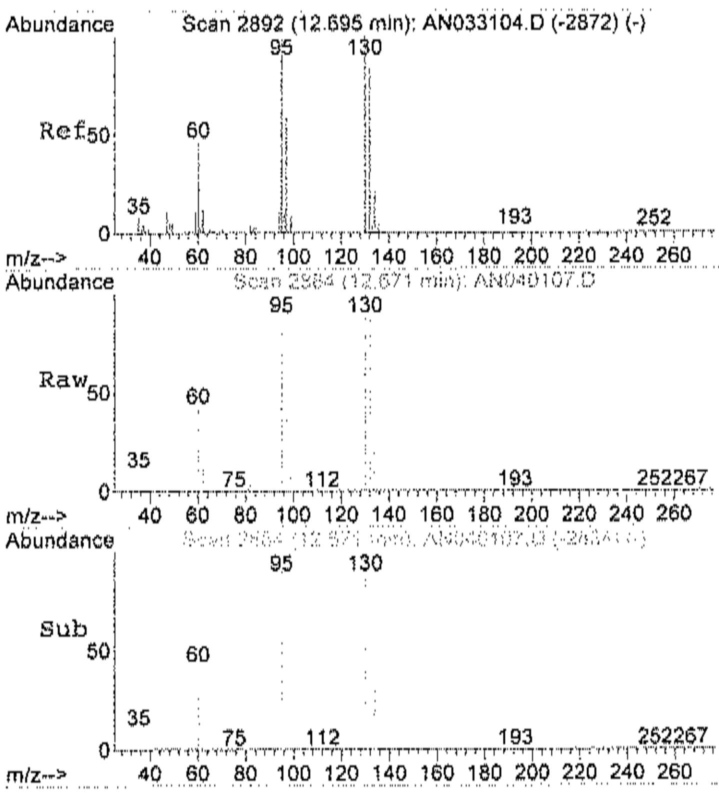


#6
Vinyl Chloride
Concen: 0.75 ppb
RT: 4.57 min Scan# 180
Delta R.T. -0.01 min
Lab File: AN040107.D
Acq: 1 Apr 2016 3:39 pm

Tgt Ion: 62 Resp: 22265

Ion	Ratio	Lower	Upper
62	100		
64	35.9	9.9	69.9

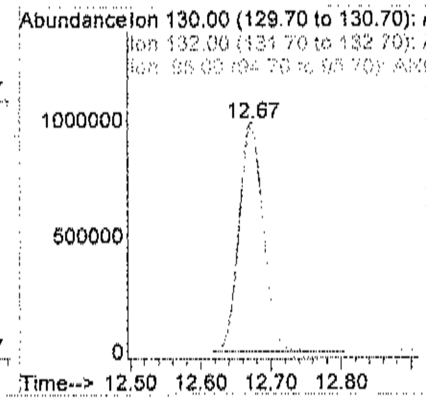


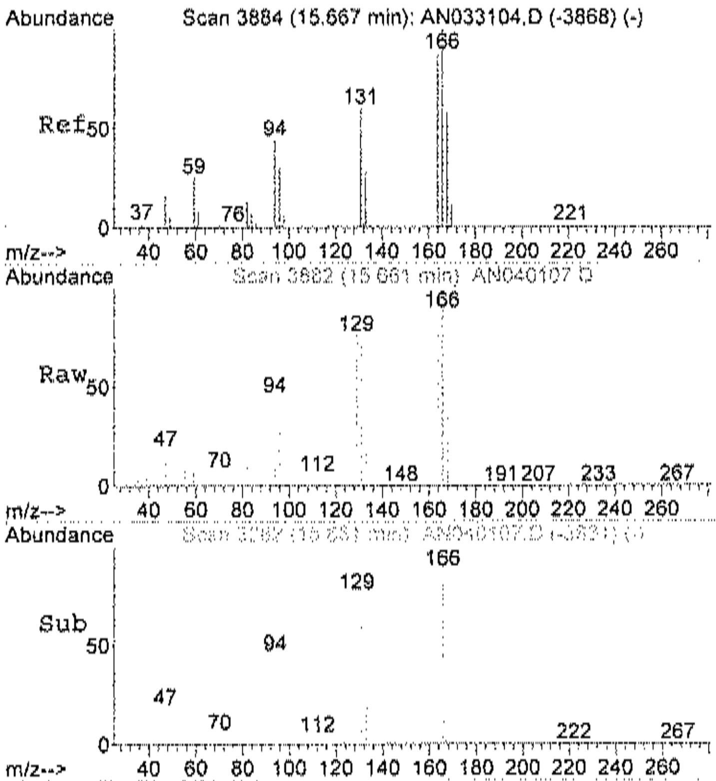


#44
Trichloroethene
Concen: 66.27 ppb
RT: 12.67 min Scan# 2884
Delta R.T. 0.00 min
Lab File: AN040107.D
Acq: 1 Apr 2016 3:39 pm

Tgt Ion:130 Resp: 2394105

Ion	Ratio	Lower	Upper
130	100		
132	96.6	76.1	116.1
95	99.9	85.0	125.0

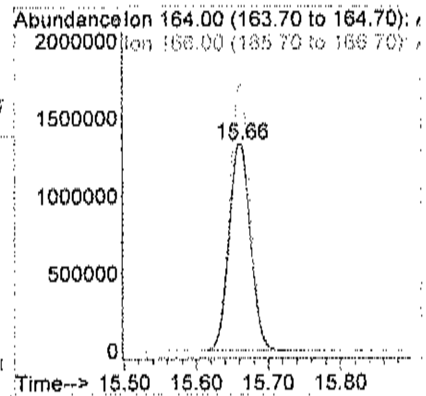




#56
Tetrachloroethylene
Concen: 94.21 ppb
RT: 15.66 min Scan# 3882
Delta R.T. 0.00 min
Lab File: AN040107.D
Acq: 1 Apr 2016 3:39 pm

Tgt Ion:164 Resp: 2761513

Ion	Ratio	Lower	Upper
164	100		
166	127.0	108.6	148.6



Quantitation Report (QT Reviewed)

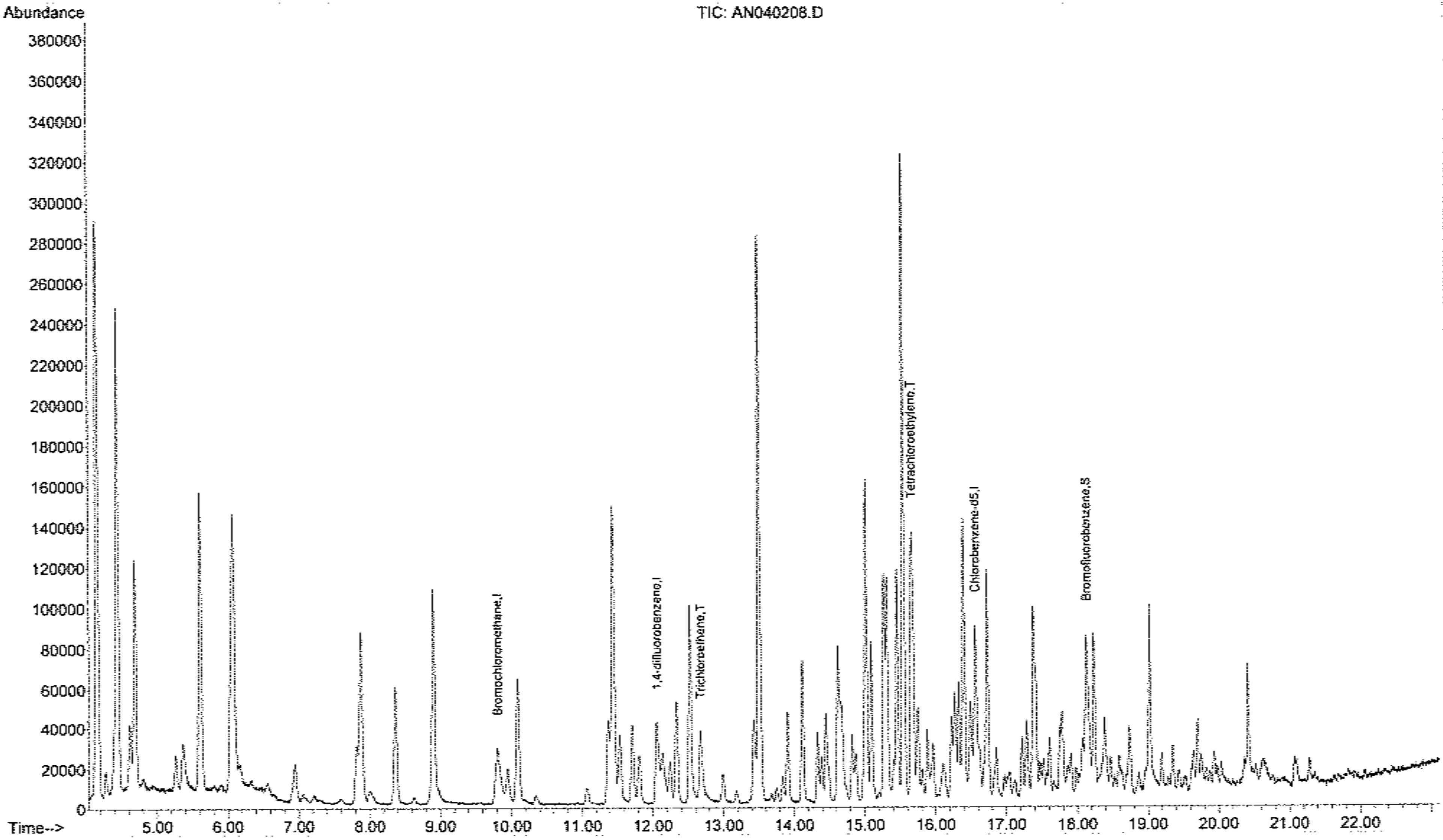
Data File : C:\HPCHEM\1\DATA\AN040208.D   Vial: 5
Acq On : 2 Apr 2016 3:27 pm   Operator: RJP
Sample : C1603074-004A 90X   Inst : MSD #1
Misc : A316_1UG   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 06:12:28 2016   Quant Results File: A316_1UG.RES

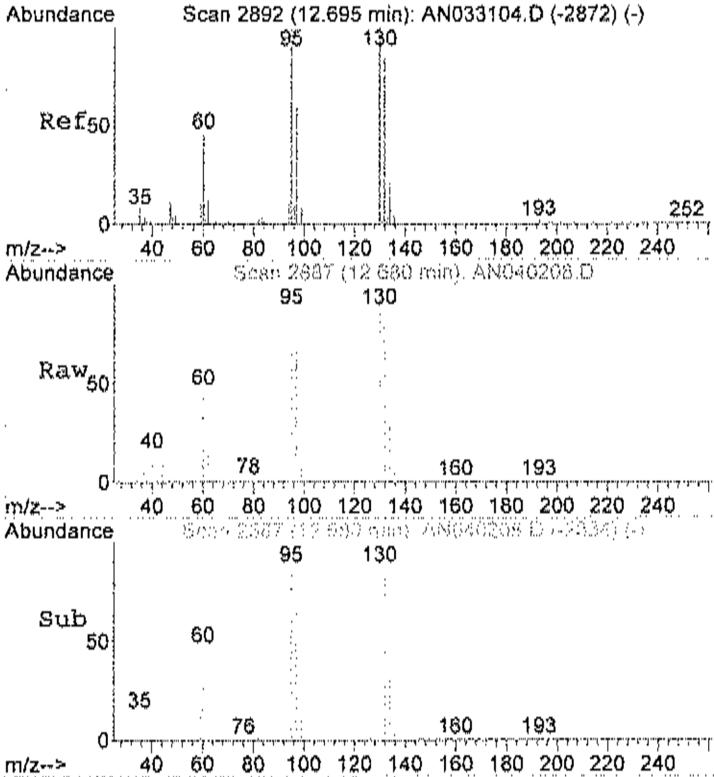
Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.82	128	17272	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.06	114	49481	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	49453	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.14	95	37575	1.18 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 118.00%	
Target Compounds					Qvalue
44) Trichloroethene	12.68	130	20322	0.97 ppb	97
56) Tetrachloroethylene	15.65	164	27842	0.87 ppb	99

```
Data File : C:\HPCHEM\1\DATA\AN040208.D              Vial: 5
Acq On    :  2 Apr 2016   3:27 pm                 Operator: RJP
Sample    : C1603074-004A 90X                     Inst     : MSD #1
Misc      : A316_1UG                              Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  3 11:43 2016            Quant Results File: A316_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration
```

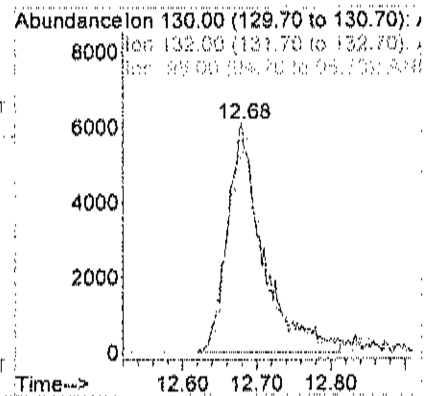


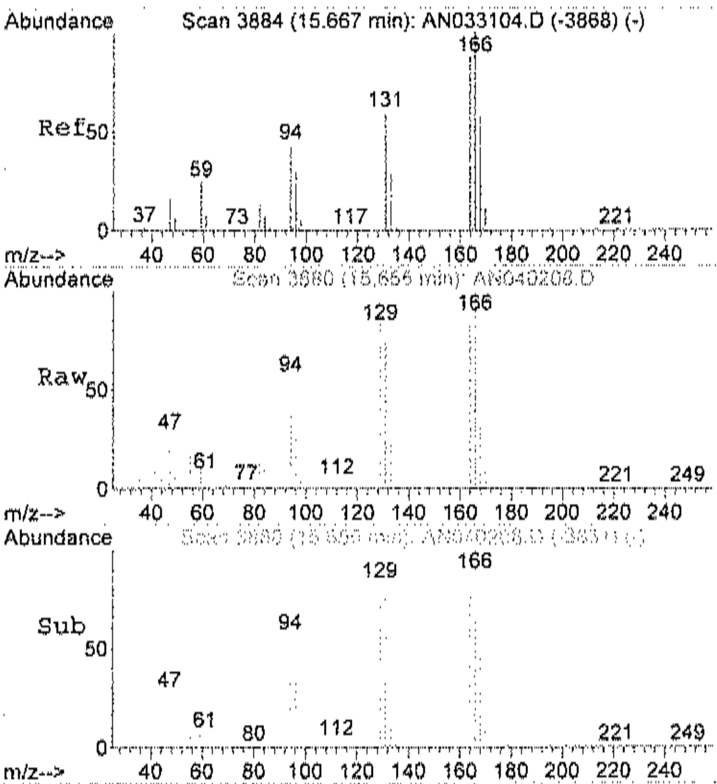


#44
Trichloroethene
Concen: 0.97 ppb
RT: 12.68 min Scan# 2887
Delta R.T. 0.01 min
Lab File: AN040208.D
Acq: 2 Apr 2016 3:27 pm

Tgt Ion:130 Resp: 20322

Ion	Ratio	Lower	Upper
130	100		
132	92.5	76.1	116.1
95	101.7	85.0	125.0

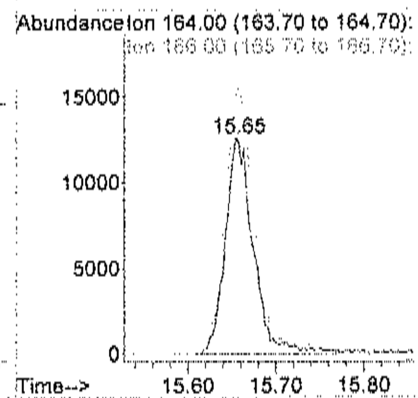




#56
Tetrachloroethylene
Concen: 0.87 ppb
RT: 15.65 min Scan# 3880
Delta R.T. -0.00 min
Lab File: AN040208.D
Acq: 2 Apr 2016 3:27 pm

Tgt Ion:164 Resp: 27842

Ion	Ratio	Lower	Upper
164	100		
166	129.8	108.6	148.6



Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-2
Lab Order:	C1603074	**Tag Number:**	1195,187
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-3			"Hg		3/29/2016
Lab Vacuum Out	-30			"Hg		3/29/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
Chloromethane	0.79	0.15		ppbV	1	4/1/2016 3:39:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
Tetrachloroethylene	0.54	0.15		ppbV	1	4/1/2016 3:39:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/1/2016 3:39:00 AM
Trichloroethene	0.57	0.040		ppbV	1	4/1/2016 3:39:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/1/2016 3:39:00 AM
Surr: Bromofluorobenzene	122	70-130		%REC	1	4/1/2016 3:39:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-2
Lab Order:	C1603074	**Tag Number:**	1195,187
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-005A	**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	4/1/2016 3:39:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 3:39:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 3:39:00 AM
Chloromethane	1.6	0.31		ug/m3	1	4/1/2016 3:39:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 AM
Tetrachloroethylene	3.7	1.0		ug/m3	1	4/1/2016 3:39:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 AM
Trichloroethene	3.1	0.21		ug/m3	1	4/1/2016 3:39:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/1/2016 3:39:00 AM

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033128.D Vial: 7
Acq On : 1 Apr 2016 3:39 am Operator: RJP
Sample : C1603074-005A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 01 11:42:39 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

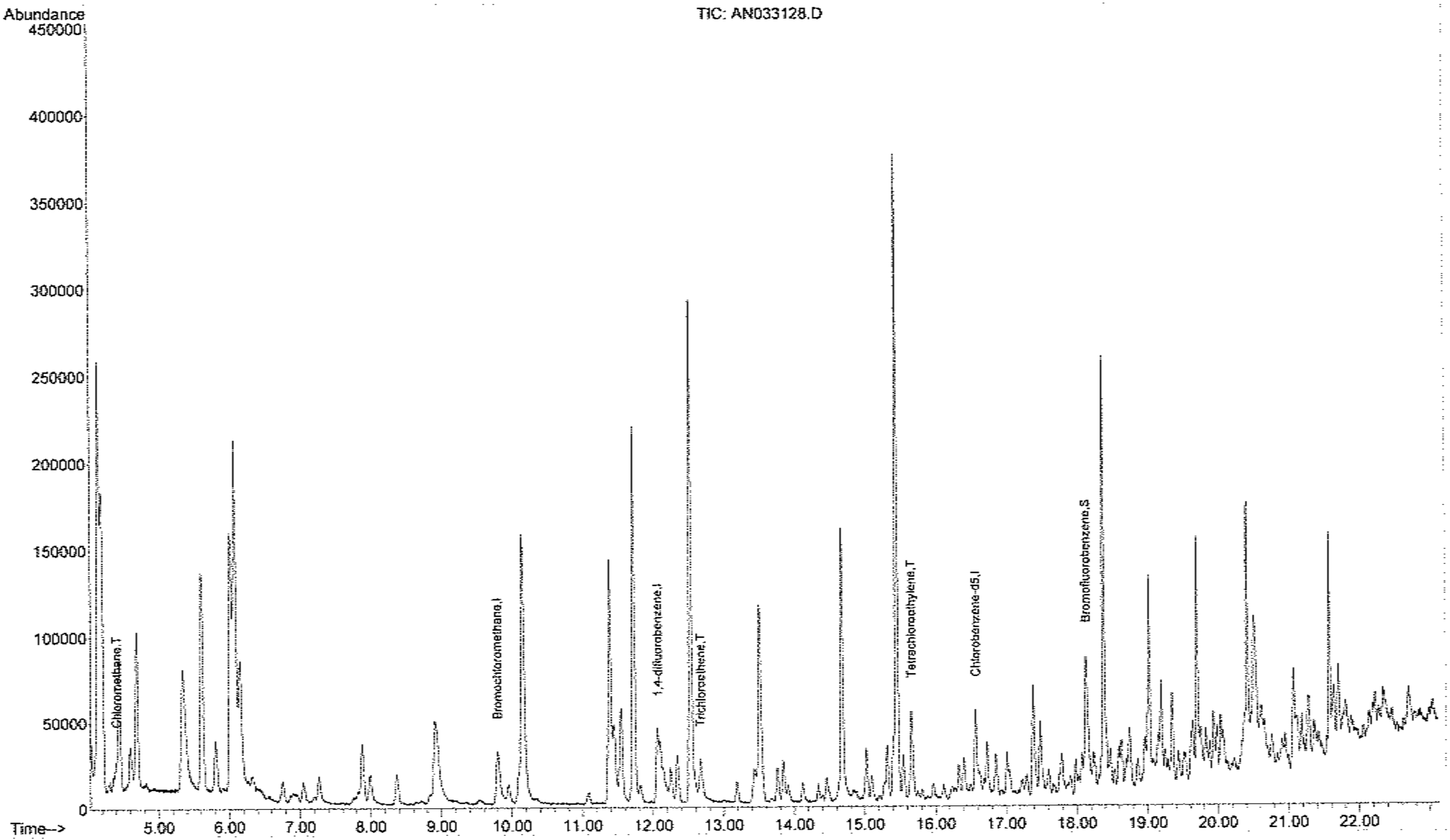
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.80	128	17835	1.00 ppb	-0.01
35) 1,4-difluorobenzene	12.07	114	48453	1.00 ppb	0.00
50) Chlorobenzene-d5	16.57	117	36257	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.14	95	28536m N	1.22 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 122.00%	
Target Compounds					Qvalue
4) Chloromethane	4.40	50	15741	0.79 ppb	89
44) Trichloroethene	12.68	130	11669	0.57 ppb	93
56) Tetrachloroethylene	15.66	164	12742	0.54 ppb	98

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

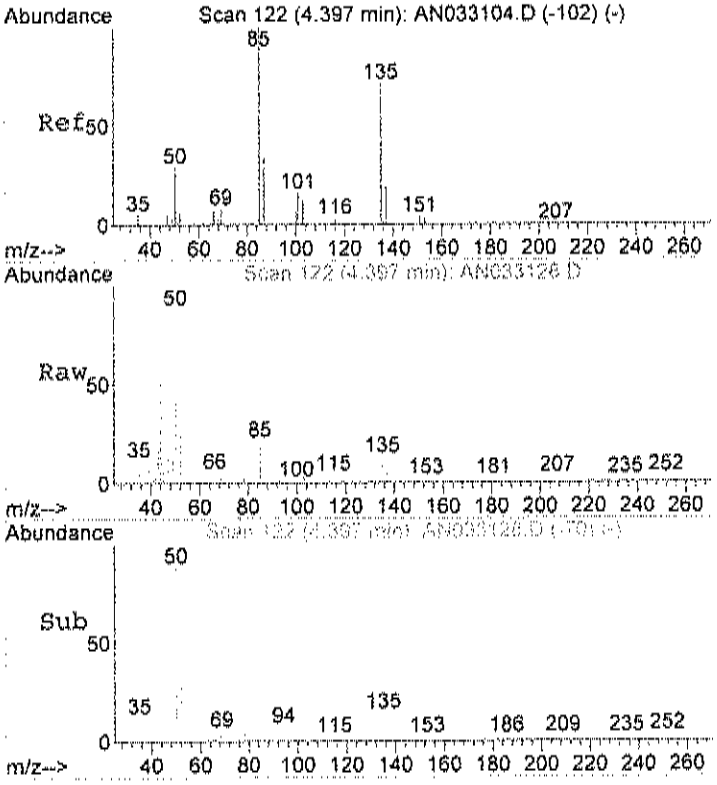
Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\AN033128.D                Vial: 7
Acq On    :  1 Apr 2016   3:39 am                   Operator: RJP
Sample    : C1603074-005A                           Inst    : MSD #1
Misc      : A316_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  1 11:47 2016            Quant Results File: A316_1UG.RES

Method      : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title       : TO-15 VOA  Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration
```



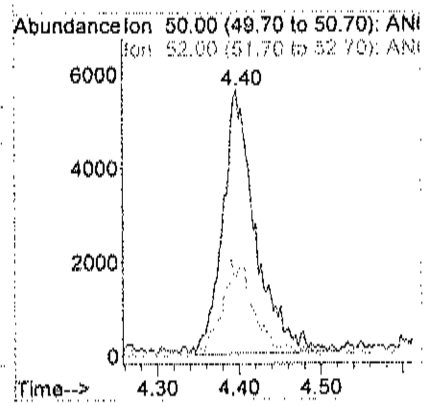
AN033128.D A316_1UG.M Tue Apr 26 14:43:49 2016 MSD1 Page 2

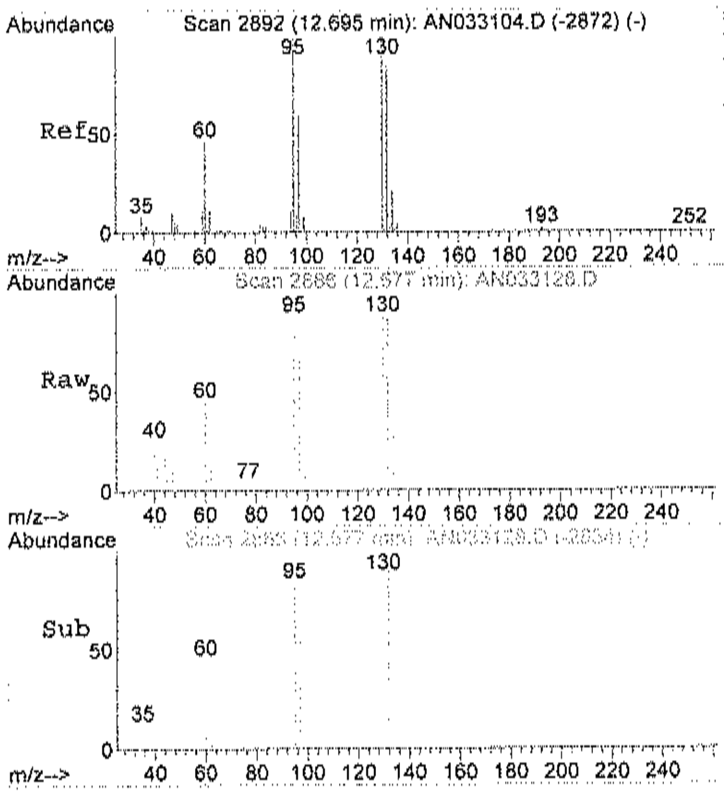


#4
Chloromethane
Concen: 0.79 ppb
RT: 4.40 min Scan# 122
Delta R.T. 0.01 min
Lab File: AN033128.D
Acq: 1 Apr 2016 3:39 am

Tgt Ion: 50 Resp: 15741

Ion	Ratio	Lower	Upper
50	100		
52	35.1	9.2	49.2

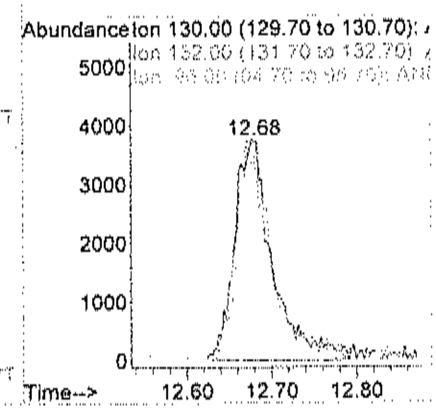


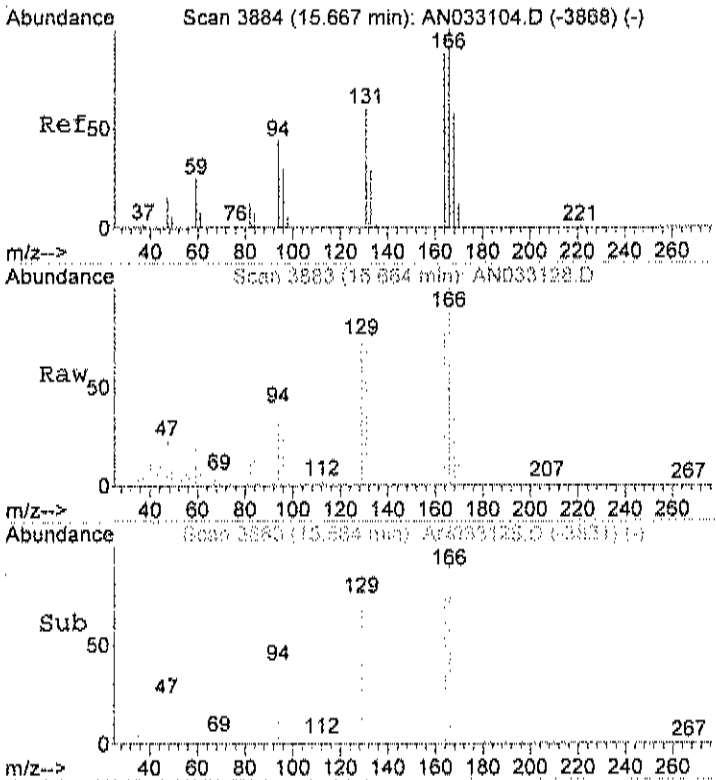


#44
Trichloroethene
Concen: 0.57 ppb
RT: 12.68 min Scan# 2886
Delta R.T. 0.01 min
Lab File: AN033128.D
Acq: 1 Apr 2016 3:39 am

Tgt Ion:130 Resp: 11669

Ion	Ratio	Lower	Upper
130	100		
132	91.4	76.1	116.1
95	95.8	85.0	125.0

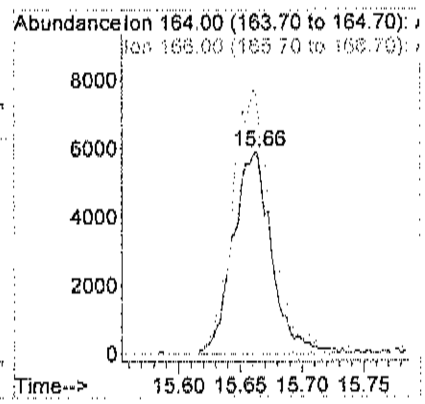




#56
Tetrachloroethylene
Concen: 0.54 ppb
RT: 15.66 min Scan# 3883
Delta R.T. 0.01 min
Lab File: AN033128.D
Acq: 1 Apr 2016 3:39 am

Tgt Ion:164 Resp: 12742

Ion	Ratio	Lower	Upper
164	100		
166	130.5	108.6	148.6



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\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration

Calibration Files

0.04	=AN031612.D	0.10	=AN031611.D	0.15	=AN031610.D
0.30	=AN031609.D	0.50	=AN031608.D	0.75	=AN031607.D

		Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
1)	I	Bromochloromethane				---ISTD---				
2)	T	Propylene			1.131	0.916	0.800	0.787	0.810	18.47
3)	T	Freon 12			5.132	4.678	4.218	4.223	4.271	10.16
4)	T	Chloromethane			1.503	1.264	1.102	1.101	1.118	16.44
5)	T	Freon 114			4.240	3.932	3.598	3.582	3.598	9.49
6)	T	Vinyl Chloride	1.719	1.251	1.297	1.175	1.025	1.010	1.125	22.21
7)	T	Butane			1.907	1.462	1.217	1.136	1.285	21.70
8)	T	1,3-butadiene			0.944	1.260	0.745	0.776	0.847	21.16
9)	T	Bromomethane			1.732	1.419	1.456	1.223	1.320	15.58
10)	T	Chloroethane			0.548	0.498	0.458	0.443	0.459	9.89
11)	T	Ethanol			0.466	0.454	0.339	0.316	0.341	22.51
12)	T	Acrolein			0.385	0.346	0.276	0.273	0.290	16.78
13)	T	Vinyl Bromide			1.654	1.410	1.249	1.246	1.298	12.66
14)	T	Freon 11			5.356	4.760	4.368	4.251	4.393	10.46
15)	T	Acetone			0.580	0.446	0.467	0.385	0.432	15.55
16)	T	Pentane			1.399	1.121	0.953	0.938	0.986	19.28
17)	T	Isopropyl alcoh			1.936	1.738	1.419	1.309	1.409	19.82
18)	T	1,1-dichloroeth			1.544	1.424	1.271	1.223	1.283	10.49
19)	T	Freon 113			3.697	3.334	3.051	3.060	3.094	9.58
20)	t	t-Butyl alcohol			2.795	2.640	2.350	2.175	2.248	14.34
21)	T	Methylene chlor			1.287	1.198	1.152	1.112	1.124	7.74
22)	T	Allyl chloride			1.371	1.068	0.996	0.948	0.998	16.47
23)	T	Carbon disulfid			4.365	3.573	3.215	3.276	3.316	14.26
24)	T	trans-1,2-dichl			1.785	1.581	1.489	1.479	1.522	8.00
25)	T	methyl tert-but			3.237	3.087	2.752	2.784	2.881	6.44
26)	T	1,1-dichloroeth			2.501	2.236	2.143	2.145	2.155	7.74
27)	T	Vinyl acetate			2.311	1.977	1.623	1.860	1.869	11.34
28)	T	Methyl Ethyl Ke			0.536	0.469	0.440	0.428	0.461	7.54
29)	T	cis-1,2-dichlor			1.213	1.318	1.253	1.234	1.250	3.55
30)	T	Hexane			1.377	1.268	1.247	1.266	1.308	3.87
31)	T	Ethyl acetate			2.162	1.967	1.682	1.682	1.784	10.28
32)	T	Chloroform			3.438	3.077	2.917	2.874	2.918	8.58
33)	T	Tetrahydrofuran			0.985	0.870	0.782	0.811	0.828	8.85
34)	T	1,2-dichloroeth			1.826	1.794	1.645	1.604	1.641	7.17
35)	I	1,4-difluorobenzene				---ISTD---				
36)	T	1,1,1-trichloro			1.073	1.013	0.947	0.901	0.939	7.43
37)	T	Cyclohexane			0.412	0.377	0.375	0.379	0.387	3.38
38)	T	Carbon tetrachl	1.514	1.229	1.098	1.027	0.964	0.926	1.048	18.29
39)	T	Benzene			0.968	0.850	0.818	0.806	0.832	6.91
40)	T	Methyl methacry			0.347	0.270	0.242	0.278	0.271	12.09
41)	T	1,4-dioxane			0.218	0.242	0.234	0.211	0.213	9.01
42)	T	2,2,4-trimethyl			1.598	1.466	1.390	1.406	1.453	4.74
43)	T	Heptane			0.333	0.316	0.312	0.326	0.338	5.49
44)	T	Trichloroethene	0.593	0.476	0.419	0.397	0.392	0.393	0.425	15.21
45)	T	1,2-dichloropro			0.331	0.323	0.307	0.291	0.300	6.07
46)	T	Bromodichlorome			0.858	0.765	0.731	0.702	0.734	7.46
47)	T	cis-1,3-dichlor			0.445	0.416	0.389	0.378	0.400	5.47
48)	T	trans-1,3-dichl			0.427	0.366	0.357	0.345	0.359	8.05
49)	T	1,1,2-trichloro			0.395	0.345	0.323	0.317	0.329	8.71
50)	I	Chlorobenzene-d5				---ISTD---				
51)	T	Toluene			0.656	0.657	0.623	0.664	0.679	5.43

(#) = Out of Range ### Number of calibration levels exceeded format ###

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration

Calibration Files

0.04	=AN031612.D	0.10	=AN031611.D	0.15	=AN031610.D
0.30	=AN031609.D	0.50	=AN031608.D	0.75	=AN031607.D

		Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
52)	T	Methyl Isobutyl			1.257	1.227	1.174	1.227	1.201	5.80
53)	T	Dibromochlorome			0.954	0.844	0.859	0.850	0.857	4.94
54)	T	Methyl Butyl Ke			1.113	1.133	0.978	1.026	1.068	7.36
55)	T	1,2-dibromoetha			1.023	0.886	0.837	0.798	0.845	9.38
56)	T	Tetrachloroethy	0.981	0.712	0.625	0.622	0.586	0.599	0.648	19.03
57)	T	Chlorobenzene			0.989	0.894	0.875	0.855	0.891	4.61
58)	T	1,1,1,2-tetrach			0.688	0.700	0.664	0.649	0.666	3.94
59)	T	Ethylbenzene			1.179	1.069	1.076	1.097	1.165	6.41
60)	T	m&p-xylene			0.862	0.818	0.830	0.822	0.925	11.55
61)	T	Nonane			0.537	0.452	0.455	0.474	0.552	16.56
62)	T	Styrene			0.616	0.546	0.553	0.568	0.644	13.48
63)	T	Bromoform			0.471	0.450	0.440	0.442	0.463	4.51
64)	T	o-xylene			1.102	0.918	1.093	1.016	1.109	9.78
65)	T	Cumene			1.528	1.180	1.102	1.083	1.299	13.89
66)	S	Bromofluorobenz	0.602	0.608	0.592	0.601	0.592	0.614	0.643	9.58
67)	T	1,1,2,2-tetrach			1.606	1.289	1.081	1.068	1.140	18.58
68)	T	Propylbenzene			1.653	1.450	1.274	1.157	1.379	13.20
69)	T	2-Chlorotoluene			1.115	0.938	0.930	0.834	1.004	10.36
70)	T	4-ethyltoluene			1.437	1.277	1.046	1.000	1.183	12.64
71)	T	1,3,5-trimethyl			1.760	1.512	1.301	1.240	1.416	11.59
72)	T	1,2,4-trimethyl			1.647	1.374	1.172	1.119	1.224	15.92
73)	T	1,3-dichloroben			0.958	0.839	0.718	0.663	0.778	11.85
74)	T	benzyl chloride			1.256	1.055	1.074	1.101	1.110	8.22
75)	T	1,4-dichloroben			0.854	0.804	0.638	0.633	0.733	11.05
76)	T	1,2,3-trimethyl			1.944	1.737	1.429	1.376	1.510	14.35
77)	T	1,2-dichloroben			1.394	1.099	0.940	0.846	0.954	21.55
78)	T	1,2,4-trichloro			0.693	0.719	0.677	0.622	0.720	10.92
79)	T	Naphthalene			1.699	1.607	1.503	1.407	1.494	11.86
80)	T	Hexachloro-1,3-			1.959	1.831	1.660	1.766	1.754	7.91

(#) = Out of Range ### Number of calibration levels exceeded format ###

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031603.D
Acq On : 16 Mar 2016 6:50 pm
Sample : A1UG_2.0
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:00 2016

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

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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.79	128	39696	1.00 ppb	-0.01
35) 1,4-difluorobenzene	12.05	114	119341	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	65204	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.13	95	48331	1.15 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 115.00%	

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.14	41	52720	1.77 ppb	#	100
3) Freon 12	4.19	85	300982	1.82 ppb		100
4) Chloromethane	4.39	50	75653	1.85 ppb		90
5) Freon 114	4.39	85	252561	1.79 ppb		99
6) Vinyl Chloride	4.58	62	71454	1.80 ppb		89
7) Butane	4.68	43	84007	1.71 ppb		95
8) 1,3-butadiene	4.69	39	60171	1.98 ppb		88
9) Bromomethane	5.03	94	88794	1.75 ppb		93
10) Chloroethane	5.20	64	31848	1.90 ppb	#	85
11) Ethanol	5.34	45	22162	1.89 ppb	#	66
12) Acrolein	5.93	56	19963m/	1.92 ppb		
13) Vinyl Bromide	5.54	106	90315	1.77 ppb		96
14) Freon 11	5.80	101	311834	1.84 ppb		99
15) Acetone	6.02	58	31506	2.05 ppb	#	82
16) Pentane	6.06	42	64025	1.75 ppb		99
17) Isopropyl alcohol	6.13	45	95378	1.89 ppb	#	46
18) 1,1-dichloroethene	6.56	96	90887	1.81 ppb		89
19) Freon 113	6.75	101	218149	1.79 ppb		96
20) t-Butyl alcohol	6.87	59	153022	1.79 ppb	#	73
21) Methylene chloride	7.04	84	81781	1.83 ppb		92
22) Allyl chloride	7.00	41	75821	2.00 ppb		88
23) Carbon disulfide	7.19	76	229469	1.81 ppb		97
24) trans-1,2-dichloroethene	7.97	61	109677	1.86 ppb		90
25) methyl tert-butyl ether	8.01	73	217092	1.92 ppb		96
26) 1,1-dichloroethane	8.39	63	155890	1.83 ppb		99
27) Vinyl acetate	8.41	43	139082	1.80 ppb		99
28) Methyl Ethyl Ketone	8.92	72	35109	1.95 ppb	#	100
29) cis-1,2-dichloroethene	9.33	61	95640	1.86 ppb		93
30) Hexane	8.90	57	103745	1.97 ppb		96
31) Ethyl acetate	9.51	43	132681	1.93 ppb		96
32) Chloroform	9.94	83	209422	1.84 ppb		98
33) Tetrahydrofuran	10.15	42	59093	1.80 ppb		85
34) 1,2-dichloroethane	11.07	62	118759	1.86 ppb		87
36) 1,1,1-trichloroethane	10.75	97	211952	1.92 ppb		100
37) Cyclohexane	11.44	56	95560	2.08 ppb		90
38) Carbon tetrachloride	11.39	117	221613	1.95 ppb		97
39) Benzene	11.36	78	193181	1.98 ppb		98
40) Methyl methacrylate	12.91	41	62212	1.99 ppb	#	80
41) 1,4-dioxane	12.99	88	48143	1.87 ppb		97
42) 2,2,4-trimethylpentane	12.18	57	351781	2.00 ppb		98
43) Heptane	12.53	43	86114	2.04 ppb		88
44) Trichloroethene	12.67	130	95479	2.05 ppb		99
45) 1,2-dichloropropane	12.79	63	67226	1.91 ppb		98

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

Quantitation Report (QT Reviewed)

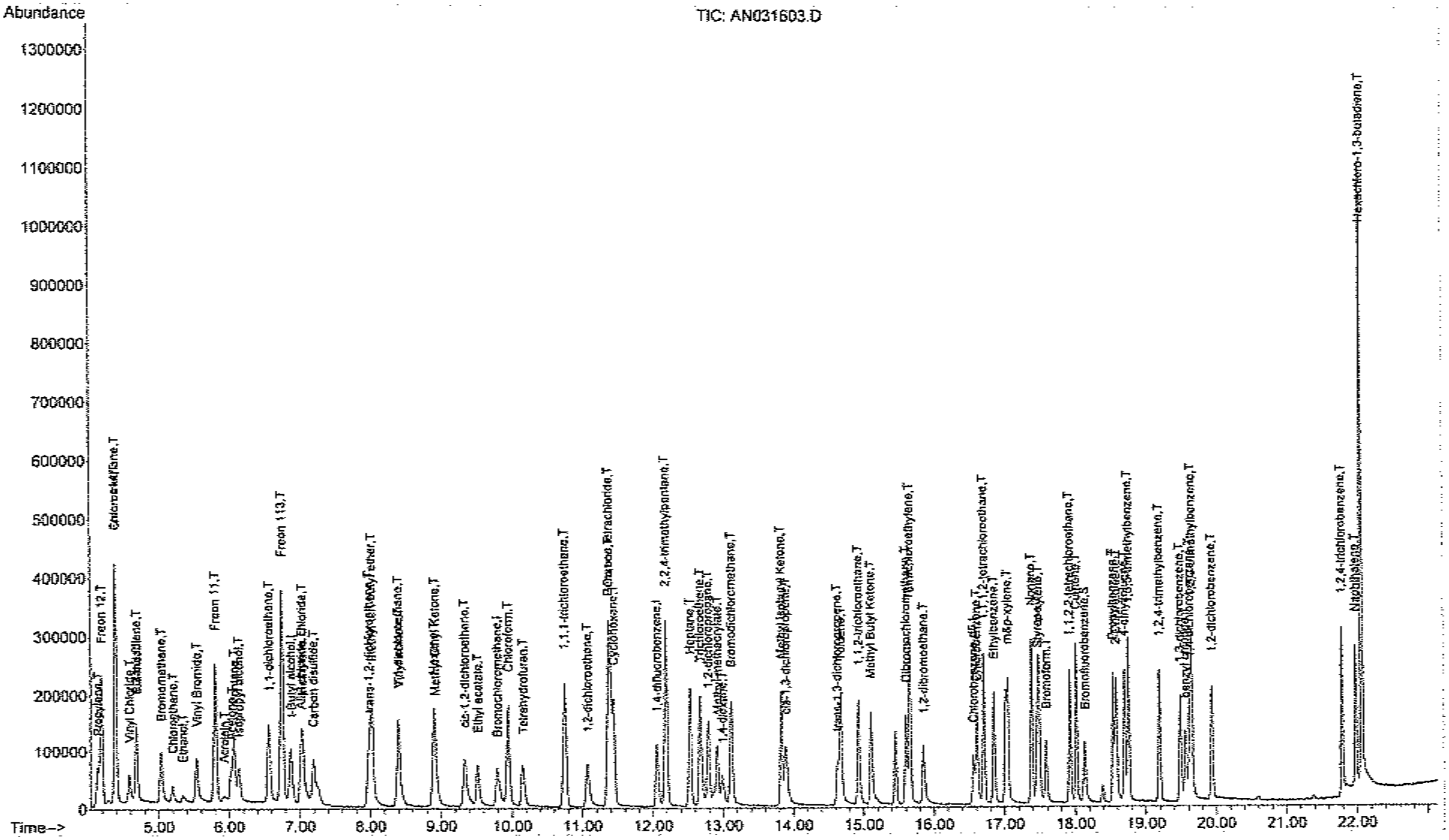
Data File : C:\HPCHEM\1\DATA\AN031603.D Vial: 2
Acq On : 16 Mar 2016 6:50 pm Operator: RJP
Sample : A1UG_2.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:00 2016 Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.11	83	168164	1.95 ppb	99
47)	cis-1,3-dichloropropene	13.89	75	96193	2.09 ppb	100
48)	trans-1,3-dichloropropene	14.62	75	81400	1.94 ppb	92
49)	1,1,2-trichloroethane	14.93	97	73046	1.93 ppb	98
51)	Toluene	14.67	92	95859	2.10 ppb	98
52)	Methyl Isobutyl Ketone	13.82	43	161205	1.95 ppb	98
53)	Dibromochloromethane	15.60	129	111719m	1.98 ppb	
54)	Methyl Butyl Ketone	15.11	43	145361	1.95 ppb	97
55)	1,2-dibromoethane	15.85	107	103573	1.91 ppb	97
56)	Tetrachloroethylene	15.66	164	77730	1.98 ppb	98
57)	Chlorobenzene	16.61	112	114609	2.01 ppb	89
58)	1,1,1,2-tetrachloroethane	16.71	131	83929	1.85 ppb	98
59)	Ethylbenzene	16.85	91	163580	2.13 ppb	98
60)	m&p-xylene	17.04	91	279419	4.64 ppb	97
61)	Nonane	17.38	43	90950	2.59 ppb	98
62)	Styrene	17.46	104	100790	2.36 ppb	89
63)	Bromoform	17.58	173	63866	2.18 ppb	97
64)	o-xylene	17.48	91	162873	2.39 ppb	95
65)	Cumene	18.01	105	197775	2.53 ppb	99
67)	1,1,2,2-tetrachloroethane	17.92	83	129149	1.85 ppb	99
68)	Propylbenzene	18.53	91	209599m	2.74 ppb	
69)	2-Chlorotoluene	18.58	91	145425m	2.28 ppb	
70)	4-ethyltoluene	18.70	105	165888m	2.44 ppb	
71)	1,3,5-trimethylbenzene	18.75	105	184877m	2.18 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	147804	2.03 ppb	98
73)	1,3-dichlorobenzene	19.49	146	99804	2.01 ppb	98
74)	benzyl chloride	19.56	91	137885	2.04 ppb	97
75)	1,4-dichlorobenzene	19.61	146	97347	2.06 ppb	98
76)	1,2,3-trimethylbenzene	19.65	105	180121	1.88 ppb	98
77)	1,2-dichlorobenzene	19.93	146	104274	1.75 ppb	97
78)	1,2,4-trichlorobenzene	21.78	180	115972	2.52 ppb	96
79)	Naphthalene	21.98	128	221487m	2.55 ppb	
80)	Hexachloro-1,3-butadiene	22.06	225	218825	1.78 ppb	95

```
Data File : C:\HPCHEM\1\DATA\AN031603.D              Vial: 2
Acq On    : 16 Mar 2016   6:50 pm                 Operator: RJP
Sample    : A1UG_2.0                              Inst    : MSD #1
Misc      : A316_1UG                              Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17  9:48 2016             Quant Results File: A316_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Thu Mar 17 10:24:27 2016
Response via  : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
```



AN031603.D   A316_1UG.M   Thu Apr 07 13:05:30 2016   MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031604.D
Acq On : 16 Mar 2016 7:30 pm
Sample : A1UG_1.50
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:18:42 2016

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

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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.80	128	37388	1.00 ppb	-0.01
35) 1,4-difluorobenzene	12.06	114	125097	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	71425	1.00 ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc Units	Dev(Min)
66) Bromofluorobenzene	18.13	95	48889	1.06 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 106.00%	

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.13	41	41028	1.46 ppb	#	100
3) Freon 12	4.19	85	229102	1.47 ppb		99
4) Chloromethane	4.39	50	56920	1.48 ppb		93
5) Freon 114	4.39	85	192137	1.45 ppb		100
6) Vinyl Chloride	4.58	62	53313	1.42 ppb		92
7) Butane	4.68	43	62790	1.36 ppb		97
8) 1,3-butadiene	4.69	39	42193	1.48 ppb		82
9) Bromomethane	5.03	94	66997	1.40 ppb		93
10) Chloroethane	5.20	64	24605	1.56 ppb		88
11) Ethanol	5.35	45	15188	1.37 ppb	#	66
12) Acrolein	5.94	56	14959m	1.53 ppb		
13) Vinyl Bromide	5.54	106	68982	1.43 ppb		98
14) Freon 11	5.80	101	235962	1.48 ppb		99
15) Acetone	6.03	58	22358m	1.54 ppb		
16) Pentane	6.07	42	50174	1.45 ppb		88
17) Isopropyl alcohol	6.14	45	68376	1.44 ppb	#	46
18) 1,1-dichloroethene	6.56	96	68884	1.45 ppb	#	89
19) Freon 113	6.75	101	165966	1.44 ppb		97
20) t-Butyl alcohol	6.88	59	113330	1.41 ppb	#	75
21) Methylene chloride	7.04	84	58969m	1.40 ppb		
22) Allyl chloride	7.01	41	49125m	1.38 ppb		
23) Carbon disulfide	7.19	76	165861	1.39 ppb		99
24) trans-1,2-dichloroethene	7.97	61	85565	1.54 ppb		91
25) methyl tert-butyl ether	8.02	73	162235	1.52 ppb		95
26) 1,1-dichloroethane	8.39	63	120712	1.50 ppb		98
27) Vinyl acetate	8.41	43	105982	1.46 ppb		97
28) Methyl Ethyl Ketone	8.92	72	26847	1.58 ppb	#	100
29) cis-1,2-dichloroethene	9.34	61	72635	1.50 ppb		92
30) Hexane	8.90	57	77717	1.57 ppb		97
31) Ethyl acetate	9.52	43	98475	1.52 ppb	#	82
32) Chloroform	9.94	83	161422	1.50 ppb		99
33) Tetrahydrofuran	10.15	42	46658	1.51 ppb		91
34) 1,2-dichloroethane	11.08	62	92764	1.54 ppb		89
36) 1,1,1-trichloroethane	10.75	97	164249	1.42 ppb		98
37) Cyclohexane	11.44	56	70836	1.47 ppb		87
38) Carbon tetrachloride	11.38	117	171139	1.44 ppb		97
39) Benzene	11.37	78	149554	1.46 ppb		99
40) Methyl methacrylate	12.91	41	47301	1.45 ppb	#	83
41) 1,4-dioxane	12.99	88	34749	1.29 ppb		97
42) 2,2,4-trimethylpentane	12.18	57	259886	1.41 ppb		98
43) Heptane	12.53	43	66410	1.50 ppb		89
44) Trichloroethene	12.68	130	73890	1.51 ppb		98
45) 1,2-dichloropropane	12.79	63	53981	1.46 ppb		99

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

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AN031604.D                    Vial: 3
Acq On    : 16 Mar 2016   7:30 pm                      Operator: RJP
Sample    : A1UG_1.50                                  Inst     : MSD #1
Misc      : A316_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:18:42 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  : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN
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	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.11	83	131443	1.45 ppb	98
47)	cis-1,3-dichloropropene	13.89	75	73577	1.52 ppb	98
48)	trans-1,3-dichloropropene	14.63	75	63904	1.46 ppb	93
49)	1,1,2-trichloroethane	14.93	97	60215	1.52 ppb	99
51)	Toluene	14.67	92	76620	1.53 ppb	96
52)	Methyl Isobutyl Ketone	13.83	43	112630	1.24 ppb	97
53)	Dibromochloromethane	15.60	129	89145m P	1.44 ppb	
54)	Methyl Butyl Ketone	15.11	43	100523	1.23 ppb	96
55)	1,2-dibromoethane	15.85	107	84426	1.42 ppb	98
56)	Tetrachloroethylene	15.65	164	62278	1.45 ppb	98
57)	Chlorobenzene	16.61	112	93584	1.50 ppb	91
58)	1,1,1,2-tetrachloroethane	16.70	131	67746	1.37 ppb	98
59)	Ethylbenzene	16.85	91	131064	1.56 ppb	97
60)	m&p-xylene	17.04	91	219605	3.33 ppb	97
61)	Nonane	17.38	43	67119	1.74 ppb	99
62)	Styrene	17.46	104	75304	1.61 ppb	91
63)	Bromoform	17.59	173	49198	1.53 ppb	100
64)	o-xylene	17.48	91	129975	1.74 ppb	95
65)	Cumene	18.02	105	143847	1.68 ppb	99
67)	1,1,2,2-tetrachloroethane	17.92	83	102893	1.35 ppb	99
68)	Propylbenzene	18.54	91	146044m P	1.74 ppb	
69)	2-Chlorotoluene	18.58	91	109401m	1.57 ppb	
70)	4-ethyltoluene	18.70	105	121465m	1.63 ppb	
71)	1,3,5-trimethylbenzene	18.75	105	142483m	1.53 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	113063	1.42 ppb	95
73)	1,3-dichlorobenzene	19.48	146	75726	1.39 ppb	98
74)	benzyl chloride	19.56	91	105994	1.43 ppb	97
75)	1,4-dichlorobenzene	19.62	146	71922	1.39 ppb	99
76)	1,2,3-trimethylbenzene	19.65	105	141118	1.34 ppb	97
77)	1,2-dichlorobenzene	19.93	146	81574	1.25 ppb	98
78)	1,2,4-trichlorobenzene	21.79	180	77042	1.53 ppb	96
79)	Naphthalene	21.98	128	162805	1.71 ppb	98
80)	Hexachloro-1,3-butadiene	22.06	225	164815	1.22 ppb	95

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

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Data File : C:\HPCHEM\1\DATA\AN031604.D                Vial: 3
Acq On    : 16 Mar 2016   7:30 pm                   Operator: RJP
Sample    : A1UG_1.50                               Inst     : MSD #1
Misc      : A316_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17  9:53 2016               Quant Results File: A316_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
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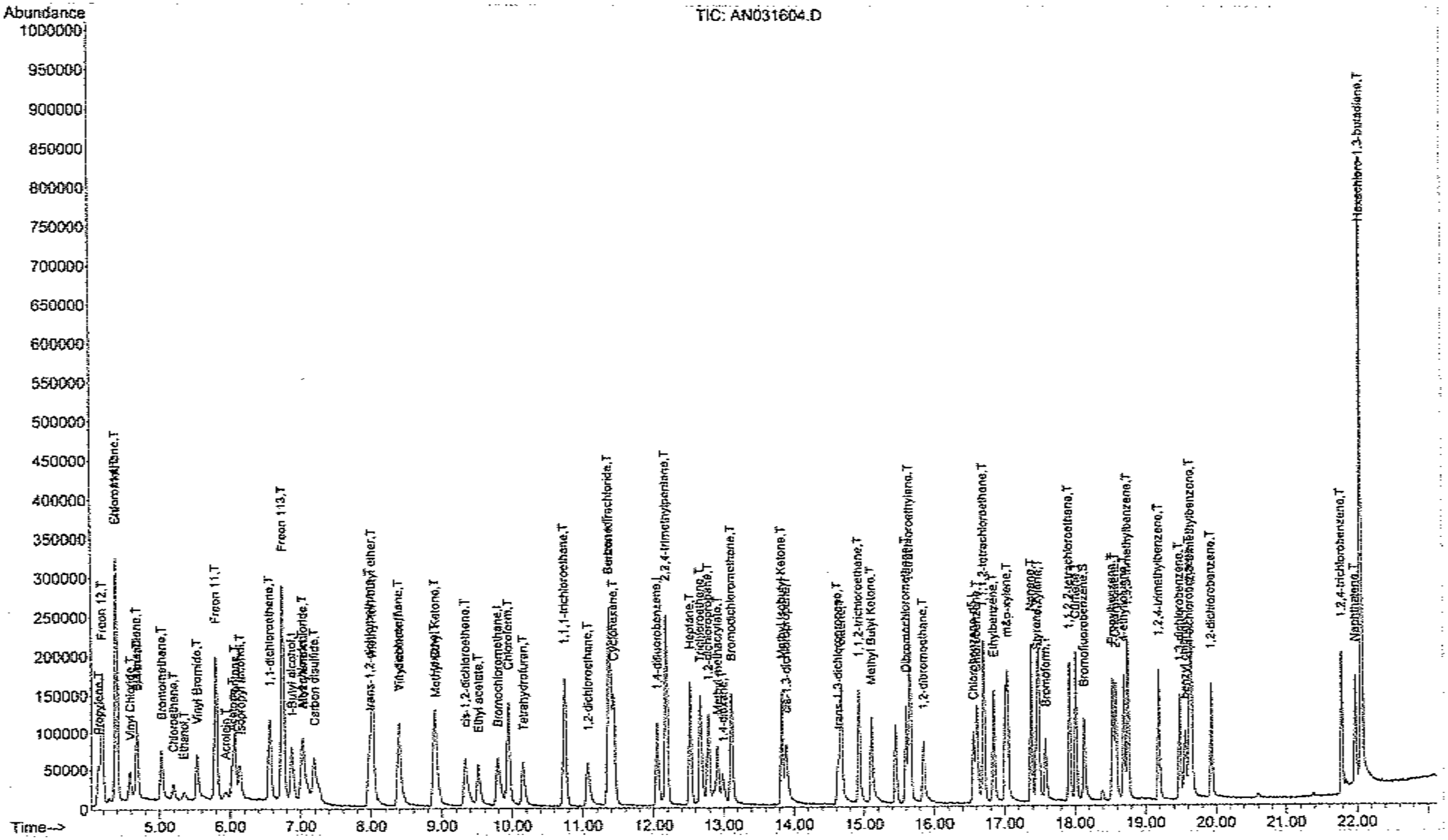

AN031604.D A316_1UG.M Thu Apr 07 13:05:34 2016 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031605.D Vial: 4
Acq On : 16 Mar 2016 8:10 pm Operator: RJP
Sample : A1UG_1.25 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:18:24 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane	9.80	128	38435	1.00 ppb		0.00
35) 1,4-difluorobenzene	12.06	114	118006	1.00 ppb		0.00
50) Chlorobenzene-d5	16.56	117	66689	1.00 ppb		0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.13	95	50183	1.17 ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 117.00%		
Target Compounds						Qvalue
2) Propylene	4.14	41	34125	1.18 ppb	#	100
3) Freon 12	4.19	85	188632	1.18 ppb		99
4) Chloromethane	4.39	50	46990	1.19 ppb		94
5) Freon 114	4.39	85	159182	1.17 ppb		99
6) Vinyl Chloride	4.58	62	44524	1.16 ppb		93
7) Butane	4.68	43	55448	1.16 ppb		94
8) 1,3-butadiene	4.69	39	36591	1.24 ppb		84
9) Bromomethane	5.04	94	55311	1.13 ppb		91
10) Chloroethane	5.20	64	20643	1.27 ppb	#	85
11) Ethanol	5.36	45	13696	1.20 ppb	#	74
12) Acrolein	5.94	56	12410m	1.24 ppb		
13) Vinyl Bromide	5.54	106	56822	1.15 ppb		95
14) Freon 11	5.80	101	194667	1.19 ppb		99
15) Acetone	6.03	58	18687m	1.25 ppb		
16) Pentane	6.07	42	41343m	1.16 ppb		
17) Isopropyl alcohol	6.15	45	57073	1.17 ppb	#	46
18) 1,1-dichloroethene	6.56	96	56328	1.16 ppb		89
19) Freon 113	6.75	101	137846	1.17 ppb		96
20) t-Butyl alcohol	6.88	59	93562	1.13 ppb		93
21) Methylene chloride	7.04	84	50280m	1.16 ppb		
22) Allyl chloride	7.01	41	41687m	1.14 ppb		
23) Carbon disulfide	7.20	76	148023	1.20 ppb		97
24) trans-1,2-dichloroethene	7.97	61	68887	1.21 ppb		94
25) methyl tert-butyl ether	8.03	73	131518	1.20 ppb		94
26) 1,1-dichloroethane	8.39	63	95089	1.15 ppb		97
27) Vinyl acetate	8.41	43	89018m	1.19 ppb		
28) Methyl Ethyl Ketone	8.94	72	21142	1.21 ppb	#	100
29) cis-1,2-dichloroethene	9.34	61	57658	1.16 ppb		90
30) Hexane	8.89	57	62689	1.23 ppb		97
31) Ethyl acetate	9.52	43	78814	1.18 ppb		95
32) Chloroform	9.94	83	128907	1.17 ppb		98
33) Tetrahydrofuran	10.15	42	37821	1.19 ppb		89
34) 1,2-dichloroethane	11.07	62	73032	1.18 ppb		89
36) 1,1,1-trichloroethane	10.75	97	131367	1.20 ppb		99
37) Cyclohexane	11.44	56	57547	1.27 ppb		90
38) Carbon tetrachloride	11.39	117	137163	1.22 ppb		99
39) Benzene	11.37	78	116970	1.21 ppb		99
40) Methyl methacrylate	12.92	41	37863	1.23 ppb	#	83
41) 1,4-dioxane	13.00	88	28574	1.12 ppb		100
42) 2,2,4-trimethylpentane	12.19	57	211404	1.21 ppb		98
43) Heptane	12.53	43	50947	1.22 ppb		92
44) Trichloroethene	12.67	130	57922	1.26 ppb		99
45) 1,2-dichloropropane	12.78	63	41974	1.20 ppb		100

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031605.D Vial: 4
Acq On : 16 Mar 2016 8:10 pm Operator: RJP
Sample : A1UG_1.25 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:18:24 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.11	83	102348	1.20 ppb	99
47)	cis-1,3-dichloropropene	13.90	75	57578	1.26 ppb	99
48)	trans-1,3-dichloropropene	14.63	75	51108	1.23 ppb	92
49)	1,1,2-trichloroethane	14.93	97	46126	1.24 ppb	95
51)	Toluene	14.68	92	56126	1.20 ppb	96
52)	Methyl Isobutyl Ketone	13.83	43	97491m	1.15 ppb	
53)	Dibromochloromethane	15.60	129	67490m	1.17 ppb	
54)	Methyl Butyl Ketone	15.11	43	90049m	1.18 ppb	
55)	1,2-dibromoethane	15.85	107	66367	1.20 ppb	97
56)	Tetrachloroethylene	15.66	164	47939	1.19 ppb	100
57)	Chlorobenzene	16.61	112	73949	1.27 ppb	85
58)	1,1,1,2-tetrachloroethane	16.71	131	54587	1.18 ppb	95
59)	Ethylbenzene	16.85	91	103191	1.32 ppb	98
60)	m&p-xylene	17.04	91	173419	2.81 ppb	97
61)	Nonane	17.38	43	52439	1.46 ppb	98
62)	Styrene	17.46	104	61068	1.40 ppb	92
63)	Bromoform	17.58	173	41297	1.38 ppb	99
64)	o-xylene	17.48	91	99047m	1.42 ppb	
65)	Cumene	18.01	105	119471	1.49 ppb	98
67)	1,1,2,2-tetrachloroethane	17.92	83	87757	1.23 ppb	98
68)	Propylbenzene	18.54	91	112193m	1.43 ppb	
69)	2-Chlorotoluene	18.58	91	92322m	1.42 ppb	
70)	4-ethyltoluene	18.70	105	103814m	1.50 ppb	
71)	1,3,5-trimethylbenzene	18.75	105	120410m	1.39 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	96928	1.30 ppb	96
73)	1,3-dichlorobenzene	19.49	146	67647	1.33 ppb	99
74)	benzyl chloride	19.56	91	93016	1.34 ppb	94
75)	1,4-dichlorobenzene	19.62	146	65798	1.36 ppb	95
76)	1,2,3-trimethylbenzene	19.65	105	117860	1.20 ppb	95
77)	1,2-dichlorobenzene	19.93	146	72700	1.20 ppb	96
78)	1,2,4-trichlorobenzene	21.78	180	62909	1.34 ppb	96
79)	Naphthalene	21.98	128	100472m	1.13 ppb	
80)	Hexachloro-1,3-butadiene	22.06	225	141195	1.12 ppb	95

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

```
Data File : C:\HPCHEM\1\DATA\AN031605.D                 Vial: 4
Acq On    : 16 Mar 2016   8:10 pm                   Operator: RJP
Sample    : A1UG_1.25                               Inst    : MSD #1
Misc      : A316_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17  9:55 2016              Quant Results File: A316_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Thu Mar 17 10:24:27 2016
Response via  : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
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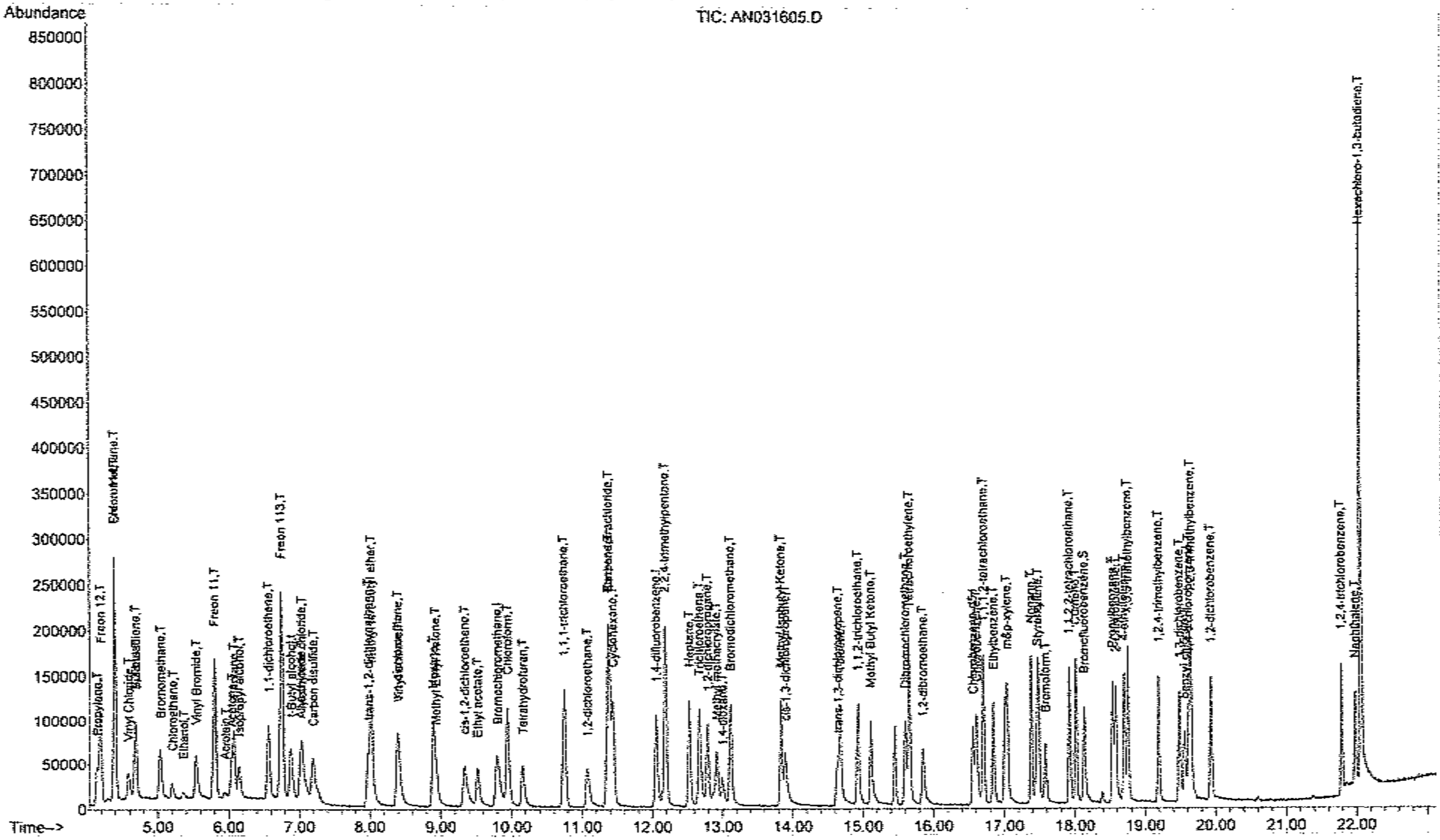

AN031605.D   A316_1UG.M   Thu Apr 07 13:05:38 2016   MSD1   Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031606.D Vial: 5
Acq On : 16 Mar 2016 8:49 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:18:03 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.81	128	36682	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.06	114	112843	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	61333	1.00 ppb	0.00

System Monitoring Compounds

	R.T.	QIon	Response	Conc Units	Dev(Min)
66) Bromofluorobenzene	18.14	95	39738	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	4.14	41	27277	0.99 ppb	#	100
3) Freon 12	4.19	85	151027	0.99 ppb		99
4) Chloromethane	4.39	50	37602	1.00 ppb		94
5) Freon 114	4.39	85	128823	0.99 ppb		100
6) Vinyl Chloride	4.58	62	36447	0.99 ppb		88
7) Butane	4.68	43	44989	0.99 ppb		96
8) 1,3-butadiene	4.69	39	28499	1.02 ppb		81
9) Bromomethane	5.03	94	46282	0.99 ppb		95
10) Chloroethane	5.21	64	16583	1.07 ppb		100
11) Ethanol	5.36	45	11746	1.08 ppb	#	74
12) Acrolein	5.95	56	9571m	1.00 ppb		
13) Vinyl Bromide	5.54	106	46664	0.99 ppb		96
14) Freon 11	5.80	101	154925	0.99 ppb		98
15) Acetone	6.04	58	14328m	1.01 ppb		
16) Pentane	6.07	42	33653	0.99 ppb		94
17) Isopropyl alcohol	6.15	45	46253	0.99 ppb	#	46
18) 1,1-dichloroethene	6.56	96	46032	0.99 ppb	#	88
19) Freon 113	6.74	101	111420	0.99 ppb		96
20) t-Butyl alcohol	6.88	59	78078	0.99 ppb	#	77
21) Methylene chloride	7.04	84	40970	0.99 ppb		97
22) Allyl chloride	7.02	41	33103m	0.95 ppb		
23) Carbon disulfide	7.20	76	116250	0.99 ppb		96
24) trans-1,2-dichloroethene	7.99	61	54958	1.01 ppb		94
25) methyl tert-butyl ether	8.03	73	103598	0.99 ppb		93
26) 1,1-dichloroethane	8.40	63	77856	0.99 ppb		99
27) Vinyl acetate	8.43	43	61972	0.87 ppb		96
28) Methyl Ethyl Ketone	8.94	72	16500	0.99 ppb	#	100
29) cis-1,2-dichloroethene	9.35	61	46977	0.99 ppb		92
30) Hexane	8.90	57	48164	0.99 ppb		94
31) Ethyl acetate	9.52	43	62899	0.99 ppb		94
32) Chloroform	9.94	83	104226	0.99 ppb		98
33) Tetrahydrofuran	10.15	42	29839	0.99 ppb		89
34) 1,2-dichloroethane	11.09	62	58404	0.99 ppb		89
36) 1,1,1-trichloroethane	10.75	97	104507	1.00 ppb		97
37) Cyclohexane	11.45	56	43452	1.00 ppb		89
38) Carbon tetrachloride	11.39	117	107492	1.00 ppb		98
39) Benzene	11.36	78	91969	1.00 ppb		98
40) Methyl methacrylate	12.91	41	29340	0.99 ppb	#	83
41) 1,4-dioxane	13.00	88	24261	1.00 ppb		100
42) 2,2,4-trimethylpentane	12.18	57	166364	1.00 ppb		99
43) Heptane	12.53	43	39883	1.00 ppb		93
44) Trichloroethene	12.67	130	44026	1.00 ppb		97
45) 1,2-dichloropropane	12.79	63	33334	1.00 ppb		99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031606.D Vial: 5
Acq On : 16 Mar 2016 8:49 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:18:03 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.12	83	81385	1.00 ppb	99
47)	cis-1,3-dichloropropene	13.90	75	43288	0.99 ppb	98
48)	trans-1,3-dichloropropene	14.63	75	39100	0.99 ppb	92
49)	1,1,2-trichloroethane	14.93	97	35639	1.00 ppb	97
51)	Toluene	14.68	92	43216	1.01 ppb	99
52)	Methyl Isobutyl Ketone	13.83	43	77557	1.00 ppb	97
53)	Dibromochloromethane	15.60	129	52061m	0.98 ppb	
54)	Methyl Butyl Ketone	15.11	43	70973	1.01 ppb	97
55)	1,2-dibromoethane	15.86	107	51366	1.01 ppb	95
56)	Tetrachloroethylene	15.66	164	37193	1.01 ppb	98
57)	Chlorobenzene	16.61	112	53911	1.01 ppb	89
58)	1,1,1,2-tetrachloroethane	16.70	131	42883	1.01 ppb	95
59)	Ethylbenzene	16.85	91	72637	1.01 ppb	98
60)	m&p-xylene	17.04	91	114219	2.02 ppb	94
61)	Nonane	17.38	43	33317	1.01 ppb	98
62)	Styrene	17.46	104	40542	1.01 ppb	90
63)	Bromoform	17.58	173	27823	1.01 ppb	99
64)	o-xylene	17.48	91	66836	1.04 ppb	91
65)	Cumene	18.02	105	74125	1.01 ppb	99
67)	1,1,2,2-tetrachloroethane	17.92	83	65967	1.01 ppb	99
68)	Propylbenzene	18.53	91	72561m	1.01 ppb	
69)	2-Chlorotoluene	18.58	91	59363m	0.99 ppb	
70)	4-ethyltoluene	18.70	105	64669m	1.01 ppb	
71)	1,3,5-trimethylbenzene	18.75	105	81111m	1.01 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	68998	1.01 ppb	98
73)	1,3-dichlorobenzene	19.48	146	46992	1.01 ppb	99
74)	benzyl chloride	19.56	91	75652	1.19 ppb	97
75)	1,4-dichlorobenzene	19.61	146	44723	1.01 ppb	98
76)	1,2,3-trimethylbenzene	19.65	105	90793	1.01 ppb	96
77)	1,2-dichlorobenzene	19.93	146	56239	1.01 ppb	97
78)	1,2,4-trichlorobenzene	21.78	180	42066	0.97 ppb	95
79)	Naphthalene	21.98	128	80682	0.99 ppb	97
80)	Hexachloro-1,3-butadiene	22.06	225	116697	1.01 ppb	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031606.D A316_1UG.M Thu Apr 07 13:05:41 2016 MSD1

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Data File : C:\HPCHEM\1\DATA\AN031606.D                 Vial: 5
Acq On    : 16 Mar 2016   8:49 pm                   Operator: RJP
Sample    : A1UG_1.0                                Inst     : MSD #1
Misc      : A316_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:12 2016              Quant Results File: A316_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
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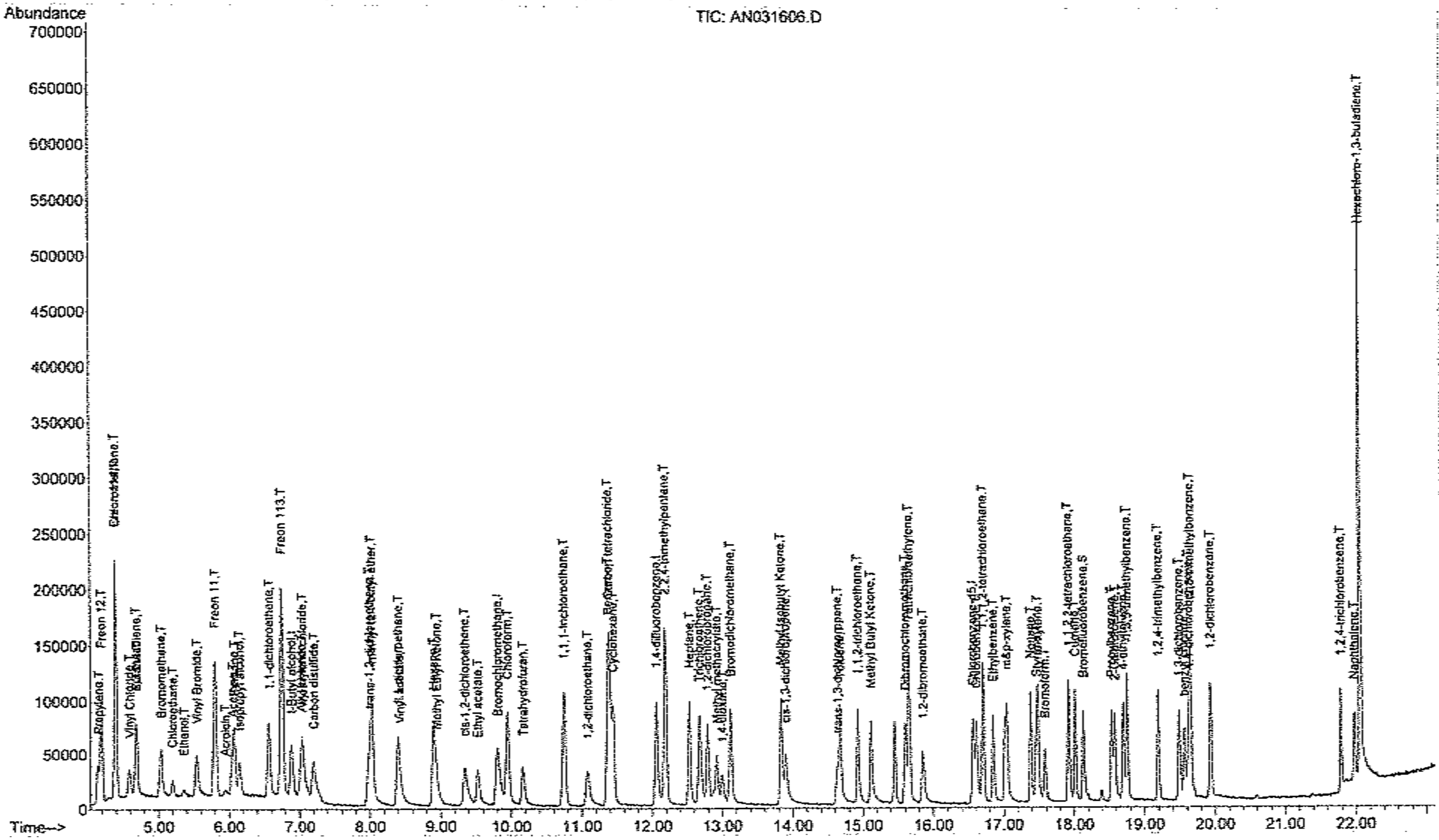

AN031606.D A316_1UG.M Thu Apr 07 13:05:42 2016 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031607.D Vial: 6
Acq On : 16 Mar 2016 9:27 pm Operator: RJP
Sample : A1UG_0.75 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:18 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.81	128	36429	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.06	114	115405	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	64493	1.00 ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc Units	Dev(Min)
66) Bromofluorobenzene	18.13	95	39593	0.95 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 95.00%	

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.13	41	21494	0.78 ppb	#	100
3) Freon 12	4.19	85	115393	0.76 ppb		100
4) Chloromethane	4.39	50	30086	0.80 ppb		92
5) Freon 114	4.39	85	97880	0.76 ppb		98
6) Vinyl Chloride	4.58	62	27592	0.76 ppb		91
7) Butane	4.68	43	31050	0.69 ppb		96
8) 1,3-butadiene	4.69	39	21193	0.76 ppb		81
9) Bromomethane	5.04	94	33415	0.72 ppb		90
10) Chloroethane	5.21	64	12103	0.79 ppb		100
11) Ethanol	5.36	45	8634	0.80 ppb	#	72
12) Acrolein	5.97	56	7453m	0.78 ppb		
13) Vinyl Bromide	5.55	106	34036	0.73 ppb		96
14) Freon 11	5.81	101	116153	0.75 ppb		98
15) Acetone	6.05	58	10532m	0.75 ppb		
16) Pentane	6.07	42	25618	0.76 ppb		95
17) Isopropyl alcohol	6.16	45	35764	0.77 ppb	#	46
18) 1,1-dichloroethene	6.57	96	33426	0.72 ppb		89
19) Freon 113	6.74	101	83596	0.75 ppb		97
20) t-Butyl alcohol	6.90	59	59423	0.76 ppb	#	75
21) Methylene chloride	7.04	84	30390	0.74 ppb		89
22) Allyl chloride	7.02	41	25889	0.75 ppb		86
23) Carbon disulfide	7.20	76	89515	0.77 ppb		99
24) trans-1,2-dichloroethene	8.00	61	40410	0.75 ppb		91
25) methyl tert-butyl ether	8.03	73	76069	0.73 ppb		93
26) 1,1-dichloroethane	8.39	63	58606	0.75 ppb		100
27) Vinyl acetate	8.43	43	50830m	0.72 ppb		
28) Methyl Ethyl Ketone	8.95	72	11701	0.71 ppb	#	100
29) cis-1,2-dichloroethene	9.34	61	33727	0.72 ppb		91
30) Hexane	8.90	57	34580	0.72 ppb		97
31) Ethyl acetate	9.53	43	45964	0.73 ppb	#	81
32) Chloroform	9.95	83	78527	0.75 ppb		98
33) Tetrahydrofuran	10.17	42	22163	0.74 ppb		92
34) 1,2-dichloroethane	11.09	62	43826	0.75 ppb		90
36) 1,1,1-trichloroethane	10.75	97	77993	0.73 ppb		98
37) Cyclohexane	11.44	56	32831	0.74 ppb		90
38) Carbon tetrachloride	11.39	117	80127	0.73 ppb		97
39) Benzene	11.37	78	69790	0.74 ppb		98
40) Methyl methacrylate	12.92	41	24037m	0.80 ppb		
41) 1,4-dioxane	13.00	88	18280	0.74 ppb		99
42) 2,2,4-trimethylpentane	12.18	57	121655	0.71 ppb		99
43) Heptane	12.53	43	28219	0.69 ppb		91
44) Trichloroethene	12.68	130	34027	0.75 ppb		99
45) 1,2-dichloropropane	12.79	63	25201	0.74 ppb		98

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031607.D Vial: 6
Acq On : 16 Mar 2016 9:27 pm Operator: RJP
Sample : A1UG_0.75 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:18 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.12	83	60775	0.73 ppb	100
47)	cis-1,3-dichloropropene	13.90	75	32684	0.73 ppb	96
48)	trans-1,3-dichloropropene	14.63	75	29863	0.74 ppb	90
49)	1,1,2-trichloroethane	14.93	97	27436	0.75 ppb	96
51)	Toluene	14.68	92	32126	0.71 ppb	98
52)	Methyl Isobutyl Ketone	13.83	43	59370	0.73 ppb	99
53)	Dibromochloromethane	15.60	129	41112m	0.74 ppb	
54)	Methyl Butyl Ketone	15.11	43	49642	0.67 ppb	96
55)	1,2-dibromoethane	15.85	107	38588	0.72 ppb	96
56)	Tetrachloroethylene	15.65	164	28969	0.75 ppb	97
57)	Chlorobenzene	16.61	112	41332	0.73 ppb	90
58)	1,1,1,2-tetrachloroethane	16.71	131	31396	0.70 ppb	95
59)	Ethylbenzene	16.85	91	53041	0.70 ppb	99
60)	m&p-xylene	17.04	91	79500	1.33 ppb	92
61)	Nonane	17.38	43	22932	0.66 ppb	95
62)	Styrene	17.46	104	27462	0.65 ppb	91
63)	Bromoform	17.58	173	21394	0.74 ppb	99
64)	o-xylene	17.49	91	49158	0.73 ppb	95
65)	Cumene	18.02	105	52361	0.68 ppb	100
67)	1,1,2,2-tetrachloroethane	17.92	83	51665	0.75 ppb	98
68)	Propylbenzene	18.54	91	55960m	0.74 ppb	
69)	2-Chlorotoluene	18.58	91	40331m	0.64 ppb	
70)	4-ethyltoluene	18.70	105	48368m	0.72 ppb	
71)	1,3,5-trimethylbenzene	18.75	105	59988m	0.71 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	54115	0.75 ppb	96
73)	1,3-dichlorobenzene	19.48	146	32066	0.65 ppb	97
74)	benzyl chloride	19.56	91	53237	0.80 ppb	96
75)	1,4-dichlorobenzene	19.62	146	30624	0.66 ppb	97
76)	1,2,3-trimethylbenzene	19.65	105	66564	0.70 ppb	96
77)	1,2-dichlorobenzene	19.93	146	40900	0.70 ppb	97
78)	1,2,4-trichlorobenzene	21.78	180	30081m	0.66 ppb	
79)	Naphthalene	21.98	128	68066m	0.79 ppb	
80)	Hexachloro-1,3-butadiene	22.06	225	85443	0.70 ppb	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031607.D A316_1UG.M Thu Apr 07 13:05:45 2016 MSD1

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Data File : C:\HPCHEM\1\DATA\AN031607.D                  Vial: 6
Acq On    : 16 Mar 2016   9:27 pm                    Operator: RJP
Sample    : A1UG_0.75                                Inst    : MSD #1
Misc      : A316_1UG                                 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:14 2016               Quant Results File: A316_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
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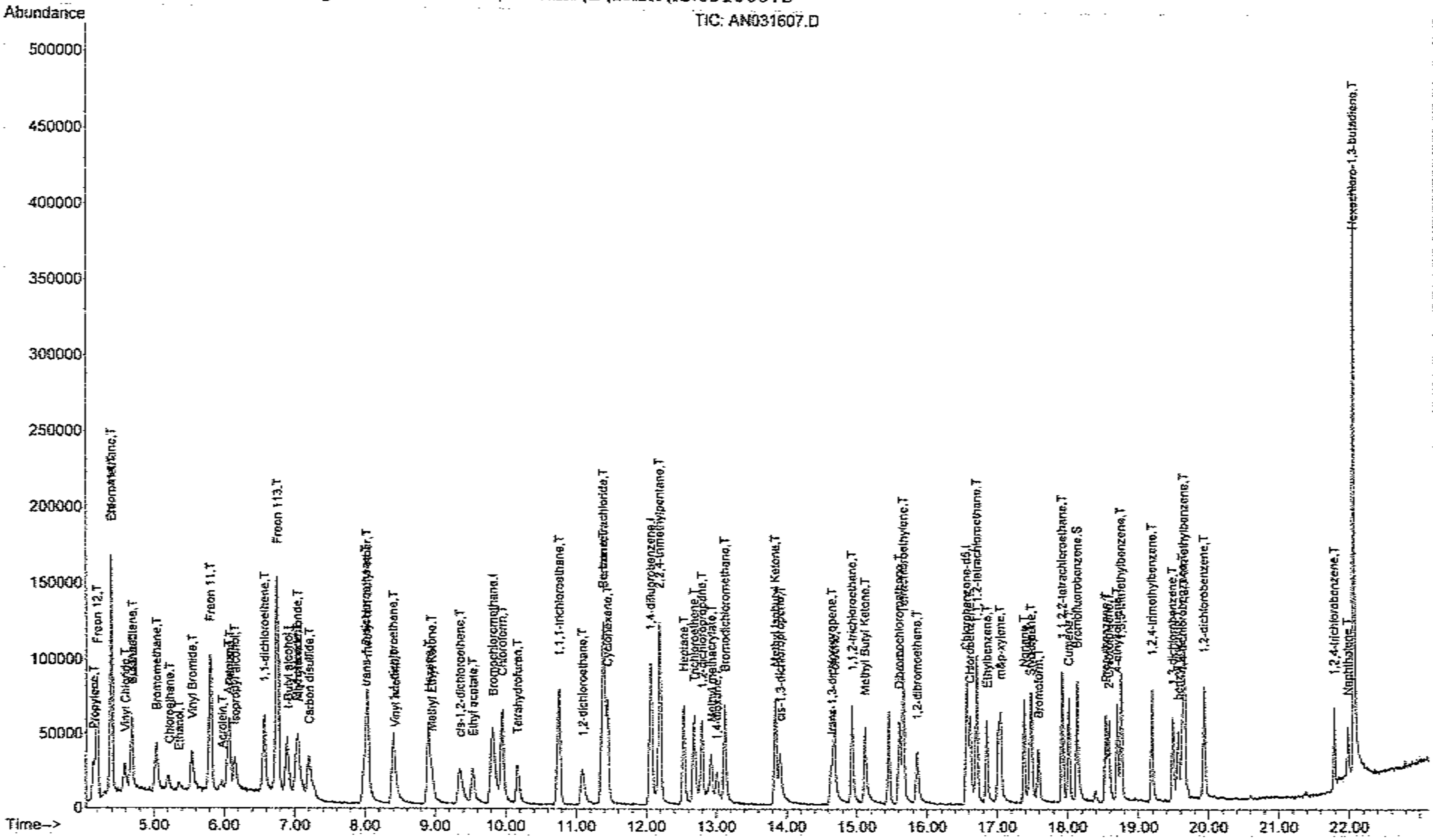


AN031607.D A316_1UG.M   Thu Apr 07 13:05:46 2016   MSD1   Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031608.D   Vial: 7
Acq On : 16 Mar 2016 10:05 pm   Operator: RJP
Sample : A1UG_0.50   Inst : MSD #1
Misc : A316_1UG   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:39 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.82	128	36080	1.00 ppb	0.01
35) 1,4-difluorobenzene	12.06	114	113070	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	67747	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.14	95	40075	0.92 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	92.00%	

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.14	41	14424	0.53 ppb	#	100
3) Freon 12	4.19	85	76085	0.51 ppb		100
4) Chloromethane	4.39	50	19879	0.53 ppb		98
5) Freon 114	4.39	85	64906	0.51 ppb		98
6) Vinyl Chloride	4.59	62	18499	0.51 ppb		92
7) Butane	4.68	43	21962	0.49 ppb		94
8) 1,3-butadiene	4.69	39	13445	0.49 ppb		69
9) Bromomethane	5.04	94	26274	0.57 ppb		97
10) Chloroethane	5.20	64	8256	0.54 ppb	#	86
11) Ethanol	5.37	45	6117	0.57 ppb		98
12) Acrolein	5.97	56	4983m	0.53 ppb		
13) Vinyl Bromide	5.55	106	22539	0.49 ppb		93
14) Freon 11	5.81	101	78802	0.51 ppb		98
15) Acetone	6.06	58	8424	0.60 ppb	#	75
16) Pentane	6.08	42	17198	0.52 ppb		97
17) Isopropyl alcohol	6.16	45	25607	0.56 ppb	#	46
18) 1,1-dichloroethene	6.56	96	22928	0.50 ppb		89
19) Freon 113	6.75	101	55038	0.50 ppb		95
20) t-Butyl alcohol	6.90	59	42395	0.55 ppb	#	73
21) Methylene chloride	7.05	84	20786	0.51 ppb		96
22) Allyl chloride	7.02	41	17969m	0.52 ppb		
23) Carbon disulfide	7.21	76	57993	0.50 ppb		97
24) trans-1,2-dichloroethene	8.02	61	26856	0.50 ppb		89
25) methyl tert-butyl ether	8.03	73	49652	0.48 ppb		91
26) 1,1-dichloroethane	8.41	63	38652	0.50 ppb		100
27) Vinyl acetate	8.44	43	29273	0.42 ppb		94
28) Methyl Ethyl Ketone	8.96	72	7938	0.48 ppb	#	100
29) cis-1,2-dichloroethene	9.36	61	22605	0.48 ppb		95
30) Hexane	8.91	57	22491	0.47 ppb		97
31) Ethyl acetate	9.54	43	30351	0.48 ppb		86
32) Chloroform	9.95	83	52618	0.51 ppb		100
33) Tetrahydrofuran	10.18	42	14113	0.47 ppb		93
34) 1,2-dichloroethane	11.10	62	29673	0.51 ppb		89
36) 1,1,1-trichloroethane	10.75	97	53522	0.51 ppb		99
37) Cyclohexane	11.44	56	21201	0.49 ppb		90
38) Carbon tetrachloride	11.39	117	54492	0.51 ppb		98
39) Benzene	11.37	78	46262	0.50 ppb		100
40) Methyl methacrylate	12.92	41	13663	0.46 ppb	#	73
41) 1,4-dioxane	13.01	88	13214	0.54 ppb		98
42) 2,2,4-trimethylpentane	12.18	57	78609	0.47 ppb		98
43) Heptane	12.53	43	17641	0.44 ppb		89
44) Trichloroethene	12.67	130	22183	0.50 ppb		99
45) 1,2-dichloropropane	12.79	63	17338	0.52 ppb		96

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031608.D Vial: 7
Acq On : 16 Mar 2016 10:05 pm Operator: RJP
Sample : A1UG_0.50 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:39 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

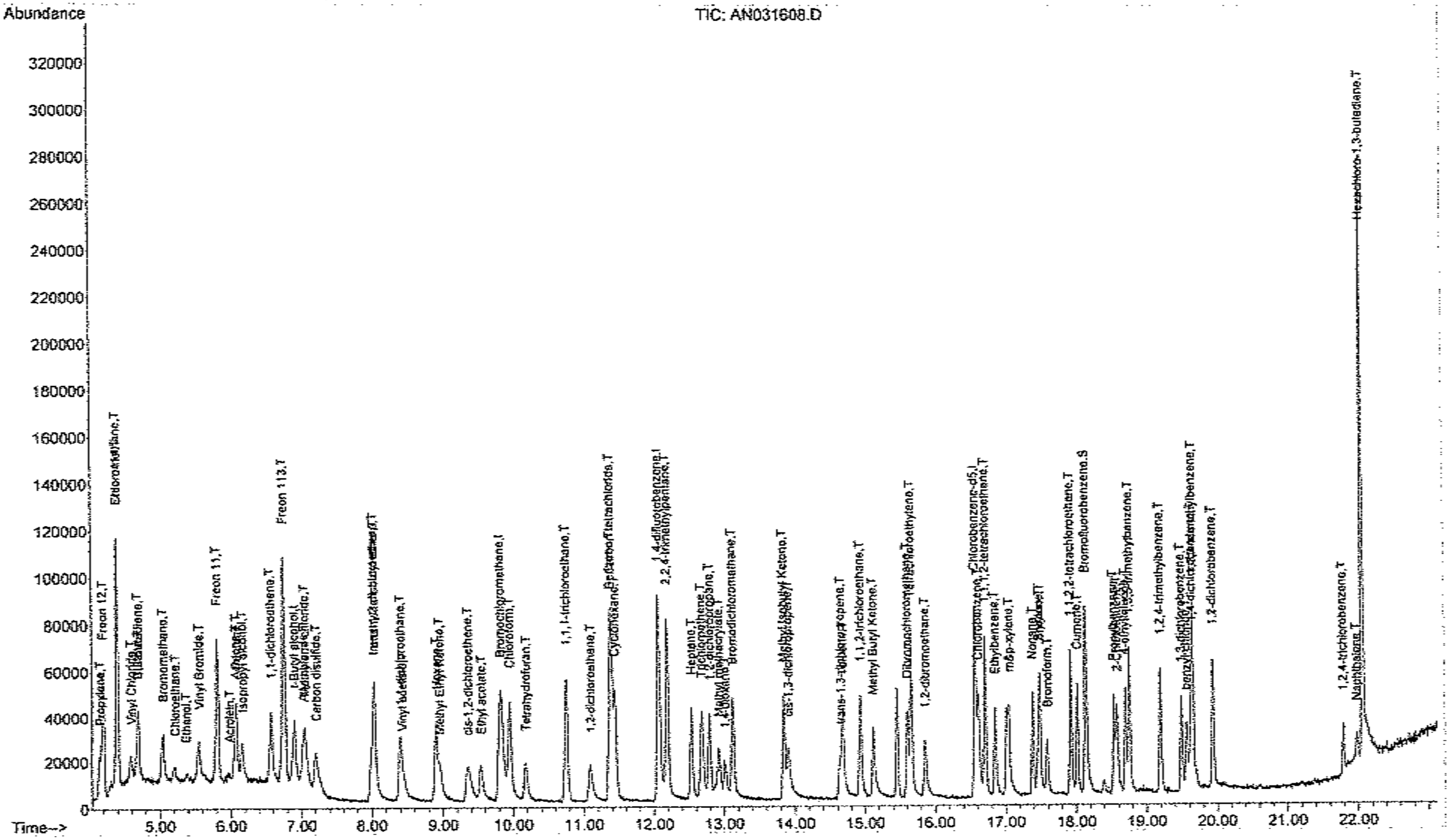
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.12	83	41322	0.51 ppb	98
47)	cis-1,3-dichloropropene	13.90	75	22010	0.50 ppb	96
48)	trans-1,3-dichloropropene	14.64	75	20160	0.51 ppb	93
49)	1,1,2-trichloroethane	14.94	97	18287	0.51 ppb	93
51)	Toluene	14.68	92	21106	0.45 ppb	97
52)	Methyl Isobutyl Ketone	13.84	43	39767	0.46 ppb	98
53)	Dibromochloromethane	15.60	129	29081m	0.50 ppb	
54)	Methyl Butyl Ketone	15.12	43	33116m	0.43 ppb	
55)	1,2-dibromoethane	15.85	107	28353	0.50 ppb	97
56)	Tetrachloroethylene	15.66	164	19835	0.49 ppb	99
57)	Chlorobenzene	16.61	112	29636	0.50 ppb	92
58)	1,1,1,2-tetrachloroethane	16.71	131	22498	0.48 ppb	92
59)	Ethylbenzene	16.85	91	36463	0.46 ppb	98
60)	m&p-xylene	17.05	91	56232	0.90 ppb	95
61)	Nonane	17.38	43	15420	0.42 ppb	94
62)	Styrene	17.47	104	18736	0.42 ppb	90
63)	Bromoform	17.59	173	14908	0.49 ppb	99
64)	o-xylene	17.49	91	37022	0.52 ppb	96
65)	Cumene	18.02	105	37321	0.46 ppb	99
67)	1,1,2,2-tetrachloroethane	17.92	83	36610	0.51 ppb	97
68)	Propylbenzene	18.53	91	43158m	0.54 ppb	
69)	2-Chlorotoluene	18.58	91	31517m	0.48 ppb	
70)	4-ethyltoluene	18.70	105	35420m	0.50 ppb	
71)	1,3,5-trimethylbenzene	18.75	105	44058m	0.50 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	39698	0.52 ppb	96
73)	1,3-dichlorobenzene	19.49	146	24308	0.47 ppb	97
74)	benzyl chloride	19.56	91	36368	0.52 ppb	95
75)	1,4-dichlorobenzene	19.63	146	21600	0.44 ppb	92
76)	1,2,3-trimethylbenzene	19.65	105	48394	0.49 ppb	97
77)	1,2-dichlorobenzene	19.94	146	31844	0.52 ppb	95
78)	1,2,4-trichlorobenzene	21.78	180	22916m	0.48 ppb	
79)	Naphthalene	21.98	128	50904m	0.56 ppb	
80)	Hexachloro-1,3-butadiene	22.06	225	56244	0.44 ppb	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031608.D A316_1UG.M Thu Apr 07 13:05:49 2016 MSD1

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AN031608.D              Vial: 7
Acq On    : 16 Mar 2016  10:05 pm                Operator: RJP
Sample    : A1UG_0.50                            Inst    : MSD #1
Misc      : A316_1UG                             Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:15 2016          Quant Results File: A316_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Thu Mar 17 10:24:27 2016
Response via  : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
```



AN031608.D A316_1UG.M Thu Apr 07 13:05:50 2016 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031609.D Vial: 8
Acq On : 16 Mar 2016 10:42 pm Operator: RJP
Sample : A1UG_0.30 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:57 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.83	128	34240	1.00 ppb	0.02
35) 1,4-difluorobenzene	12.07	114	107427	1.00 ppb	0.01
50) Chlorobenzene-d5	16.57	117	63070	1.00 ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	37922	0.93 ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 93.00%

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.14	41	9410	0.37 ppb	#	100
3) Freon 12	4.19	85	48050	0.34 ppb		99
4) Chloromethane	4.40	50	12982	0.37 ppb		94
5) Freon 114	4.39	85	40390	0.33 ppb		98
6) Vinyl Chloride	4.59	62	12065	0.35 ppb		84
7) Butane	4.69	43	15019	0.35 ppb		90
8) 1,3-butadiene	4.69	39	12946	0.49 ppb		87
9) Bromomethane	5.04	94	14575	0.33 ppb		90
10) Chloroethane	5.21	64	5112	0.35 ppb		96
11) Ethanol	5.39	45	4660	0.46 ppb		96
12) Acrolein	5.98	56	3558m	0.40 ppb		
13) Vinyl Bromide	5.55	106	14483	0.33 ppb		94
14) Freon 11	5.80	101	48893	0.33 ppb		98
15) Acetone	6.05	58	4586m	0.35 ppb		
16) Pentane	6.08	42	11517	0.36 ppb		97
17) Isopropyl alcohol	6.16	45	17857	0.41 ppb	#	46
18) 1,1-dichloroethene	6.56	96	14624	0.34 ppb	#	86
19) Freon 113	6.76	101	34250	0.33 ppb		99
20) t-Butyl alcohol	6.91	59	27113	0.37 ppb	#	72
21) Methylene chloride	7.07	84	12304	0.32 ppb		86
22) Allyl chloride	7.03	41	10973m	0.34 ppb		
23) Carbon disulfide	7.21	76	36706	0.34 ppb		97
24) trans-1,2-dichloroethene	8.01	61	16238	0.32 ppb		89
25) methyl tert-butyl ether	8.03	73	31713	0.32 ppb		93
26) 1,1-dichloroethane	8.40	63	22970	0.31 ppb		94
27) Vinyl acetate	8.44	43	20303m	0.31 ppb		
28) Methyl Ethyl Ketone	8.97	72	4817	0.31 ppb	#	100
29) cis-1,2-dichloroethene	9.38	61	13539	0.31 ppb		91
30) Hexane	8.90	57	13020	0.29 ppb		96
31) Ethyl acetate	9.54	43	20202	0.34 ppb		89
32) Chloroform	9.95	83	31612	0.32 ppb		98
33) Tetrahydrofuran	10.18	42	8932	0.32 ppb		93
34) 1,2-dichloroethane	11.10	62	18425	0.33 ppb		87
36) 1,1,1-trichloroethane	10.75	97	32638	0.33 ppb		98
37) Cyclohexane	11.44	56	12156	0.29 ppb		89
38) Carbon tetrachloride	11.39	117	33109	0.32 ppb		98
39) Benzene	11.37	78	27379	0.31 ppb		96
40) Methyl methacrylate	12.93	41	8689	0.31 ppb	#	84
41) 1,4-dioxane	13.03	88	7797	0.34 ppb		95
42) 2,2,4-trimethylpentane	12.19	57	47254	0.30 ppb		99
43) Heptane	12.54	43	10173	0.27 ppb		92
44) Trichloroethene	12.69	130	12806	0.31 ppb		97
45) 1,2-dichloropropane	12.79	63	10394	0.33 ppb		95

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031609.D Vial: 8
Acq On : 16 Mar 2016 10:42 pm Operator: RJP
Sample : A1UG_0.30 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:57 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
46)	Bromodichloromethane	13.13	83	24639	0.32 ppb		100
47)	cis-1,3-dichloropropene	13.91	75	13399	0.32 ppb		98
48)	trans-1,3-dichloropropene	14.64	75	11780	0.31 ppb		93
49)	1,1,2-trichloroethane	14.93	97	11103	0.33 ppb		99
51)	Toluene	14.68	92	12431	0.28 ppb		95
52)	Methyl Isobutyl Ketone	13.84	43	23225	0.29 ppb		96
53)	Dibromochloromethane	15.61	129	15960m	0.29 ppb		
54)	Methyl Butyl Ketone	15.12	43	21434m	0.30 ppb		
55)	1,2-dibromoethane	15.86	107	16758	0.32 ppb		94
56)	Tetrachloroethylene	15.66	164	11766	0.31 ppb		100
57)	Chlorobenzene	16.61	112	16920	0.31 ppb		83
58)	1,1,1,2-tetrachloroethane	16.70	131	13253	0.30 ppb	#	85
59)	Ethylbenzene	16.86	91	20219	0.27 ppb		97
60)	m&p-xylene	17.02	91	30952	0.53 ppb		97
61)	Nonane	17.38	43	8544	0.25 ppb		99
62)	Styrene	17.47	104	10322	0.25 ppb		97
63)	Bromoform	17.58	173	8523	0.30 ppb		95
64)	o-xylene	17.49	91	17375	0.26 ppb		95
65)	Cumene	18.02	105	22320	0.29 ppb		96
67)	1,1,2,2-tetrachloroethane	17.92	83	24384	0.36 ppb		98
68)	Propylbenzene	18.54	91	27429m	0.37 ppb		
69)	2-Chlorotoluene	18.58	91	17751m	0.29 ppb		
70)	4-ethyltoluene	18.70	105	24157m	0.37 ppb		
71)	1,3,5-trimethylbenzene	18.76	105	28602m	0.35 ppb		
72)	1,2,4-trimethylbenzene	19.19	105	25992	0.37 ppb		94
73)	1,3-dichlorobenzene	19.49	146	15874	0.33 ppb		99
74)	benzyl chloride	19.56	91	19958	0.31 ppb		92
75)	1,4-dichlorobenzene	19.62	146	15212	0.33 ppb		96
76)	1,2,3-trimethylbenzene	19.65	105	32866	0.35 ppb		98
77)	1,2-dichlorobenzene	19.94	146	20801	0.36 ppb		96
78)	1,2,4-trichlorobenzene	21.79	180	13610m	0.31 ppb		
79)	Naphthalene	22.14	128	30401m	0.36 ppb		
80)	Hexachloro-1,3-butadiene	22.06	225	34640	0.29 ppb		93

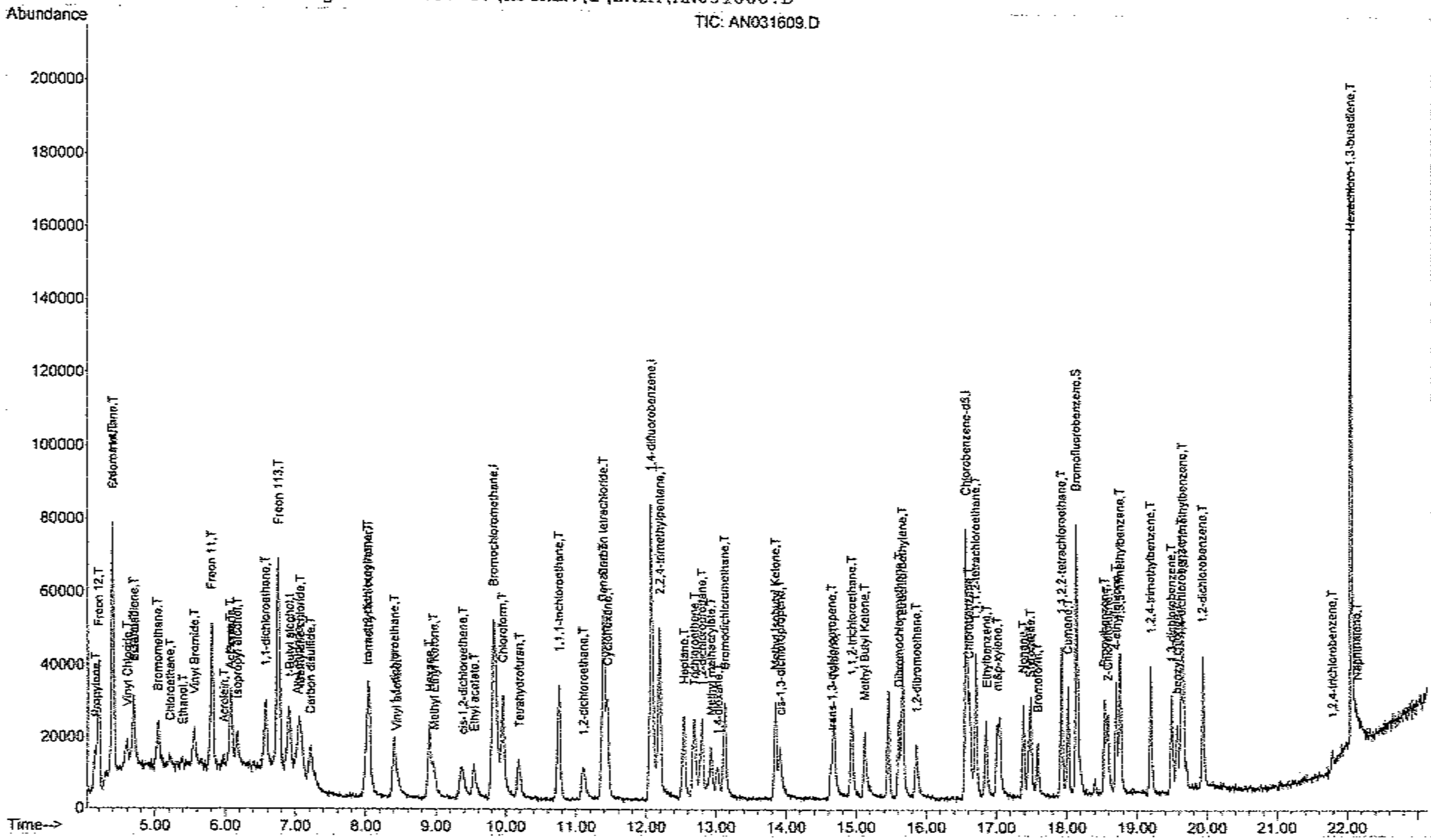
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data File : C:\HPCHEM\1\DATA\AN031609.D
Acq On : 16 Mar 2016 10:42 pm
Sample : A1UG_0.30
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:17 2016

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

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D



AN031609.D A316_1UG.M Thu Apr 07 13:05:54 2016 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031610.D Vial: 9
Acq On : 16 Mar 2016 11:18 pm Operator: RJP
Sample : A1UG_0.15 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:20:22 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.83	128	33400	1.00 ppb	0.02
35) 1,4-difluorobenzene	12.07	114	103197	1.00 ppb	0.01
50) Chlorobenzene-d5	16.57	117	62434	1.00 ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc Units	Dev(Min)
66) Bromofluorobenzene	18.14	95	36945	0.92 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 92.00%	

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.15	41	5667	0.23 ppb	#	100
3) Freon 12	4.19	85	25710	0.18 ppb		100
4) Chloromethane	4.40	50	7532	0.22 ppb		94
5) Freon 114	4.39	85	21243	0.18 ppb		98
6) Vinyl Chloride	4.59	62	6499	0.19 ppb		85
7) Butane	4.68	43	9555	0.23 ppb	#	84
8) 1,3-butadiene	4.70	39	4728m	0.19 ppb		
9) Bromomethane	5.04	94	8678	0.20 ppb		99
10) Chloroethane	5.22	64	2747	0.19 ppb	#	73
11) Ethanol	5.40	45	2336m	0.24 ppb		
12) Acrolein	5.97	56	1928m	0.22 ppb		
13) Vinyl Bromide	5.55	106	8288	0.19 ppb		97
14) Freon 11	5.81	101	26836	0.19 ppb		100
15) Acetone	6.06	58	2908m	0.22 ppb		
16) Pentane	6.08	42	7007	0.23 ppb	#	74
17) Isopropyl alcohol	6.18	45	9697m	0.23 ppb		
18) 1,1-dichloroethene	6.56	96	7737	0.18 ppb	#	87
19) Freon 113	6.75	101	18520	0.18 ppb		96
20) t-Butyl alcohol	6.91	59	14003	0.19 ppb	#	72
21) Methylene chloride	7.06	84	6447	0.17 ppb		84
22) Allyl chloride	7.06	41	6867m	0.22 ppb		
23) Carbon disulfide	7.21	76	21871	0.20 ppb		100
24) trans-1,2-dichloroethene	8.02	61	8942	0.18 ppb		92
25) methyl tert-butyl ether	8.04	73	16217	0.17 ppb		90
26) 1,1-dichloroethane	8.40	63	12529	0.17 ppb		97
27) Vinyl acetate	8.46	43	11579m	0.18 ppb		
28) Methyl Ethyl Ketone	8.98	72	2686	0.18 ppb	#	100
29) cis-1,2-dichloroethene	9.38	61	6078	0.14 ppb		76
30) Hexane	8.91	57	6897	0.16 ppb		97
31) Ethyl acetate	9.55	43	10831	0.19 ppb		92
32) Chloroform	9.95	83	17226	0.18 ppb		96
33) Tetrahydrofuran	10.20	42	4934	0.18 ppb		98
34) 1,2-dichloroethane	11.10	62	9147	0.17 ppb		87
36) 1,1,1-trichloroethane	10.75	97	16611	0.17 ppb		99
37) Cyclohexane	11.45	56	6376	0.16 ppb		88
38) Carbon tetrachloride	11.39	117	16991	0.17 ppb		97
39) Benzene	11.37	78	14982	0.18 ppb		98
40) Methyl methacrylate	12.94	41	5374	0.20 ppb		97
41) 1,4-dioxane	13.03	88	3369	0.15 ppb		91
42) 2,2,4-trimethylpentane	12.19	57	24737	0.16 ppb		98
43) Heptane	12.54	43	5155	0.14 ppb		94
44) Trichloroethene	12.70	130	6486	0.16 ppb		94
45) 1,2-dichloropropane	12.80	63	5119	0.17 ppb		95

(#) = qualifier out of range (m) = manual integration
AN031610.D A316_1UG.M Thu Apr 07 13:05:56 2016 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031610.D Vial: 9
Acq On : 16 Mar 2016 11:18 pm Operator: RJP
Sample : A1UG_0.15 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:20:22 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
46)	Bromodichloromethane	13.12	83	13275	0.18 ppb		97
47)	cis-1,3-dichloropropene	13.91	75	6893	0.17 ppb		96
48)	trans-1,3-dichloropropene	14.64	75	6609	0.18 ppb		94
49)	1,1,2-trichloroethane	14.94	97	6109	0.19 ppb		96
51)	Toluene	14.68	92	6141	0.14 ppb		89
52)	Methyl Isobutyl Ketone	13.85	43	11770	0.15 ppb		98
53)	Dibromochloromethane	15.60	129	8932m	0.17 ppb		
54)	Methyl Butyl Ketone	15.14	43	10426m	0.15 ppb		
55)	1,2-dibromoethane	15.86	107	9583	0.18 ppb		95
56)	Tetrachloroethylene	15.66	164	5857	0.16 ppb		94
57)	Chlorobenzene	16.61	112	9263	0.17 ppb		95
58)	1,1,1,2-tetrachloroethane	16.71	131	6442	0.15 ppb	#	68
59)	Ethylbenzene	16.85	91	11039	0.15 ppb		97
60)	m&p-xylene	17.04	91	16137	0.28 ppb		94
61)	Nonane	17.38	43	5031	0.15 ppb		88
62)	Styrene	17.46	104	5771	0.14 ppb		87
63)	Bromoform	17.58	173	4415	0.16 ppb		96
64)	o-xylene	17.48	91	10324	0.16 ppb		100
65)	Cumene	18.01	105	14312	0.19 ppb		98
67)	1,1,2,2-tetrachloroethane	17.92	83	15040	0.23 ppb		100
68)	Propylbenzene	18.54	91	15476m	0.21 ppb		
69)	2-Chlorotoluene	18.58	91	10441m	0.17 ppb		
70)	4-ethyltoluene	18.70	105	13458m	0.21 ppb		
71)	1,3,5-trimethylbenzene	18.75	105	16481m	0.20 ppb		
72)	1,2,4-trimethylbenzene	19.19	105	15427	0.22 ppb		97
73)	1,3-dichlorobenzene	19.49	146	8974	0.19 ppb		98
74)	benzyl chloride	19.56	91	11759	0.18 ppb		94
75)	1,4-dichlorobenzene	19.62	146	7999	0.18 ppb		92
76)	1,2,3-trimethylbenzene	19.65	105	18207m	0.20 ppb		
77)	1,2-dichlorobenzene	19.94	146	13054	0.23 ppb		92
78)	1,2,4-trichlorobenzene	22.06	180	6492m	0.15 ppb		
79)	Naphthalene	22.21	128	15909m	0.19 ppb		
80)	Hexachloro-1,3-butadiene	22.06	225	18343	0.16 ppb		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031610.D A316_1UG.M Thu Apr 07 13:05:57 2016 MSD1 Page 2

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Data File : C:\HPCHEM\1\DATA\AN031610.D                Vial: 9
Acq On    : 16 Mar 2016  11:18 pm                  Operator: RJP
Sample    : A1UG_0.15                              Inst    : MSD #1
Misc      : A316_1UG                               Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:18 2016             Quant Results File: A316_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Thu Mar 17 10:24:27 2016
Response via  : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
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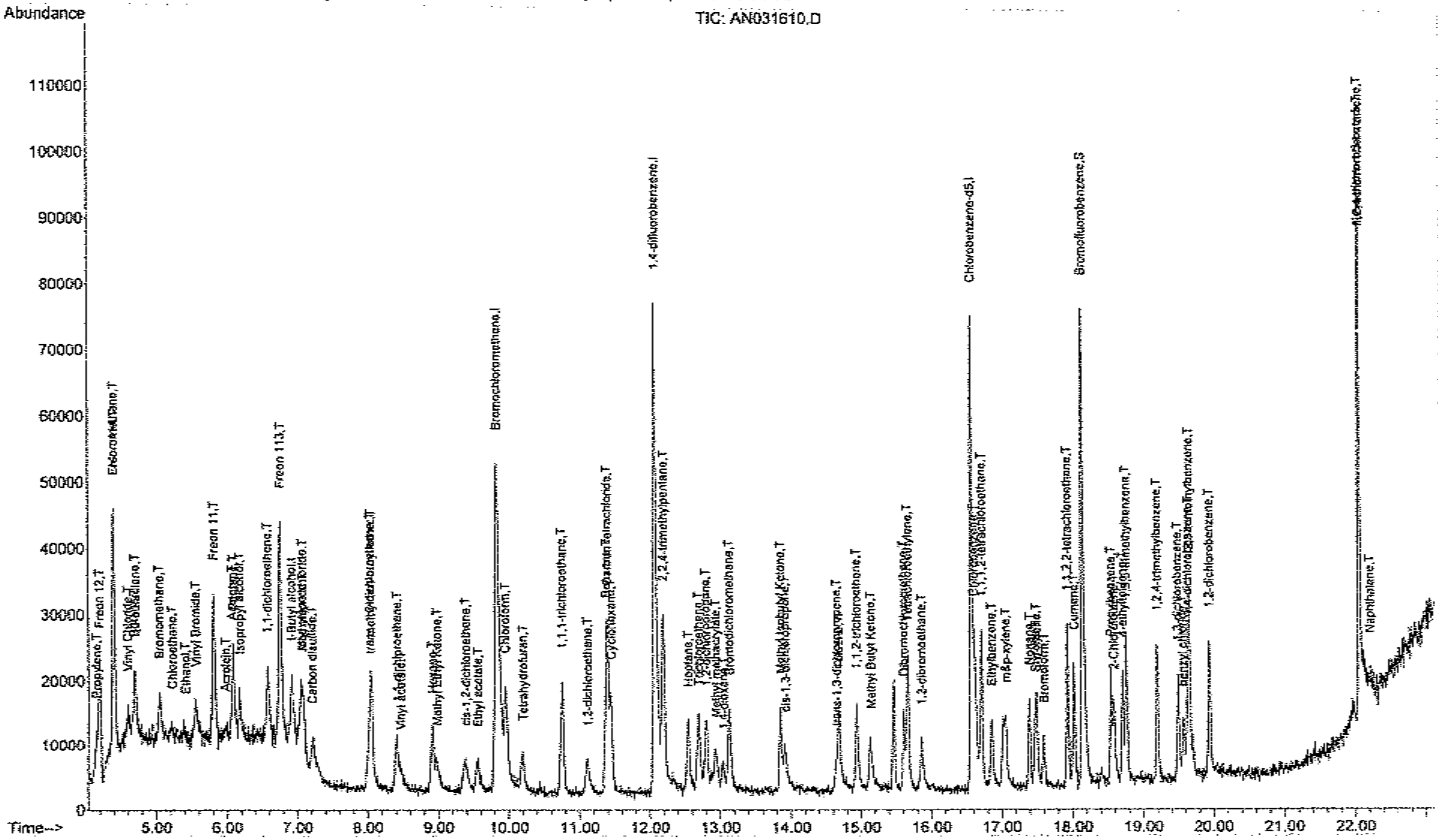


Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031611.D Vial: 10
Acq On : 16 Mar 2016 11:55 pm Operator: RJP
Sample : A1UG_0.10 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:20:37 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 : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.84	128	36456m P	1.00 ppb	0.03
35) 1,4-difluorobenzene	12.08	114	101173	1.00 ppb	0.02
50) Chlorobenzene-d5	16.57	117	65714	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.14	95	39949	0.95 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	95.00%	
Target Compounds					Qvalue
6) Vinyl Chloride	4.59	62	4562	0.12 ppb	86
38) Carbon tetrachloride	11.38	117	12433	0.13 ppb	99
44) Trichloroethene	12.70	130	4819	0.12 ppb	97
56) Tetrachloroethylene	15.66	164	4679m P	0.12 ppb	

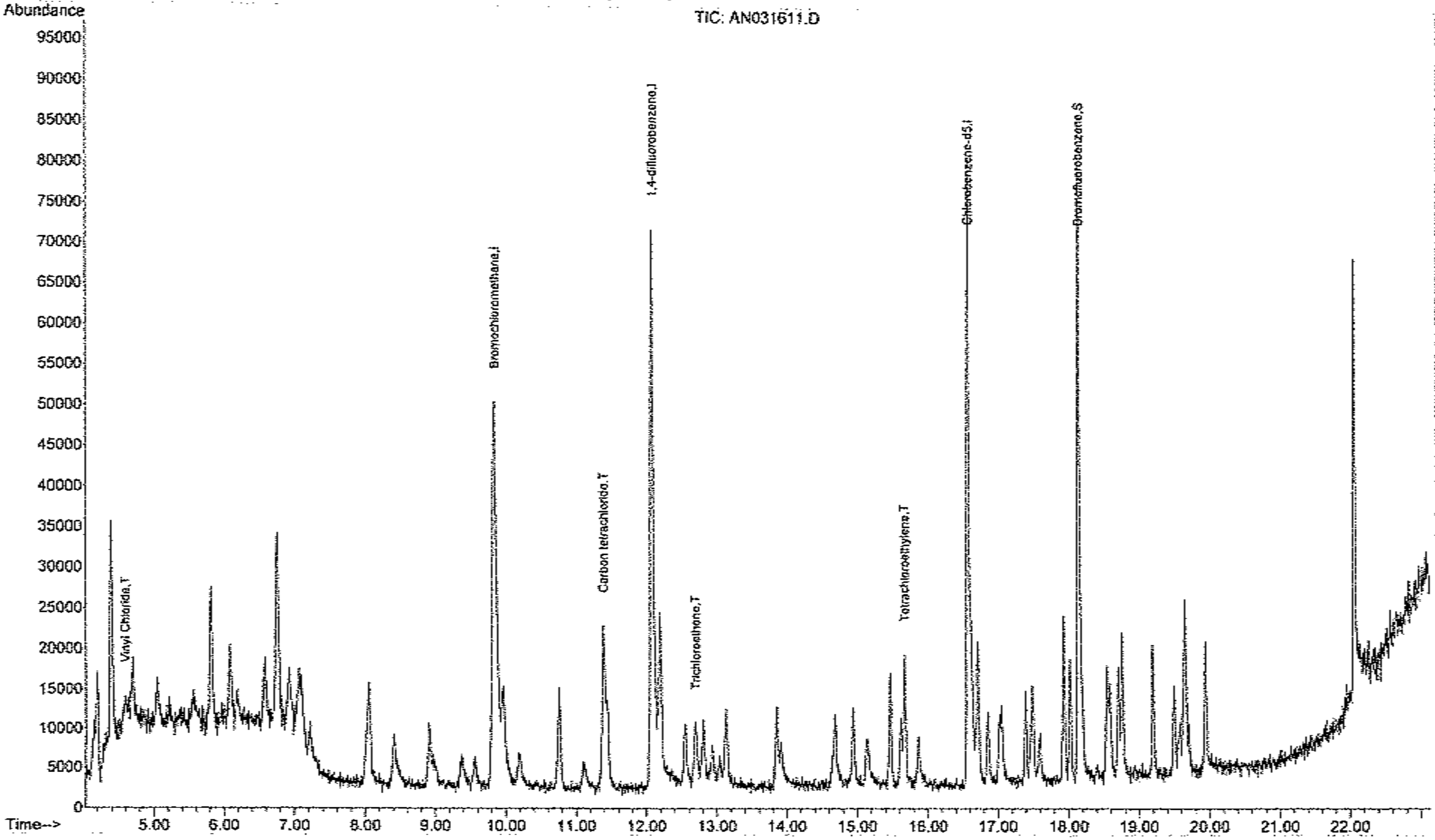
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data File : C:\HPCHEM\1\DATA\AN031611.D
Acq On : 16 Mar 2016 11:55 pm
Sample : A1UG_0.10
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:19 2016

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

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031612.D Vial: 11
Acq On : 17 Mar 2016 12:31 am Operator: RJP
Sample : A1UG_0.04 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:20:59 2016 Quant Results File: A316_1UG.RES

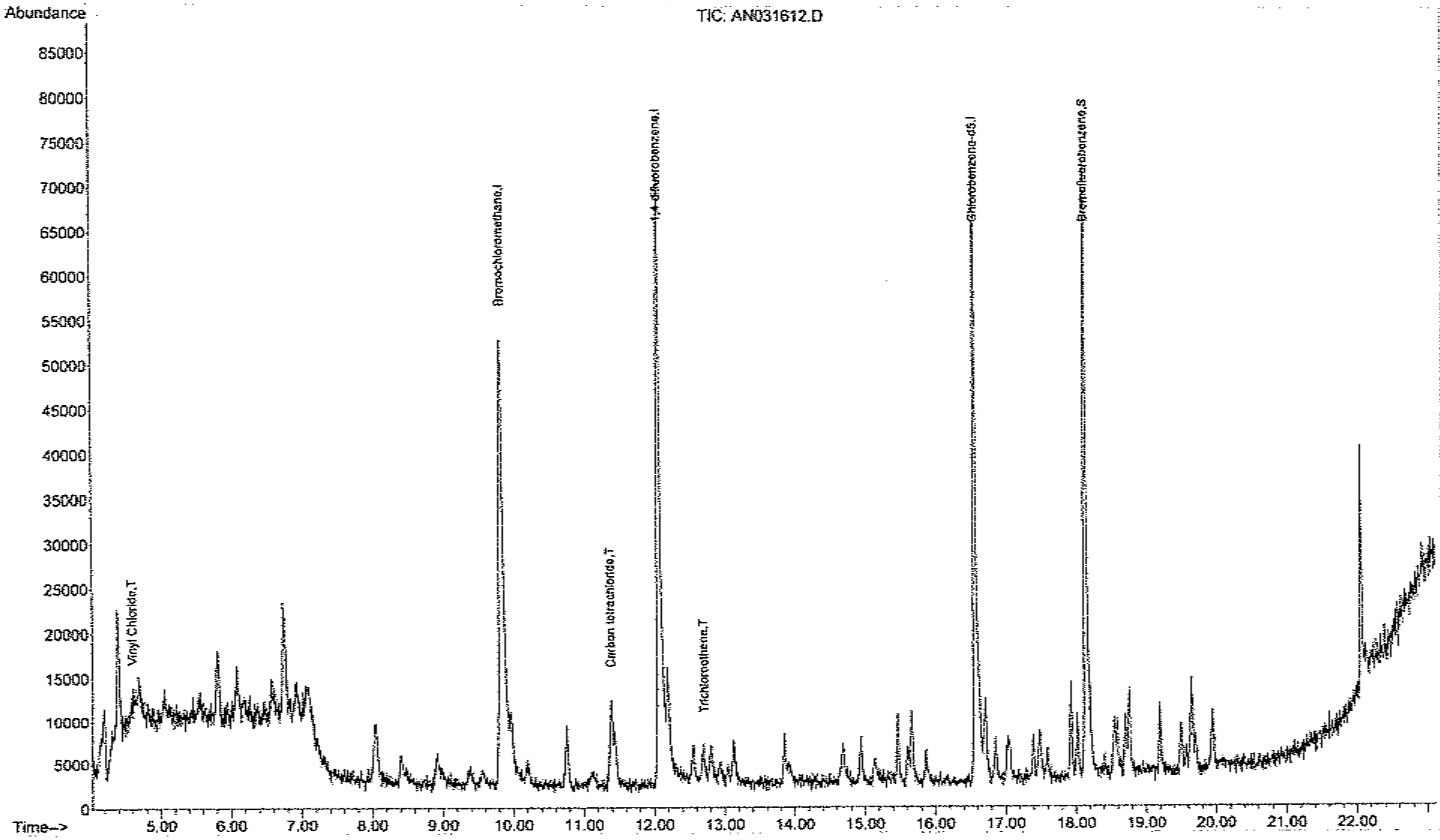
Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 08:17:56 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	35586m	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.07	114	102709	1.00	ppb	0.02
50) Chlorobenzene-d5	16.57	117	61413	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.14	95	36946	0.94	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	=	94.00%	
Target Compounds						Qvalue
6) Vinyl Chloride	4.59	62	2447	0.07	ppb	93
38) Carbon tetrachloride	11.38	117	6221	0.06	ppb	98
44) Trichloroethene	12.69	130	2436	0.06	ppb	96

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

```
Data File : C:\HPCHEM\1\DATA\AN031612.D                Vial: 11
Acq On    : 17 Mar 2016  12:31 am                  Operator: RJP
Sample    : A1UG_0.04                              Inst     : MSD #1
Misc      : A316_1UG                               Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:21 2016              Quant Results File: A316_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Thu Mar 17 10:24:27 2016
Response via  : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
```



AN031612.D   A316_1UG.M   Thu Apr 07 13:06:04 2016   MSD1   Page 2

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CALIBRATION VERIFICATION

Data File : C:\HPCHEM\1\DATA2\AN033104.D   Vial: 4
Acq On : 31 Mar 2016 12:19 pm   Operator: RJP
Sample : A1UG_1.0   Inst : MSD #1
Misc : A316_1UG   Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 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	59	0.00
2	T	Propylene	0.810	0.846	-4.4	67	0.00
3	T	Freon 12	4.271	4.834	-13.2	69	0.00
4	T	Chloromethane	1.118	1.376	-23.1	79	0.00
5	T	Freon 114	3.598	4.353	-21.0	73	0.00
6	T	Vinyl Chloride	1.125	1.304	-15.9	77	0.00
7	T	Butane	1.285	1.598	-24.4	76	0.00
8	T	1,3-butadiene	0.847	1.012	-19.5	76	0.00
9	T	Bromomethane	1.320	1.512	-14.5	70	0.00
10	T	Chloroethane	0.459	0.517	-12.6	67	0.00
11	T	Ethanol	0.341	0.320	6.2	58	0.00
12	T	Acrolein	0.290	0.341	-17.6	77	0.00
13	T	Vinyl Bromide	1.298	1.349	-3.9	62	0.00
14	T	Freon 11	4.393	4.944	-12.5	69	0.00
15	T	Acetone	0.432	0.490	-13.4	73	0.00
16	T	Pentane	0.986	0.811	17.7	52	0.00
17	T	Isopropyl alcohol	1.409	1.401	0.6	65	0.00
18	T	1,1-dichloroethene	1.283	1.320	-2.9	62	0.00
19	T	Freon 113	3.094	3.490	-12.8	67	0.00
20	t	t-Butyl alcohol	2.248	2.530	-12.5	70	0.00
21	T	Methylene chloride	1.124	1.049	6.7	55	0.00
22	T	Allyl chloride	0.998	1.190	-19.2	77	0.00
23	T	Carbon disulfide	3.316	3.226	2.7	60	0.00
24	T	trans-1,2-dichloroethene	1.522	1.486	2.4	58	0.00
25	T	methyl tert-butyl ether	2.881	2.890	-0.3	60	0.00
26	T	1,1-dichloroethane	2.155	2.173	-0.8	60	0.00
27	T	Vinyl acetate	1.869	1.540	17.6	53	0.00
28	T	Methyl Ethyl Ketone	0.461	0.408	11.5	53	0.00
29	T	cis-1,2-dichloroethene	1.250	0.936	25.1	43#	0.00
30	T	Hexane	1.308	1.129	13.7	50	0.00
31	T	Ethyl acetate	1.784	1.395	21.8	48#	0.00
32	T	Chloroform	2.918	2.785	4.6	57	0.00
33	T	Tetrahydrofuran	0.828	0.735	11.2	53	0.00
34	T	1,2-dichloroethane	1.641	1.281	21.9	47#	0.00
35	I	1,4-difluorobenzene	1.000	1.000	0.0	43#	0.00
36	T	1,1,1-trichloroethane	0.939	1.159	-23.4	54	0.00
37	T	Cyclohexane	0.387	0.496	-28.2	56	0.00
38	T	Carbon tetrachloride	1.048	1.256	-19.8	57	0.00
39	T	Benzene	0.832	1.005	-20.8	53	0.00
40	T	Methyl methacrylate	0.271	0.298	-10.0	50#	0.00
41	T	1,4-dioxane	0.213	0.252	-18.3	51	0.00
42	T	2,2,4-trimethylpentane	1.453	1.749	-20.4	51	0.00
43	T	Heptane	0.338	0.361	-6.8	44#	0.00
44	T	Trichloroethene	0.425	0.452	-6.4	50	0.00
45	T	1,2-dichloropropane	0.300	0.369	-23.0	54	0.00
46	T	Bromodichloromethane	0.734	0.852	-16.1	51	0.00
47	T	cis-1,3-dichloropropene	0.400	0.494	-23.5	56	0.00
48	T	trans-1,3-dichloropropene	0.359	0.458	-27.6	57	0.00
49	T	1,1,2-trichloroethane	0.329	0.355	-7.9	49#	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\AN033104.D   Vial: 4
Acq On : 31 Mar 2016 12:19 pm   Operator: RJP
Sample : A1UG_1.0   Inst : MSD #1
Misc : A316_1UG   Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 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	0.679	0.529	22.1	45#	0.00
52	T	Methyl Isobutyl Ketone	1.201	1.101	8.3	52	0.00
53	T	Dibromochloromethane	0.857	0.866	-1.1	61	0.00
54	T	Methyl Butyl Ketone	1.068	0.893	16.4	46#	0.00
55	T	1,2-dibromoethane	0.845	0.958	-13.4	68	0.00
56	T	Tetrachloroethylene	0.648	0.561	13.4	55	0.00
57	T	Chlorobenzene	0.891	0.947	-6.3	64	0.00
58	T	1,1,1,2-tetrachloroethane	0.666	0.767	-15.2	65	0.00
59	T	Ethylbenzene	1.165	1.208	-3.7	61	0.00
60	T	m&p-xylene	0.925	0.902	2.5	58	0.00
61	T	Nonane	0.552	0.600	-8.7	66	0.00
62	T	Styrene	0.644	0.732	-13.7	66	0.00
63	T	Bromoform	0.463	1.053	-127.4#	138	0.00
64	T	o-xylene	1.109	1.288	-16.1	70	0.00
65	T	Cumene	1.299	1.511	-16.3	74	0.00
66	S	Bromofluorobenzene	0.643	0.775	-20.5	71	0.00
67	T	1,1,2,2-tetrachloroethane	1.140	1.326	-16.3	73	0.00
68	T	Propylbenzene	1.379	1.519	-10.2	76	0.00
69	T	2-Chlorotoluene	1.004	1.144	-13.9	70	0.00
70	T	4-ethyltoluene	1.183	1.374	-16.1	78	0.00
71	T	1,3,5-trimethylbenzene	1.416	1.790	-26.4	81	0.00
72	T	1,2,4-trimethylbenzene	1.224	1.518	-24.0	80	0.00
73	T	1,3-dichlorobenzene	0.778	0.989	-27.1	77	0.00
74	T	benzyl chloride	1.110	1.294	-16.6	62	0.00
75	T	1,4-dichlorobenzene	0.733	0.868	-18.4	71	0.00
76	T	1,2,3-trimethylbenzene	1.510	1.910	-26.5	77	0.00
77	T	1,2-dichlorobenzene	0.954	1.182	-23.9	77	0.00
78	T	1,2,4-trichlorobenzene	0.720	0.662	8.1	57	0.00
79	T	Naphthalene	1.494	1.537	-2.9	70	0.00
80	T	Hexachloro-1,3-butadiene	1.754	1.723	1.8	54	0.00

(#) = Out of Range   SPCC's out = 0   CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033104.D Vial: 4
Acq On : 31 Mar 2016 12:19 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 12:43:55 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.83	128	21478m	1.00 ppb	0.02
35) 1,4-difluorobenzene	12.08	114	48888	1.00 ppb	0.02
50) Chlorobenzene-d5	16.57	117	36495	1.00 ppb	0.01

System Monitoring Compounds

	R.T.	QIon	Response	Conc Units	Dev(Min)
66) Bromofluorobenzene	18.14	95	28268	1.20 ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 120.00%

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.14	41	18168	1.04 ppb	#	100
3) Freon 12	4.20	85	103821	1.13 ppb		100
4) Chloromethane	4.40	50	29556m	1.23 ppb		
5) Freon 114	4.40	85	93501	1.21 ppb		91
6) Vinyl Chloride	4.60	62	28017	1.16 ppb		87
7) Butane	4.69	43	34332	1.24 ppb		96
8) 1,3-butadiene	4.70	39	21729m	1.19 ppb		
9) Bromomethane	5.05	94	32471	1.15 ppb		99
10) Chloroethane	5.22	64	11107	1.13 ppb		97
11) Ethanol	5.53	45	6863m	0.94 ppb		
12) Acrolein	6.10	56	7332m	1.18 ppb		
13) Vinyl Bromide	5.57	106	28965	1.04 ppb		96
14) Freon 11	5.82	101	106189	1.13 ppb		98
15) Acetone	6.16	58	10527m	1.14 ppb		
16) Pentane	6.10	42	17420	0.82 ppb		86
17) Isopropyl alcohol	6.30	45	30088m	0.99 ppb		
18) 1,1-dichloroethene	6.59	96	28353	1.03 ppb		90
19) Freon 113	6.76	101	74948	1.13 ppb		94
20) t-Butyl alcohol	7.06	59	54341m	1.13 ppb		
21) Methylene chloride	7.07	84	22522	0.93 ppb		89
22) Allyl chloride	7.06	41	25558m	1.19 ppb		
23) Carbon disulfide	7.23	76	69279	0.97 ppb		98
24) trans-1,2-dichloroethene	8.03	61	31915m	0.98 ppb		
25) methyl tert-butyl ether	8.11	73	62077	1.00 ppb		95
26) 1,1-dichloroethane	8.42	63	46664	1.01 ppb		99
27) Vinyl acetate	8.52	43	33086m	0.82 ppb		
28) Methyl Ethyl Ketone	9.04	72	8766m	0.89 ppb		
29) cis-1,2-dichloroethene	9.38	61	20111	0.75 ppb		96
30) Hexane	8.93	57	24255	0.86 ppb		92
31) Ethyl acetate	9.60	43	29969	0.78 ppb		99
32) Chloroform	9.97	83	59806	0.95 ppb		99
33) Tetrahydrofuran	10.26	42	15794	0.89 ppb		89
34) 1,2-dichloroethane	11.13	62	27519	0.78 ppb		90
36) 1,1,1-trichloroethane	10.77	97	56681m	1.23 ppb		
37) Cyclohexane	11.45	56	24249	1.28 ppb	#	85
38) Carbon tetrachloride	11.40	117	61417m	1.20 ppb		
39) Benzene	11.38	78	49155	1.21 ppb		97
40) Methyl methacrylate	12.95	41	14556	1.10 ppb	#	76
41) 1,4-dioxane	13.08	88	12319	1.19 ppb		99
42) 2,2,4-trimethylpentane	12.20	57	85481m	1.20 ppb		
43) Heptane	12.55	43	17670	1.07 ppb		95
44) Trichloroethene	12.70	130	22115	1.06 ppb		97
45) 1,2-dichloropropane	12.81	63	18046	1.23 ppb		100

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033104.D Vial: 4
Acq On : 31 Mar 2016 12:19 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 12:43:55 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	Bromodichloromethane	13.13	83	41651m	1.16	ppb	
47)	cis-1,3-dichloropropene	13.92	75	24149	1.24	ppb	97
48)	trans-1,3-dichloropropene	14.71	75	22400m	1.28	ppb	
49)	1,1,2-trichloroethane	14.94	97	17373m	1.08	ppb	
51)	Toluene	14.69	92	19295	0.78	ppb	99
52)	Methyl Isobutyl Ketone	13.88	43	40189	0.92	ppb	97
53)	Dibromochloromethane	15.61	129	31600m	1.01	ppb	
54)	Methyl Butyl Ketone	15.17	43	32594	0.84	ppb	91
55)	1,2-dibromoethane	15.87	107	34960	1.13	ppb	96
56)	Tetrachloroethylene	15.67	164	20482	0.87	ppb	97
57)	Chlorobenzene	16.62	112	34556	1.06	ppb	90
58)	1,1,1,2-tetrachloroethane	16.72	131	27987	1.15	ppb	95
59)	Ethylbenzene	16.86	91	44081	1.04	ppb	100
60)	m&p-xylene	17.05	91	65852	1.95	ppb	96
61)	Nonane	17.39	43	21909	1.09	ppb	94
62)	Styrene	17.47	104	26727	1.14	ppb	89
63)	Bromoform	17.59	173	38427	2.28	ppb	99
64)	o-xylene	17.49	91	46990	1.16	ppb	96
65)	Cumene	18.02	105	55145	1.16	ppb	98
67)	1,1,2,2-tetrachloroethane	17.93	83	48409m	1.16	ppb	
68)	Propylbenzene	18.54	91	55449m	1.10	ppb	
69)	2-Chlorotoluene	18.58	91	41764m	1.14	ppb	
70)	4-ethyltoluene	18.70	105	50153m	1.16	ppb	
71)	1,3,5-trimethylbenzene	18.76	105	65318m	1.26	ppb	
72)	1,2,4-trimethylbenzene	19.19	105	55409	1.24	ppb	93
73)	1,3-dichlorobenzene	19.49	146	36108	1.27	ppb	98
74)	benzyl chloride	19.57	91	47227	1.17	ppb	99
75)	1,4-dichlorobenzene	19.62	146	31681	1.18	ppb	96
76)	1,2,3-trimethylbenzene	19.65	105	69701	1.26	ppb	96
77)	1,2-dichlorobenzene	19.94	146	43140	1.24	ppb	97
78)	1,2,4-trichlorobenzene	21.78	180	24145m	0.92	ppb	
79)	Naphthalene	22.12	128	56077m	1.03	ppb	
80)	Hexachloro-1,3-butadiene	22.06	225	62867	0.98	ppb	95

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

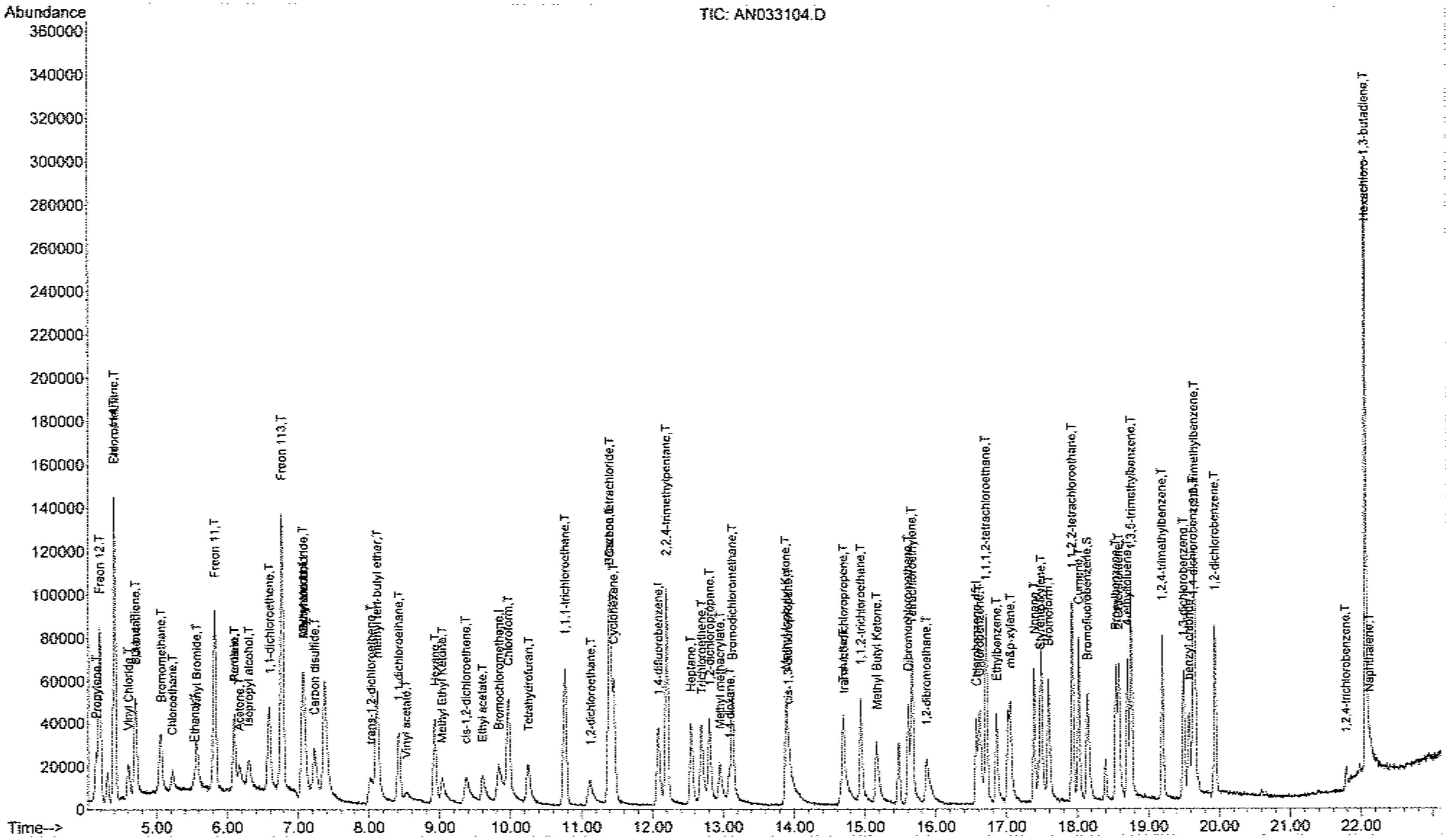
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033104.D
Acq On : 31 Mar 2016 12:19 pm
Sample : A1UG_1.0
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 31 12:46 2016

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

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration



AN033104.D A316_1UG.M Tue Apr 26 14:47:17 2016 MSD1 Page 3

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN040102.D
Acq On : 1 Apr 2016 12:06 pm
Sample : A1UG_1.0
Misc : A316_1UG
MS Integration Params: RTEINT.P

Vial: 18
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 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	55	0.00
2	T	Propylene	0.810	0.860	-6.2	64	0.01
3	T	Freon 12	4.271	5.108	-19.6	68	0.00
4	T	Chloromethane	1.118	1.325	-18.5	71	0.00
5	T	Freon 114	3.598	4.429	-23.1	69	0.00
6	T	Vinyl Chloride	1.125	1.238	-10.0	69	0.00
7	T	Butane	1.285	1.396	-8.6	63	0.00
8	T	1,3-butadiene	0.847	1.054	-24.4	75	0.00
9	T	Bromomethane	1.320	1.586	-20.2	69	0.00
10	T	Chloroethane	0.459	0.543	-18.3	66	0.00
11	T	Ethanol	0.341	0.349	-2.3	60	-0.13
12	T	Acrolein	0.290	0.363	-25.2	77	-0.12
13	T	Vinyl Bromide	1.298	1.449	-11.6	63	0.00
14	T	Freon 11	4.393	5.147	-17.2	67	0.00
15	T	Acetone	0.432	0.484	-12.0	68	-0.09
16	T	Pentane	0.986	0.987	-0.1	59	-0.01
17	T	Isopropyl alcohol	1.409	1.659	-17.7	72	-0.11
18	T	1,1-dichloroethene	1.283	1.351	-5.3	59	-0.01
19	T	Freon 113	3.094	3.971	-28.3	72	0.00
20	t	t-Butyl alcohol	2.248	2.923	-30.0#	76	-0.14
21	T	Methylene chloride	1.124	1.260	-12.1	62	-0.01
22	T	Allyl chloride	0.998	0.900	9.8	55	-0.03
23	T	Carbon disulfide	3.316	3.579	-7.9	62	0.00
24	T	trans-1,2-dichloroethene	1.522	1.525	-0.2	56	0.00
25	T	methyl tert-butyl ether	2.881	3.223	-11.9	63	-0.07
26	T	1,1-dichloroethane	2.155	2.255	-4.6	59	-0.01
27	T	Vinyl acetate	1.869	1.565	16.3	51	-0.07
28	T	Methyl Ethyl Ketone	0.461	0.490	-6.3	60	-0.07
29	T	cis-1,2-dichloroethene	1.250	1.259	-0.7	54	0.00
30	T	Hexane	1.308	1.196	8.6	50	-0.02
31	T	Ethyl acetate	1.784	1.908	-7.0	61	-0.05
32	T	Chloroform	2.918	2.995	-2.6	58	-0.02
33	T	Tetrahydrofuran	0.828	0.855	-3.3	58	-0.07
34	T	1,2-dichloroethane	1.641	1.586	3.4	55	-0.03
35	I	1,4-difluorobenzene	1.000	1.000	0.0	41#	-0.02
36	T	1,1,1-trichloroethane	0.939	1.190	-26.7	52	0.00
37	T	Cyclohexane	0.387	0.481	-24.3	51	0.00
38	T	Carbon tetrachloride	1.048	1.339	-27.8	57	0.00
39	T	Benzene	0.832	1.008	-21.2	50	0.00
40	T	Methyl methacrylate	0.271	0.361	-33.2#	56	-0.01
41	T	1,4-dioxane	0.213	0.274	-28.6	52	-0.06
42	T	2,2,4-trimethylpentane	1.453	1.814	-24.8	50	0.00
43	T	Heptane	0.338	0.359	-6.2	41#	-0.01
44	T	Trichloroethene	0.425	0.509	-19.8	53	-0.01
45	T	1,2-dichloropropane	0.300	0.356	-18.7	49#	-0.02
46	T	Bromodichloromethane	0.734	0.874	-19.1	49#	-0.01
47	T	cis-1,3-dichloropropene	0.400	0.494	-23.5	52	-0.01
48	T	trans-1,3-dichloropropene	0.359	0.474	-32.0#	56	-0.07
49	T	1,1,2-trichloroethane	0.329	0.373	-13.4	48#	0.00

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\AN040102.D Vial: 18
Acq On : 1 Apr 2016 12:06 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 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	0.679	0.557	18.0	42#	0.00
52	T	Methyl Isobutyl Ketone	1.201	1.409	-17.3	59	-0.04
53	T	Dibromochloromethane	0.857	0.927	-8.2	58	0.00
54	T	Methyl Butyl Ketone	1.068	1.207	-13.0	56	-0.04
55	T	1,2-dibromoethane	0.845	0.973	-15.1	62	-0.01
56	T	Tetrachloroethylene	0.648	0.571	11.9	50	0.00
57	T	Chlorobenzene	0.891	0.974	-9.3	59	0.00
58	T	1,1,1,2-tetrachloroethane	0.666	0.781	-17.3	60	0.00
59	T	Ethylbenzene	1.165	1.154	0.9	52	0.00
60	T	m&p-xylene	0.925	0.859	7.1	49#	0.00
61	T	Nonane	0.552	0.573	-3.8	56	0.00
62	T	Styrene	0.644	0.694	-7.8	56	0.00
63	T	Bromoform	0.463	0.980	-111.7#	115	0.00
64	T	o-xylene	1.109	1.256	-13.3	62	0.00
65	T	Cumene	1.299	1.506	-15.9	66	0.00
66	S	Bromofluorobenzene	0.643	0.691	-7.5	57	0.00
67	T	1,1,2,2-tetrachloroethane	1.140	1.420	-24.6	70	0.00
68	T	Propylbenzene	1.379	1.604	-16.3	72	0.00
69	T	2-Chlorotoluene	1.004	1.104	-10.0	61	0.00
70	T	4-ethyltoluene	1.183	1.394	-17.8	71	0.00
71	T	1,3,5-trimethylbenzene	1.416	1.788	-26.3	72	0.00
72	T	1,2,4-trimethylbenzene	1.224	1.474	-20.4	70	0.00
73	T	1,3-dichlorobenzene	0.778	0.938	-20.6	65	0.00
74	T	benzyl chloride	1.110	1.073	3.3	46#	0.00
75	T	1,4-dichlorobenzene	0.733	0.918	-25.2	67	0.00
76	T	1,2,3-trimethylbenzene	1.510	1.939	-28.4	70	0.00
77	T	1,2-dichlorobenzene	0.954	1.228	-28.7	71	0.00
78	T	1,2,4-trichlorobenzene	0.720	0.627	12.9	49#	0.00
79	T	Naphthalene	1.494	1.654	-10.7	67	0.00
80	T	Hexachloro-1,3-butadiene	1.754	2.142	-22.1	60	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040102.D Vial: 18
Acq On : 1 Apr 2016 12:06 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 01 12:45:47 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.82	128	20214m	1.00	ppb		0.02
35) 1,4-difluorobenzene	12.06	114	45908	1.00	ppb		0.00
50) Chlorobenzene-d5	16.57	117	32719m	1.00	ppb		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.14	95	22624	1.07	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	=	107.00%		
Target Compounds							Qvalue
2) Propylene	4.15	41	17376	1.06	ppb	#	100
3) Freon 12	4.20	85	103246	1.20	ppb		99
4) Chloromethane	4.40	50	26785m	1.19	ppb		
5) Freon 114	4.40	85	89518	1.23	ppb		100
6) Vinyl Chloride	4.60	62	25030	1.10	ppb		89
7) Butane	4.69	43	28227	1.09	ppb		96
8) 1,3-butadiene	4.70	39	21303	1.24	ppb		90
9) Bromomethane	5.04	94	32059	1.20	ppb		96
10) Chloroethane	5.22	64	10984	1.19	ppb		99
11) Ethanol	5.39	45	7055	1.02	ppb	#	80
12) Acrolein	5.98	56	7347	1.25	ppb	#	5
13) Vinyl Bromide	5.56	106	29294	1.12	ppb		97
14) Freon 11	5.81	101	104032	1.17	ppb		98
15) Acetone	6.07	58	9780	1.12	ppb	#	77
16) Pentane	6.08	42	19954	1.00	ppb		97
17) Isopropyl alcohol	6.19	45	33525	1.18	ppb	#	46
18) 1,1-dichloroethene	6.57	96	27316	1.05	ppb		98
19) Freon 113	6.76	101	80263	1.28	ppb		93
20) t-Butyl alcohol	6.92	59	59090	1.30	ppb	#	73
21) Methylene chloride	7.06	84	25478	1.12	ppb		91
22) Allyl chloride	7.03	41	18186	0.90	ppb		80
23) Carbon disulfide	7.22	76	72346	1.08	ppb		98
24) trans-1,2-dichloroethene	8.03	61	30818	1.00	ppb		93
25) methyl tert-butyl ether	8.04	73	65147	1.12	ppb		90
26) 1,1-dichloroethane	8.41	63	45588	1.05	ppb		99
27) Vinyl acetate	8.45	43	31630	0.84	ppb		99
28) Methyl Ethyl Ketone	8.96	72	9904	1.06	ppb	#	100
29) cis-1,2-dichloroethene	9.37	61	25440	1.01	ppb		93
30) Hexane	8.91	57	24173	0.91	ppb		97
31) Ethyl acetate	9.55	43	38569	1.07	ppb		96
32) Chloroform	9.95	83	60541	1.03	ppb		99
33) Tetrahydrofuran	10.18	42	17273	1.03	ppb		89
34) 1,2-dichloroethane	11.10	62	32062	0.97	ppb		88
36) 1,1,1-trichloroethane	10.76	97	54630m	1.27	ppb		
37) Cyclohexane	11.45	56	22079m	1.24	ppb		
38) Carbon tetrachloride	11.39	117	61482m	1.28	ppb		
39) Benzene	11.38	78	46254	1.21	ppb		98
40) Methyl methacrylate	12.93	41	16559	1.33	ppb	#	82
41) 1,4-dioxane	13.02	88	12565m	1.29	ppb		
42) 2,2,4-trimethylpentane	12.20	57	83264m	1.25	ppb		
43) Heptane	12.54	43	16478	1.06	ppb		94
44) Trichloroethene	12.68	130	23365	1.20	ppb		99
45) 1,2-dichloropropane	12.79	63	16364	1.19	ppb		97

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040102.D Vial: 18
Acq On : 1 Apr 2016 12:06 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 01 12:45:47 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.12	83	40101m	1.19 ppb	
47)	cis-1,3-dichloropropene	13.91	75	22657m	1.23 ppb	
48)	trans-1,3-dichloropropene	14.64	75	21777m	1.32 ppb	
49)	1,1,2-trichloroethane	14.94	97	17117m	1.13 ppb	
51)	Toluene	14.68	92	18210	0.82 ppb	91
52)	Methyl Isobutyl Ketone	13.85	43	46116m	1.17 ppb	
53)	Dibromochloromethane	15.60	129	30338m	1.08 ppb	
54)	Methyl Butyl Ketone	15.12	43	39487	1.13 ppb	93
55)	1,2-dibromoethane	15.86	107	31830m	1.15 ppb	
56)	Tetrachloroethylene	15.66	164	18677	0.88 ppb	96
57)	Chlorobenzene	16.62	112	31861	1.09 ppb	87
58)	1,1,1,2-tetrachloroethane	16.71	131	25554	1.17 ppb	96
59)	Ethylbenzene	16.85	91	37742	0.99 ppb	100
60)	m&p-xylene	17.04	91	56187	1.86 ppb	96
61)	Nonane	17.38	43	18742	1.04 ppb	94
62)	Styrene	17.46	104	22713	1.08 ppb	89
63)	Bromoform	17.59	173	32049	2.12 ppb	100
64)	o-xylene	17.49	91	41105	1.13 ppb	100
65)	Cumene	18.02	105	49282	1.16 ppb	99
67)	1,1,2,2-tetrachloroethane	17.92	83	46449m	1.24 ppb	
68)	Propylbenzene	18.54	91	52486m	1.16 ppb	
69)	2-Chlorotoluene	18.58	91	36127m	1.10 ppb	
70)	4-ethyltoluene	18.70	105	45616m	1.18 ppb	
71)	1,3,5-trimethylbenzene	18.76	105	58514m	1.26 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	48219m	1.20 ppb	
73)	1,3-dichlorobenzene	19.49	146	30703m	1.21 ppb	
74)	benzyl chloride	19.56	91	35105m	0.97 ppb	
75)	1,4-dichlorobenzene	19.62	146	30034	1.25 ppb	98
76)	1,2,3-trimethylbenzene	19.65	105	63436m	1.28 ppb	
77)	1,2-dichlorobenzene	19.94	146	40179m	1.29 ppb	
78)	1,2,4-trichlorobenzene	21.79	180	20515m	0.87 ppb	
79)	Naphthalene	22.12	128	54113m	1.11 ppb	
80)	Hexachloro-1,3-butadiene	22.06	225	70093	1.22 ppb	96

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

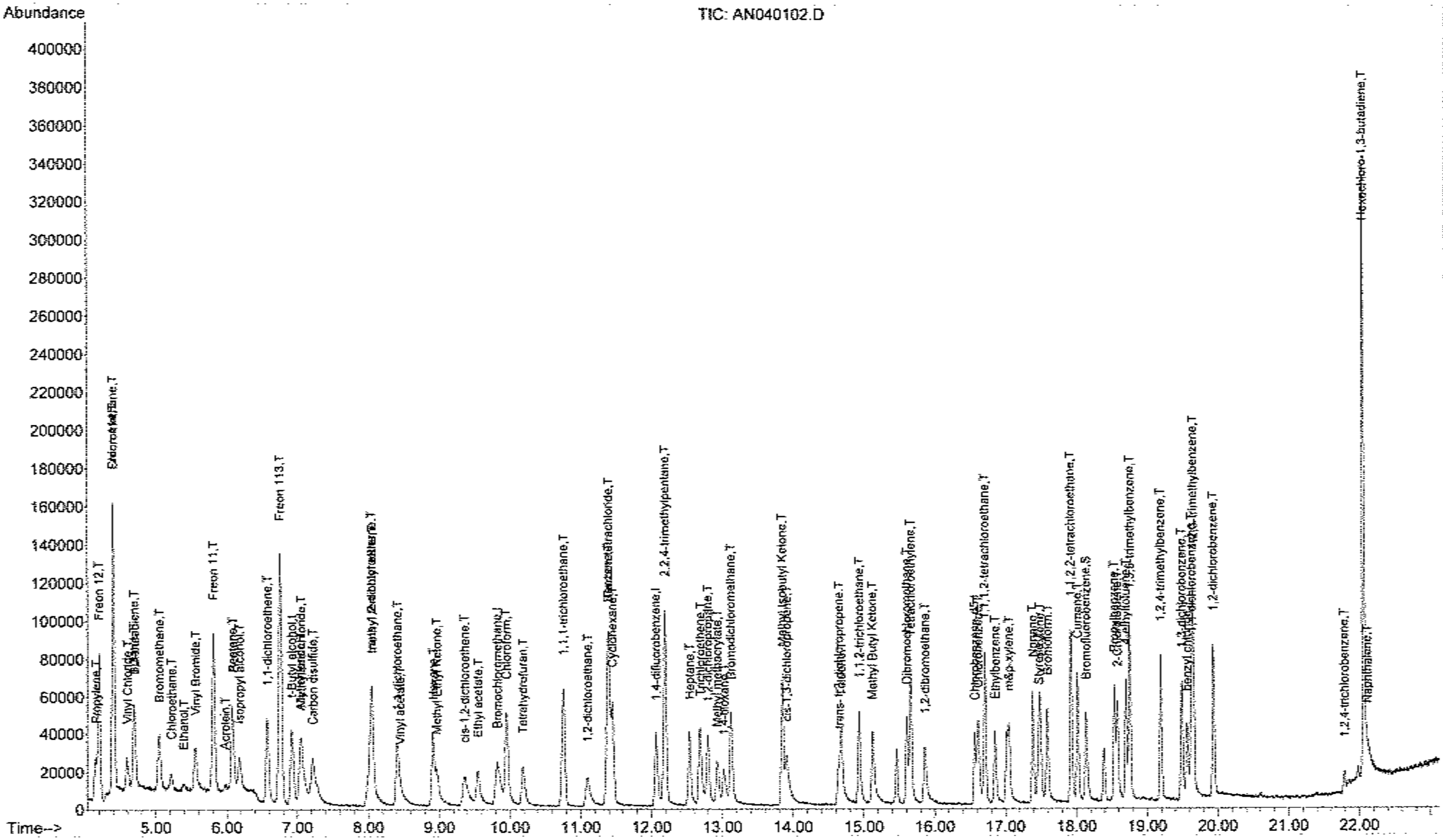
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040102.D
Acq On : 1 Apr 2016 12:06 pm
Sample : A1UG_1.0
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 1 12:48 2016

Vial: 18
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration



AN040102.D A316_1UG.M Tue Apr 26 14:48:43 2016 MSD1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN040203.D Vial: 3
Acq On : 2 Apr 2016 12:08 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 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	64	-0.02
2	T	Propylene	0.810	0.985	-21.6	84	0.00
3	T	Freon 12	4.271	5.043	-18.1	78	0.00
4	T	Chloromethane	1.118	1.345	-20.3	83	0.00
5	T	Freon 114	3.598	4.247	-18.0	77	0.00
6	T	Vinyl Chloride	1.125	1.234	-9.7	79	0.00
7	T	Butane	1.285	1.409	-9.6	73	-0.01
8	T	1,3-butadiene	0.847	0.933	-10.2	76	0.00
9	T	Bromomethane	1.320	1.496	-13.3	75	0.00
10	T	Chloroethane	0.459	0.514	-12.0	72	-0.01
11	T	Ethanol	0.341	0.374	-9.7	74	-0.15
12	T	Acrolein	0.290	0.328	-13.1	80	-0.15
13	T	Vinyl Bromide	1.298	1.457	-12.2	73	-0.02
14	T	Freon 11	4.393	4.716	-7.4	71	-0.01
15	T	Acetone	0.432	0.490	-13.4	80	-0.10
16	T	Pentane	0.986	1.026	-4.1	71	-0.02
17	T	Isopropyl alcohol	1.409	1.424	-1.1	72	-0.14
18	T	1,1-dichloroethene	1.283	1.515	-18.1	77	-0.02
19	T	Freon 113	3.094	3.880	-25.4	81	-0.01
20	t	t-Butyl alcohol	2.248	2.364	-5.2	71	-0.16
21	T	Methylene chloride	1.124	1.335	-18.8	76	-0.02
22	T	Allyl chloride	0.998	1.164	-16.6	82	-0.04
23	T	Carbon disulfide	3.316	3.791	-14.3	76	-0.01
24	T	trans-1,2-dichloroethene	1.522	1.709	-12.3	73	-0.03
25	T	methyl tert-butyl ether	2.881	3.446	-19.6	78	-0.08
26	T	1,1-dichloroethane	2.155	2.421	-12.3	73	-0.02
27	T	Vinyl acetate	1.869	2.086	-11.6	79	-0.08
28	T	Methyl Ethyl Ketone	0.461	0.554	-20.2	78	-0.09
29	T	cis-1,2-dichloroethene	1.250	1.436	-14.9	71	-0.03
30	T	Hexane	1.308	1.479	-13.1	72	-0.01
31	T	Ethyl acetate	1.784	2.117	-18.7	79	-0.07
32	T	Chloroform	2.918	2.981	-2.2	67	-0.02
33	T	Tetrahydrofuran	0.828	1.007	-21.6	79	-0.09
34	T	1,2-dichloroethane	1.641	1.643	-0.1	66	-0.04
35	I	1,4-difluorobenzene	1.000	1.000	0.0	54	-0.02
36	T	1,1,1-trichloroethane	0.939	1.138	-21.2	66	-0.02
37	T	Cyclohexane	0.387	0.487	-25.8	68	-0.01
38	T	Carbon tetrachloride	1.048	1.187	-13.3	67	0.00
39	T	Benzene	0.832	0.997	-19.8	66	0.00
40	T	Methyl methacrylate	0.271	0.307	-13.3	63	-0.03
41	T	1,4-dioxane	0.213	0.234	-9.9	58	-0.07
42	T	2,2,4-trimethylpentane	1.453	2.014	-38.6#	73	-0.01
43	T	Heptane	0.338	0.399	-18.0	60	-0.02
44	T	Trichloroethene	0.425	0.504	-18.6	69	-0.01
45	T	1,2-dichloropropane	0.300	0.367	-22.3	67	-0.02
46	T	Bromodichloromethane	0.734	0.877	-19.5	65	-0.01
47	T	cis-1,3-dichloropropene	0.400	0.506	-26.5	71	-0.02
48	T	trans-1,3-dichloropropene	0.359	0.421	-17.3	65	-0.07
49	T	1,1,2-trichloroethane	0.329	0.379	-15.2	64	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN040203.D   Vial: 3
Acq On   : 2 Apr 2016 12:08 pm   Operator: RJP
Sample   : A1UG_1.0   Inst   : MSD #1
Misc   : A316_1UG   Multiplr: 1.00
MS Integration Params: RTEINT.P

Method   : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title   : TO-15 VOA Standards for 5 point calibration
Last Update   : Tue Apr 26 14:41:32 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	0.679	0.582	14.3	63	0.00
52	T	Methyl Isobutyl Ketone	1.201	0.907	24.5	54	-0.04
53	T	Dibromochloromethane	0.857	0.954	-11.3	85	0.00
54	T	Methyl Butyl Ketone	1.068	0.764	28.5	50	-0.05
55	T	1,2-dibromoethane	0.845	1.005	-18.9	91	-0.02
56	T	Tetrachloroethylene	0.648	0.517	20.2	65	0.00
57	T	Chlorobenzene	0.891	1.037	-16.4	90	0.00
58	T	1,1,1,2-tetrachloroethane	0.666	0.752	-12.9	82	-0.01
59	T	Ethylbenzene	1.165	1.295	-11.2	83	0.00
60	T	m&p-xylene	0.925	0.999	-8.0	81	-0.01
61	T	Nonane	0.552	0.667	-20.8	93	0.00
62	T	Styrene	0.644	0.778	-20.8	89	0.00
63	T	Bromoform	0.463	0.896	-93.5#	150#	0.00
64	T	o-xylene	1.109	1.288	-16.1	90	0.00
65	T	Cumene	1.299	1.563	-20.3	98	0.00
66	S	Bromofluorobenzene	0.643	0.711	-10.6	83	0.00
67	T	1,1,2,2-tetrachloroethane	1.140	1.377	-20.8	97	0.00
68	T	Propylbenzene	1.379	1.719	-24.7	110	0.00
69	T	2-Chlorotoluene	1.004	1.253	-24.8	98	0.00
70	T	4-ethyltoluene	1.183	1.500	-26.8	108	0.00
71	T	1,3,5-trimethylbenzene	1.416	1.777	-25.5	102	0.00
72	T	1,2,4-trimethylbenzene	1.224	1.376	-12.4	93	0.00
73	T	1,3-dichlorobenzene	0.778	0.961	-23.5	95	0.00
74	T	benzyl chloride	1.110	1.170	-5.4	72	0.00
75	T	1,4-dichlorobenzene	0.733	0.867	-18.3	90	0.00
76	T	1,2,3-trimethylbenzene	1.510	1.781	-17.9	91	0.00
77	T	1,2-dichlorobenzene	0.954	1.145	-20.0	95	0.00
78	T	1,2,4-trichlorobenzene	0.720	0.532	26.1	59	0.00
79	T	Naphthalene	1.494	1.148	23.2	66	0.00
80	T	Hexachloro-1,3-butadiene	1.754	1.408	19.7	56	0.00

(#) = Out of Range   SPCC's out = 0   CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040203.D Vial: 3
Acq On : 2 Apr 2016 12:08 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 06:13:09 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane	9.81	128	23340m	1.00 ppb		0.00
35) 1,4-difluorobenzene	12.06	114	60425	1.00 ppb		0.00
50) Chlorobenzene-d5	16.56	117	46554	1.00 ppb		0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.13	95	33085	1.10 ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 110.00%		
Target Compounds						Qvalue
2) Propylene	4.15	41	23001	1.22 ppb	#	100
3) Freon 12	4.19	85	117694	1.18 ppb		100
4) Chloromethane	4.39	50	31394	1.20 ppb		91
5) Freon 114	4.39	85	99129	1.18 ppb		98
6) Vinyl Chloride	4.59	62	28806	1.10 ppb		91
7) Butane	4.68	43	32878	1.10 ppb		93
8) 1,3-butadiene	4.69	39	21775	1.10 ppb		79
9) Bromomethane	5.04	94	34909	1.13 ppb		93
10) Chloroethane	5.21	64	11994	1.12 ppb		90
11) Ethanol	5.37	45	8735	1.10 ppb	#	72
12) Acrolein	5.95	56	7667m	1.13 ppb		
13) Vinyl Bromide	5.54	106	34003	1.12 ppb		97
14) Freon 11	5.80	101	110074	1.07 ppb		99
15) Acetone	6.06	58	11425	1.13 ppb	#	72
16) Pentane	6.07	42	23948	1.04 ppb		91
17) Isopropyl alcohol	6.16	45	33227	1.01 ppb	#	46
18) 1,1-dichloroethene	6.57	96	35358	1.18 ppb		100
19) Freon 113	6.75	101	90548	1.25 ppb		92
20) t-Butyl alcohol	6.90	59	55178	1.05 ppb	#	77
21) Methylene chloride	7.05	84	31160	1.19 ppb		91
22) Allyl chloride	7.02	41	27173	1.17 ppb		86
23) Carbon disulfide	7.21	76	88486	1.14 ppb		98
24) trans-1,2-dichloroethene	8.00	61	39889	1.12 ppb		91
25) methyl tert-butyl ether	8.03	73	80441	1.20 ppb		92
26) 1,1-dichloroethane	8.40	63	56508	1.12 ppb		98
27) Vinyl acetate	8.44	43	48681	1.12 ppb		98
28) Methyl Ethyl Ketone	8.95	72	12927	1.20 ppb	#	100
29) cis-1,2-dichloroethene	9.35	61	33508	1.15 ppb		92
30) Hexane	8.91	57	34528	1.13 ppb		95
31) Ethyl acetate	9.53	43	49400	1.19 ppb		96
32) Chloroform	9.95	83	69579	1.02 ppb		99
33) Tetrahydrofuran	10.16	42	23510	1.22 ppb		92
34) 1,2-dichloroethane	11.08	62	38354	1.00 ppb		88
36) 1,1,1-trichloroethane	10.75	97	68741	1.21 ppb		98
37) Cyclohexane	11.44	56	29399m	1.26 ppb		
38) Carbon tetrachloride	11.39	117	71711	1.13 ppb		97
39) Benzene	11.37	78	60241	1.20 ppb		99
40) Methyl methacrylate	12.92	41	18539m	1.13 ppb		
41) 1,4-dioxane	13.01	88	14154	1.10 ppb		100
42) 2,2,4-trimethylpentane	12.19	57	121680m	1.39 ppb		
43) Heptane	12.53	43	24121	1.18 ppb		92
44) Trichloroethene	12.68	130	30434	1.19 ppb		98
45) 1,2-dichloropropane	12.79	63	22191	1.22 ppb		97

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

Data File : C:\HPCHEM\1\DATA\AN040203.D Vial: 3
Acq On : 2 Apr 2016 12:08 pm Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 06:13:09 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.12	83	52994	1.19 ppb	100
47)	cis-1,3-dichloropropene	13.90	75	30596m	1.27 ppb	
48)	trans-1,3-dichloropropene	14.64	75	25414m	1.17 ppb	
49)	1,1,2-trichloroethane	14.93	97	22894m	1.15 ppb	
51)	Toluene	14.68	92	27083	0.86 ppb	96
52)	Methyl Isobutyl Ketone	13.84	43	42214	0.76 ppb	98
53)	Dibromochloromethane	15.60	129	44419m	1.11 ppb	
54)	Methyl Butyl Ketone	15.12	43	35579	0.72 ppb	96
55)	1,2-dibromoethane	15.85	107	46773	1.19 ppb	96
56)	Tetrachloroethylene	15.66	164	24068	0.80 ppb	100
57)	Chlorobenzene	16.61	112	48270	1.16 ppb	91
58)	1,1,1,2-tetrachloroethane	16.70	131	34997	1.13 ppb	96
59)	Ethylbenzene	16.85	91	60302	1.11 ppb	98
60)	m&p-xylene	17.04	91	93017	2.16 ppb	93
61)	Nonane	17.38	43	31062	1.21 ppb	97
62)	Styrene	17.46	104	36214	1.21 ppb	89
63)	Bromoform	17.59	173	41735	1.94 ppb	99
64)	o-xylene	17.49	91	59958	1.16 ppb	89
65)	Cumene	18.01	105	72750	1.20 ppb	98
67)	1,1,2,2-tetrachloroethane	17.92	83	64100	1.21 ppb	97
68)	Propylbenzene	18.54	91	80019m	1.25 ppb	
69)	2-Chlorotoluene	18.58	91	58353m	1.25 ppb	
70)	4-ethyltoluene	18.70	105	69819m	1.27 ppb	
71)	1,3,5-trimethylbenzene	18.75	105	82710m	1.25 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	64048	1.12 ppb	92
73)	1,3-dichlorobenzene	19.49	146	44739	1.23 ppb	98
74)	benzyl chloride	19.56	91	54469	1.05 ppb	100
75)	1,4-dichlorobenzene	19.62	146	40353	1.18 ppb	95
76)	1,2,3-trimethylbenzene	19.65	105	82929	1.18 ppb	97
77)	1,2-dichlorobenzene	19.94	146	53322	1.20 ppb	94
78)	1,2,4-trichlorobenzene	21.79	180	24786m	0.74 ppb	
79)	Naphthalene	22.11	128	53453m	0.77 ppb	
80)	Hexachloro-1,3-butadiene	22.07	225	65564	0.80 ppb	97

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

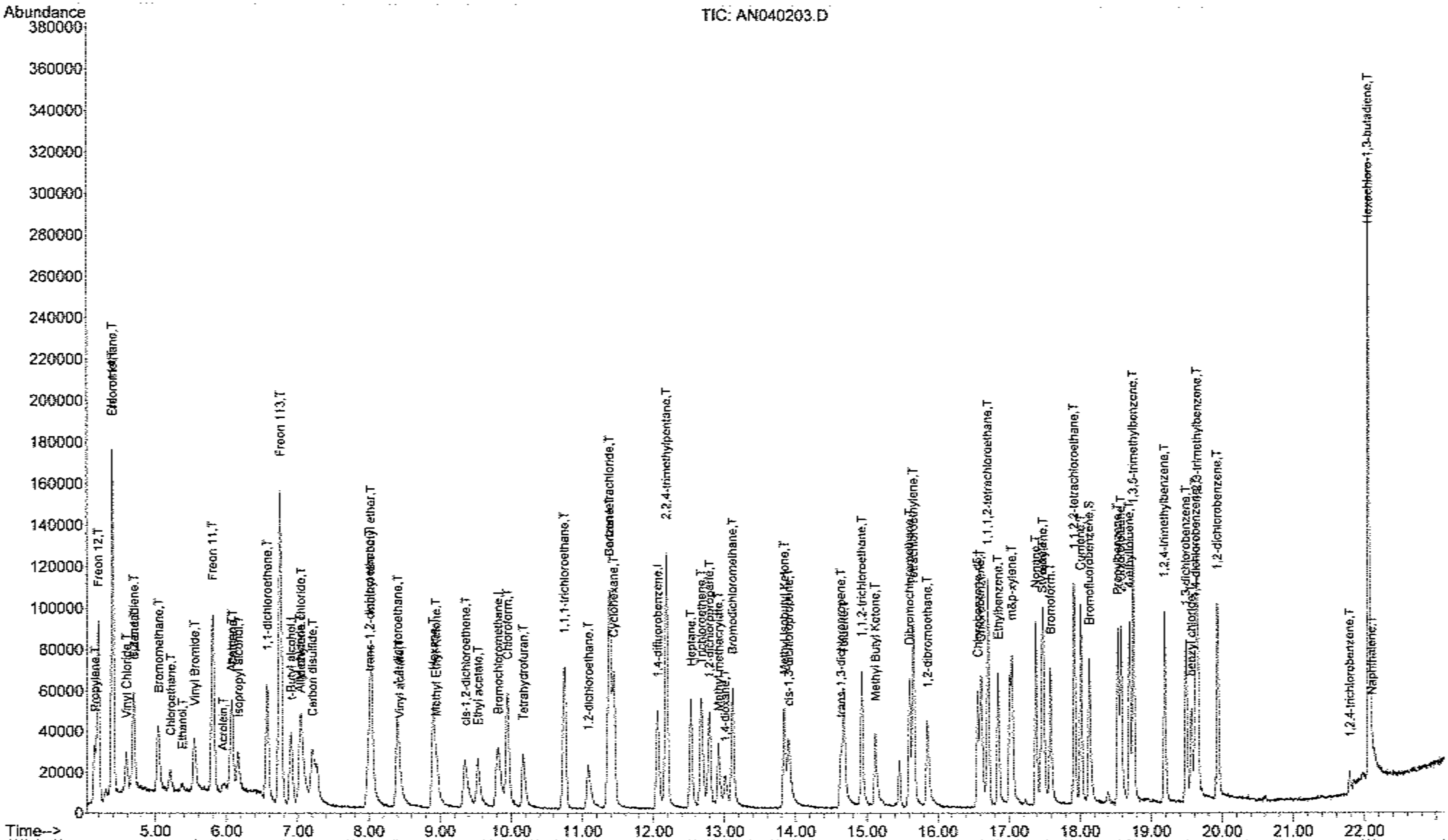
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040203.D
Acq On : 2 Apr 2016 12:08 pm
Sample : A1UG_1.0
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 3 6:15 2016

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

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration

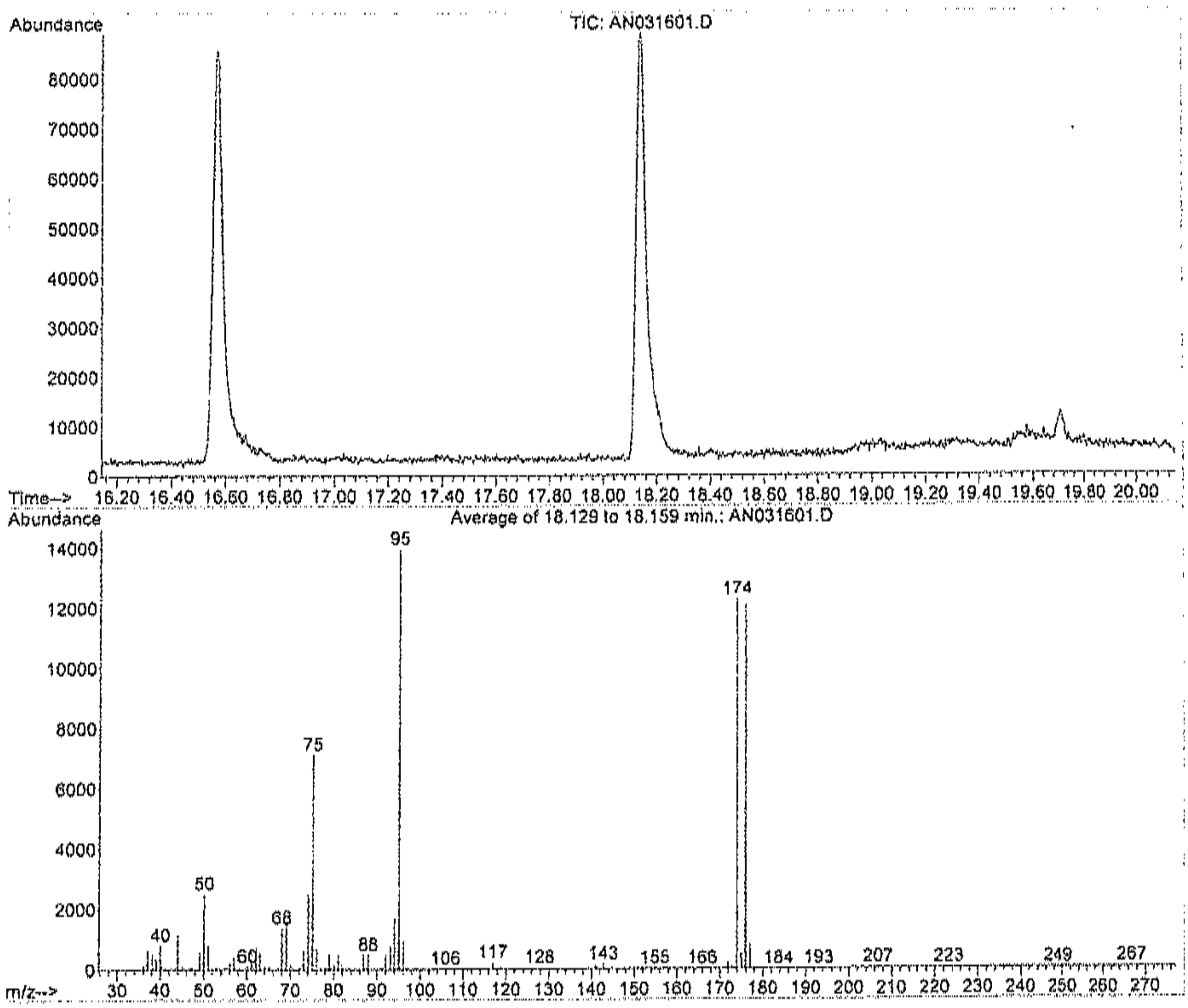


GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW DATA

```
Data File : C:\HPCHEM\1\DATA\AN031601.D                    Vial: 1
Acq On    : 16 Mar 2016   5:26 pm                      Operator: RJP
Sample    : BFB1UG                                     Inst    : MSD #1
Misc      : A316_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Method    : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title     : TO-15 VOA  Standards for 5 point calibration
```



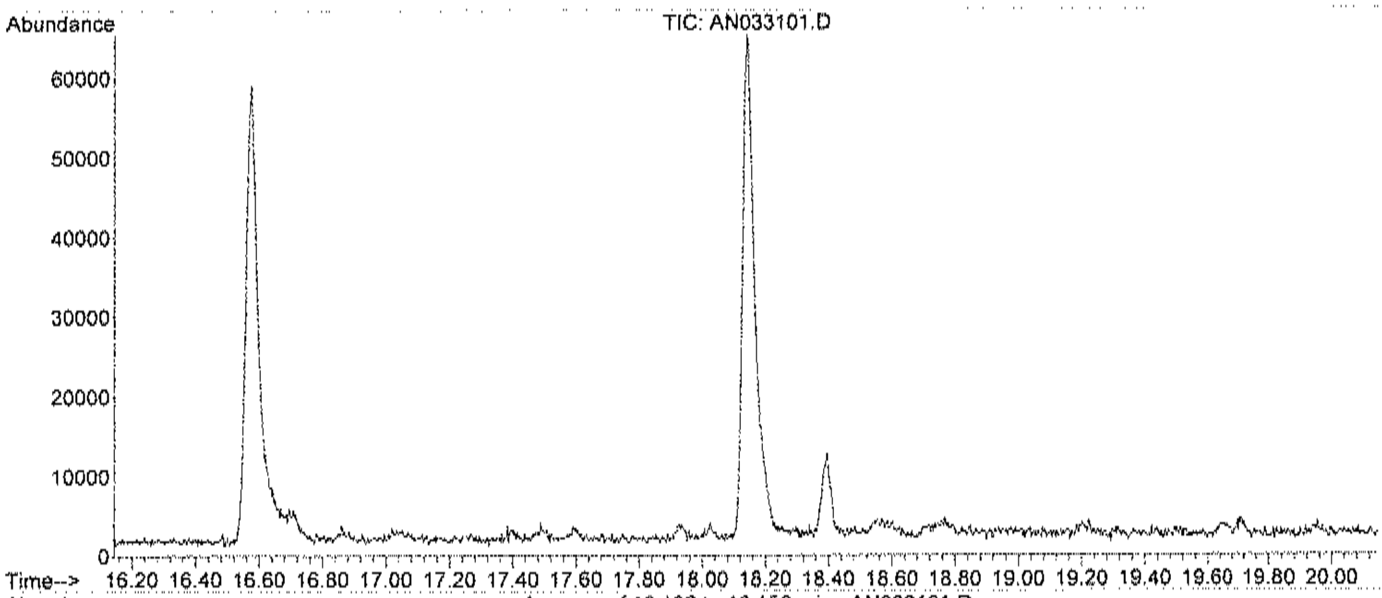
Spectrum Information: Average of 18.129 to 18.159 min.

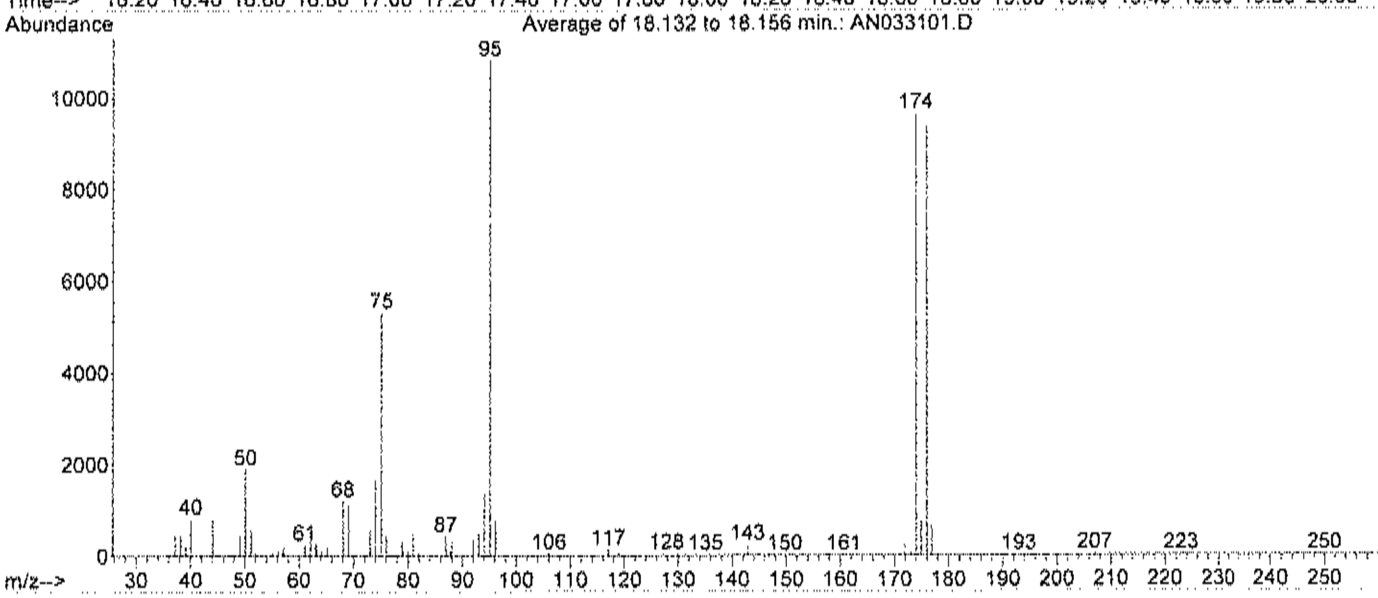
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.0	2513	PASS
75	95	30	66	51.1	7135	PASS
95	95	100	100	100.0	13975	PASS
96	95	5	9	6.7	936	PASS
173	174	0.00	2	0.6	79	PASS
174	95	50	120	87.9	12278	PASS
175	174	4	9	4.1	498	PASS
176	174	95	101	98.5	12090	PASS
177	176	5	9	6.9	829	PASS

AN031601.D A316_1UG.M   Thu Apr 07 13:04:45 2016   MSD1

BFB

```
Data File : C:\HPCHEM\1\DATA2\AN033101.D                    Vial: 1
Acq On    : 31 Mar 2016   9:33 am                       Operator: RJP
Sample    : BFB1UG                                      Inst     : MSD #1
Misc      : A316_1UG                                    Multiplr: 1.00
MS Integration Params: RTEINT.P
Method    : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title     : TO-15 VOA  Standards for 5 point calibration
```





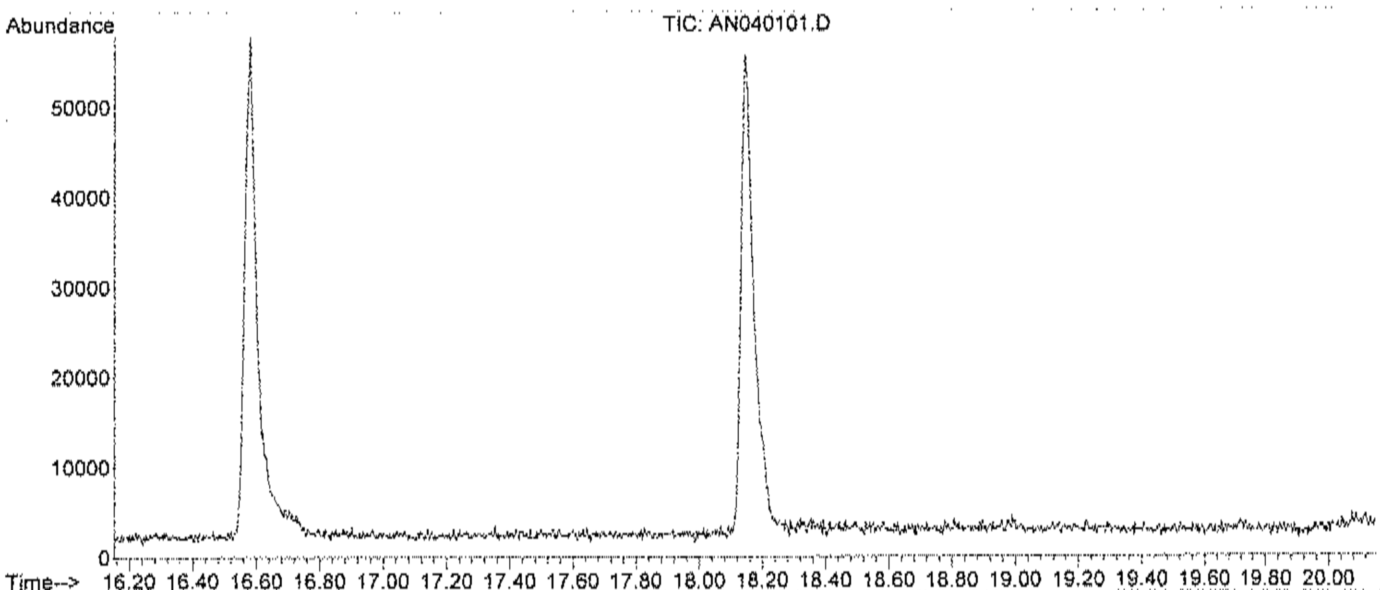
Spectrum Information: Average of 18.132 to 18.156 min.

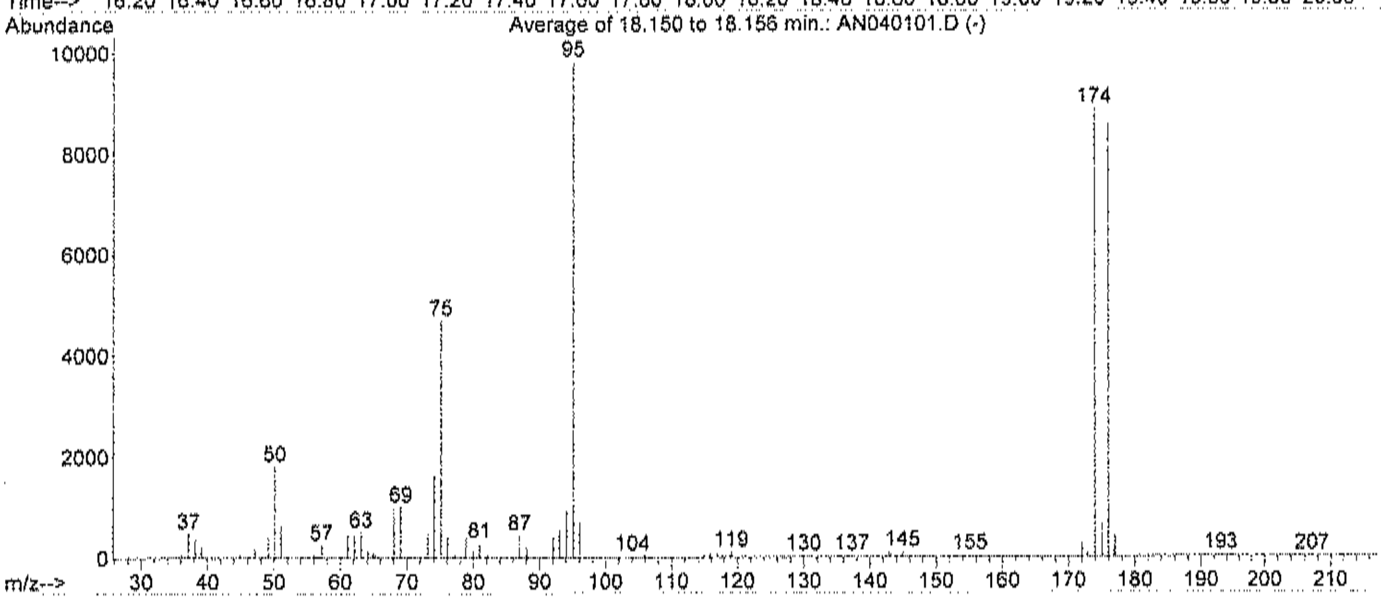
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.5	1890	PASS
75	95	30	66	49.0	5299	PASS
95	95	100	100	100.0	10811	PASS
96	95	5	9	7.0	757	PASS
173	174	0.00	2	0.7	65	PASS
174	95	50	120	89.2	9645	PASS
175	174	4	9	7.8	750	PASS
176	174	95	101	97.0	9355	PASS
177	176	5	9	7.5	704	PASS

AN033101.D A316_1UG.M   Tue Apr 26 14:47:04 2016 MSD1

Data File : C:\HPCHEM\1\DATA\AN040101.D
Acq On : 1 Apr 2016 10:05 am
Sample : BFB1UG
Misc : A316_1UG
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Vial: 16
Operator: RJP
Inst : MSD #1
Multiplr: 1.00





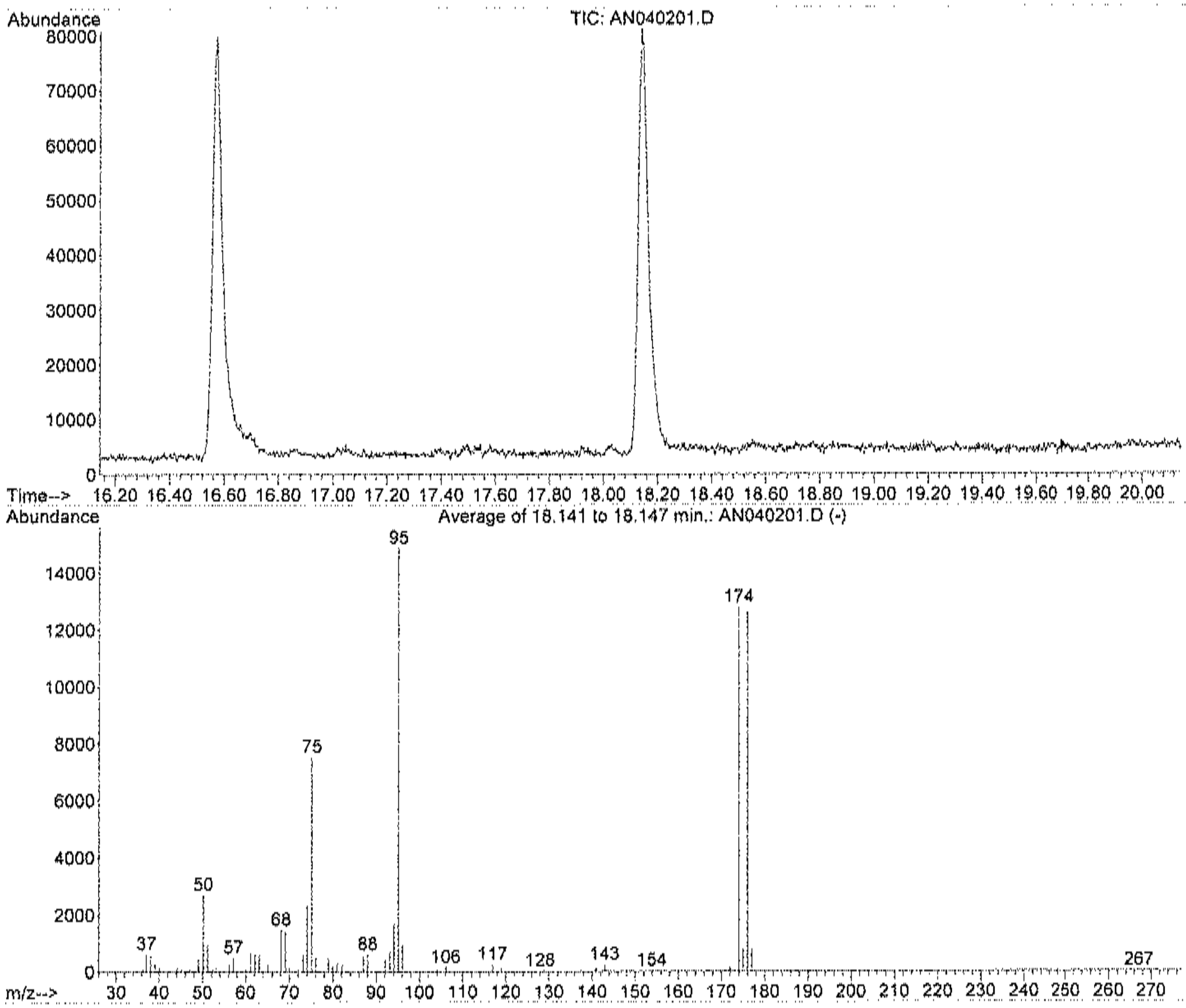
Spectrum Information: Average of 18.150 to 18.156 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.6	1827	PASS
75	95	30	66	47.8	4708	PASS
95	95	100	100	100.0	9841	PASS
96	95	5	9	7.0	692	PASS
173	174	0.00	2	0.8	70	PASS
174	95	50	120	90.2	8875	PASS
175	174	4	9	7.4	658	PASS
176	174	95	101	96.4	8557	PASS
177	176	5	9	5.2	443	PASS

AN040101.D A316_1UG.M Tue Apr 26 14:48:24 2016 MSD1

Data File : C:\HPCHEM\1\DATA\AN040201.D
Acq On : 2 Apr 2016 10:48 am
Sample : BFB1UG
Misc : A316_1UG
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\A316_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 18.141 to 18.147 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.2	2718	PASS
75	95	30	66	50.7	7557	PASS
95	95	100	100	100.0	14902	PASS
96	95	5	9	6.7	1000	PASS
173	174	0.00	2	0.2	31	PASS
174	95	50	120	85.9	12799	PASS
175	174	4	9	6.0	772	PASS
176	174	95	101	98.7	12634	PASS
177	176	5	9	6.7	841	PASS

AN040201.D A316_1UG.M Tue Apr 26 14:59:39 2016 MSD1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW QC DATA

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **AMB1UG-033116** SampType: **MBLK** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10817**
Client ID: **ZZZZZ** Batch ID: **R10817** TestNo: **TO-15** Analysis Date: **3/31/2016** SeqNo: **127095**

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-040116** SampType: **MBLK** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**
Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/1/2016** SeqNo: **127112**

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **AMB1UG-040116**	SampType: **MBLK**	TestCode: **0.25CT-TCE-**	Units: **ppbV**	Prep Date:	RunNo: **10818**
Client ID: **ZZZZZ**	Batch ID: **R10818**	TestNo: **TO-15**		Analysis Date: **4/1/2016**	SeqNo: **127112**

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

Qualifiers:

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 1ugM3_TO15

Sample ID **AMB1UG-040216** SampType: **MBLK** TestCode: **1ugM3_TO15** Units: **ppbV** Prep Date: RunNo: **10819**
Client ID: **ZZZZZ** Batch ID: **R10819** TestNo: **TO-15** Analysis Date: **4/2/2016** SeqNo: **127124**

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 at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033106.D Vial: 6
Acq On : 31 Mar 2016 1:33 pm Operator: RJP
Sample : AMB1UG-033116 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 01 03:34:38 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.86	128	20032m	1.00 ppb	0.05
35) 1,4-difluorobenzene	12.09	114	47930	1.00 ppb	0.04
50) Chlorobenzene-d5	16.57	117	44161	1.00 ppb	0.02
System Monitoring Compounds					
66) Bromofluorobenzene	18.15	95	25131	0.88 ppb	0.02

Spiked Amount 1.000 Range 70 - 130 Recovery = 88.00%

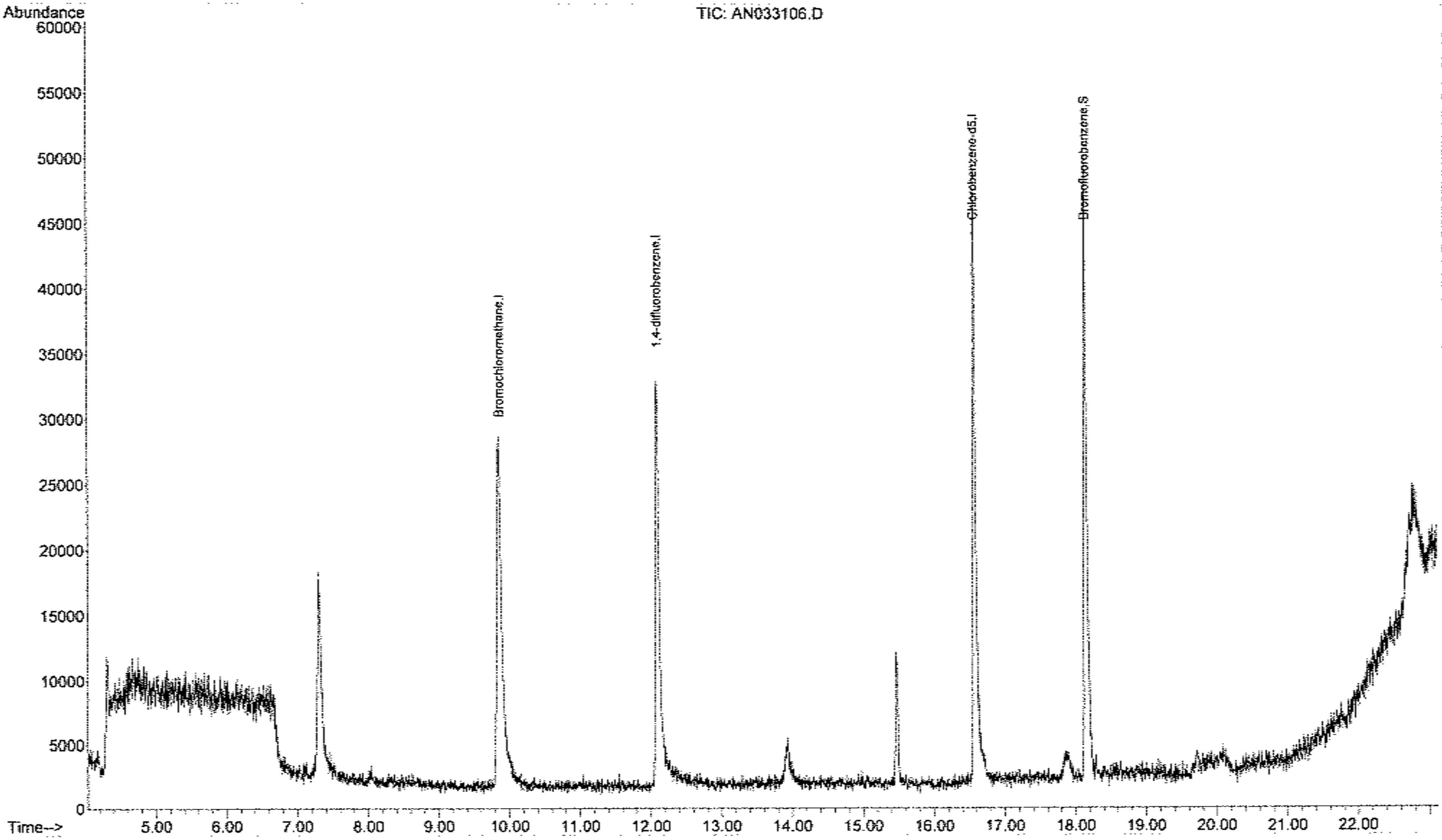
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033106.D Vial: 6
Acq On : 31 Mar 2016 1:33 pm Operator: RJP
Sample : AMB1UG-033116 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:08 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration



AN033106.D A316_1UG.M Tue Apr 26 15:14:58 2016 MSD1 Page 2

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AN040104.D                 Vial: 20
Acq On    :  1 Apr 2016   1:21 pm                   Operator: RJP
Sample    : AMB1UG-040116                           Inst    : MSD #1
Misc      : A316_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 02 12:01:20 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  : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN
```

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.86	128	18252	1.00 ppb	0.05
35) 1,4-difluorobenzene	12.09	114	46023	1.00 ppb	0.03
50) Chlorobenzene-d5	16.57	117	41257	1.00 ppb	0.01
System Monitoring Compounds					
66) Bromofluorobenzene	18.14	95	24184	0.91 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 91.00%		

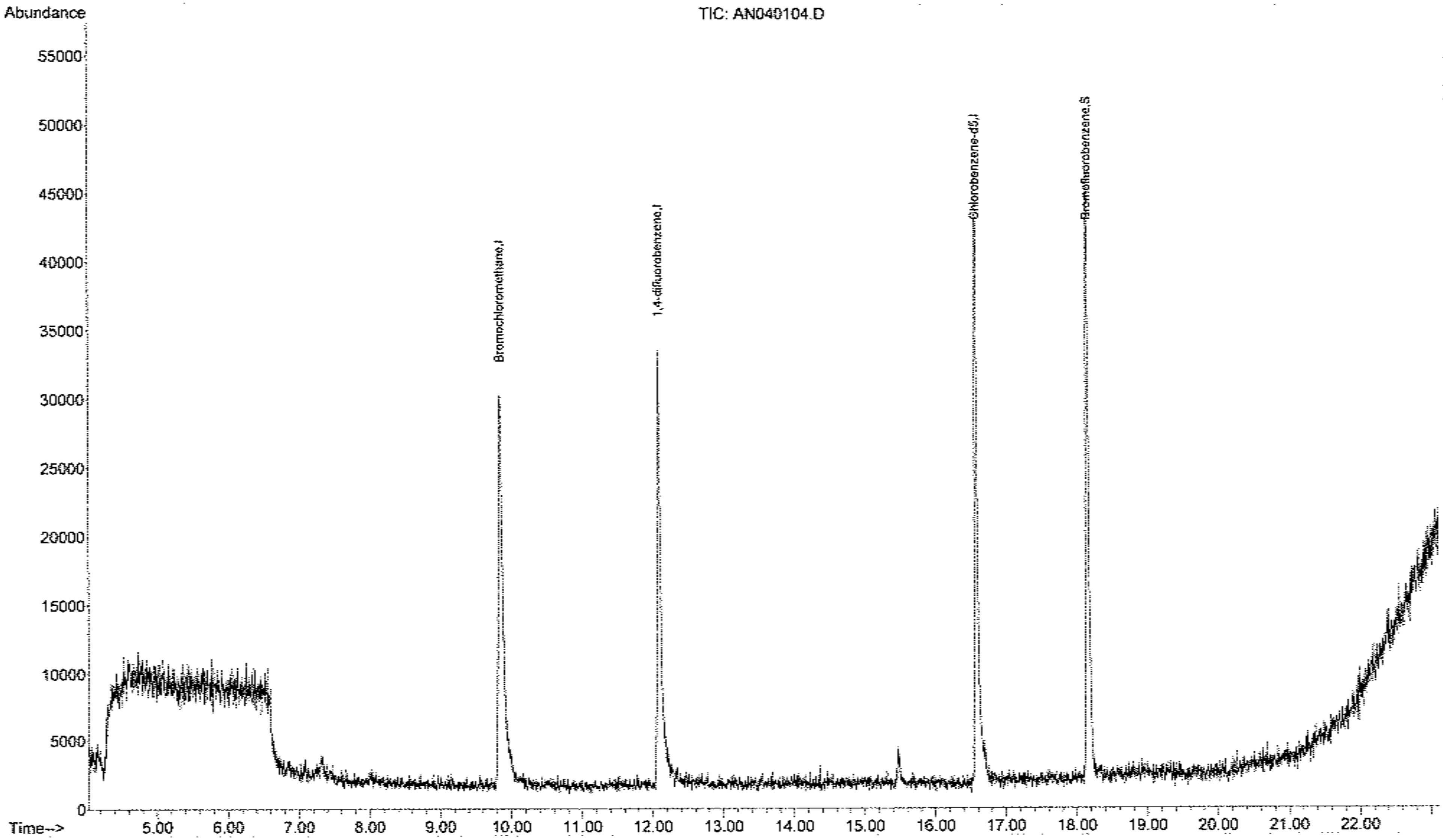
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AN040104.D                    Vial: 20
Acq On    :  1 Apr 2016   1:21 pm                      Operator: RJP
Sample    : AMB1UG-040116                              Inst    : MSD #1
Misc      : A316_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  2 12:01 2016              Quant Results File: A316_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration
```



AN040104.D A316_1UG.M Tue Apr 26 14:44:47 2016 MSD1 Page 2

Data File : C:\HPCHEM\1\DATA\AN040205.D Vial: 2
Acq On : 2 Apr 2016 1:34 pm Operator: RJP
Sample : AMB1UG-040216 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 02 14:36:31 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

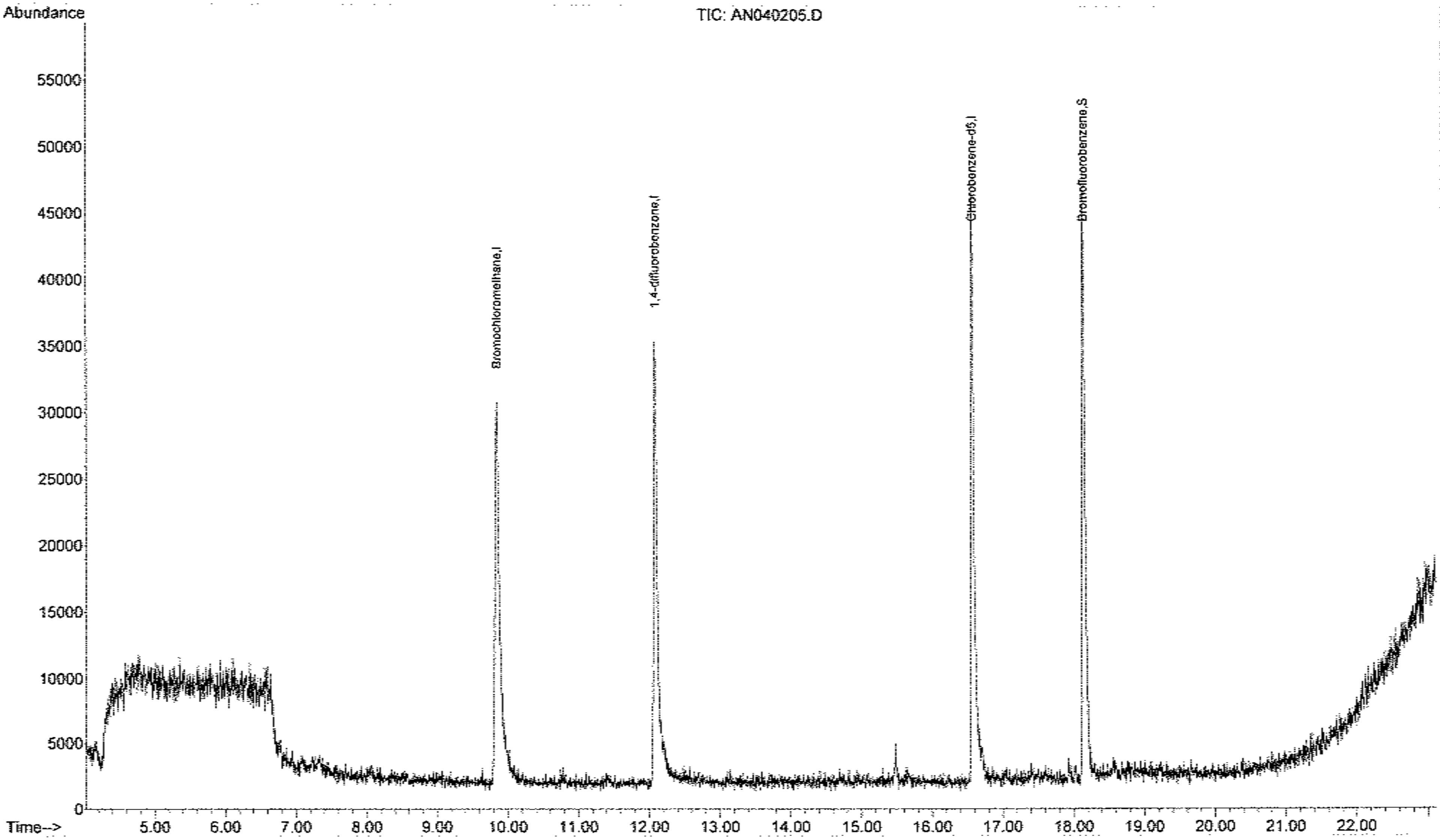
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.85	128	17717	1.00 ppb	0.04
35) 1,4-difluorobenzene	12.08	114	49878	1.00 ppb	0.03
50) Chlorobenzene-d5	16.58	117	41390	1.00 ppb	0.02
System Monitoring Compounds					
66) Bromofluorobenzene	18.14	95	24022	0.90 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 90.00%		

Target Compounds Qvalue

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\AN040205.D              Vial: 2
Acq On    :  2 Apr 2016   1:34 pm                Operator: RJP
Sample    : AMB1UG-040216                        Inst    : MSD #1
Misc      : A316_1UG                             Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  3 11:39 2016          Quant Results File: A316_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration
```



AN040205.D A316_1UG.M Tue Apr 26 14:59:19 2016 MSD1 Page 2

Date: *26-Apr-16*

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID: **ALCS1UG-033116** SampType: **LCS** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10817**
Client ID: **ZZZZZ** Batch ID: **R10817** TestNo: **TO-15** Analysis Date: **3/31/2016** SeqNo: **127096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.250	0.15	1	0	125	70	130				
1,1-Dichloroethane	1.120	0.15	1	0	112	70	130				
1,1-Dichloroethene	1.120	0.15	1	0	112	70	130				
Chloroethane	1.220	0.15	1	0	122	70	130				
Chloromethane	1.230	0.15	1	0	123	70	130				
cis-1,2-Dichloroethene	1.060	0.15	1	0	106	70	130				
Tetrachloroethylene	0.9200	0.15	1	0	92.0	70	130				
trans-1,2-Dichloroethene	1.050	0.15	1	0	105	70	130				
Trichloroethene	1.110	0.040	1	0	111	70	130				
Vinyl chloride	1.090	0.040	1	0	109	70	130				

Sample ID: **ALCS1UG-040116** SampType: **LCS** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**
Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/1/2016** SeqNo: **127113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.290	0.15	1	0	129	70	130				
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130				
1,1-Dichloroethene	1.100	0.15	1	0	110	70	130				
Chloroethane	1.130	0.15	1	0	113	70	130				
Chloromethane	1.230	0.15	1	0	123	70	130				
cis-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130				
trans-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
Trichloroethene	1.230	0.040	1	0	123	70	130				

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **ALCS1UG-040116** SampType: **LCS** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**
Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/1/2016** SeqNo: **127113**

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				

Qualifiers:

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 1ugM3_TO15

Sample ID **ALCS1UG-040216** SampType: **LCS** TestCode: **1ugM3_TO15** Units: **ppbV** Prep Date: RunNo: **10819**

Client ID: **ZZZZZ** Batch ID: **R10819** TestNo: **TO-15** Analysis Date: **4/2/2016** SeqNo: **127125**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.290	0.15	1	0	129	70	130				
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130				
1,1-Dichloroethene	1.200	0.15	1	0	120	70	130				
Chloroethane	1.230	0.15	1	0	123	70	130				
Chloromethane	1.290	0.15	1	0	129	70	130				
cis-1,2-Dichloroethene	1.170	0.15	1	0	117	70	130				
Tetrachloroethylene	0.7800	0.15	1	0	78.0	70	130				
trans-1,2-Dichloroethene	1.180	0.15	1	0	118	70	130				
Trichloroethene	1.260	0.15	1	0	126	70	130				
Vinyl chloride	1.140	0.15	1	0	114	70	130				

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033105.D Vial: 5
Acq On : 31 Mar 2016 12:57 pm Operator: RJP
Sample : ALCS1UG-033116 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 13:40:26 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.81	128	20235	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.06	114	53595	1.00 ppb	0.00
50) Chlorobenzene-d5	16.57	117	32893	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.14	95	24330	1.15 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 115.00%	

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.15	41	18444	1.12 ppb	#	100
3) Freon 12	4.19	85	108188	1.25 ppb		99
4) Chloromethane	4.39	50	27930	1.23 ppb		94
5) Freon 114	4.39	85	86158	1.18 ppb		92
6) Vinyl Chloride	4.59	62	24728	1.09 ppb		91
7) Butane	4.69	43	31576	1.21 ppb		96
8) 1,3-butadiene	4.70	39	19523m	1.14 ppb		
9) Bromomethane	5.04	94	31796	1.19 ppb		91
10) Chloroethane	5.21	64	11361	1.22 ppb		91
11) Ethanol	5.37	45	7949	1.15 ppb	#	68
12) Acrolein	5.96	56	7163	1.22 ppb	#	5
13) Vinyl Bromide	5.55	106	30203	1.15 ppb		95
14) Freon 11	5.80	101	113728	1.28 ppb		99
15) Acetone	6.06	58	9844	1.13 ppb	#	77
16) Pentane	6.08	42	21719	1.09 ppb		87
17) Isopropyl alcohol	6.17	45	24341	0.85 ppb	#	46
18) 1,1-dichloroethene	6.57	96	29016	1.12 ppb	#	88
19) Freon 113	6.75	101	76210	1.22 ppb		96
20) t-Butyl alcohol	6.91	59	26676m	0.59 ppb		
21) Methylene chloride	7.05	84	28772	1.26 ppb		91
22) Allyl chloride	7.03	41	20621	1.02 ppb		78
23) Carbon disulfide	7.21	76	73250	1.09 ppb	#	72
24) trans-1,2-dichloroethene	8.01	61	32178	1.05 ppb		90
25) methyl tert-butyl ether	8.03	73	58777	1.01 ppb		90
26) 1,1-dichloroethane	8.40	63	48777	1.12 ppb		99
27) Vinyl acetate	8.43	43	31192	0.82 ppb		95
28) Methyl Ethyl Ketone	8.95	72	8975	0.96 ppb	#	100
29) cis-1,2-dichloroethene	9.36	61	26728	1.06 ppb		91
30) Hexane	8.91	57	25178	0.95 ppb		97
31) Ethyl acetate	9.54	43	36816	1.02 ppb		92
32) Chloroform	9.95	83	62657	1.06 ppb		97
33) Tetrahydrofuran	10.18	42	15345	0.92 ppb		95
34) 1,2-dichloroethane	11.10	62	34571	1.04 ppb		88
36) 1,1,1-trichloroethane	10.75	97	62789	1.25 ppb		99
37) Cyclohexane	11.44	56	24625	1.19 ppb		87
38) Carbon tetrachloride	11.39	117	71594	1.27 ppb		99
39) Benzene	11.37	78	51637	1.16 ppb		94
40) Methyl methacrylate	12.92	41	13562	0.93 ppb	#	80
41) 1,4-dioxane	13.03	88	4419m	0.39 ppb		
42) 2,2,4-trimethylpentane	12.19	57	99045	1.27 ppb		96
43) Heptane	12.53	43	18239	1.01 ppb		89
44) Trichloroethene	12.68	130	25165	1.11 ppb		98
45) 1,2-dichloropropane	12.79	63	19076	1.19 ppb		99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033105.D Vial: 5
Acq On : 31 Mar 2016 12:57 pm Operator: RJP
Sample : ALCS1UG-033116 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 13:40:26 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

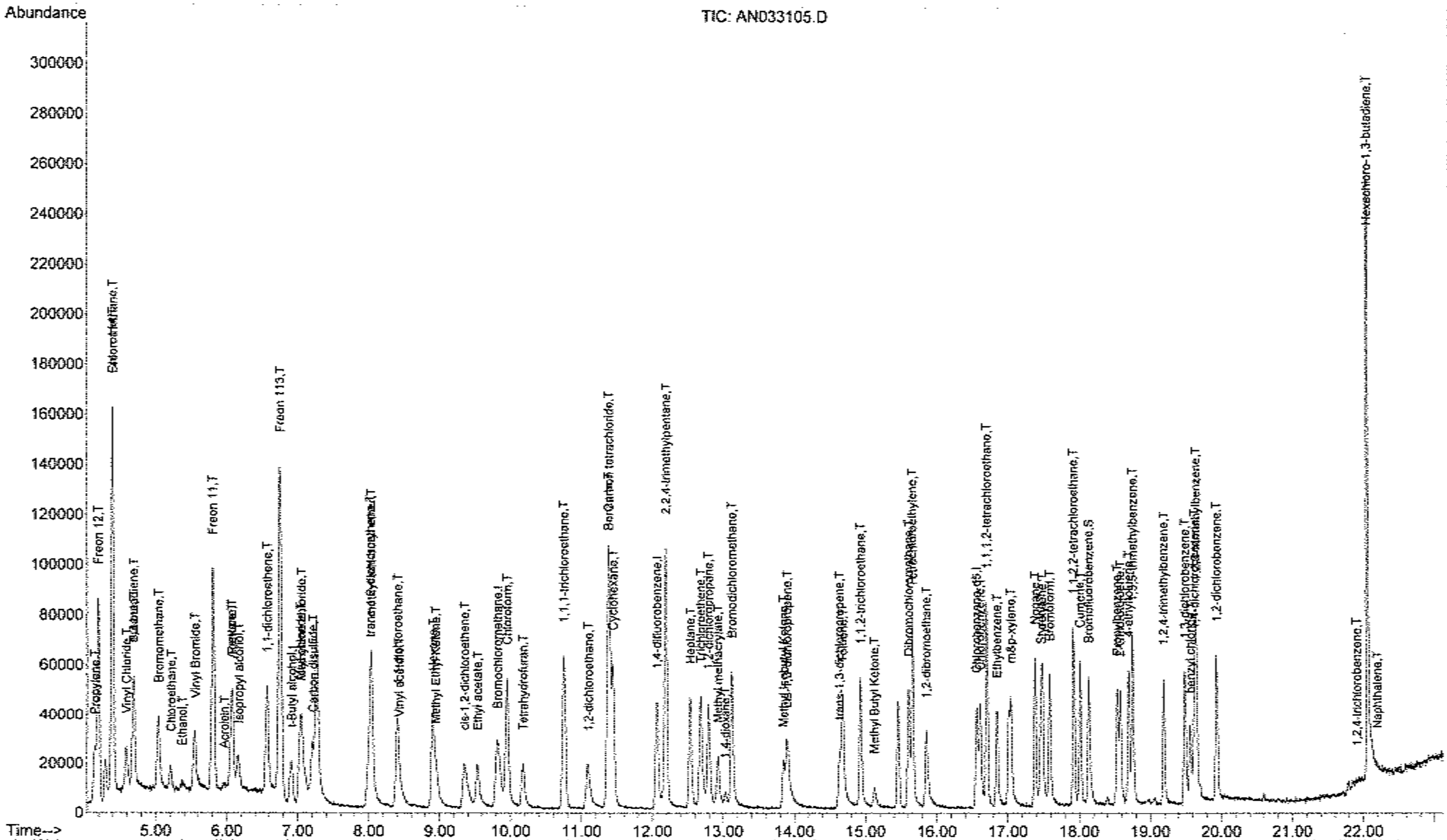
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.12	83	49145m	1.25 ppb	
47)	cis-1,3-dichloropropene	13.91	75	25793	1.20 ppb	98
48)	trans-1,3-dichloropropene	14.63	75	22819m	1.19 ppb	
49)	1,1,2-trichloroethane	14.93	97	21714	1.23 ppb	98
51)	Toluene	14.68	92	21405	0.96 ppb	98
52)	Methyl Isobutyl Ketone	13.85	43	14776m	0.37 ppb	
53)	Dibromochloromethane	15.60	129	35353m	1.25 ppb	
54)	Methyl Butyl Ketone	15.12	43	10560m	0.30 ppb	
55)	1,2-dibromoethane	15.86	107	33793	1.22 ppb	96
56)	Tetrachloroethylene	15.65	164	19690	0.92 ppb	96
57)	Chlorobenzene	16.61	112	31204	1.06 ppb	83
58)	1,1,1,2-tetrachloroethane	16.70	131	25628	1.17 ppb	97
59)	Ethylbenzene	16.85	91	37066	0.97 ppb	100
60)	m&p-xylene	17.05	91	57446	1.89 ppb	95
61)	Nonane	17.38	43	17948	0.99 ppb	98
62)	Styrene	17.46	104	22860	1.08 ppb	91
63)	Bromoform	17.59	173	33915	2.23 ppb	99
64)	o-xylene	17.49	91	43063	1.18 ppb	97
65)	Cumene	18.02	105	41100	0.96 ppb	96
67)	1,1,2,2-tetrachloroethane	17.92	83	41344	1.10 ppb	99
68)	Propylbenzene	18.54	91	44805m	0.99 ppb	
69)	2-Chlorotoluene	18.58	91	32571m	0.99 ppb	
70)	4-ethyltoluene	18.70	105	39533m	1.02 ppb	
71)	1,3,5-trimethylbenzene	18.76	105	47412m	1.02 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	35331	0.88 ppb	93
73)	1,3-dichlorobenzene	19.49	146	30675	1.20 ppb	97
74)	benzyl chloride	19.57	91	36429	1.00 ppb	97
75)	1,4-dichlorobenzene	19.62	146	28854	1.20 ppb	98
76)	1,2,3-trimethylbenzene	19.65	105	42402	0.85 ppb	90
77)	1,2-dichlorobenzene	19.93	146	33057	1.05 ppb	96
78)	1,2,4-trichlorobenzene	21.91	180	18692m	0.79 ppb	
79)	Naphthalene	22.21	128	27592m	0.56 ppb	
80)	Hexachloro-1,3-butadiene	22.07	225	53161	0.92 ppb	96

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

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\AN033105.D              Vial: 5
Acq On    : 31 Mar 2016  12:57 pm                  Operator: RJP
Sample    : ALCS1UG-033116                         Inst    : MSD #1
Misc      : A316_1UG                               Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 31 13:41 2016               Quant Results File: A316_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Tue Apr 26 14:41:32 2016
Response via  : Initial Calibration
```



AN033105.D A316_1UG.M Tue Apr 26 15:14:55 2016 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040103.D Vial: 19
Acq On : 1 Apr 2016 12:45 pm Operator: RJP
Sample : ALCS1UG-040116 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 02 12:01:11 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane	9.82	128	20858m	1.00 ppb		0.01
35) 1,4-difluorobenzene	12.07	114	46019	1.00 ppb		0.00
50) Chlorobenzene-d5	16.56	117	31397	1.00 ppb		0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	23410	1.16 ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 116.00%

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.15	41	19322	1.14 ppb	#	100
3) Freon 12	4.20	85	108917	1.22 ppb		99
4) Chloromethane	4.39	50	28723	1.23 ppb		92
5) Freon 114	4.40	85	87334	1.16 ppb		92
6) Vinyl Chloride	4.59	62	25792	1.10 ppb		91
7) Butane	4.68	43	32939	1.23 ppb		95
8) 1,3-butadiene	4.70	39	21826	1.24 ppb		89
9) Bromomethane	5.04	94	33154	1.20 ppb		90
10) Chloroethane	5.21	64	10827	1.13 ppb		91
11) Ethanol	5.37	45	6602	0.93 ppb		81
12) Acrolein	5.97	56	7177	1.19 ppb	#	5
13) Vinyl Bromide	5.55	106	31182	1.15 ppb		95
14) Freon 11	5.81	101	113643	1.24 ppb		99
15) Acetone	6.06	58	10118	1.12 ppb	#	80
16) Pentane	6.08	42	21700	1.05 ppb		94
17) Isopropyl alcohol	6.16	45	29319	1.00 ppb	#	46
18) 1,1-dichloroethene	6.57	96	29553	1.10 ppb		97
19) Freon 113	6.76	101	80807	1.25 ppb		92
20) t-Butyl alcohol	6.90	59	47591	1.01 ppb	#	72
21) Methylene chloride	7.06	84	26448	1.13 ppb		88
22) Allyl chloride	7.03	41	19899	0.96 ppb		80
23) Carbon disulfide	7.21	76	71647	1.04 ppb		100
24) trans-1,2-dichloroethene	8.01	61	31529	0.99 ppb		96
25) methyl tert-butyl ether	8.03	73	63757	1.06 ppb		90
26) 1,1-dichloroethane	8.40	63	46969	1.04 ppb		99
27) Vinyl acetate	8.44	43	30196	0.77 ppb		99
28) Methyl Ethyl Ketone	8.95	72	9005	0.94 ppb	#	100
29) cis-1,2-dichloroethene	9.36	61	25551	0.98 ppb		89
30) Hexane	8.91	57	24189	0.89 ppb		98
31) Ethyl acetate	9.54	43	39008	1.05 ppb	#	83
32) Chloroform	9.95	83	61015	1.00 ppb		98
33) Tetrahydrofuran	10.18	42	16951	0.98 ppb		94
34) 1,2-dichloroethane	11.10	62	32327	0.94 ppb		90
36) 1,1,1-trichloroethane	10.76	97	55660m	1.29 ppb		
37) Cyclohexane	11.44	56	22700	1.27 ppb	#	81
38) Carbon tetrachloride	11.40	117	63936m	1.33 ppb		
39) Benzene	11.37	78	46168	1.21 ppb		97
40) Methyl methacrylate	12.93	41	17394	1.40 ppb		92
41) 1,4-dioxane	13.02	88	11297	1.16 ppb		98
42) 2,2,4-trimethylpentane	12.19	57	95466m	1.43 ppb		
43) Heptane	12.54	43	16115	1.04 ppb		92
44) Trichloroethene	12.69	130	24104	1.23 ppb		98
45) 1,2-dichloropropane	12.80	63	16131	1.17 ppb		98

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040103.D   Vial: 19
Acq On : 1 Apr 2016 12:45 pm   Operator: RJP
Sample : ALCS1UG-040116   Inst : MSD #1
Misc : A316_1UG   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 02 12:01:11 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.12	83	41457m	1.23 ppb	
47)	cis-1,3-dichloropropene	13.91	75	22251m	1.21 ppb	
48)	trans-1,3-dichloropropene	14.64	75	20489m	1.24 ppb	
49)	1,1,2-trichloroethane	14.94	97	18169m	1.20 ppb	
51)	Toluene	14.68	92	18586	0.87 ppb	96
52)	Methyl Isobutyl Ketone	13.84	43	39772	1.05 ppb	95
53)	Dibromochloromethane	15.61	129	30463m	1.13 ppb	
54)	Methyl Butyl Ketone	15.12	43	34646	1.03 ppb	94
55)	1,2-dibromoethane	15.86	107	30844m	1.16 ppb	
56)	Tetrachloroethylene	15.66	164	17940	0.88 ppb	99
57)	Chlorobenzene	16.61	112	31424m	1.12 ppb	
58)	1,1,1,2-tetrachloroethane	16.71	131	24183	1.16 ppb	97
59)	Ethylbenzene	16.85	91	36263	0.99 ppb	98
60)	m&p-xylene	17.05	91	53811	1.85 ppb	93
61)	Nonane	17.38	43	18316	1.06 ppb	97
62)	Styrene	17.46	104	22721	1.12 ppb	90
63)	Bromoform	17.58	173	33285	2.29 ppb	99
64)	o-xylene	17.48	91	42165	1.21 ppb	98
65)	Cumene	18.02	105	44417	1.09 ppb	96
67)	1,1,2,2-tetrachloroethane	17.92	83	48140m	1.34 ppb	
68)	Propylbenzene	18.54	91	56112m	1.30 ppb	
69)	2-Chlorotoluene	18.58	91	31555m	1.00 ppb	
70)	4-ethyltoluene	18.70	105	45720m	1.23 ppb	
71)	1,3,5-trimethylbenzene	18.76	105	58743m	1.32 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	48419m	1.26 ppb	
73)	1,3-dichlorobenzene	19.49	146	34715m	1.42 ppb	
74)	benzyl chloride	19.56	91	40041m	1.15 ppb	
75)	1,4-dichlorobenzene	19.62	146	30402m	1.32 ppb	
76)	1,2,3-trimethylbenzene	19.65	105	67485	1.42 ppb	94
77)	1,2-dichlorobenzene	19.93	146	45704	1.53 ppb	97
78)	1,2,4-trichlorobenzene	21.80	180	20891m	0.92 ppb	
79)	Naphthalene	22.15	128	44379m	0.95 ppb	
80)	Hexachloro-1,3-butadiene	22.07	225	64975	1.18 ppb	97

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

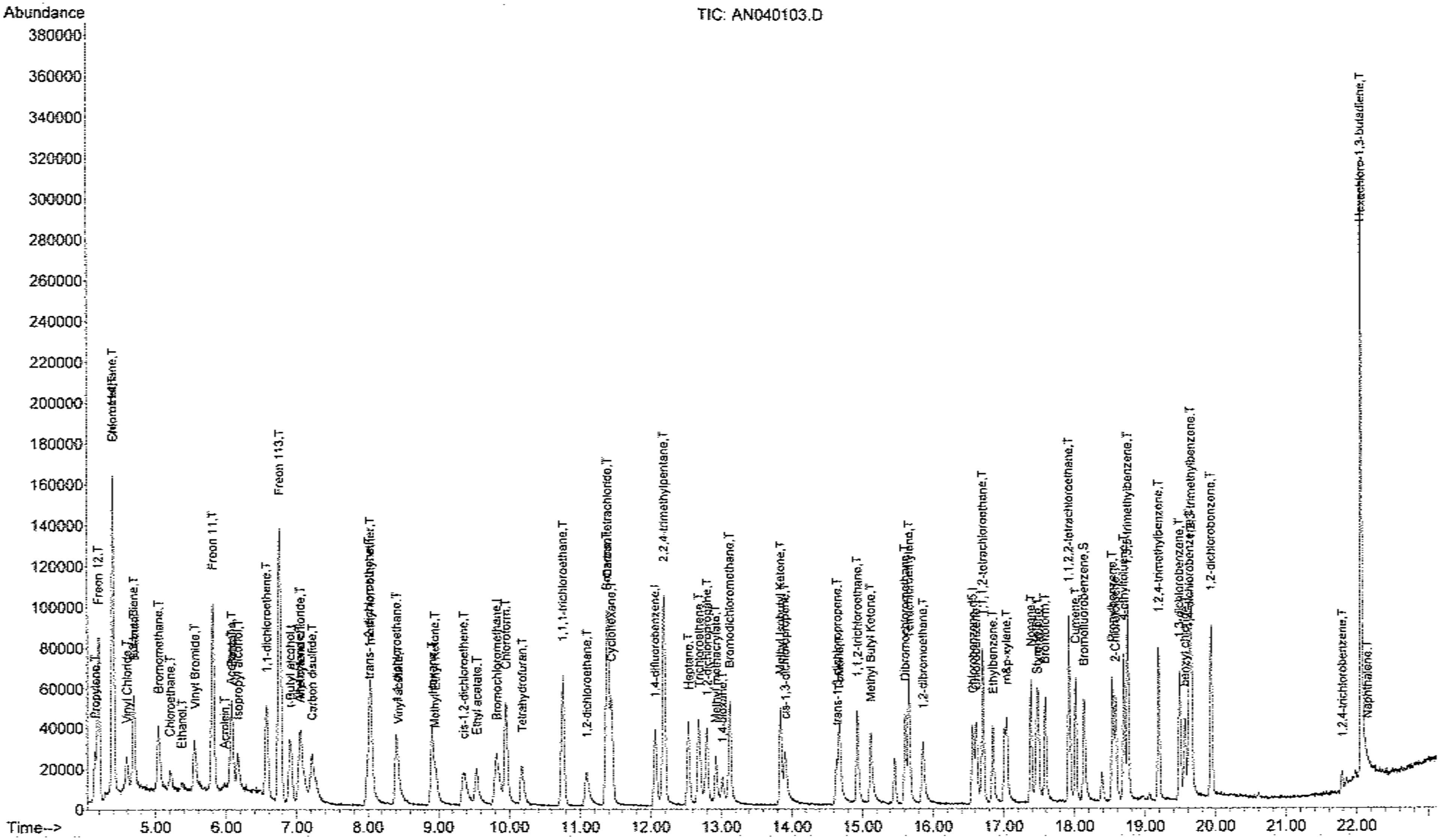
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040103.D
Acq On : 1 Apr 2016 12:45 pm
Sample : ALCS1UG-040116
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 2 12:04 2016

Vial: 19
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration



AN040103.D A316_1UG.M Tue Apr 26 14:44:44 2016 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040204.D Vial: 1
Acq On : 2 Apr 2016 12:58 pm Operator: RJP
Sample : ALCS1UG-040216 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 02 14:36:13 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.81	128	21348m	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.06	114	52201	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	44220	1.00 ppb	0.00

System Monitoring Compounds

	R.T.	QIon	Response	Conc Units	Dev(Min)
66) Bromofluorobenzene	18.13	95	32006	1.12 ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 112.00%

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.14	41	21383	1.24 ppb	#	100
3) Freon 12	4.19	85	112715	1.24 ppb		99
4) Chloromethane	4.39	50	30667	1.29 ppb		94
5) Freon 114	4.39	85	96961	1.26 ppb		98
6) Vinyl Chloride	4.58	62	27465	1.14 ppb		89
7) Butane	4.68	43	31094	1.13 ppb		96
8) 1,3-butadiene	4.69	39	22506	1.25 ppb		84
9) Bromomethane	5.03	94	34108	1.21 ppb		95
10) Chloroethane	5.21	64	12081	1.23 ppb		97
11) Ethanol	5.37	45	8936	1.23 ppb	#	74
12) Acrolein	5.95	56	7589m	1.23 ppb		
13) Vinyl Bromide	5.54	106	32945	1.19 ppb		94
14) Freon 11	5.80	101	108604	1.16 ppb		98
15) Acetone	6.05	58	10100m	1.10 ppb		
16) Pentane	6.07	42	24382	1.16 ppb		93
17) Isopropyl alcohol	6.15	45	32873	1.09 ppb	#	46
18) 1,1-dichloroethene	6.56	96	32833	1.20 ppb		94
19) Freon 113	6.75	101	85460m	1.29 ppb		
20) t-Butyl alcohol	6.89	59	52338	1.09 ppb	#	75
21) Methylene chloride	7.05	84	29910	1.25 ppb		88
22) Allyl chloride	7.02	41	25381	1.19 ppb		84
23) Carbon disulfide	7.21	76	83066	1.17 ppb		98
24) trans-1,2-dichloroethene	7.99	61	38349	1.18 ppb		91
25) methyl tert-butyl ether	8.03	73	74015	1.20 ppb		90
26) 1,1-dichloroethane	8.40	63	53984	1.17 ppb		99
27) Vinyl acetate	8.43	43	46737	1.17 ppb		98
28) Methyl Ethyl Ketone	8.94	72	11871	1.21 ppb	#	100
29) cis-1,2-dichloroethene	9.35	61	31216	1.17 ppb		92
30) Hexane	8.89	57	31529	1.13 ppb		97
31) Ethyl acetate	9.53	43	46407	1.22 ppb		91
32) Chloroform	9.95	83	67143	1.08 ppb		100
33) Tetrahydrofuran	10.17	42	21607	1.22 ppb		93
34) 1,2-dichloroethane	11.09	62	36475	1.04 ppb		90
36) 1,1,1-trichloroethane	10.75	97	63335m	1.29 ppb		
37) Cyclohexane	11.44	56	27045m	1.34 ppb		
38) Carbon tetrachloride	11.39	117	67542	1.23 ppb		97
39) Benzene	11.37	78	55204	1.27 ppb		97
40) Methyl methacrylate	12.91	41	16940m	1.20 ppb		
41) 1,4-dioxane	13.02	88	13230	1.19 ppb		98
42) 2,2,4-trimethylpentane	12.18	57	114159m	1.50 ppb		
43) Heptane	12.53	43	22298	1.27 ppb		94
44) Trichloroethene	12.68	130	27991	1.26 ppb		98
45) 1,2-dichloropropane	12.79	63	18752m	1.20 ppb		

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040204.D Vial: 1
Acq On : 2 Apr 2016 12:58 pm Operator: RJP
Sample : ALCS1UG-040216 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 02 14:36:13 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.11	83	44063m	1.15 ppb	
47)	cis-1,3-dichloropropene	13.90	75	25728m	1.23 ppb	
48)	trans-1,3-dichloropropene	14.63	75	24149m	1.29 ppb	
49)	1,1,2-trichloroethane	14.93	97	20773m	1.21 ppb	
51)	Toluene	14.68	92	23774	0.79 ppb	93
52)	Methyl Isobutyl Ketone	13.83	43	39350	0.74 ppb	98
53)	Dibromochloromethane	15.60	129	38789m	1.02 ppb	
54)	Methyl Butyl Ketone	15.12	43	35587	0.75 ppb	91
55)	1,2-dibromoethane	15.85	107	43150	1.15 ppb	98
56)	Tetrachloroethylene	15.66	164	22377	0.78 ppb	97
57)	Chlorobenzene	16.61	112	46561	1.18 ppb	92
58)	1,1,1,2-tetrachloroethane	16.70	131	34745	1.18 ppb	95
59)	Ethylbenzene	16.85	91	61162	1.19 ppb	98
60)	m&p-xylene	17.04	91	98093	2.40 ppb	95
61)	Nonane	17.38	43	28351m	1.16 ppb	
62)	Styrene	17.46	104	36491	1.28 ppb	91
63)	Bromoform	17.58	173	42375	2.07 ppb	99
64)	o-xylene	17.48	91	60218m	1.23 ppb	
65)	Cumene	18.02	105	73127	1.27 ppb	98
67)	1,1,2,2-tetrachloroethane	17.92	83	63040	1.25 ppb	99
68)	Propylbenzene	18.54	91	79403m	1.30 ppb	
69)	2-Chlorotoluene	18.58	91	61383m	1.38 ppb	
70)	4-ethyltoluene	18.70	105	58219m	1.11 ppb	
71)	1,3,5-trimethylbenzene	18.75	105	72962m	1.17 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	57079	1.05 ppb	89
73)	1,3-dichlorobenzene	19.49	146	40130	1.17 ppb	97
74)	benzyl chloride	19.56	91	47079	0.96 ppb	97
75)	1,4-dichlorobenzene	19.62	146	35806	1.10 ppb	95
76)	1,2,3-trimethylbenzene	19.65	105	74548	1.12 ppb	97
77)	1,2-dichlorobenzene	19.93	146	44061	1.04 ppb	95
78)	1,2,4-trichlorobenzene	21.79	180	22866m	0.72 ppb	
79)	Naphthalene	22.13	128	49350m	0.75 ppb	
80)	Hexachloro-1,3-butadiene	22.07	225	58446	0.75 ppb	95

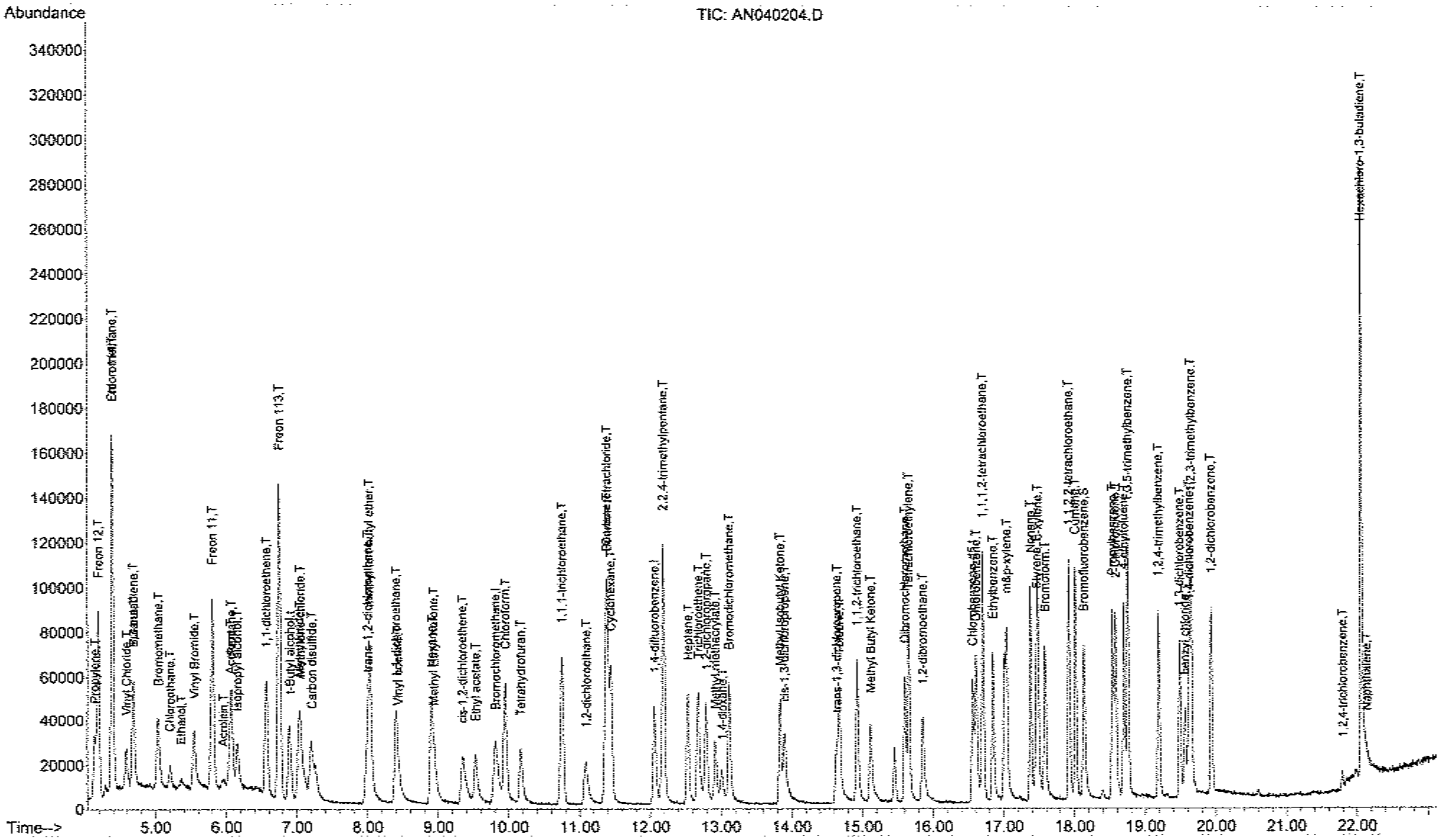
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040204.D
Acq On : 2 Apr 2016 12:58 pm
Sample : ALCS1UG-040216
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 3 11:39 2016

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

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration



AN040204.D A316_1UG.M Tue Apr 26 14:59:16 2016 MSD1 Page 3

CENTEK LABORATORIES, LLC

Date: *26-Apr-16*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **ALCS1UGD-033116** SampType: **LCSD** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10817**
Client ID: **ZZZZZ** Batch ID: **R10817** TestNo: **TO-15** Analysis Date: **4/1/2016** SeqNo: **127097**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.280	0.15	1	0	128	70	130	1.25	2.37	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.12	7.41	30	
1,1-Dichloroethene	1.120	0.15	1	0	112	70	130	1.12	0	30	
Chloroethane	1.250	0.15	1	0	125	70	130	1.22	2.43	30	
Chloromethane	1.210	0.15	1	0	121	70	130	1.23	1.64	30	
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	1.06	4.83	30	
Tetrachloroethylene	0.9000	0.15	1	0	90.0	70	130	0.92	2.20	30	
trans-1,2-Dichloroethene	1.000	0.15	1	0	100	70	130	1.05	4.88	30	
Trichloroethene	1.150	0.040	1	0	115	70	130	1.11	3.54	30	
Vinyl chloride	1.050	0.040	1	0	105	70	130	1.09	3.74	30	

Sample ID **ALCS1UGD-040116** SampType: **LCSD** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**
Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/2/2016** SeqNo: **127114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.280	0.15	1	0	128	70	130	1.29	0.778	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.04	0	30	
1,1-Dichloroethene	1.100	0.15	1	0	110	70	130	1.1	0	30	
Chloroethane	1.240	0.15	1	0	124	70	130	1.13	9.28	30	
Chloromethane	1.230	0.15	1	0	123	70	130	1.23	0	30	
cis-1,2-Dichloroethene	0.9400	0.15	1	0	94.0	70	130	0.98	4.17	30	
Tetrachloroethylene	0.8300	0.15	1	0	83.0	70	130	0.88	5.85	30	
trans-1,2-Dichloroethene	0.9600	0.15	1	0	96.0	70	130	0.99	3.08	30	
Trichloroethene	1.210	0.040	1	0	121	70	130	1.23	1.64	30	

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **ALCS1UGD-040116** SampType: **LCSD** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**
Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/2/2016** SeqNo: **127114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.070	0.040	1	0	107	70	130	1.1	2.76	30	

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 1ugM3_TO15

Sample ID **ALCS1UGD-040216** SampType: **LCSD** TestCode: **1ugM3_TO15** Units: **ppbV** Prep Date: RunNo: **10819**
Client ID: **ZZZZZ** Batch ID: **R10819** TestNo: **TO-15** Analysis Date: **4/3/2016** SeqNo: **127130**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.300	0.15	1	0	130	70	130	1.29	0.772	30	
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130	1.17	0	30	
1,1-Dichloroethene	1.110	0.15	1	0	111	70	130	1.2	7.79	30	
Chloroethane	1.090	0.15	1	0	109	70	130	1.23	12.1	30	
Chloromethane	1.190	0.15	1	0	119	70	130	1.29	8.06	30	
cis-1,2-Dichloroethene	1.110	0.15	1	0	111	70	130	1.17	5.26	30	
Tetrachloroethylene	0.8900	0.15	1	0	89.0	70	130	0.78	13.2	30	
trans-1,2-Dichloroethene	1.150	0.15	1	0	115	70	130	1.18	2.58	30	
Trichloroethene	1.220	0.15	1	0	122	70	130	1.26	3.23	30	
Vinyl chloride	1.220	0.15	1	0	122	70	130	1.14	6.78	30	

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033133.D Vial: 12
Acq On : 1 Apr 2016 6:53 am Operator: RJP
Sample : ALCS1UGD-033116 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 01 07:41:06 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.83	128	22710m	1.00 ppb	0.02
35) 1,4-difluorobenzene	12.07	114	52964	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	34225	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.14	95	25901	1.18 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 118.00%	

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.15	41	22423	1.22 ppb	#	100
3) Freon 12	4.20	85	119838	1.24 ppb		100
4) Chloromethane	4.40	50	30837	1.21 ppb		96
5) Freon 114	4.39	85	94564	1.16 ppb		94
6) Vinyl Chloride	4.59	62	26715	1.05 ppb		88
7) Butane	4.69	43	33781	1.16 ppb		98
8) 1,3-butadiene	4.69	39	22465	1.17 ppb		94
9) Bromomethane	5.04	94	36360	1.21 ppb		96
10) Chloroethane	5.21	64	12983	1.25 ppb		94
11) Ethanol	5.37	45	10054	1.30 ppb	#	80
12) Acrolein	5.97	56	7538	1.15 ppb	#	5
13) Vinyl Bromide	5.55	106	32655	1.11 ppb		94
14) Freon 11	5.81	101	115634	1.16 ppb		98
15) Acetone	6.05	58	10361	1.06 ppb	#	86
16) Pentane	6.08	42	21785	0.97 ppb		98
17) Isopropyl alcohol	6.16	45	29904	0.93 ppb	#	46
18) 1,1-dichloroethene	6.57	96	32675	1.12 ppb		91
19) Freon 113	6.75	101	87252	1.24 ppb		94
20) t-Butyl alcohol	6.90	59	54115	1.06 ppb	#	74
21) Methylene chloride	7.05	84	28453	1.11 ppb		89
22) Allyl chloride	7.03	41	21912	0.97 ppb		78
23) Carbon disulfide	7.21	76	77697	1.03 ppb		96
24) trans-1,2-dichloroethene	8.03	61	34621	1.00 ppb		89
25) methyl tert-butyl ether	8.03	73	70378	1.08 ppb		92
26) 1,1-dichloroethane	8.40	63	50964	1.04 ppb		100
27) Vinyl acetate	8.44	43	34292	0.81 ppb		95
28) Methyl Ethyl Ketone	8.96	72	10709	1.02 ppb	#	100
29) cis-1,2-dichloroethene	9.35	61	28746	1.01 ppb		89
30) Hexane	8.91	57	27596	0.93 ppb		97
31) Ethyl acetate	9.53	43	42553	1.05 ppb		93
32) Chloroform	9.95	83	64410	0.97 ppb		98
33) Tetrahydrofuran	10.17	42	18009	0.96 ppb		91
34) 1,2-dichloroethane	11.10	62	35642	0.96 ppb		89
36) 1,1,1-trichloroethane	10.75	97	63644	1.28 ppb		98
37) Cyclohexane	11.45	56	26237	1.28 ppb	#	87
38) Carbon tetrachloride	11.39	117	71132	1.28 ppb		97
39) Benzene	11.37	78	51827	1.18 ppb		97
40) Methyl methacrylate	12.93	41	16708	1.17 ppb	#	82
41) 1,4-dioxane	13.01	88	13693m	1.22 ppb		
42) 2,2,4-trimethylpentane	12.19	57	105470m	1.37 ppb		
43) Heptane	12.54	43	17595	0.98 ppb		89
44) Trichloroethene	12.69	130	25767	1.15 ppb		98
45) 1,2-dichloropropane	12.79	63	18020	1.13 ppb		100

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

Data File : C:\HPCHEM\1\DATA2\AN033133.D Vial: 12
Acq On : 1 Apr 2016 6:53 am Operator: RJP
Sample : ALCS1UGD-033116 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 01 07:41:06 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.12	83	49599	1.28 ppb	98
47)	cis-1,3-dichloropropene	13.90	75	25744m	1.22 ppb	
48)	trans-1,3-dichloropropene	14.65	75	22881m	1.20 ppb	
49)	1,1,2-trichloroethane	14.93	97	21315	1.22 ppb	99
51)	Toluene	14.68	92	21010	0.90 ppb	95
52)	Methyl Isobutyl Ketone	13.84	43	52442	1.28 ppb	98
53)	Dibromochloromethane	15.60	129	35795m	1.22 ppb	
54)	Methyl Butyl Ketone	15.12	43	34843	0.95 ppb	95
55)	1,2-dibromoethane	15.86	107	33858m	1.17 ppb	
56)	Tetrachloroethylene	15.66	164	20024	0.90 ppb	96
57)	Chlorobenzene	16.61	112	32547	1.07 ppb	87
58)	1,1,1,2-tetrachloroethane	16.71	131	24656	1.08 ppb	97
59)	Ethylbenzene	16.85	91	36622	0.92 ppb	99
60)	m&p-xylene	17.04	91	53360	1.69 ppb	91
61)	Nonane	17.38	43	19169	1.02 ppb	96
62)	Styrene	17.46	104	22328	1.01 ppb	91
63)	Bromoform	17.59	173	32571	2.06 ppb	98
64)	o-xylene	17.48	91	38663	1.02 ppb	100
65)	Cumene	18.02	105	43545	0.98 ppb	97
67)	1,1,2,2-tetrachloroethane	17.92	83	48358	1.24 ppb	100
68)	Propylbenzene	18.54	91	55777m	1.18 ppb	
69)	2-Chlorotoluene	18.58	91	35032m	1.02 ppb	
70)	4-ethyltoluene	18.70	105	50112m	1.24 ppb	
71)	1,3,5-trimethylbenzene	18.75	105	60516m	1.25 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	51996	1.24 ppb	97
73)	1,3-dichlorobenzene	19.49	146	33657m	1.26 ppb	
74)	benzyl chloride	19.56	91	48542	1.28 ppb	98
75)	1,4-dichlorobenzene	19.62	146	32126m	1.28 ppb	
76)	1,2,3-trimethylbenzene	19.65	105	65042	1.26 ppb	92
77)	1,2-dichlorobenzene	19.93	146	41624m	1.28 ppb	
78)	1,2,4-trichlorobenzene	21.79	180	25407m	1.03 ppb	
79)	Naphthalene	22.13	128	59093m	1.16 ppb	
80)	Hexachloro-1,3-butadiene	22.06	225	73201	1.22 ppb	96

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

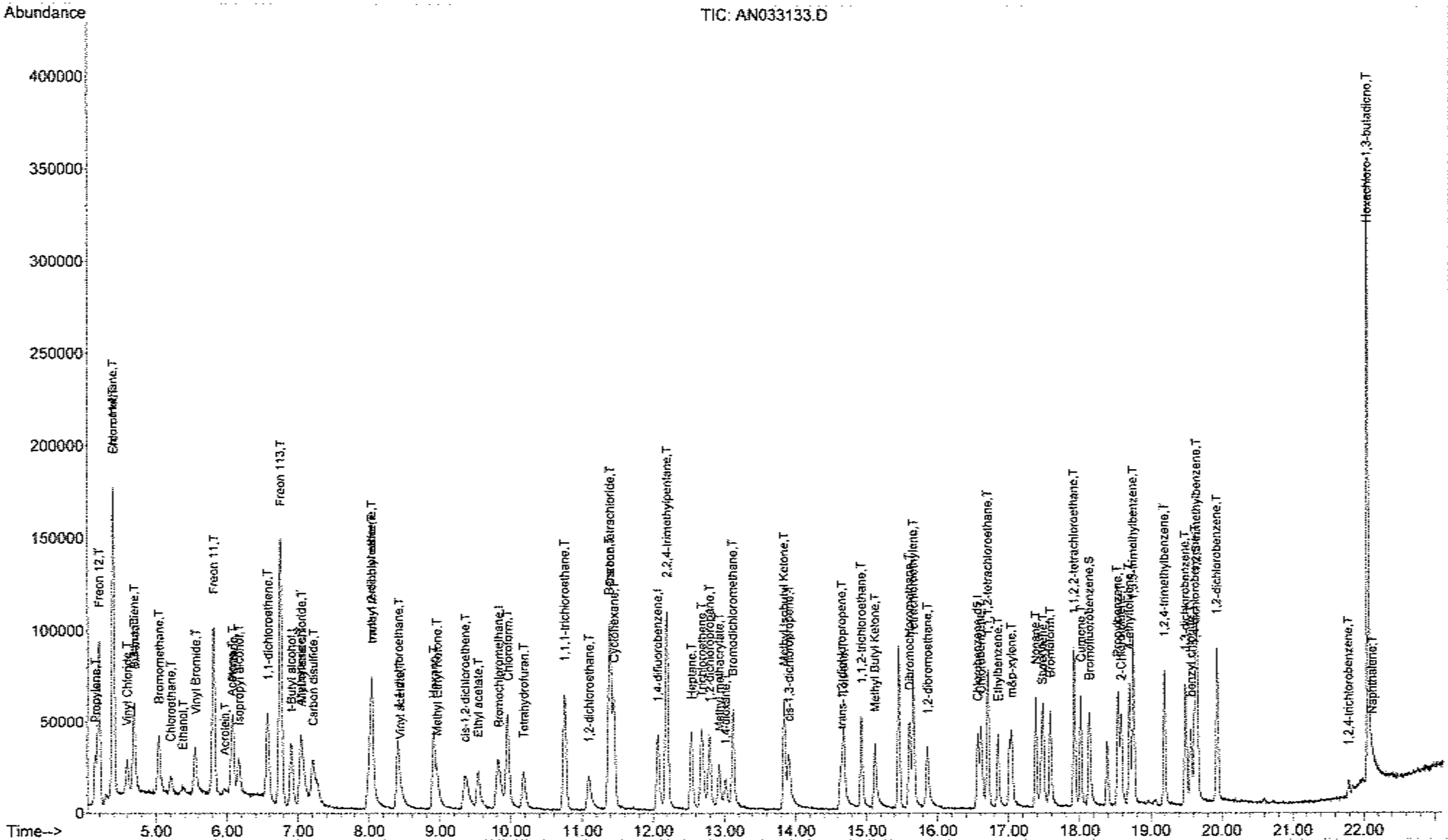
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN033133.D
Acq On : 1 Apr 2016 6:53 am
Sample : ALCS1UGD-033116
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 1 8:10 2016

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

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration



AN033133.D A316_1UG.M Tue Apr 26 15:15:02 2016 MSD1 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040125.D Vial: 3
Acq On : 2 Apr 2016 3:21 am Operator: RJP
Sample : ALCS1UGD-040116 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 02 07:59:55 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.81	128	20437m	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.07	114	45874	1.00 ppb	0.00
50) Chlorobenzene-d5	16.56	117	33404	1.00 ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	23229	1.08 ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 108.00%

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.15	41	17794	1.07 ppb	#	100
3) Freon 12	4.20	85	106757	1.22 ppb		99
4) Chloromethane	4.39	50	28161	1.23 ppb		94
5) Freon 114	4.39	85	84475	1.15 ppb		93
6) Vinyl Chloride	4.59	62	24511	1.07 ppb		88
7) Butane	4.68	43	30299	1.15 ppb		94
8) 1,3-butadiene	4.69	39	20711	1.20 ppb		87
9) Bromomethane	5.04	94	30593	1.13 ppb		87
10) Chloroethane	5.21	64	11593	1.24 ppb		88
11) Ethanol	5.37	45	7438	1.07 ppb	#	70
12) Acrolein	5.96	56	6489	1.10 ppb	#	5
13) Vinyl Bromide	5.54	106	30312	1.14 ppb		98
14) Freon 11	5.81	101	108818	1.21 ppb		98
15) Acetone	6.06	58	9989	1.13 ppb	#	67
16) Pentane	6.07	42	21958	1.09 ppb		82
17) Isopropyl alcohol	6.16	45	31569	1.10 ppb	#	46
18) 1,1-dichloroethene	6.57	96	28746	1.10 ppb		89
19) Freon 113	6.75	101	75197	1.19 ppb		94
20) t-Butyl alcohol	6.90	59	45185	0.98 ppb	#	73
21) Methylene chloride	7.06	84	25448	1.11 ppb		89
22) Allyl chloride	7.03	41	19430	0.95 ppb		83
23) Carbon disulfide	7.21	76	68931	1.02 ppb		98
24) trans-1,2-dichloroethene	7.99	61	29781	0.96 ppb		89
25) methyl tert-butyl ether	8.03	73	58091	0.99 ppb		89
26) 1,1-dichloroethane	8.40	63	45819	1.04 ppb		98
27) Vinyl acetate	8.44	43	28686	0.75 ppb		98
28) Methyl Ethyl Ketone	8.94	72	8460	0.90 ppb	#	100
29) cis-1,2-dichloroethene	9.35	61	24101	0.94 ppb		89
30) Hexane	8.90	57	22935	0.86 ppb		97
31) Ethyl acetate	9.54	43	37330	1.02 ppb		96
32) Chloroform	9.95	83	58628	0.98 ppb		98
33) Tetrahydrofuran	10.17	42	14842	0.88 ppb		92
34) 1,2-dichloroethane	11.09	62	32732	0.98 ppb		89
36) 1,1,1-trichloroethane	10.75	97	55200m	1.28 ppb		
37) Cyclohexane	11.45	56	22616	1.27 ppb	#	84
38) Carbon tetrachloride	11.40	117	60536m	1.26 ppb		
39) Benzene	11.37	78	46455	1.22 ppb		97
40) Methyl methacrylate	12.93	41	15859	1.28 ppb	#	85
41) 1,4-dioxane	13.01	88	11429	1.17 ppb		100
42) 2,2,4-trimethylpentane	12.19	57	95059	1.43 ppb		97
43) Heptane	12.53	43	16705	1.08 ppb		95
44) Trichloroethene	12.68	130	23579	1.21 ppb		97
45) 1,2-dichloropropane	12.79	63	16910	1.23 ppb		94

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040125.D
Acq On : 2 Apr 2016 3:21 am
Sample : ALCS1UGD-040116
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 02 07:59:55 2016

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

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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

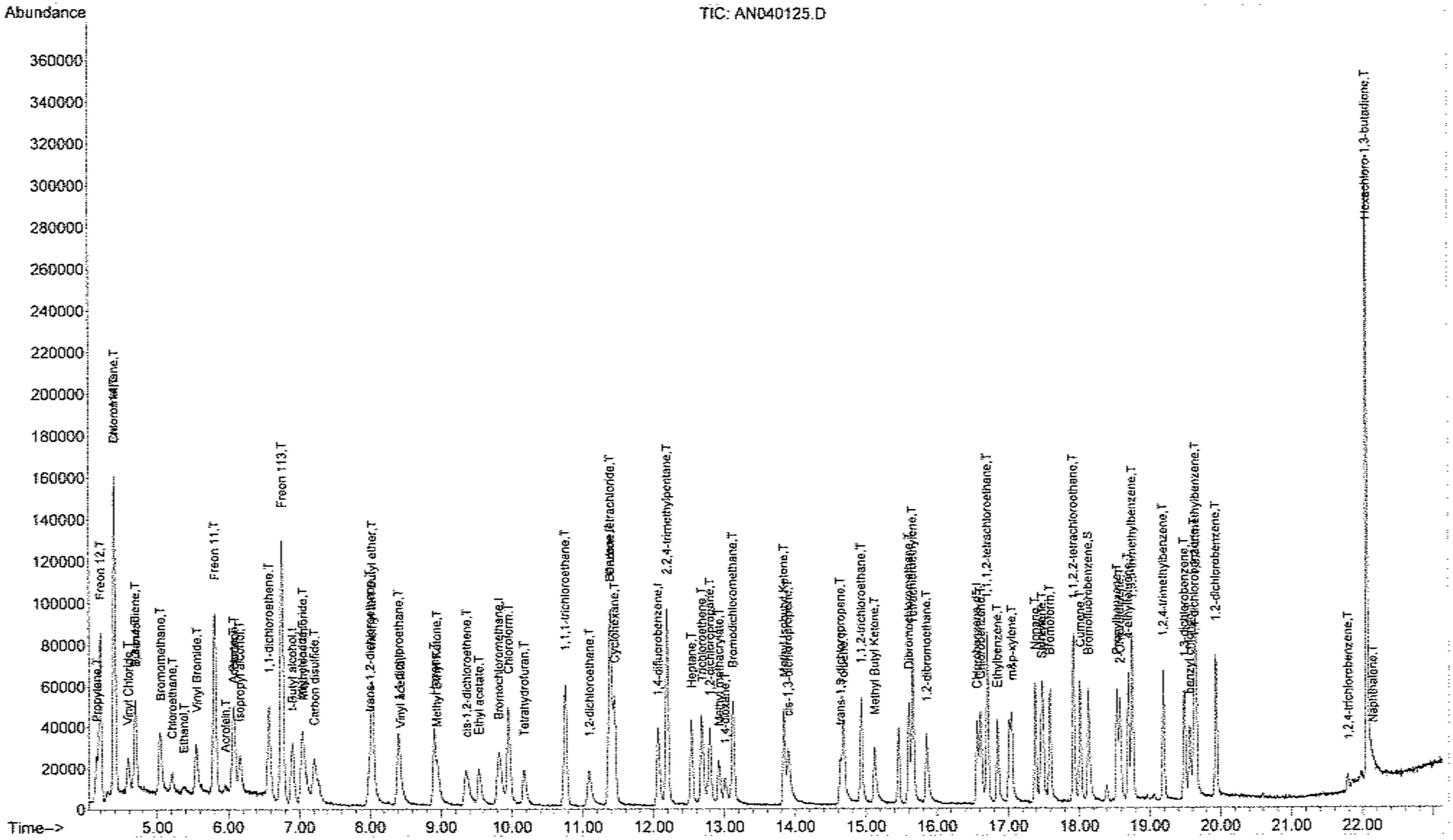
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.12	83	42093m	1.25 ppb	
47)	cis-1,3-dichloropropene	13.90	75	23342m	1.27 ppb	
48)	trans-1,3-dichloropropene	14.63	75	26114	1.59 ppb	91
49)	1,1,2-trichloroethane	14.93	97	17907m	1.19 ppb	
51)	Toluene	14.68	92	19046	0.84 ppb	97
52)	Methyl Isobutyl Ketone	13.84	43	40410	1.01 ppb	95
53)	Dibromochloromethane	15.60	129	34742m	1.21 ppb	
54)	Methyl Butyl Ketone	15.12	43	27202	0.76 ppb	91
55)	1,2-dibromoethane	15.85	107	35295	1.25 ppb	95
56)	Tetrachloroethylene	15.66	164	17901	0.83 ppb	97
57)	Chlorobenzene	16.61	112	32123	1.08 ppb	89
58)	1,1,1,2-tetrachloroethane	16.71	131	25427	1.14 ppb	95
59)	Ethylbenzene	16.85	91	36776	0.94 ppb	96
60)	m&p-xylene	17.04	91	58058	1.88 ppb	94
61)	Nonane	17.38	43	17884	0.97 ppb	96
62)	Styrene	17.46	104	23463	1.09 ppb	91
63)	Bromoform	17.59	173	33067	2.14 ppb	99
64)	o-xylene	17.49	91	41443	1.12 ppb	98
65)	Cumene	18.02	105	42342	0.98 ppb	99
67)	1,1,2,2-tetrachloroethane	17.93	83	46433	1.22 ppb	99
68)	Propylbenzene	18.54	91	50147m	1.09 ppb	
69)	2-Chlorotoluene	18.58	91	30598m	0.91 ppb	
70)	4-ethyltoluene	18.70	105	43131m	1.09 ppb	
71)	1,3,5-trimethylbenzene	18.76	105	53436m	1.13 ppb	
72)	1,2,4-trimethylbenzene	19.19	105	43324	1.06 ppb	96
73)	1,3-dichlorobenzene	19.48	146	32101m	1.23 ppb	
74)	benzyl chloride	19.56	91	40921	1.10 ppb	98
75)	1,4-dichlorobenzene	19.62	146	28290	1.16 ppb	94
76)	1,2,3-trimethylbenzene	19.65	105	54000	1.07 ppb	91
77)	1,2-dichlorobenzene	19.93	146	36031	1.13 ppb	96
78)	1,2,4-trichlorobenzene	21.79	180	20383m	0.85 ppb	
79)	Naphthalene	22.15	128	46143m	0.92 ppb	
80)	Hexachloro-1,3-butadiene	22.06	225	63646	1.09 ppb	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN040125.D A316_1UG.M Tue Apr 26 14:44:50 2016 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040125.D Vial: 3
Acq On : 2 Apr 2016 3:21 am Operator: RJP
Sample : ALCS1UGD-040116 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 2 12:07 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 14:41:32 2016
Response via : Initial Calibration



AN040125.D A316_1UG.M Tue Apr 26 14:44:51 2016 MSD1 Page 3

Data File : C:\HPCHEM\1\DATA\AN040224.D Vial: 21
Acq On : 3 Apr 2016 1:13 am Operator: RJP
Sample : ALCS1UGD-040216 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 06:12:44 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.83	128	16685m	1.00 ppb	0.03
35) 1,4-difluorobenzene	12.07	114	39568m	1.00 ppb	0.00
50) Chlorobenzene-d5	16.57	117	28434m	1.00 ppb	0.00

System Monitoring Compounds

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
66) Bromofluorobenzene	18.13	95	19428	1.06 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 106.00%		

Target Compounds

Compound	R.T.	QIon	Response	Conc Units		Qvalue
2) Propylene	4.15	41	16606	1.23 ppb	#	100
3) Freon 12	4.20	85	90322	1.27 ppb		100
4) Chloromethane	4.40	50	22283m	1.19 ppb		
5) Freon 114	4.39	85	71787m	1.20 ppb		
6) Vinyl Chloride	4.58	62	22812	1.22 ppb		92
7) Butane	4.69	43	25482m	1.19 ppb		
8) 1,3-butadiene	4.69	39	15952	1.13 ppb		64
9) Bromomethane	5.04	94	27027m	1.23 ppb		
10) Chloroethane	5.22	64	8362m	1.09 ppb		
11) Ethanol	5.38	45	7013	1.23 ppb	#	78
12) Acrolein	5.96	56	5600m	1.16 ppb		
13) Vinyl Bromide	5.55	106	23708m	1.09 ppb		
14) Freon 11	5.81	101	96272m	1.31 ppb		
15) Acetone	6.06	58	7670m	1.06 ppb		
16) Pentane	6.08	42	19957	1.21 ppb		89
17) Isopropyl alcohol	6.16	45	22887	0.97 ppb	#	46
18) 1,1-dichloroethene	6.58	96	23753	1.11 ppb		93
19) Freon 113	6.75	101	66199m	1.28 ppb		
20) t-Butyl alcohol	6.90	59	23840	0.64 ppb	#	69
21) Methylene chloride	7.05	84	23481	1.25 ppb	#	86
22) Allyl chloride	7.03	41	18688	1.12 ppb		91
23) Carbon disulfide	7.21	76	63706	1.15 ppb		97
24) trans-1,2-dichloroethene	8.01	61	29171	1.15 ppb		96
25) methyl tert-butyl ether	8.03	73	49301	1.03 ppb		84
26) 1,1-dichloroethane	8.40	63	42150	1.17 ppb		99
27) Vinyl acetate	8.43	43	30164	0.97 ppb		98
28) Methyl Ethyl Ketone	8.95	72	7134	0.93 ppb	#	100
29) cis-1,2-dichloroethene	9.36	61	23080	1.11 ppb		96
30) Hexane	8.90	57	21665	0.99 ppb		94
31) Ethyl acetate	9.54	43	29271	0.98 ppb	#	83
32) Chloroform	9.96	83	53371	1.10 ppb		98
33) Tetrahydrofuran	10.18	42	14438	1.04 ppb		99
34) 1,2-dichloroethane	11.09	62	30054	1.10 ppb		88
36) 1,1,1-trichloroethane	10.75	97	48306m	1.30 ppb		
37) Cyclohexane	11.44	56	19148m	1.25 ppb		
38) Carbon tetrachloride	11.39	117	51845m	1.25 ppb		
39) Benzene	11.37	78	36958m	1.12 ppb		
40) Methyl methacrylate	12.92	41	11930	1.11 ppb	#	85
41) 1,4-dioxane	13.02	88	4854m	0.58 ppb		
42) 2,2,4-trimethylpentane	12.19	57	79575m	1.38 ppb		
43) Heptane	12.54	43	16023	1.20 ppb		97
44) Trichloroethene	12.68	130	20428	1.22 ppb		99
45) 1,2-dichloropropane	12.79	63	13855m	1.17 ppb		

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040224.D Vial: 21
Acq On : 3 Apr 2016 1:13 am Operator: RJP
Sample : ALCS1UGD-040216 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 06:12:44 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 : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46) Bromodichloromethane	13.12	83	40630	1.40 ppb	99
47) cis-1,3-dichloropropene	13.91	75	17575m	1.11 ppb	
48) trans-1,3-dichloropropene	14.64	75	17502m	1.23 ppb	
49) 1,1,2-trichloroethane	14.93	97	15918m	1.22 ppb	
51) Toluene	14.68	92	15999	0.83 ppb	93
52) Methyl Isobutyl Ketone	13.85	43	16015m	0.47 ppb	
53) Dibromochloromethane	15.60	129	29038m	1.19 ppb	
54) Methyl Butyl Ketone	15.12	43	11884m	0.39 ppb	
55) 1,2-dibromoethane	15.86	107	30992	1.29 ppb	95
56) Tetrachloroethylene	15.66	164	16328	0.89 ppb	99
57) Chlorobenzene	16.61	112	28766	1.13 ppb	90
58) 1,1,1,2-tetrachloroethane	16.71	131	23282	1.23 ppb	96
59) Ethylbenzene	16.85	91	32846	0.99 ppb	98
60) m&p-xylene	17.04	91	50659	1.93 ppb	94
61) Nonane	17.38	43	17387	1.11 ppb	96
62) Styrene	17.46	104	19788	1.08 ppb	94
63) Bromoform	17.59	173	27444	2.09 ppb	96
64) o-xylene	17.49	91	36160	1.15 ppb	97
65) Cumene	18.02	105	38606	1.05 ppb	98
67) 1,1,2,2-tetrachloroethane	17.93	83	42851	1.32 ppb	97
68) Propylbenzene	18.54	91	42675m	1.09 ppb	
69) 2-Chlorotoluene	18.58	91	28750m	1.01 ppb	
70) 4-ethyltoluene	18.70	105	36356m	1.08 ppb	
71) 1,3,5-trimethylbenzene	18.75	105	47475m	1.18 ppb	
72) 1,2,4-trimethylbenzene	19.19	105	33263	0.96 ppb	91
73) 1,3-dichlorobenzene	19.49	146	24776	1.12 ppb	98
74) benzyl chloride	19.56	91	24061	0.76 ppb	91
75) 1,4-dichlorobenzene	19.62	146	22059	1.06 ppb	97
76) 1,2,3-trimethylbenzene	19.65	105	45073	1.05 ppb	95
77) 1,2-dichlorobenzene	19.93	146	26784	0.99 ppb	97
78) 1,2,4-trichlorobenzene	21.97	180	13922m	0.68 ppb	
79) Naphthalene	22.12	128	22973m	0.54 ppb	
80) Hexachloro-1,3-butadiene	22.06	225	38512	0.77 ppb	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN040224.D A316_1UG.M Tue Apr 26 14:59:22 2016 MSD1

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Data File : C:\HPCHEM\1\DATA\AN040224.D                 Vial: 21
Acq On    :  3 Apr 2016   1:13 am                   Operator: RJP
Sample    : ALCS1UGD-040216                         Inst     : MSD #1
Misc      : A316_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr  3 11:42 2016             Quant Results File: A316_1UG.RES

Method         : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title          : TO-15 VOA  Standards for 5 point calibration
Last Update    : Tue Apr 26 14:41:32 2016
Response via   : Initial Calibration
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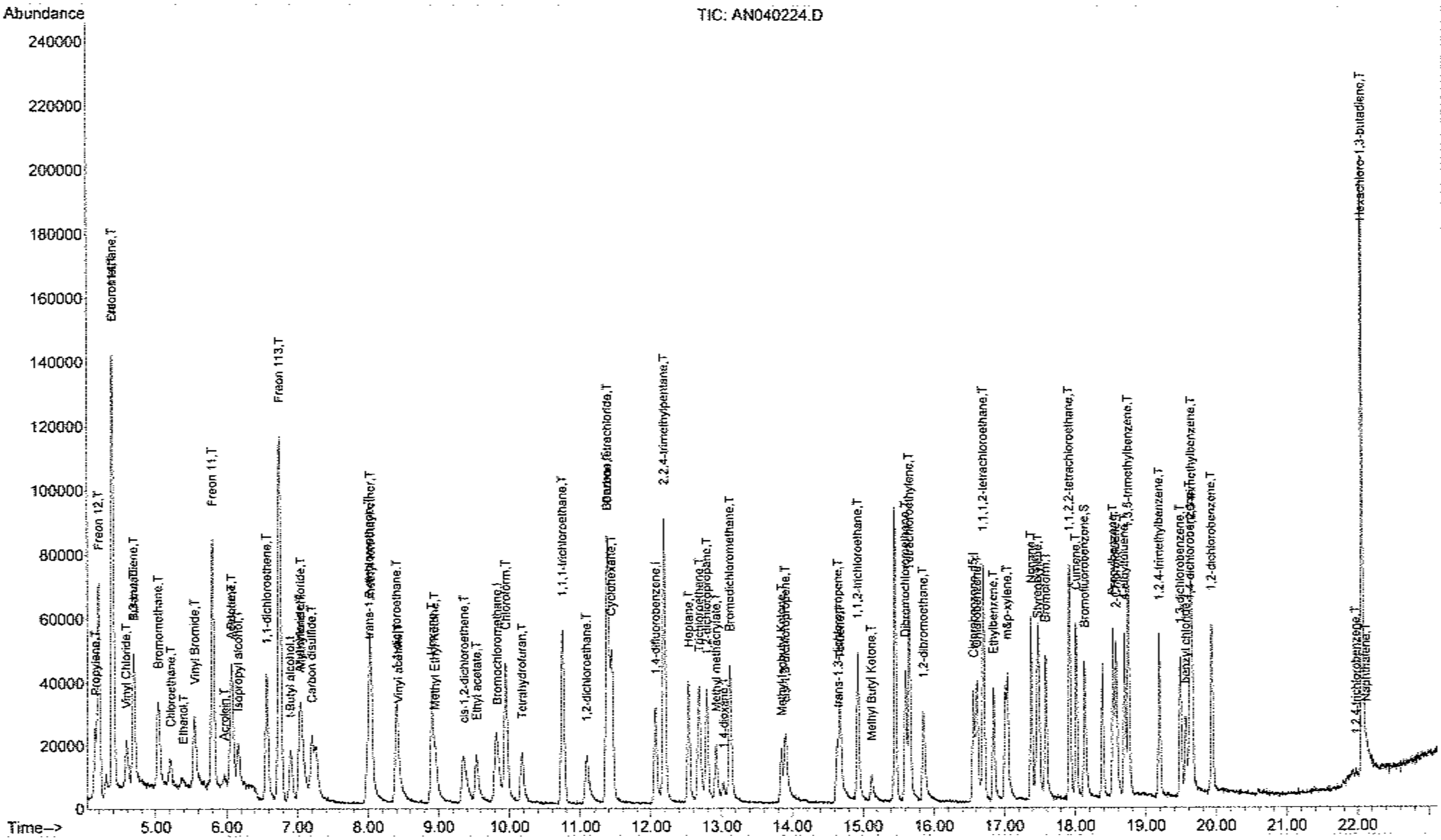

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INJECTION LOG

Directory: C:\HPCHEM\1\DATA2

Injection Log

Instrument #_ 1
Internal Standard Stock #_ A1335
Standard Stock #_ 1336
LCS Stock #_ 1337
Method Ref: EPA TO-15 Jan 1999

ne	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
6	29	An033037.d	1.	C1603071-003A 40X	A316_1UG	31 Mar 2016 07:37
7	30	An033038.d	1.	C1603071-004A 10X	A316_1UG	31 Mar 2016 08:14
8	31	An033039.d	1.	C1603062-002A 540X	A316_1UG	31 Mar 2016 08:50
9		An033040.d	1.	No MS or GC data present		
0	1	An033101.d	1.	BFB1UG	A316_1UG	31 Mar 2016 09:33
1	2	An033102.d	1.	A1UG	A316_1UG	31 Mar 2016 10:56
2	3	An033103.d	1.	A1UG	A316_1UG	31 Mar 2016 11:38
3	4	An033104.d	1.	A1UG_1.0	A316_1UG	31 Mar 2016 12:19
4	5	An033105.d	1.	ALCS1UG-033116	A316_1UG	31 Mar 2016 12:57
5	6	An033106.d	1.	AMB1UG-033116	A316_1UG	31 Mar 2016 13:33
6	7	An033107.d	1.	WAC033116A	A316_1UG	31 Mar 2016 14:15
7	8	An033108.d	1.	WAC033116B	A316_1UG	31 Mar 2016 14:52
8	9	An033109.d	1.	WAC033116C	A316_1UG	31 Mar 2016 15:30
9	10	An033110.d	1.	WAC033116D	A316_1UG	31 Mar 2016 16:07
20	11	An033111.d	1.	WAC033116E	A316_1UG	31 Mar 2016 16:44
21	12	An033112.d	1.	WAC033116F	A316_1UG	31 Mar 2016 17:27
22	1	An033113.d	1.	C1603064-002A 270X	A316_1UG	31 Mar 2016 18:04
23	2	An033114.d	1.	C1603064	A316_1UG -004A 81X	31 Mar 2016 18:43
24	3	An033115.d	1.	C1603064-004A 810X	A316_1UG	31 Mar 2016 19:19
25	4	An033116.d	1.	C1603064-007A 540X	A316_1UG	31 Mar 2016 19:55
26	5	An033117.d	1.	C1603064-009A 270X	A316_1UG	31 Mar 2016 20:32
27	6	An033118.d	1.	C1603064-003A 270X	A316_1UG	31 Mar 2016 21:08
28	7	An033119.d	1.	C1603064-006A 540X	A316_1UG	31 Mar 2016 21:45
29	8	An033120.d	1.	C1603064-008A 270X	A316_1UG	31 Mar 2016 22:22
30	2	An033121.d	1.	C1603075-004A	A316_1UG	31 Mar 2016 23:01
31	2	An033122.d	1.	C1603075-004A MS	A316_1UG	31 Mar 2016 23:43
32	2	An033123.d	1.	C1603075-004A MSD	A316_1UG	1 Apr 2016 00:25
33	3	An033124.d	1.	C1603075-002A	A316_1UG	1 Apr 2016 01:04
34	4	An033125.d	1.	C1603075-005A	A316_1UG	1 Apr 2016 01:43
35	5	An033126.d	1.	C1603074-001A	A316_1UG	1 Apr 2016 02:22
36	6	An033127.d	1.	C1603074-003A	A316_1UG	1 Apr 2016 03:00
37	7	An033128.d	1.	C1603074-005A	A316_1UG	1 Apr 2016 03:39
38	8	An033129.d	1.	C1603076-001A	A316_1UG	1 Apr 2016 04:18
39	9	An033130.d	1.	C1603076-004A	A316_1UG	1 Apr 2016 04:57
40	10	An033131.d	1.	C1603076-006A	A316_1UG	1 Apr 2016 05:36
41	11	An033132.d	1.	C1603076-008A	A316_1UG	1 Apr 2016 06:15
42	12	An033133.d	1.	ALCS1UGD-033116	A316_1UG	1 Apr 2016 06:53
43	13	An033134.d	1.	C1603075-001A	A316_1UG	1 Apr 2016 08:10
44	14	An033135.d	1.	C1603075-003A	A316_1UG	1 Apr 2016 08:49
45	15	An033136.d	1.	C1604001-001A	A316_1UG	1 Apr 2016 09:28
46		An033137.d	1.	No MS or GC data present		

Injection Log

Directory: C:\HPChem\1\DATA

Instrument # 1
Internal Standard Stock # A134935
Standard Stock # 134836
LCS Stock # 134931
Method Ref: EPA TO-15 / Jan. 1999

ine	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
	16	An040101.d	1.	BFB1UG	A316_1UG	1 Apr 2016 10:05
	18	An040102.d	1.	A1UG_1.0	A316_1UG	1 Apr 2016 12:06
	19	An040103.d	1.	ALCS1UG-040116	A316_1UG	1 Apr 2016 12:45
	20	An040104.d	1.	AMB1UG-040116	A316_1UG	1 Apr 2016 13:21
	21	An040105.d	1.	C1603075-001A 2X	A316_1UG	1 Apr 2016 13:59
	22	An040106.d	1.	C1603074-002A	A316_1UG	1 Apr 2016 14:58
	23	An040107.d	1.	C1603074-004A	A316_1UG	1 Apr 2016 15:39
	24	An040108.d	1.	C1603076-003A	A316_1UG	1 Apr 2016 16:18
	25	An040109.d	1.	C1603076-005A	A316_1UG	1 Apr 2016 16:57
0	26	An040110.d	1.	C1603076-002A	A316_1UG	1 Apr 2016 17:36
1	27	An040111.d	1.	C1603076-007A	A316_1UG	1 Apr 2016 18:15
2	28	An040112.d	1.	C1603076-009A	A316_1UG	1 Apr 2016 18:54
3	49	An040113.d	1.	C1603089-001A	A316_1UG	1 Apr 2016 19:33
4	21	An040114.d	1.	C1603089-002A	A316_1UG	1 Apr 2016 20:12
5	22	An040115.d	1.	C1603089-003A	A316_1UG	1 Apr 2016 20:51
6	23	An040116.d	1.	C1603089-004A	A316_1UG	1 Apr 2016 21:30
7	24	An040117.d	1.	C1603089-005A	A316_1UG	1 Apr 2016 22:09
8	25	An040118.d	1.	C1603089-006A	A316_1UG	1 Apr 2016 22:48
9	26	An040119.d	1.	C1603089-007A	A316_1UG	1 Apr 2016 23:27
0	27	An040120.d	1.	C1603089-008A	A316_1UG	2 Apr 2016 00:06
1	28	An040121.d	1.	C1603089-009A	A316_1UG	2 Apr 2016 00:45
2	29	An040122.d	1.	C1603089-010A	A316_1UG	2 Apr 2016 01:24
3	1	An040123.d	1.	C1603089-011A	A316_1UG	2 Apr 2016 02:03
4	2	An040124.d	1.	C1603089-012A	A316_1UG	2 Apr 2016 02:42
5	3	An040125.d	1.	ALCS1UGD-040116	A316_1UG	2 Apr 2016 03:21
6	4	An040126.d	1.	C1603079-001A	A316_1UG	2 Apr 2016 04:00
7	5	An040127.d	1.	C1603079-002A	A316_1UG	2 Apr 2016 04:39
8	6	An040128.d	1.	C1603079-003A	A316_1UG	2 Apr 2016 05:18
9	7	An040129.d	1.	C1603079-004A	A316_1UG	2 Apr 2016 05:57
0	8	An040130.d	1.	C1603079-005A	A316_1UG	2 Apr 2016 06:36
1	9	An040131.d	1.	C1603079-006A	A316_1UG	2 Apr 2016 07:15
2	10	An040132.d	1.	C1603078-001A	A316_1UG	2 Apr 2016 07:54
3	11	An040133.d	1.	C1603078-002A	A316_1UG	2 Apr 2016 08:33
4	12	An040134.d	1.	C1603078-003A	A316_1UG	2 Apr 2016 09:12
5	13	An040135.d	1.	C1603078-003A DUP	A316_1UG	2 Apr 2016 09:50
6		An040136.d	1.	No MS or GC data present		
7	1	An040201.d	1.	BFB1UG	A316_1UG	2 Apr 2016 10:48
8	2	An040202.d	1.	A1UG	A316_1UG	2 Apr 2016 11:29
9	3	An040203.d	1.	A1UG_1.0	A316_1UG	2 Apr 2016 12:08
0	1	An040204.d	1.	ALCS1UG-040216	A316_1UG	2 Apr 2016 12:58
1	2	An040205.d	1.	AMB1UG-040216	A316_1UG	2 Apr 2016 13:34
2	3	An040206.d	1.	C1603078-004A	A316_1UG	2 Apr 2016 14:13
3	4	An040207.d	1.	C1603074-002A 10X	A316_1UG	2 Apr 2016 14:50
4	5	An040208.d	1.	C1603074-004A 90X	A316_1UG	2 Apr 2016 15:27
5	6	An040209.d	1.	C1603076-009A 5X	A316_1UG	2 Apr 2016 16:03
6	7	An040210.d	1.	C1603079-001A 10X	A316_1UG	2 Apr 2016 16:40
7	8	An040211.d	1.	C1603079-002A 10X	A316_1UG	2 Apr 2016 17:17
8	9	An040212.d	1.	C1603079-003A 10X	A316_1UG	2 Apr 2016 17:53
9	10	An040213.d	1.	C1603079-004A 10X	A316_1UG	2 Apr 2016 18:30
0	11	An040214.d	1.	C1603079-005A 10X	A316_1UG	2 Apr 2016 19:06
1	12	An040215.d	1.	C1603079-006A 10X	A316_1UG	2 Apr 2016 19:43
2	13	An040216.d	1.	C1603078-001A 10X	A316_1UG	2 Apr 2016 20:19
3	14	An040217.d	1.	C1603078-001A 40X	A316_1UG	2 Apr 2016 20:56
4	15	An040218.d	1.	C1603078-002A 10X	A316_1UG	2 Apr 2016 21:32
5	16	An040219.d	1.	C1603078	A316_1UG -002A 40X	2 Apr 2016 22:08

Injection Log

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Instrument # A
Internal Standard Stock # A134735
Standard Stock # 134736
LCS Stock # 134737
Method Ref: EPA TO-15 / Jan. 1999

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
56	17	An040220.d	1.	C1603078-003A 10X	A316_1UG	2 Apr 2016 22:45
57	18	An040221.d	1.	C1603078-003A 40X	A316_1UG	2 Apr 2016 23:21
58	19	An040222.d	1.	C1603078-004A 10X	A316_1UG	2 Apr 2016 23:58
59	20	An040223.d	1.	C1603078-004A 40X	A316_1UG	3 Apr 2016 00:34
60	21	An040224.d	1.	ALCS1UGD-040216	A316_1UG	3 Apr 2016 01:13
61	22	An040225.d	1.	C1603092-001A	A316_1UG	3 Apr 2016 01:52
62	23	An040226.d	1.	C1603092-002A	A316_1UG	3 Apr 2016 02:31
63	24	An040227.d	1.	C1603092-003A	A316_1UG	3 Apr 2016 03:10
64	25	An040228.d	1.	C1603092-004A	A316_1UG	3 Apr 2016 03:49
65	26	An040229.d	1.	C1603092-005A	A316_1UG	3 Apr 2016 04:28
66	27	An040230.d	1.	C1603092-006A	A316_1UG	3 Apr 2016 05:07
67	28	An040231.d	1.	C1603092-007A	A316_1UG	3 Apr 2016 05:46
68	29	An040232.d	1.	C1603092-008A	A316_1UG	3 Apr 2016 06:25
69	30	An040233.d	1.	C1603092-009A	A316_1UG	3 Apr 2016 07:03
70	31	An040234.d	1.	C1603092-010A	A316_1UG	3 Apr 2016 07:42
71	32	An040235.d	1.	C1603092-012A	A316_1UG	3 Apr 2016 08:21
72	33	An040236.d	1.	C1603092-015A	A316_1UG	3 Apr 2016 09:00
73		An040237.d	1.	No MS or GC data present		
74	1	An040301.d	1.	BFB1UG	A316_1UG	3 Apr 2016 09:42
75	2	An040302.d	1.	A1UG_1.0	A316_1UG	3 Apr 2016 11:40
76	3	An040303.d	1.	ALCS1UG-040316	A316_1UG	3 Apr 2016 12:29
77	4	An040304.d	1.	AMB1UG-040316	A316_1UG	3 Apr 2016 13:47
78	1	An040305.d	1.	WAC040316A	A316_1UG	3 Apr 2016 14:24
79	2	An040306.d	1.	WAC040316B	A316_1UG	3 Apr 2016 15:01
80	3	An040307.d	1.	WAC040316C	A316_1UG	3 Apr 2016 15:38
81	4	An040308.d	1.	WAC040316D	A316_1UG	3 Apr 2016 16:15
82	5	An040309.d	1.	WAC040316E	A316_1UG	3 Apr 2016 16:52
83	6	An040310.d	1.	C1603078-002A 90X	A316_1UG	3 Apr 2016 17:28
84	7	An040311.d	1.	C1603092-013A	A316_1UG	3 Apr 2016 18:07
85	8	An040312.d	1.	C1603092-013A MS	A316_1UG	3 Apr 2016 18:49
86	9	An040313.d	1.	C1603092-013A MSD	A316_1UG	3 Apr 2016 19:32
87	10	An040314.d	1.	C1603092-016A	A316_1UG	3 Apr 2016 20:11
88	11	An040315.d	1.	C1603092-017A	A316_1UG	3 Apr 2016 20:50
89	12	An040316.d	1.	C1603092-018A	A316_1UG	3 Apr 2016 21:29
90	13	An040317.d	1.	C1603092-019A	A316_1UG	3 Apr 2016 22:09
91	14	An040318.d	1.	C1603092-012A 10X	A316_1UG	3 Apr 2016 22:45
92	15	An040319.d	1.	C1603091-005A	A316_1UG	3 Apr 2016 23:24
93	16	An040320.d	1.	C1603091-005A MS	A316_1UG	4 Apr 2016 00:06
94	17	An040321.d	1.	C1603091-005A MSD	A316_1UG	4 Apr 2016 00:49
95	18	An040322.d	1.	C1603091-001A	A316_1UG	4 Apr 2016 01:28
96	19	An040323.d	1.	C1603091-002A	A316_1UG	4 Apr 2016 02:08
97	20	An040324.d	1.	C1603091-003A	A316_1UG	4 Apr 2016 02:47
98	21	An040325.d	1.	C1603091-004A	A316_1UG	4 Apr 2016 03:26
99	22	An040326.d	1.	C1603091-006A	A316_1UG	4 Apr 2016 04:06
100	23	An040327.d	1.	C1603091-007A	A316_1UG	4 Apr 2016 04:45
101		An040328.d	1.	No MS or GC data present		
102	28	An040401.d	1.	BFB1UG	A316_1UG	4 Apr 2016 09:00
103	29	An040402.d	1.	A1UG_1.0	A316_1UG	4 Apr 2016 09:37
104	30	An040403.d	1.	ALCS1UG-040416	A316_1UG	4 Apr 2016 10:16
105	31	An040404.d	1.	AMB1UG-040416	A316_1UG	4 Apr 2016 10:52
106	32	An040405.d	1.	C1603092-017A 40X	A316_1UG	4 Apr 2016 11:46
107	33	An040406.d	1.	C1603076-003A RE	A316_1UG	4 Apr 2016 12:25
108	34	An040407.d	1.	C1603076-005A RE	A316_1UG	4 Apr 2016 14:00
109	35	An040408.d	1.	C1603076-002A RE	A316_1UG	4 Apr 2016 14:39
110	36	An040409.d	1.	C1603076-007A RE	A316_1UG	4 Apr 2016 15:18

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1201	1/15/16	1/22/16	TO15 APH	A1188	1ppm	1.5	30	50	MD	
A-1202	↓	↓	TO15 1UG APH	A1201	50ppb	0.9	45	1	↓	
A-1203	1/15/16	1/15/17	TO15 MIX	–	1ppm	LINDE TO15 MIX		1ppm	MD	
A-1204	1/18/16	1/18/17	LCS TO15	"	A0534 STD IS NOW LCS			1ppm	L.L.	
A-1205	1/18/16	1/25/16	TO15 IS	A1174	1ppm	1.5	30	50ppb	MD	
A-1206	↓	↓	LCS	A1204	↓	↓	↓	↓	↓	
A-1207	↓	↓	STD	A1203	↓	↓	↓	↓	↓	
A-1208	↓	↓	TO15 FORM	A0974	11.5ppm	0.20	45	↓	↓	
A-1209	↓	↓	SILOX	~~A0584~~ A1088 / A1088	500ppb	3.0	30	↓	↓	
A-1210	↓	↓	SULF	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	↓	↓	TO15 1UG IS	A1205	↓	0.9	45	1ppb	↓	
A-1215	↓	↓	STD	A1207	↓	↓	↓	↓	↓	
A-1216	↓	↓	LCS	A1206	↓	↓	↓	↓	↓	
A-1217	1/25/16	2/1/16	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	↓	

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Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1285	2/29/16	3/7/16	TO15 H_2S	A0269	10 ppm	1.5	30	500	WD	
A-1286			TO15 14G IS	A1277	50 ppb	0.9	45	1		
A-1287			STD	A1278					↓	
A-1288	↓	↓	↓ LCS	A1279	↓	↓	↓	↓		
A-1289	3/1/16	3/1/17	TO15 IS	FF-4969	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			STD	A1203						
A-1292			LCS	A1204	↓	↓	↓	↓		
A-1293			4PCH	9519						
A-1294			4PCH5	A1293	50 ppb	3.0	30	5		
A-1295			FORM	A0974	11.5 ppm	0.20	45	50		
A-1296			SILOX	A1088 / A1089	500 ppb	3.0	30	50		
A-1297			SULF	A0270	1 ppm	1.5	30	50		
A-1298			↓ H_2S	A0269	10 ppm	1.5	30	500		
A-1299			TO15 14G IS	A1290	50 ppb	0.9	45	1		
A-1300			STD	A1291					↓	
A-1301	↓	↓	↓ LCS	A1292	↓	↓	↓	↓		
A-1302	3/14/16	3/21/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1303			STD	A1203						
A-1304			LCS	A1204					↓	
A-1305	↓	↓	↓ 4PCH	9519	↓	↓	↓	↓		

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Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description		Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
-1306	3/14/16	3/21/16	TO15	4PCH5	A1305	50 ppb	3.0	30	5	WD	
-1307				FORM	A0974	11.5 ppm	0.20	45	50		
-1308				SILOX	A1088 / A1089	500 ppb	3.0	30	50		
-1309				SULF	A0270	1 ppm	1.5	30	50		
-1310				H2S	A0269	10 ppm	1.5	30	500		
-1311			TO15 14G	IS	A1302	50 ppb	0.9	45	1		
-1312				STD	A1303						
-1313				LCS	A1304						
-1314	3/21/16	3/28/16	TO15	IS	A1289	1 ppm	1.5	30	50	WD	
-1315				STD	A1203						
-1316				LCS	A1204						
-1317				4PCH	9519						
-1318				4PCH5	A1317	50 ppb	3.0	30	5		
-1319				FORM	A0974	11.5 ppm	0.20	45	50		
-1320				SILOX	A1088 / A1089	500 ppb	3.0	30	50		
-1321				SULF	A0270	1 ppm	1.5	30	50		
-1322				H2S	A0269	10 ppm	1.5	30	500		
-1323			TO15 14G	IS	A1314	50 ppb	0.9	45	1		
-1324				STD	A1315						
-1325				LCS	A1316						
-1326	3/28/16	4/4/16	TO15	IS	A1289	1 ppm	1.5	30	50	WD	

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Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1327	3/28/16	4/4/16	TO15 STD	A1203	1 ppm	1.5	30	50	WD	
A-1328	↓	↓	↓ LCS	A1204	↓	↓	↓	↓	↓	
A-1329	↓	↓	↓ 4PCH	9519	↓	↓	↓	↓	↓	
A-1330	↓	↓	↓ 4PCHS	A1329	50 ppb	3.0	30	5	↓	
A-1331	↓	↓	↓ FORM	A0974	11.5 ppm	0.20	45	50	↓	
A-1332	↓	↓	↓ SILOX	~~A1088~~ A1089	500 ppb	3.0	30	50	↓	
A-1333	↓	↓	↓ SULF	A0270	1 ppm	1.5	30	50	↓	
A-1334	↓	↓	↓ H2S	~~A0271~~ A0269	10 ppm	1.5	30	500	↓	
A-1335	↓	↓	TO15 14G IS	A1326	50 ppb	0.9	45	1	↓	
A-1336	↓	↓	↓ STD	A1327	↓	↓	↓	↓	↓	
A-1337	↓	↓	↓ LCS	A1328	↓	↓	↓	↓	↓	
A-1338	4/4/16	4/11/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1339	↓	↓	↓ STD	A1203	↓	↓	↓	↓	↓	
A-1340	↓	↓	↓ LCS	A1204	↓	↓	↓	↓	↓	
A-1341	↓	↓	↓ 4PCH	9519	↓	↓	↓	↓	↓	
A-1342	↓	↓	↓ 4PCHS	A1341	50 ppb	3.0	30	5	↓	
A-1343	↓	↓	↓ FORM	A0974	11.5 ppm	0.20	45	50	↓	
A-1344	↓	↓	↓ SILOX	~~A1088~~ A1089	500 ppb	3.0	30	50	↓	
A-1345	↓	↓	↓ SULF	A0270	1 ppm	1.5	30	50	↓	
A-1346	↓	↓	↓ H2S	A0269	10 ppm	1.5	30	500	↓	
A-1347	↓	↓	TO15 14G IS	A1338	50 ppb	0.9	45	1	↓	

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GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

Centek Laboratories, LLC

Instrument: Entech 3100

QC Canister Cleaning Logbook

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/stp)	
137	192	30	2.19.16	WAC021916 A	ND 1ug/m3+0.25	+30	+30
83						+	+
1179						+	+
567						+	+
192						+	+
229	205			WAC021916 B		+	+
89						+	+
93						+	+
275						+	+
205						+	+
188	223			WAC021916 C		+	+
286						+	+
553						+	+
1177						+	+
223						+	+
141	128			WAC021916 D		+	+
242						+	+
319						+	+
158						+	+
128						+	+
248	130			WAC021916 E		+	+
460						+	+
94						+	+
239						+	+
130						+	+

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Centek Laboratories, LLC

Instrument: Entech 3100

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/stp)	
542	106	30	2.19.16	WAC021916 F	1ug/m3+0.25	+ 30	+ 30
245						+	+
226						+	+
322						+	+
106						+	+
98	363			WAC021916G		+	+
100						+	+
367						+	+
571						+	+
363						+	+
332	326			WAC021916H		+	+
274						+	+
168						+	+
327						+	+
326						+	+
231	541			WAC021916 I		+	+
101						+	+
1190						+	+
157						+	+
541						+	+
						+	+
						+	+
						+	+
						+	+

Cleaned by: RJP

Form C151

Page # 139

Instrument: Entech 3100

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/stp)	
1179	139	20	3/8/16	WAC030816A	1µg +0.25	+ 30	+ 30
465						+	+
141						+	+
567						+	+
139						+	+
223	366			B		+	+
419						+	+
128						+	+
192						+	+
366						+	+
1183	1193			C		+	+
188						+	+
136						+	+
286						+	+
1193						+	+
205	138			D		+	+
318						+	+
370						+	+
1182						+	+
138						+	+
142	229			E		+	+
1177						+	+
93						+	+
131						+	+
225						+	+

Cleaned by: RJP Form C151 Page # 149

Centek Laboratories, LLC

QC Canister Cleaning Logbook

Instrument: Entech 3100

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/stp)	
1178	89	20	3/8/16	WAC030816 F	1/2 +0.25	+ 30	+ 30
332						+	+
564						+	+
1195						+	+
89						+	+
484 (1.4)	212			G		+	+
1200						+	+
218						+	+
1204						+	+
212						+	+
214	1201			H		+	+
1198						+	+
1196						+	+
487						+	+
1201						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+

Cleaned by: RJP Form C151 Page # 150

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021910.D Vial: 5
Acq On : 19 Feb 2016 2:58 pm Operator: RJP
Sample : WAC021916E Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:01 2016 Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

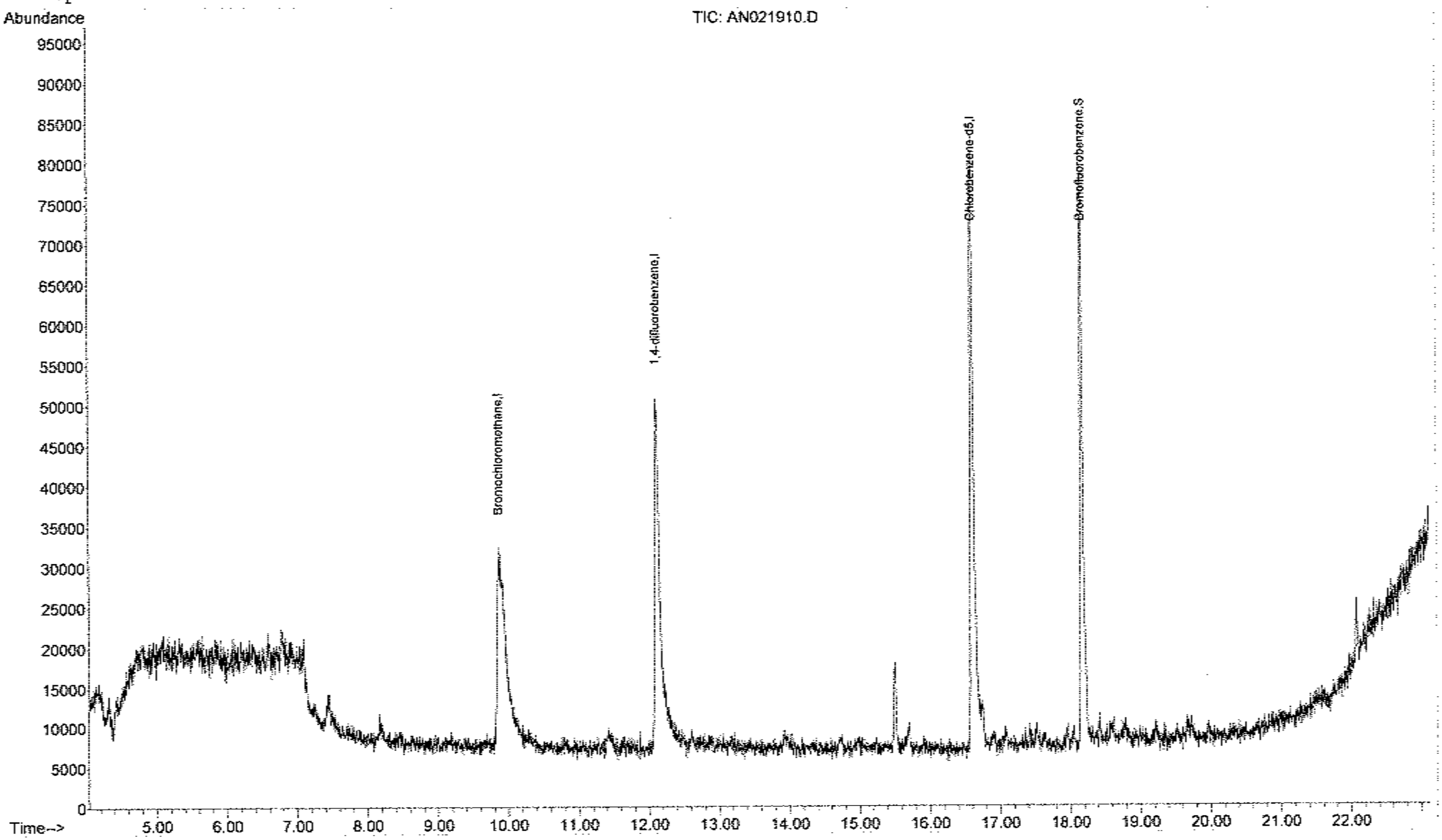
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.87	128	32071m	1.00 ppb	0.00
35) 1,4-difluorobenzene	12.12	114	87046	1.00 ppb	0.03
50) Chlorobenzene-d5	16.60	117	81502	1.00 ppb	0.02
System Monitoring Compounds					
66) Bromofluorobenzene	18.17	95	39860m	0.72 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery	= 72.00%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN021910.D A316_1UG.M Wed Apr 27 09:43:41 2016 MSD1 Page 1

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021910.D Vial: 5
Acq On : 19 Feb 2016 2:58 pm Operator: RJP
Sample : WAC021916E Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 9:02 2016 Quant Results File: A204_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021911.D Vial: 6
Acq On : 19 Feb 2016 3:36 pm Operator: RJP
Sample : WAC021916F Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:02 2016 Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

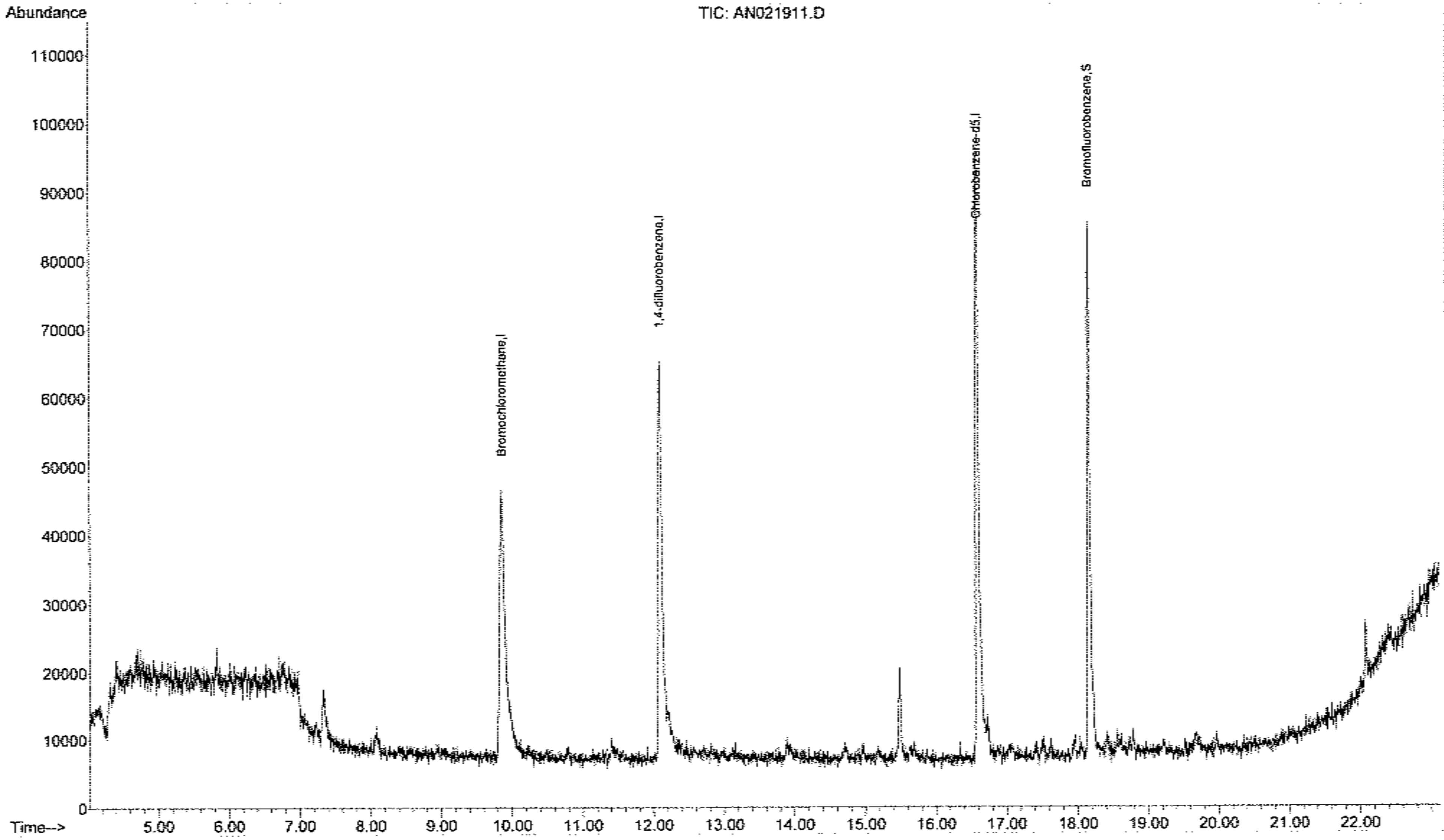
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.87	128	30090	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.10	114	93261	1.00	ppb	0.01
50) Chlorobenzene-d5	16.59	117	83480	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.16	95	40440m	0.71	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	71.00%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN021911.D A316_1UG.M Wed Apr 27 09:43:44 2016 MSD1 Page 1

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021911.D Vial: 6
Acq On : 19 Feb 2016 3:36 pm Operator: RJP
Sample : WAC021916F Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 9:02 2016 Quant Results File: A204_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021912.D Vial: 1
Acq On : 19 Feb 2016 5:28 pm Operator: RJP
Sample : WAC021916G Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:03 2016 Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.84	128	30565	1.00 ppb	-0.02
35) 1,4-difluorobenzene	12.09	114	86165	1.00 ppb	0.00
50) Chlorobenzene-d5	16.59	117	81355	1.00 ppb	0.00
System Monitoring Compounds					
66) Bromofluorobenzene	18.16	95	38855m	0.70 ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	70.00%	

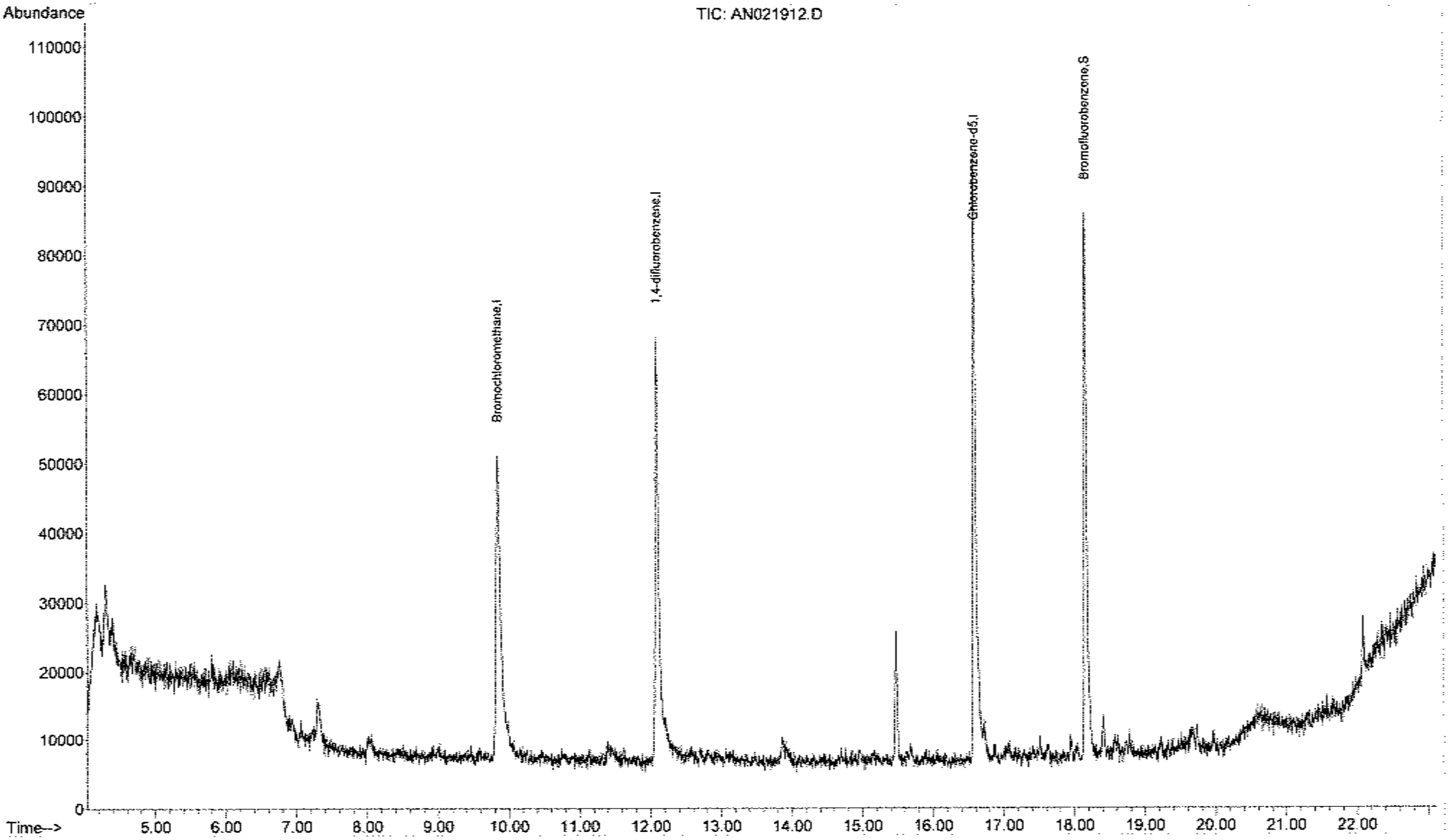
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN021912.D A316_1UG.M Wed Apr 27 09:43:47 2016 MSD1 Page 1

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021912.D        Vial: 1
Acq On    : 19 Feb 2016   5:28 pm                  Operator: RJP
Sample    : WAC021916G                             Inst    : MSD #1
Misc      : A204_1UG                               Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22  9:02 2016          Quant Results File: A204_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Thu Apr 07 13:07:26 2016
Response via  : Initial Calibration
```



AN021912.D A316_1UG.M Wed Apr 27 09:43:48 2016 MSD1 Page 2

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021913.D         Vial: 2
Acq On    : 19 Feb 2016   6:05 pm                     Operator: RJP
Sample    : WAC021916H                                Inst    : MSD #1
Misc      : A204_1UG                                  Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:04 2016            Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN
```

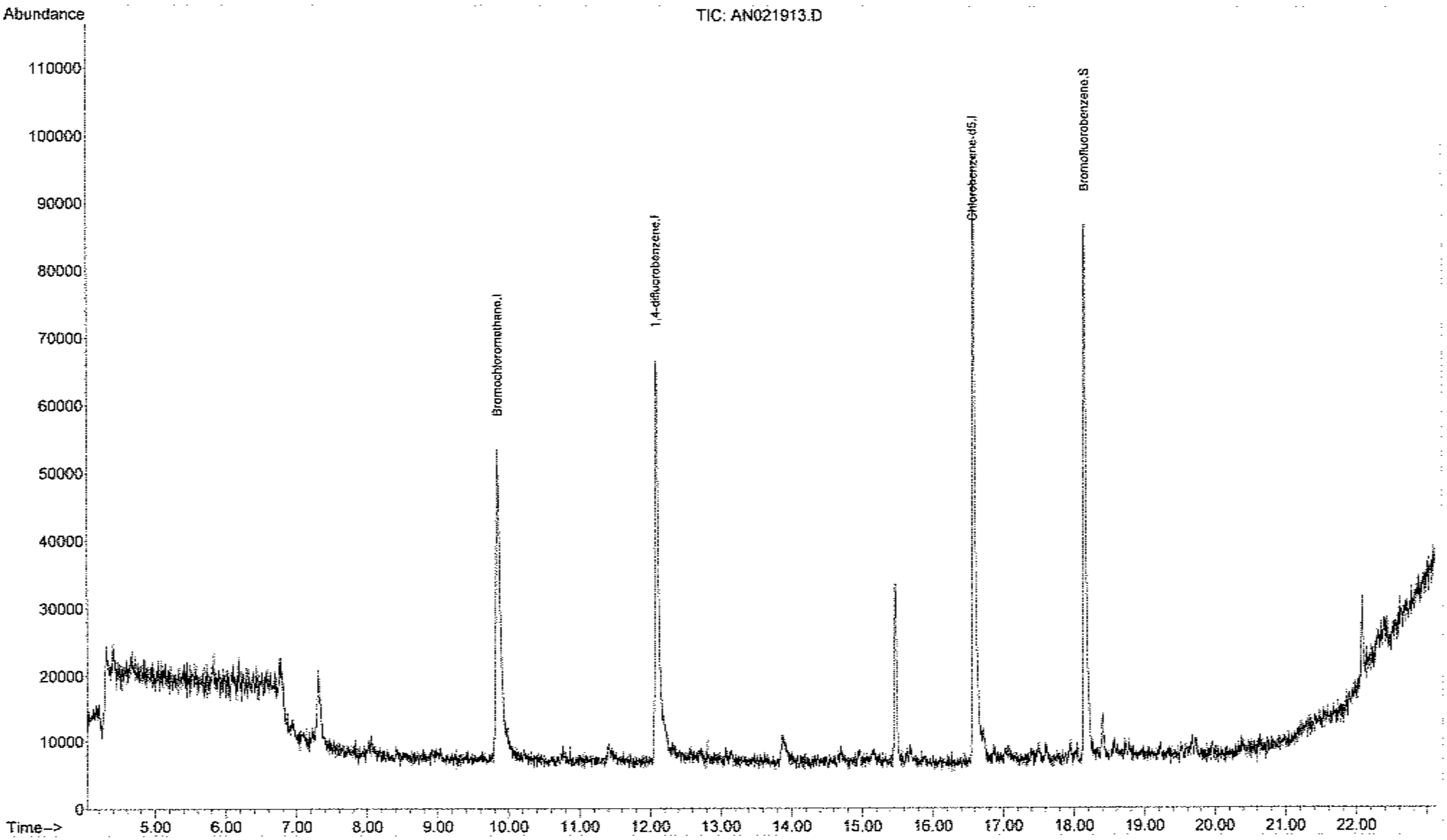
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.85	128	30719	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.09	114	88980	1.00	ppb	0.00
50) Chlorobenzene-d5	16.58	117	82754	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.16	95	42155m	0.75	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery =	75.00%		

Target Compounds Qvalue

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

```
Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021913.D        Vial: 2
Acq On    : 19 Feb 2016   6:05 pm                   Operator: RJP
Sample    : WAC021916H                              Inst     : MSD #1
Misc      : A204_1UG                                Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22  9:02 2016             Quant Results File: A204_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Thu Apr 07 13:07:26 2016
Response via  : Initial Calibration
```



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021914.D Vial: 3
Acq On : 19 Feb 2016 6:43 pm Operator: RJP
Sample : WAC021916I Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:05 2016 Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

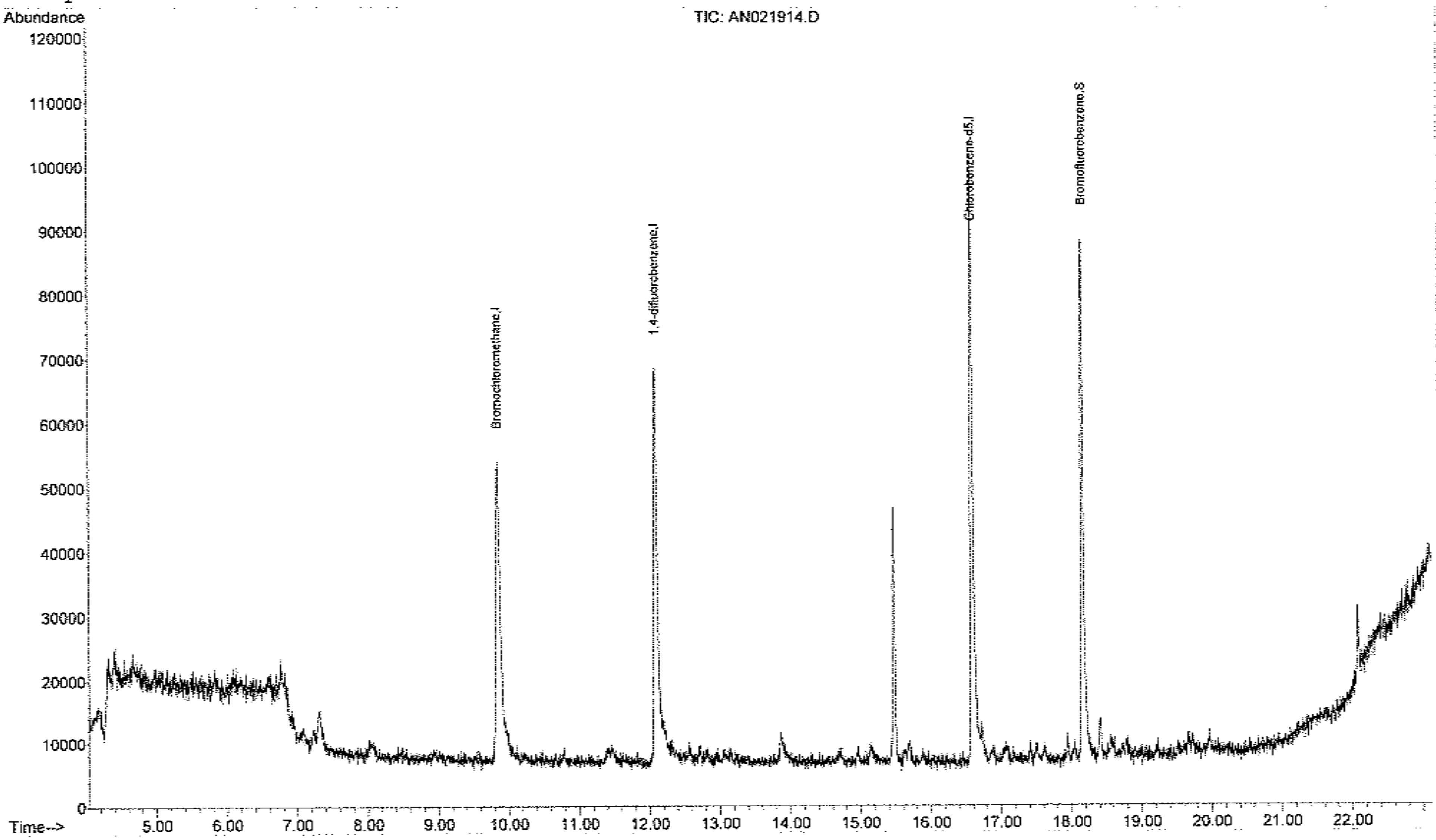
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.85	128	30896	1.00	ppb	-0.01
35) 1,4-difluorobenzene	12.09	114	90545	1.00	ppb	0.00
50) Chlorobenzene-d5	16.58	117	83125	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.16	95	41130m	0.73	ppb	0.00

Spiked Amount 1.000 Range 70 - 130 Recovery = 73.00%

Target Compounds Qvalue

```
Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021914.D        Vial: 3
Acq On    : 19 Feb 2016   6:43 pm                    Operator: RJP
Sample    : WAC021916I                               Inst    : MSD #1
Misc      : A204_1UG                                 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22  9:03 2016              Quant Results File: A204_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration
```



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021915.D Vial: 4
Acq On : 19 Feb 2016 7:20 pm Operator: RJP
Sample : WAC021916J Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:06 2016 Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.85	128	29544	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.09	114	84494	1.00	ppb	0.00
50) Chlorobenzene-d5	16.58	117	79265	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.16	95	39870m	0.74	ppb	0.00

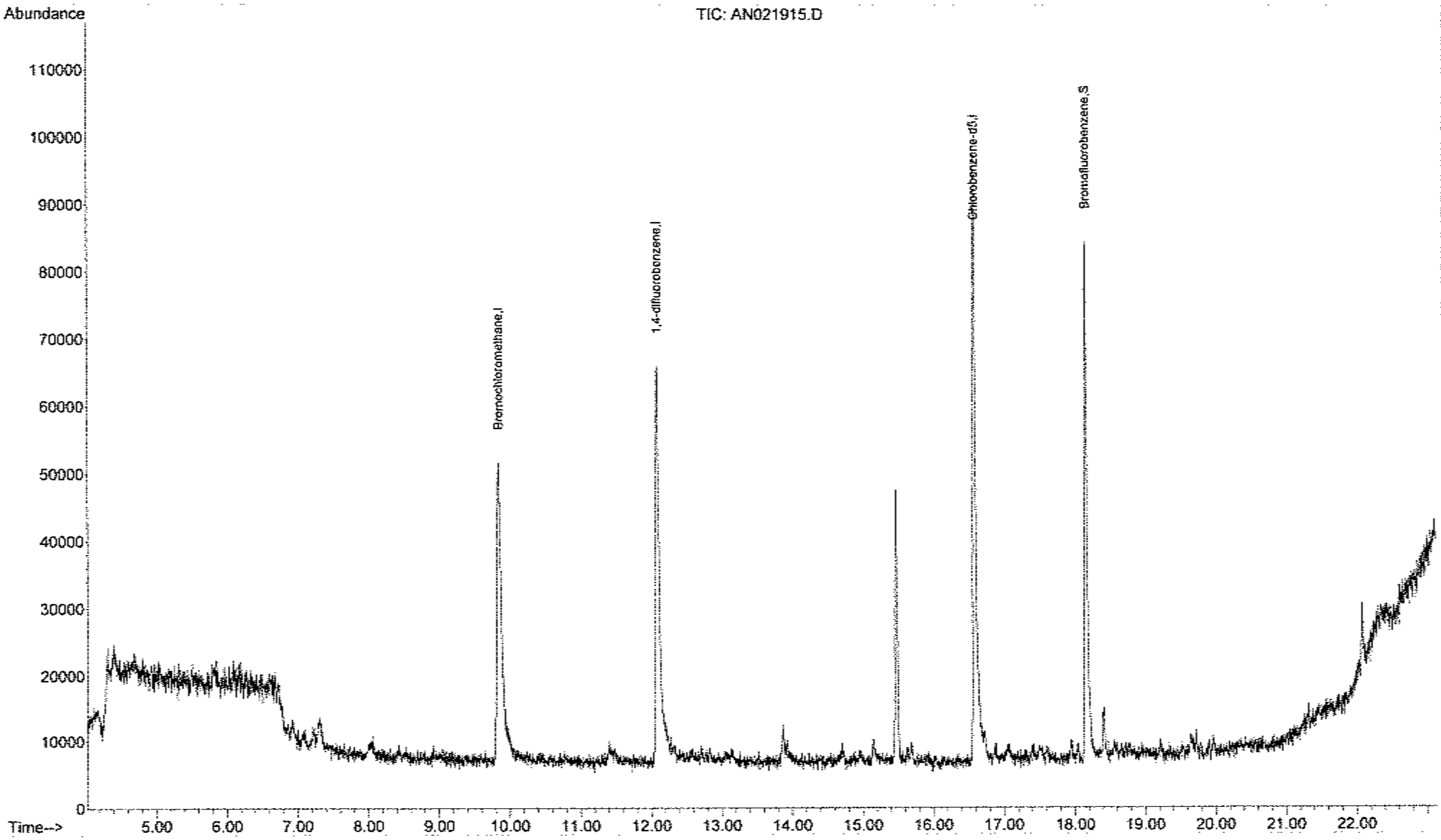
Spiked Amount 1.000 Range 70 - 130 Recovery = 74.00%

Target Compounds Qvalue

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

```
Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021915.D        Vial: 4
Acq On    : 19 Feb 2016   7:20 pm                    Operator: RJP
Sample    : WAC021916J                               Inst    : MSD #1
Misc      : A204_1UG                                 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22  9:03 2016             Quant Results File: A204_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration
```



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021916.D Vial: 5
Acq On : 19 Feb 2016 7:57 pm Operator: RJP
Sample : WAC021916K Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:07 2016 Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

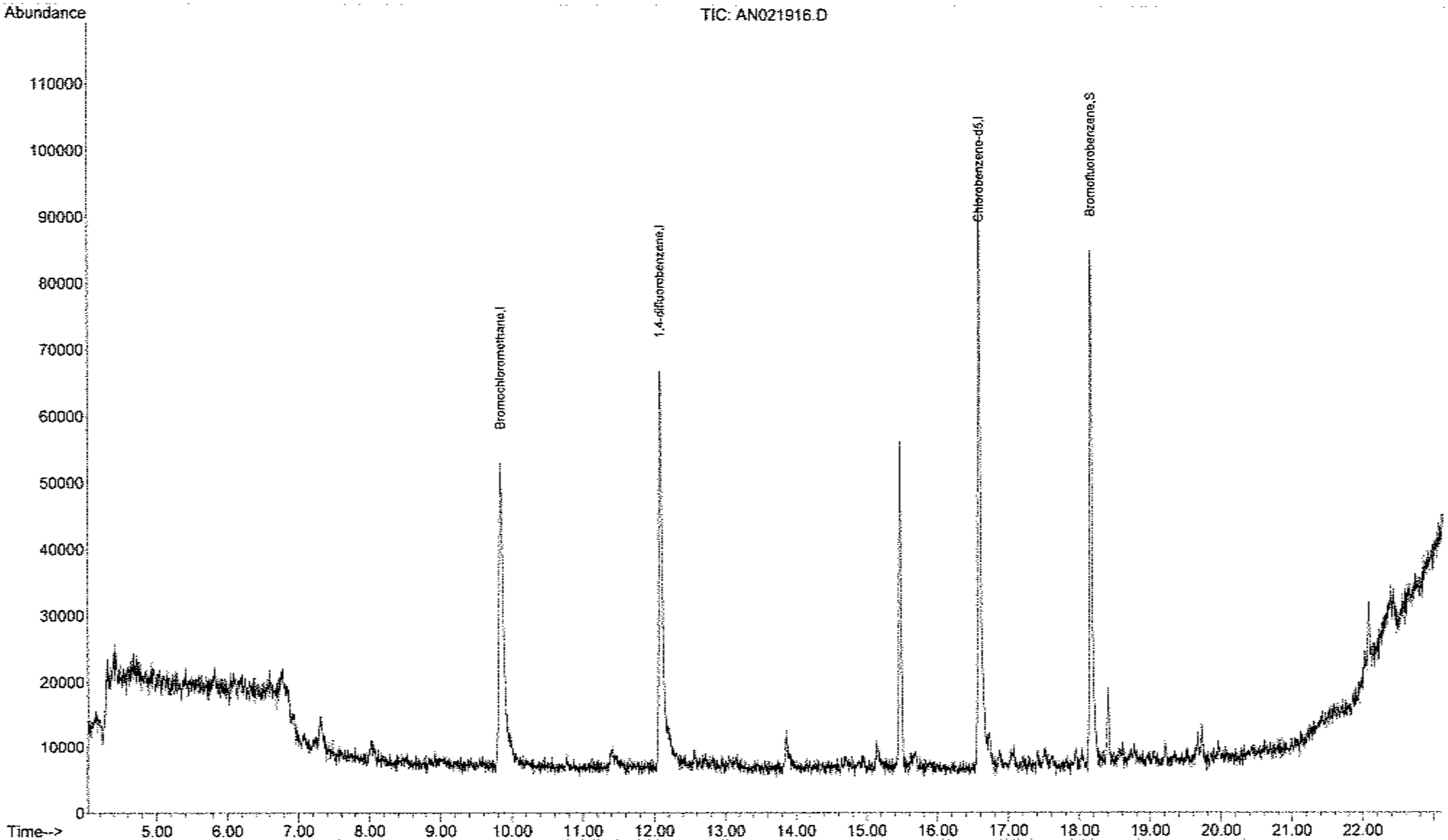
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.84	128	29343	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.10	114	88390	1.00	ppb	0.00
50) Chlorobenzene-d5	16.59	117	80484	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.15	95	40271m	0.73	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 73.00%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN021916.D A316_1UG.M Wed Apr 27 09:44:01 2016 MSD1 Page 1

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021916.D Vial: 5
Acq On : 19 Feb 2016 7:57 pm Operator: RJP
Sample : WAC021916K Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 9:03 2016 Quant Results File: A204_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030805.D Vial: 5
Acq On : 8 Mar 2016 2:56 pm Operator: RJP
Sample : WAC030816A Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:51:24 2016 Quant Results File: A307_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

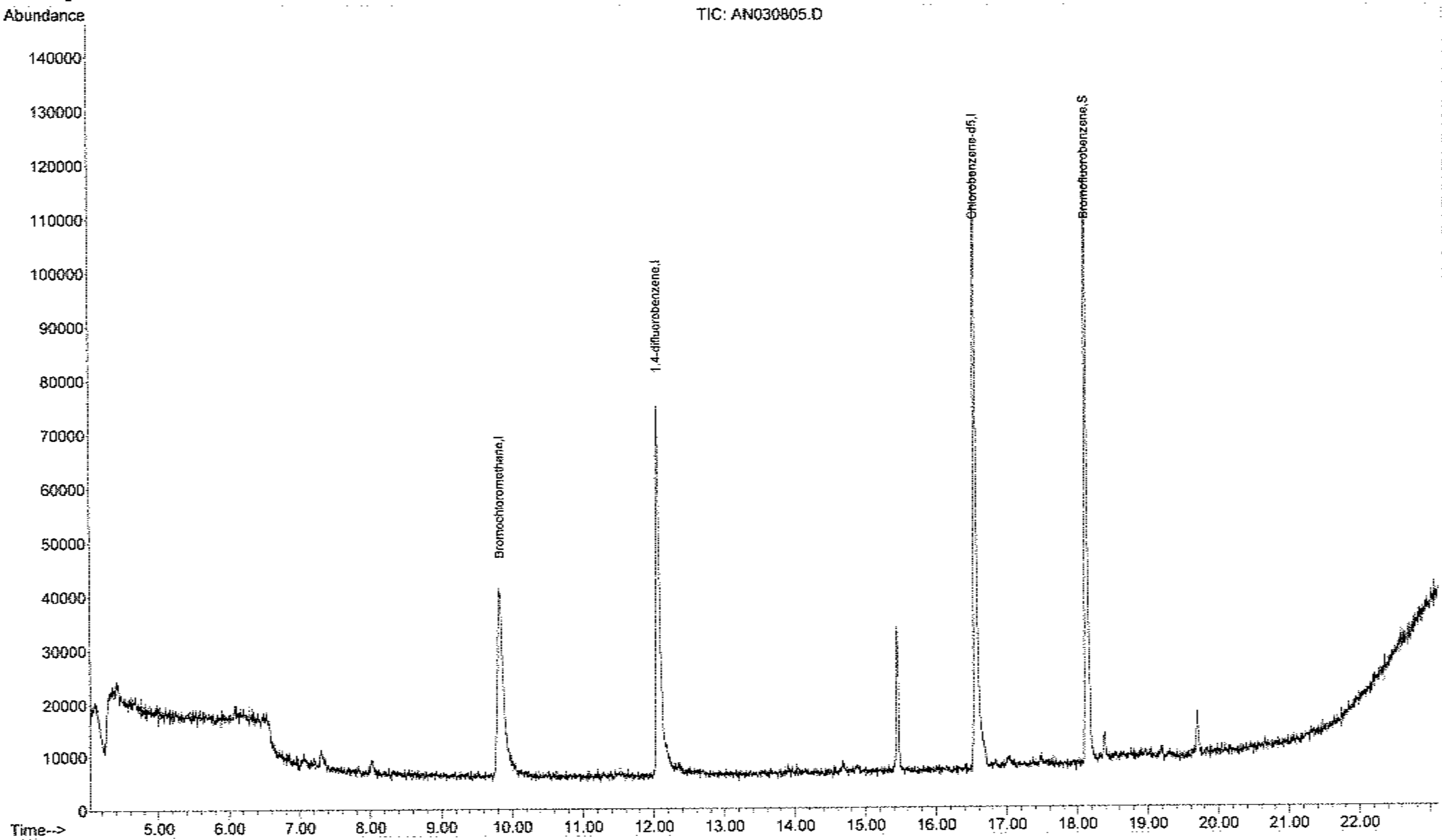
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.83	128	25136	1.00 ppb	0.06
35) 1,4-difluorobenzene	12.07	114	116173	1.00 ppb	0.03
50) Chlorobenzene-d5	16.56	117	102380	1.00 ppb	0.02
System Monitoring Compounds					
66) Bromofluorobenzene	18.13	95	63120	0.83 ppb	0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 83.00%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN030805.D A316_1UG.M Wed Apr 27 09:44:51 2016 MSD1 Page 1

```
Data File : C:\HPCHEM\1\DATA2\AN030805.D                    Vial: 5
Acq On    :  8 Mar 2016   2:56 pm                       Operator: RJP
Sample    : WAC030816A                                  Inst    : MSD #1
Misc      : A307_1UG                                    Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:17 2016               Quant Results File: A307_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration
```



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030806.D Vial: 6
Acq On : 8 Mar 2016 3:33 pm Operator: RJP
Sample : WAC030816B Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:51:30 2016 Quant Results File: A307_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.83	128	30593m	1.00 ppb	0.05
35) 1,4-difluorobenzene	12.06	114	115546	1.00 ppb	0.02
50) Chlorobenzene-d5	16.56	117	98368	1.00 ppb	0.02
System Monitoring Compounds					
66) Bromofluorobenzene	18.13	95	60091	0.82 ppb	0.02

Spiked Amount 1.000 Range 70 - 130 Recovery = 82.00%

Target Compounds Qvalue

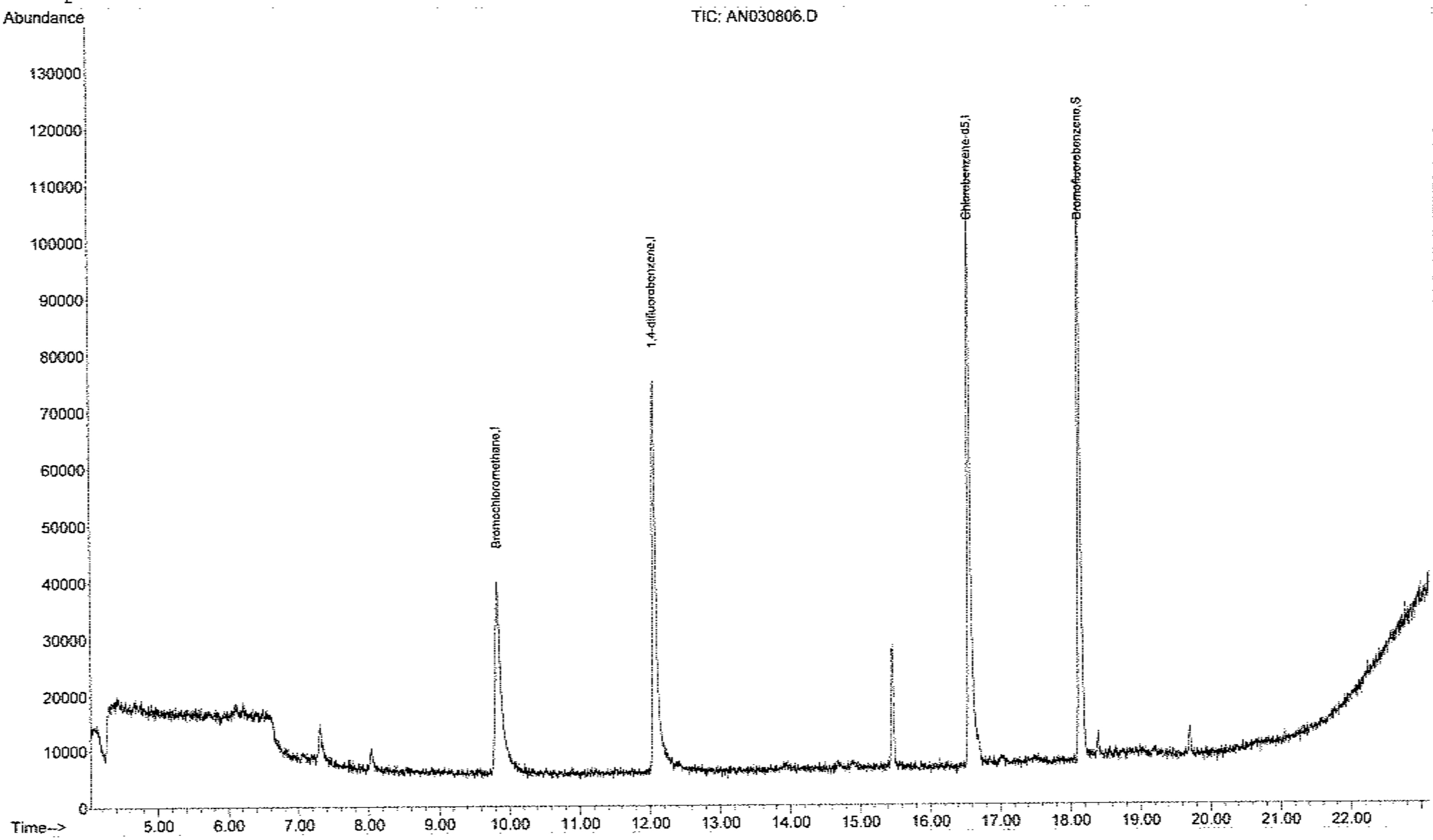
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data File : C:\HPCHEM\1\DATA2\AN030806.D
Acq On : 8 Mar 2016 3:33 pm
Sample : WAC030816B
Misc : A307_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:17 2016

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

Quant Results File: A307_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



AN030806.D A316_1UG.M Wed Apr 27 09:44:55 2016 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030807.D Vial: 7
Acq On : 8 Mar 2016 4:10 pm Operator: RJP
Sample : WAC030816C Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:51:37 2016 Quant Results File: A307_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.82	128	31202m	1.00 ppb	0.04
35) 1,4-difluorobenzene	12.06	114	118323	1.00 ppb	0.02
50) Chlorobenzene-d5	16.56	117	102460	1.00 ppb	0.02
System Monitoring Compounds					
66) Bromofluorobenzene	18.13	95	63649	0.83 ppb	0.01

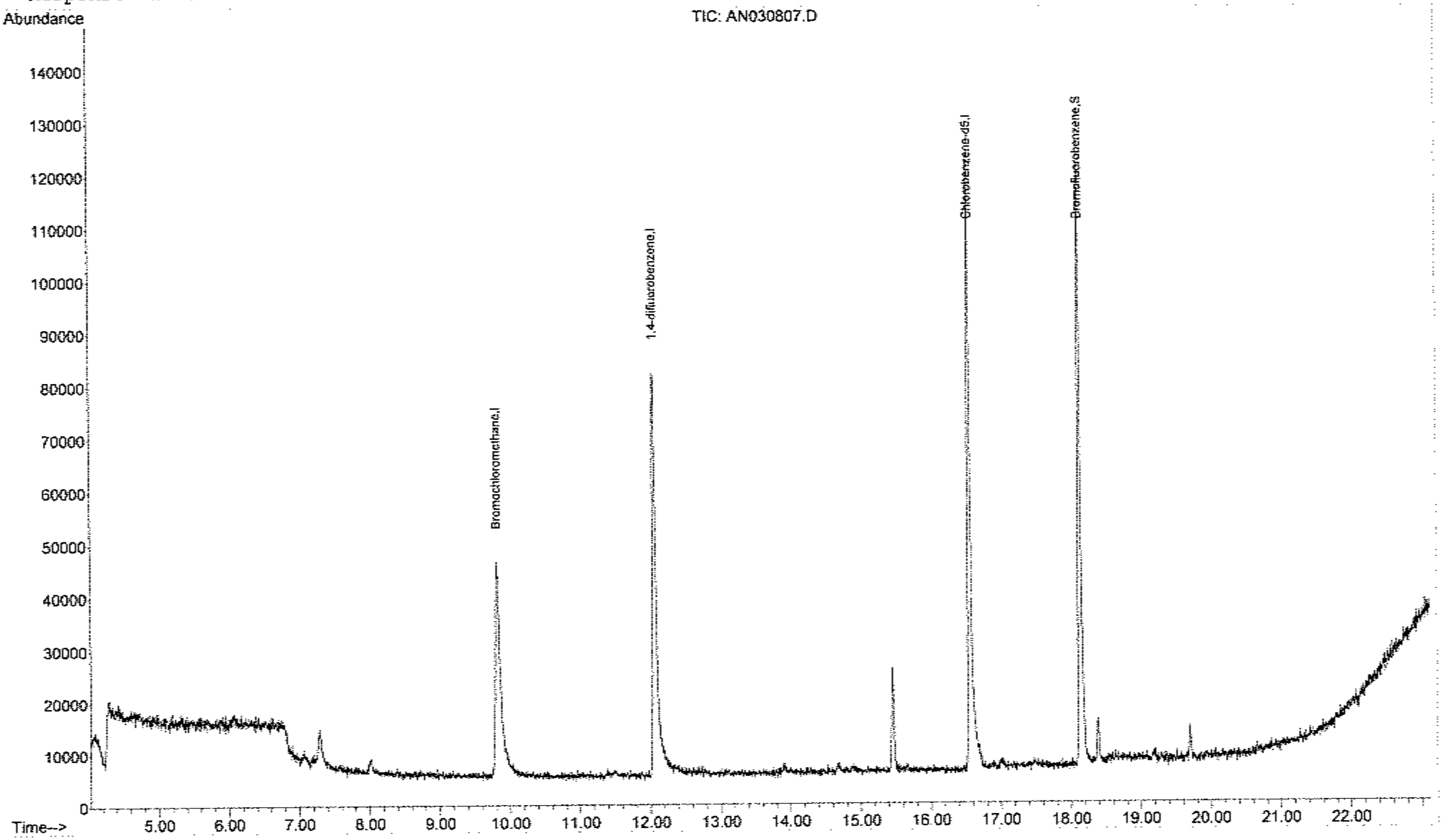
Spiked Amount 1.000 Range 70 - 130 Recovery = 83.00%

Target Compounds Qvalue

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

```
Data File : C:\HPCHEM\1\DATA2\AN030807.D                   Vial: 7
Acq On    :  8 Mar 2016   4:10 pm                      Operator: RJP
Sample    : WAC030816C                                 Inst     : MSD #1
Misc      : A307_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:18 2016              Quant Results File: A307_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration
```



AN030807.D A316_1UG.M Wed Apr 27 09:44:58 2016 MSD1 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030808.D Vial: 8
Acq On : 8 Mar 2016 4:48 pm Operator: RJP
Sample : WAC030816D Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:51:47 2016 Quant Results File: A307_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.83	128	30436m	1.00 ppb	0.05
35) 1,4-difluorobenzene	12.06	114	114980	1.00 ppb	0.02
50) Chlorobenzene-d5	16.56	117	98955	1.00 ppb	0.02
System Monitoring Compounds					
66) Bromofluorobenzene	18.13	95	61350	0.83 ppb	0.01
Spiked Amount 1.000	Range 70 - 130		Recovery =	83.00%	

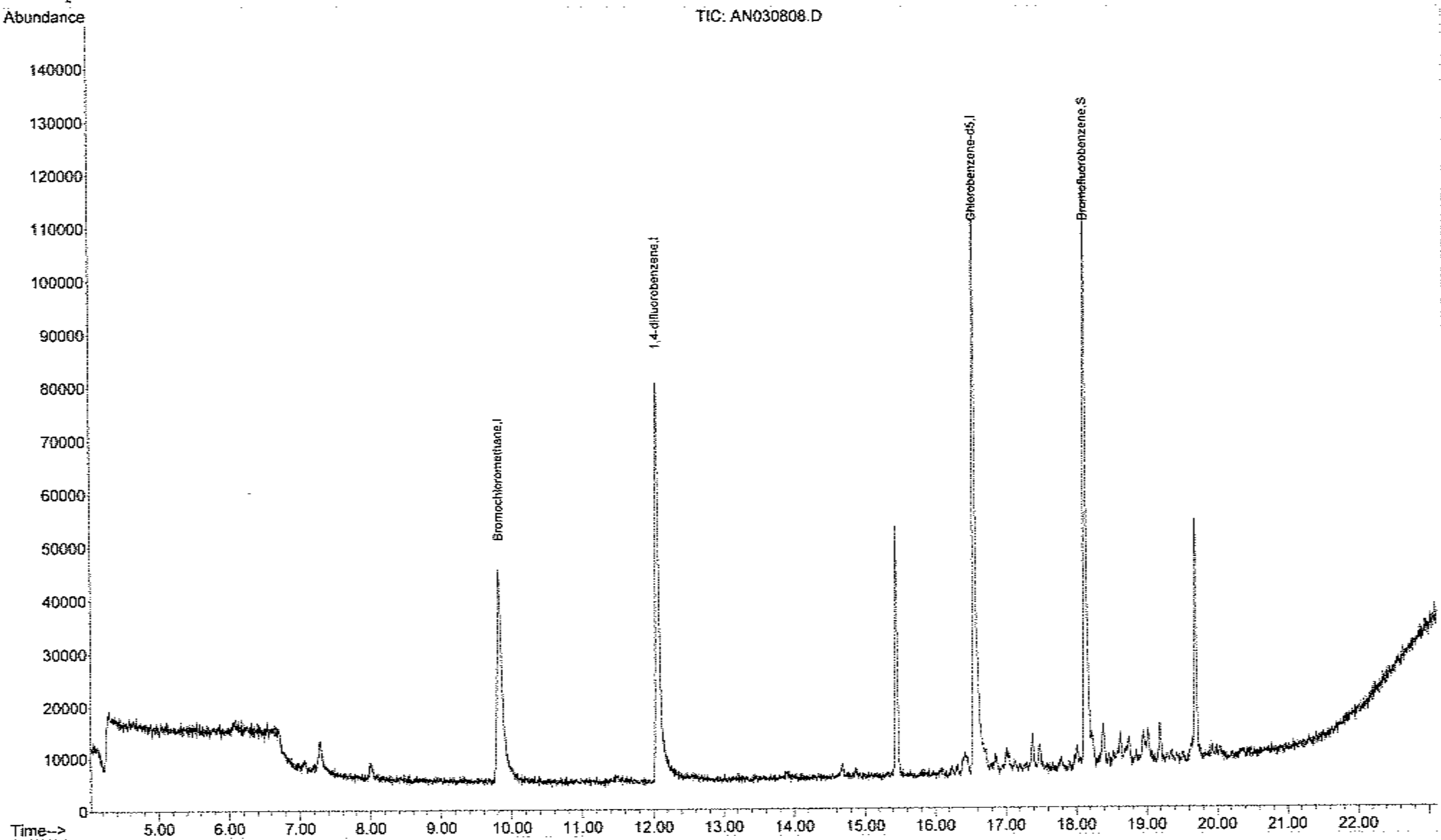
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN030808.D A316_1UG.M Wed Apr 27 09:45:00 2016 MSD1 Page 1

Quantitation Report   (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA2\AN030808.D                 Vial: 8
Acq On    :  8 Mar 2016   4:48 pm                      Operator: RJP
Sample    : WAC030816D                                 Inst    : MSD #1
Misc      : A307_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:18 2016             Quant Results File: A307_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration
```



AN030808.D A316_1UG.M   Wed Apr 27 09:45:01 2016   MSD1   Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030809.D Vial: 9
Acq On : 8 Mar 2016 5:25 pm Operator: RJP
Sample : WAC030816E Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:51:55 2016 Quant Results File: A307_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

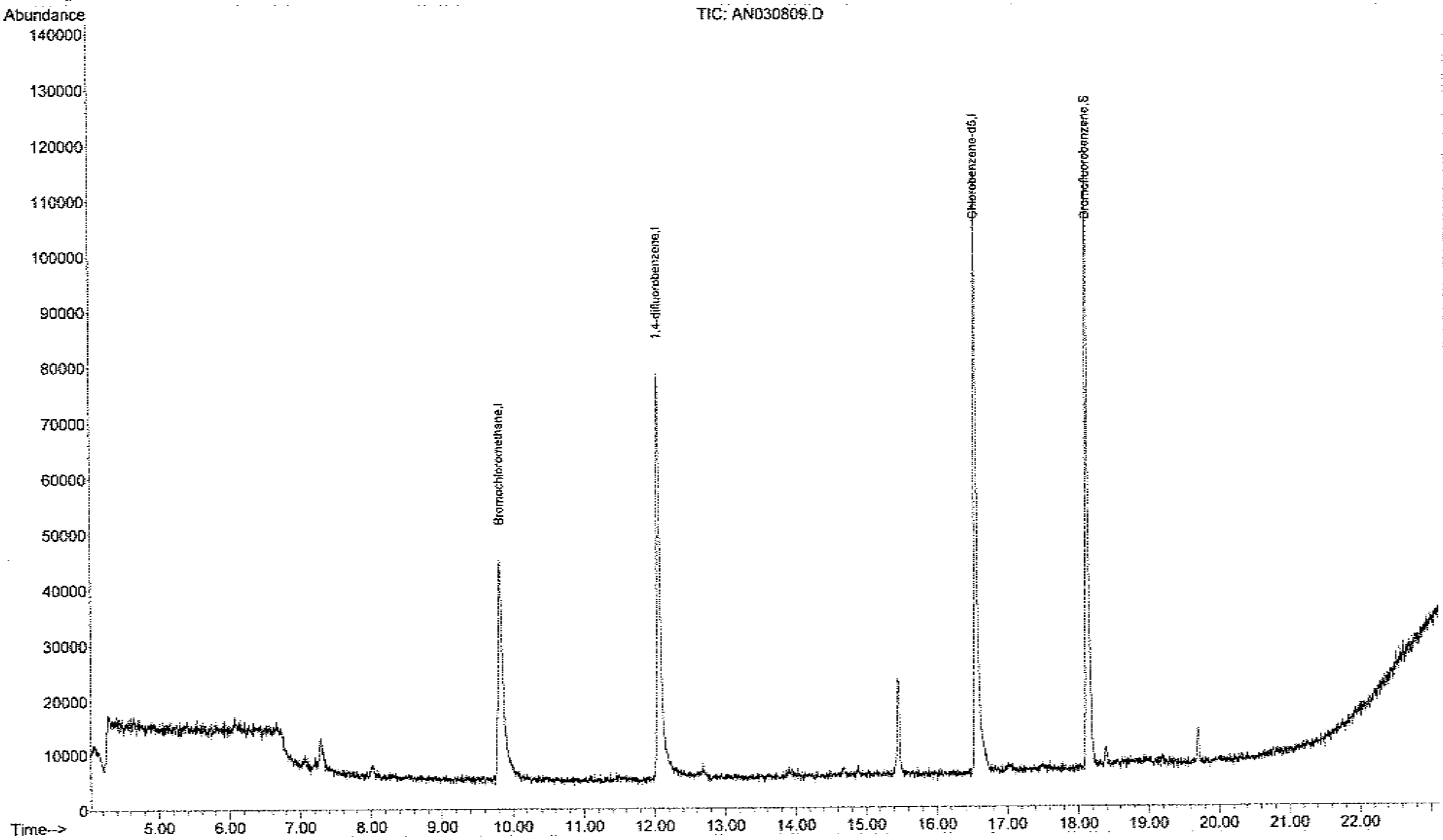
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.82	128	29860m	1.00 ppb	0.05
35) 1,4-difluorobenzene	12.07	114	113615	1.00 ppb	0.03
50) Chlorobenzene-d5	16.56	117	100480	1.00 ppb	0.02
System Monitoring Compounds					
66) Bromofluorobenzene	18.13	95	60863	0.81 ppb	0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 81.00%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN030809.D A316_1UG.M Wed Apr 27 09:45:04 2016 MSD1

```
Data File : C:\HPCHEM\1\DATA2\AN030809.D            Vial: 9
Acq On    :  8 Mar 2016   5:25 pm                 Operator: RJP
Sample    : WAC030816E                            Inst    : MSD #1
Misc      : A307_1UG                              Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:18 2016           Quant Results File: A307_1UG.RES

Method        : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title         : TO-15 VOA  Standards for 5 point calibration
Last Update   : Thu Apr 07 13:07:26 2016
Response via  : Initial Calibration
```



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030810.D Vial: 10
Acq On : 8 Mar 2016 6:03 pm Operator: RJP
Sample : WAC030816F Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:52:04 2016 Quant Results File: A307_1UG.RES

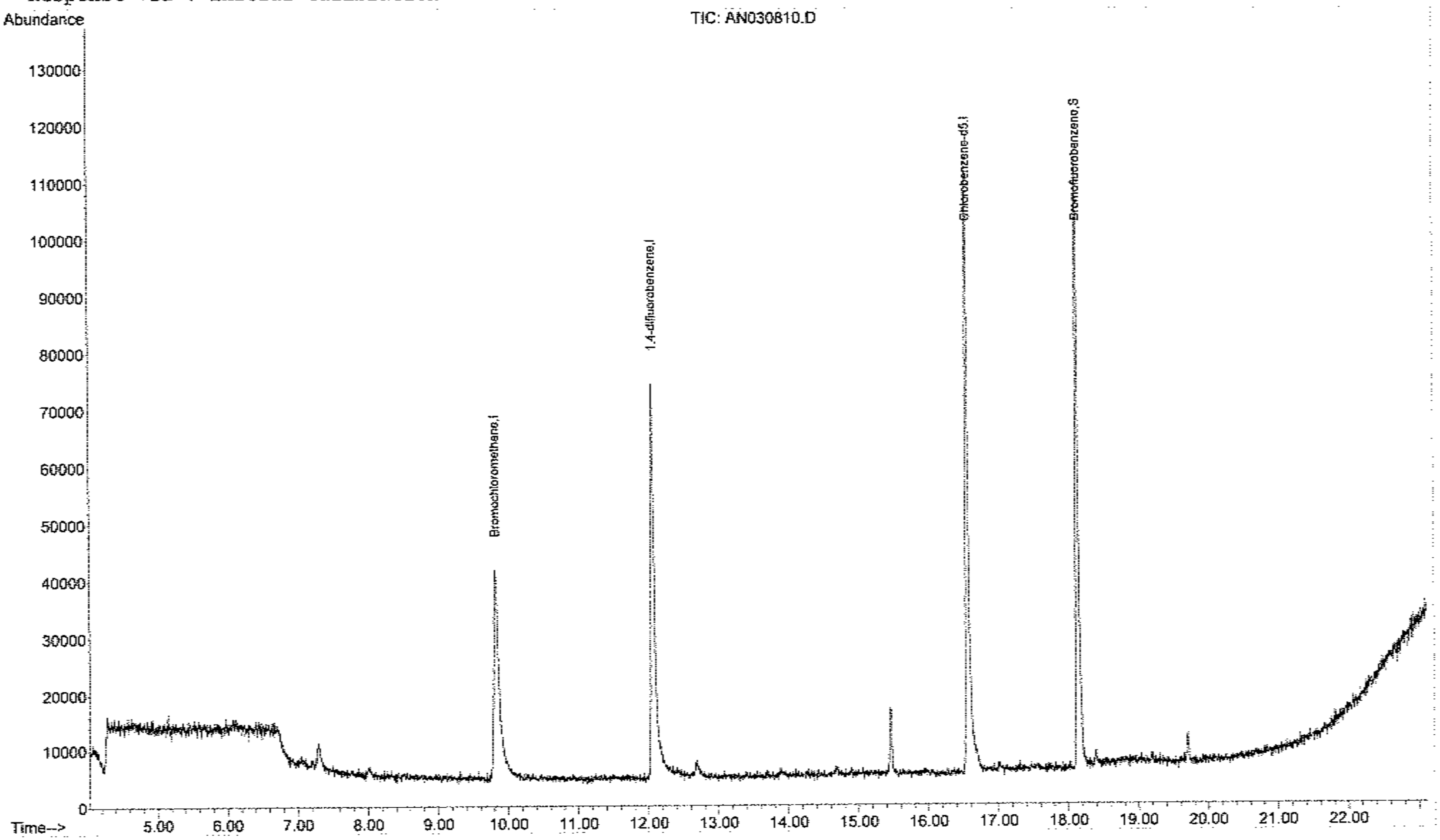
Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.83	128	24540	1.00 ppb	0.05
35) 1,4-difluorobenzene	12.07	114	110396	1.00 ppb	0.03
50) Chlorobenzene-d5	16.56	117	94956	1.00 ppb	0.02
System Monitoring Compounds					
66) Bromofluorobenzene	18.13	95	58532	0.83 ppb	0.01
Spiked Amount 1.000	Range 70 - 130		Recovery = 83.00%		

Target Compounds Qvalue

```
Data File : C:\HPCHEM\1\DATA2\AN030810.D              Vial: 10
Acq On    :  8 Mar 2016   6:03 pm                  Operator: RJP
Sample    : WAC030816F                             Inst    : MSD #1
Misc      : A307_1UG                               Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:18 2016               Quant Results File: A307_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration
```



AN030810.D   A316_1UG.M   Wed Apr 27 09:45:08 2016   MSD1   Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030811.D   Vial: 11
Acq On : 8 Mar 2016 6:40 pm   Operator: RJP
Sample : WAC030816G   Inst : MSD #1
Misc : A307_1UG   Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:52:16 2016   Quant Results File: A307_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

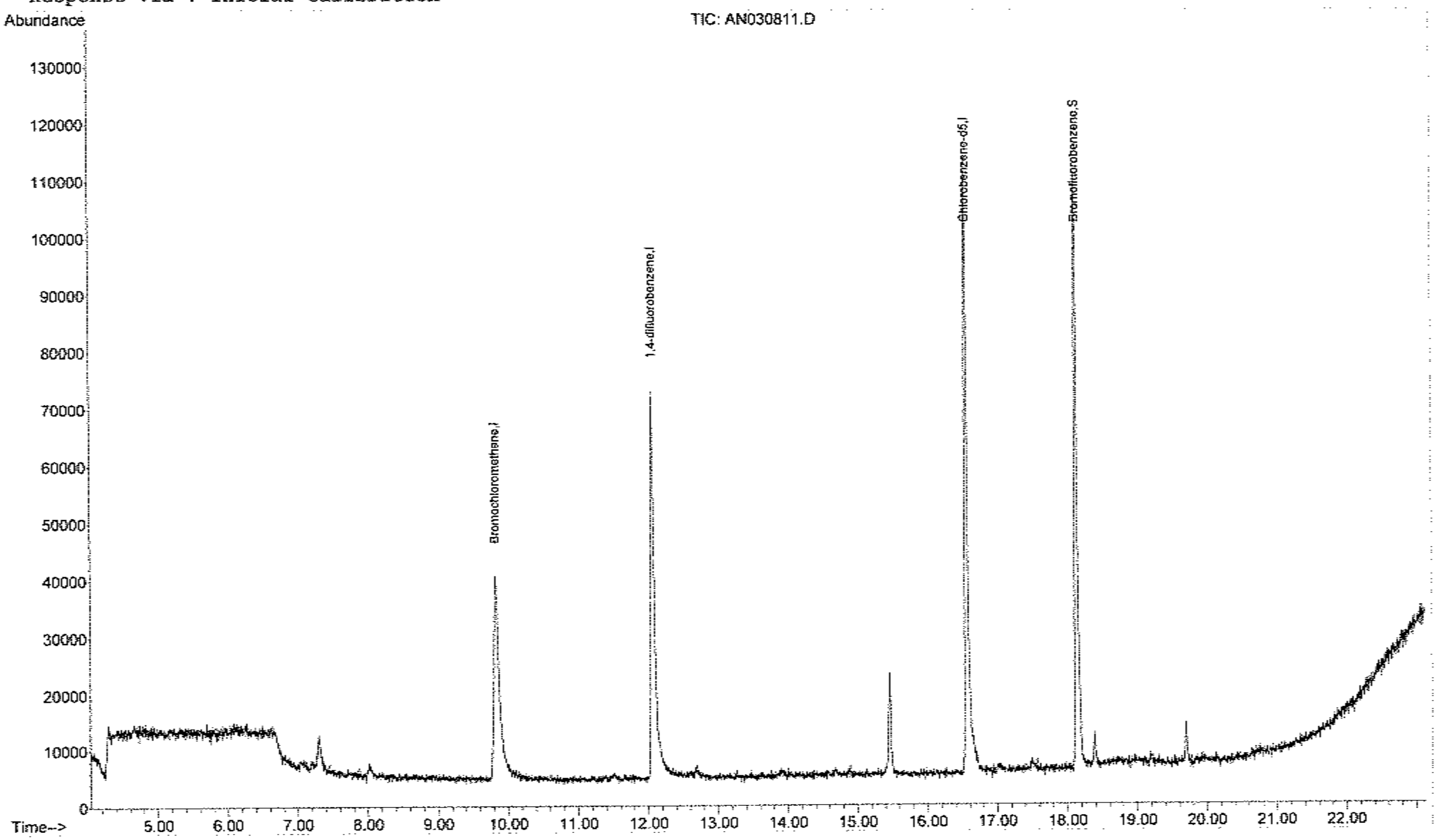
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	9.82	128	23554	1.00 ppb	0.05
35) 1,4-difluorobenzene	12.07	114	106376	1.00 ppb	0.03
50) Chlorobenzene-d5	16.56	117	94041	1.00 ppb	0.02
System Monitoring Compounds					
66) Bromofluorobenzene	18.13	95	57324	0.82 ppb	0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 82.00%		

Target Compounds   Qvalue

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

```
Data File : C:\HPCHEM\1\DATA2\AN030811.D              Vial: 11
Acq On    :  8 Mar 2016   6:40 pm                 Operator: RJP
Sample    : WAC030816G                            Inst     : MSD #1
Misc      : A307_1UG                              Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:18 2016              Quant Results File: A307_1UG.RES

Method       : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title        : TO-15 VOA  Standards for 5 point calibration
Last Update  : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration
```



AN030811.D A316_1UG.M   Wed Apr 27 09:45:11 2016   MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030812.D
Acq On : 8 Mar 2016 7:18 pm
Sample : WAC030816H
Misc : A307_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:52:25 2016

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

Quant Results File: A307_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	23978	1.00	ppb	0.05
35) 1,4-difluorobenzene	12.06	114	103270	1.00	ppb	0.02
50) Chlorobenzene-d5	16.56	117	93006	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.14	95	55535	0.80	ppb	0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 80.00%			

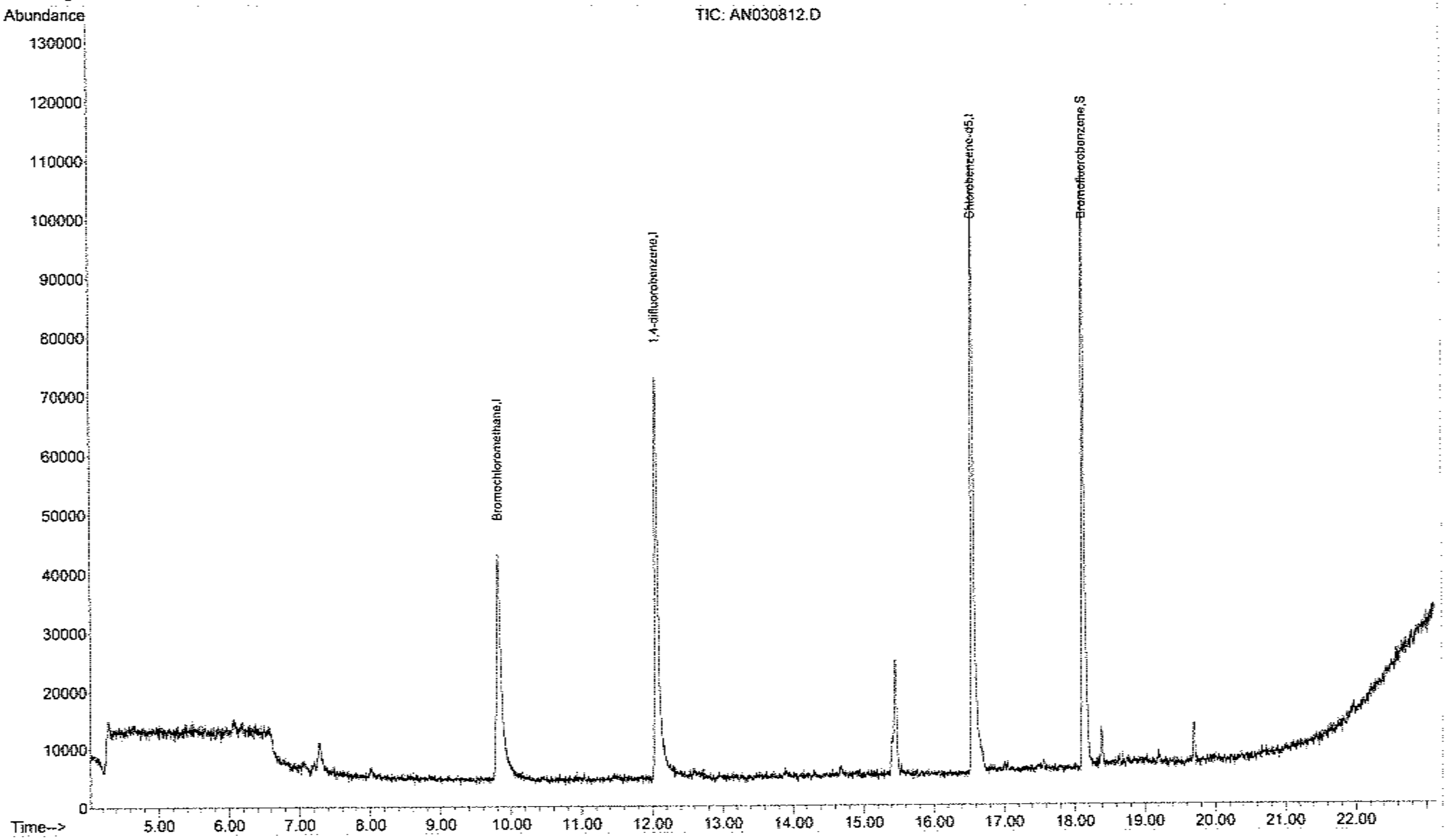
Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\AN030812.D
Acq On : 8 Mar 2016 7:18 pm
Sample : WAC030816H
Misc : A307_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:19 2016

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

Quant Results File: A307_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
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: C1804010
Sampled 04/03/2018

TO-15 AIR SAMPLES

575-OUTSIDE-APRIL2018	(C1804010-01)
575-IAQ-01-APRIL2018	(C1804010-02)
575-DUPE-APRIL2018	(C1804010-03)
575-IAQ-02-APRIL2018	(C1804010-04)

DATA ASSESSMENT

A TO-15 data package containing analytical results for four air samples was received from LaBella Associates, P.C. on 03Jul18. 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 tetrachloroethene results reported from this delivery group have been qualified as estimations due to poor agreement between field split duplicate samples and poor internal standard performance.

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 Date: 14 July 18

James B. Baldwin
DATAVAL, Inc.

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 four air samples that were collected from the Former Emerson Landfill Site on 06Apr18. With the exception of 575-OUTSIDE-APRIL2018, the samples were collected in 1-liter SUMMA canisters. 575-OUTSIDE-APRIL2018 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 05Apr18. Although the canisters were received intact, custody seals were 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 5.5 hours based on the canister vacuum readings. At that time the vacuum reading from each canister satisfied the ASP requirement of -5±1"Hg.

SAMPLE (757 APRIL 2018)	PRIOR TO SHIP ("Hg)	PRIOR TO SAMPLING ("Hg)	POST SAMPLING ("Hg)	LAB RECEIPT ("Hg)	LAB ANALYSIS ("Hg)
OUTSIDE	-30	-30	-5	-5	-5
IAQ-01	-30	-30	-4.5	-5	-5
DUPE	-30	-30	-4.5	-5	-5
IAQ-02	-30	-30	-4.5	-5	-5

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 06Apr18. 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 06Apr18, 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 575-DUPE-APRIL2018 and 757-IAQ-02-APRIL2018. The tetrachloroethene (1122TCE) results from this group of samples have been qualified as estimations based on this performance. It is noted that a high internal standard response produces a negative bias in samples.

It is noted that 575-DUPE-APRIL2018 and 757-IAQ-02-APRIL2018 were reanalyzed as required by ASP protocol. The performance of both repeated analyses duplicated the initial results. The results from the initial analysis of both samples should be included in data tables.

Internal standard retention times were not reported as required. 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.

575-OUTSIDE-APRIL2018 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 demonstrated acceptable levels of measurement precision and accuracy.

A pair of spiked blanks (LCS/LCSD) was also analyzed with this group of samples. The recoveries reported from these LCS samples also 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.

575-OUTSIDE-APRIL2018 and 575-DUPE-APRIL2018 were collected as field split duplicate samples. This pair of samples produced chloromethane concentrations that differed by 16%, satisfying the ASP acceptance criteria. A tetrachloroetnene concentration of 2.5 µg/m3 was found in 575-DUPE-APRIL2018 but was undetected in 575-OUTSIDE-APRIL2018. The tetrachloroethene (1122TCE) results from this pair of samples have been qualified as estimations based on this indication of poor measurement precision.

REPORTED ANALYTES

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

SUMMARY OF QUALIFIED DATA

FORMER EMERSON ST LANDFILL

SAMPLED APRIL 2018

		INT STD 1122TCE	FIELD DUPES 1122TCE
575-OUTSIDE-APRIL2018	(C1804010-01)	1.0UJ	1.0UJ
575-IAQ-01-APRIL2018	(C1804010-02)	2.2J	
575-DUPE-APRIL2018	(C1804010-03)	2.5J	2.5J
575-IAQ-02-APRIL2018	(C1804010-04)	2.6J	

Centek Laboratories, LLC

Date: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-Outside-April 2018
Lab Order:	C1804010	**Tag Number:**	214.1344
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-001A	**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	4/6/2018 2:11:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/6/2018 2:11:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 2:11:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/6/2018 2:11:00 PM
Chloromethane -	0.81	0.31		ug/m3	1	4/6/2018 2:11:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 2:11:00 PM
Tetrachloroethylene	< 1.0 UJ	1.0		ug/m3	1	4/6/2018 2:11:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/6/2018 2:11:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 2:11:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/6/2018 2:11:00 PM

JHS

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: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-01 April 2018
Lab Order:	C1804010	**Tag Number:**	370.1166
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-002A	**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	4/7/2018 7:24:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/7/2018 7:24:00 AM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/7/2018 7:24:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/7/2018 7:24:00 AM
Chloromethane —	0.66	0.31		ug/m3	1	4/7/2018 7:24:00 AM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/7/2018 7:24:00 AM
Tetrachloroethylene —	2.2 J	1.0		ug/m3	1	4/7/2018 7:24:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/7/2018 7:24:00 AM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/7/2018 7:24:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/7/2018 7:24:00 AM

7/18/18

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: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-Dupe April 2018
Lab Order:	C1804010	**Tag Number:**	419.1166
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-003A	**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	4/6/2018 5:11:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/6/2018 5:11:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:11:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/6/2018 5:11:00 PM
Chloromethane	0.68	0.31		ug/m3	1	4/6/2018 5:11:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:11:00 PM
Tetrachloroethylene	2.5 J	1.0		ug/m3	1	4/6/2018 5:11:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/6/2018 5:11:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:11:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/6/2018 5:11:00 PM

JHS

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: *26-Apr-18*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-02 April 2018
Lab Order:	C1804010	**Tag Number:**	85.1158
Project:	Former Emerson St Landfill	**Collection Date:**	4/3/2018
Lab ID:	C1804010-004A	**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	4/6/2018 5:52:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/6/2018 5:52:00 PM
1,1-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:52:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/6/2018 5:52:00 PM
Chloromethane –	0.76	0.31		ug/m3	1	4/6/2018 5:52:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:52:00 PM
Tetrachloroethylene –	2.6 J	1.0		ug/m3	1	4/6/2018 5:52:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/6/2018 5:52:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	4/6/2018 5:52:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/6/2018 5:52:00 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		

Date: 26-Apr-18

CENTEK LABORATORIES, LLC

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ							
ALCS1UG-040618	118							
ALCS1UGD-040618	120							
AMB1UG-040618	71.0							
C1804010-001A	105							
C1804010-001A MS	121							
C1804010-001A MSD	116							
C1804010-002A	104							
C1804010-003A	96.0							
C1804010-004A	107							

Acronym		Surrogate	QC Limits
BR4FBZ	=	Bromofluorobenzene	~~70-130~~ 80-120

* Surrogate recovery outside acceptance limits

1

Centek Laboratories, LLC

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AP040602.D
Tune Time : 6 Apr 2018 10:50 am

Daily Calibration File : C:\HPCHEM\1\DATA\AP040602.D

CCV 6Apr18 1050

File	Sample	DL	Surrogate Recovery % (BFB) 10.51 12.74 17.49			Internal Standard Responses (IS1) 63728 / 45520 / 27312	(IS2) 234627 / 167591 / 100555	(IS3) 170856 / 122040 / 73224
AP040603.D	ALCS1UG-040618		118			46264 ✓	164874 ✓	122799
AP040604.D	AMB1UG-040618		71			43238	148450	96685
AP040605.D	C1804009-002A		105			42585	158434	162667
AP040606.D	C1804009-003A		104			45296	161344	140578
AP040607.D	C1804010-001A		105	10.51 12.74 17.49		44875	156076	125772
AP040608.D	C1804010-001A MS		121			46477	164117	132628
AP040609.D	C1804010-001A MSD		116			46501	168175	134293
AP040611.D	C1804010-003A		96	10.51 12.74 17.49		51553	218342	216907*
AP040612.D	C1804010-004A		107	10.51 12.74 17.49		53267	218626	224696*
AP040621.D	ALCS1UGD-040618		120			40232	143111	105966
AP040633.D	C1804010-002A		104	10.50 12.74 17.48		42622	176398	194892
AP040634.D	C1804010-003A RE		92	10.50 12.74 17.48		47725	195989	201715*
AP040635.D	C1804010-004A RE		107	10.50 12.74 17.49		48802	190174	210502*

t - fails 24hr time check * - fails criteria

Created: Thu Apr 26 08:27:28 2018 MSD #1/

CENTEK LABORATORIES, LLC

Date: *26-Apr-18*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **AMB1UG-040618** SampType: **MBLK** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156463**

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									

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

CENTEK LABORATORIES, LLC

Date: *26-Apr-18*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **ALCS1UG-040618** SampType: **LCS** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156464**

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	116	70	130				
1,1-Dichloroethane	0.9900	0.15	1	0	99.0	70	130				
1,1-Dichloroethene	1.010	0.040	1	0	101	70	130				
Chloroethane	1.000	0.15	1	0	100	70	130				
Chloromethane	0.9800	0.15	1	0	98.0	70	130				
cis-1,2-Dichloroethene	0.9100	0.040	1	0	91.0	70	130				
Tetrachloroethylene	1.190	0.15	1	0	119	70	130				
trans-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
Trichloroethene	1.130	0.030	1	0	113	70	130				
Vinyl chloride	0.9200	0.040	1	0	92.0	70	130				

Sample ID: **ALCS1UGD-040618** SampType: **LCSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.210	0.15	1	0	121	70	130	1.16	4.22	30	
1,1-Dichloroethane	1.050	0.15	1	0	105	70	130	0.99	5.88	30	
1,1-Dichloroethene	1.100	0.040	1	0	110	70	130	1.01	8.53	30	
Chloroethane	0.9900	0.15	1	0	99.0	70	130	1	1.01	30	
Chloromethane	1.030	0.15	1	0	103	70	130	0.98	4.98	30	
cis-1,2-Dichloroethene	0.9500	0.040	1	0	95.0	70	130	0.91	4.30	30	
Tetrachloroethylene	1.250	0.15	1	0	125	70	130	1.19	4.92	30	
trans-1,2-Dichloroethene	1.070	0.15	1	0	107	70	130	0.99	7.77	30	
Trichloroethene	1.190	0.030	1	0	119	70	130	1.13	5.17	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: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **ALCS1UGD-040618** SampType: **LCSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **ZZZZZ** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.9400	0.040	1	0	94.0	70	130	0.92	2.15	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				

CENTEK LABORATORIES, LLC

Date: *26-Apr-18*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: **C1804010-001A MS** SampType: **MS** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **575-Outside-April 20** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156470**

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	115	70	130				
1,1-Dichloroethane	1.000	0.15	1	0	100	70	130				
1,1-Dichloroethene	0.9900	0.040	1	0	99.0	70	130				
Chloroethane	1.020	0.15	1	0	102	70	130				
Chloromethane	1.300	0.15	1	0.39	91.0	70	130				
cis-1,2-Dichloroethene	0.9000	0.040	1	0	90.0	70	130				
Tetrachloroethylene	1.220	0.15	1	0	122	70	130				
trans-1,2-Dichloroethene	0.9700	0.15	1	0	97.0	70	130				
Trichloroethene	1.140	0.030	1	0	114	70	130				
Vinyl chloride	0.9400	0.040	1	0	94.0	70	130				

Sample ID: **C1804010-001A MS** SampType: **MSD** TestCode: **0.20_NYS** Units: **ppbV** Prep Date: RunNo: **13501**
Client ID: **575-Outside-April 20** Batch ID: **R13501** TestNo: **TO-15** Analysis Date: **4/6/2018** SeqNo: **156471**

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	115	70	130	1.15	0	30	
1,1-Dichloroethane	1.020	0.15	1	0	102	70	130	1	1.98	30	
1,1-Dichloroethene	0.9900	0.040	1	0	99.0	70	130	0.99	0	30	
Chloroethane	1.030	0.15	1	0	103	70	130	1.02	0.976	30	
Chloromethane	1.440	0.15	1	0.39	105	70	130	1.3	10.2	30	
cis-1,2-Dichloroethene	0.9200	0.040	1	0	92.0	70	130	0.9	2.20	30	
Tetrachloroethylene	1.210	0.15	1	0	121	70	130	1.22	0.823	30	
trans-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	0.97	4.04	30	
Trichloroethene	1.150	0.030	1	0	115	70	130	1.14	0.873	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: C1804010
Project: Former Emerson St Landfill

TestCode: 0.20_NYS

Sample ID: C1804010-001A MS SampType: **MSD** TestCode: 0.20_NYS Units: ppbV Prep Date: RunNo: 13501
Client ID: 575-Outside-April 20 Batch ID: R13501 TestNo: TO-15 Analysis Date: 4/6/2018 SeqNo: 156471

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	0.94	10.1	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 USABILITY SUMMARY REPORT

for

LaBella Associates, P.C.

300 State Street

Rochester, NY 14614

FORMER EMERSON LANDFILL
Project 210173
SDG: C1603074
Sampled 3/19/2016

TO-15 AIR SAMPLES

575-OUTDOOR	(C1603074-01)
575-SVI-1	(C1603074-02)
575-IAQ-1	(C1603074-03)
575-SVI-2	(C1603074-04)
575-IAQ-2	(C1603074-05)

DATA ASSESSMENT

One data package containing analytical results for five TO-15 samples was received from LaBella Associates, P.C. on 3Apr16. 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 positive results reported from 575-IAQ-1 and 575-IAQ-2 have been qualified as estimations due to high surrogate standard recoveries.

The trichloroethene results from 575-SVI-1 and 575-SVI-2 have been qualified as estimations due to poor internal standard performance.

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". 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
James B. Baldwin
DATAVAL, Inc.

Date: 12 May 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 five TO-15 samples that were collected in 1-liter SUMMA canisters. Sampling was completed on 19Mar16. The canisters were shipped back to the laboratory, via FedEx, on 28Mar16 and were received on 29Mar16. 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)
575-OUTDOOR	-30	-30	-1.5	-2
575-SVI-1	-30	-30	-2.5	-3
575-IAQ-1	-30	-30	-8	-8
575-SVI-2	-30	-30	-1	-2
575-IAQ-2	-30	-30	-3	-3

The final vacuum readings recorded for this group of samples were slightly outside of the ASP limits of -5±1"Hg. These slight deviations do not necessitate data qualifications because vacuum was maintained in each of the canisters and sample volumes were sufficient to complete the necessary analyses.

The analysis of this group of samples was completed between 31Mar16 and 03Apr16, satisfying the ASP holding time limitation.

CANISTER CERTIFICATION

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

The canisters were cleaned in four batches. A blank analysis of a clean canister from each batch was free of targeted analyte contamination above the 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 04Feb16. Standards of 0.04, 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 31Mar16, 01Apr16 and 02Apr16, 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, elevated recoveries were reported for the BFB additions to 575-IAQ-1 (128%), 575-SVI-2 (135%) and 575-IAQ-2 (122%). The positive results reported from 575-IAQ-1 and 575-IAQ-2 have been qualified as estimations based on these indications of positive bias. The positive results from 575-SVI-2 were obtained from a second analysis, following a large dilution, and remain unqualified.

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 1,4-difluorobenzene additions to 575-SVI-1 and 575-SVI-2. The trichloroethene (TCE) results from this pair of samples have been qualified as estimations based on this performance. It is noted that a high internal standard response would produce a negative bias in the associated analyte measurements.

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.

Although a sample from this program was not selected for matrix spiking, 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 field split duplicate sample was not included in this delivery group, the previously reported spiked blanks demonstrated an acceptable level 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.

SUMMARY OF QUALIFIED DATA

FORMER EMERSON LANDFIL

SAMPLED MARCH 2016

		SURROGATE	INT STD TCE
575-OUTDOOR	(C1603074-01)		
575-SVI-1	(C1603074-02)		19J
575-IAQ-1	(C1603074-03)	ALL POS J	
575-SVI-2	(C1603074-04)		470J
575-IAQ-2	(C1603074-05)	ALL POS J	

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575 Outdoor
Lab Order:	C1603074	**Tag Number:**	223,388
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-001A	**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	4/1/2016 2:22:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 2:22:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:22:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 2:22:00 AM
Chloromethane	1.6	0.31		ug/m3	1	4/1/2016 2:22:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:22:00 AM
Tetrachloroethylene	1.0	1.0		ug/m3	1	4/1/2016 2:22:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:22:00 AM
Trichloroethene	0.75	0.21		ug/m3	1	4/1/2016 2:22:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/1/2016 2:22:00 AM

JH

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-SVI-1
Lab Order:	C1603074	**Tag Number:**	141,258
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-002A	**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	4/1/2016 2:58:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 2:58:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:58:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 2:58:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	4/1/2016 2:58:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:58:00 PM
Tetrachloroethylene	35	10		ug/m3	10	4/2/2016 2:50:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 2:58:00 PM
Trichloroethene	19 J	8.1		ug/m3	10	4/2/2016 2:50:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	4/1/2016 2:58:00 PM

MB

Qualifiers:
- ** Reporting 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 Value above quantitation range
- J Analyte detected at or below quantitation limits
- ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-1
Lab Order:	C1603074	**Tag Number:**	128,296
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-003A	**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	4/1/2016 3:00:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 3:00:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:00:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 3:00:00 AM
Chloromethane	1.6 J	0.31		ug/m3	1	4/1/2016 3:00:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:00:00 AM
Tetrachloroethylene	4.1 J	1.0		ug/m3	1	4/1/2016 3:00:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:00:00 AM
Trichloroethene	3.4 J	0.21		ug/m3	1	4/1/2016 3:00:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/1/2016 3:00:00 AM

Qualifiers:

- ** Reporting 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 Value above quantitation range
- J Analyte detected at or below quantitation limits
- ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-SVI-2
Lab Order:	C1603074	**Tag Number:**	136,249
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-004A	**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	4/1/2016 3:39:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 3:39:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 3:39:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	4/1/2016 3:39:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 PM
Tetrachloroethylene	530	95		ug/m3	90	4/2/2016 3:27:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 PM
Trichloroethene	470 J	75		ug/m3	90	4/2/2016 3:27:00 PM
Vinyl chloride	1.9	0.38		ug/m3	1	4/1/2016 3:39:00 PM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	575-IAQ-2
Lab Order:	C1603074	**Tag Number:**	1195,187
Project:	575 Colfax FESL SVI	**Collection Date:**	3/19/2016
Lab ID:	C1603074-005A	**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	4/1/2016 3:39:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/1/2016 3:39:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/1/2016 3:39:00 AM
Chloromethane	1.6 J	0.31		ug/m3	1	4/1/2016 3:39:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 AM
Tetrachloroethylene	3.7 J	1.0		ug/m3	1	4/1/2016 3:39:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/1/2016 3:39:00 AM
Trichloroethene	3.1 J	0.21		ug/m3	1	4/1/2016 3:39:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/1/2016 3:39:00 AM

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

Date: 26-Apr-16

CENTEK LABORATORIES, LLC

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ
ALCS1UG-033116	115
ALCS1UG-040116	116
ALCS1UG-040216	112
ALCS1UGD-033116	118
ALCS1UGD-040116	108
ALCS1UGD-040216	106
AMB1UG-033116	88.0
AMB1UG-040116	91.0
AMB1UG-040216	90.0
C1603074-001A	103
C1603074-002A	119
C1603074-003A	128
C1603074-004A	135 *
C1603074-005A	122
C1603075-004A MS	116
C1603075-004A MSD	107

Acronym		Surrogate	QC Limits
BR4FBZ	=	Bromofluorobenzene	~~70-130~~ 80-120

* Surrogate recovery outside acceptance limits

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA2\AN033104.D
Tune Time : 31 Mar 2016 12:19 pm

Daily Calibration File : C:\HPCHEM\1\DATA2\AN033104.D

File	Sample	DL	Surrogate Recovery % (BFB)	Internal Standard Responses (IS1) 21478	(IS2) 48888	(IS3) 36495
AN033105.D	ALCS1UG-033116		115	20235 ✓	53595 ✓	32893 ✓
AN033106.D	AMB1UG-033116		88	20032	47930	44161
AN033126.D	C1603074-001A		103	17309	45592	46759
AN033127.D	C1603074-003A		128	17481	46745	34378
AN033128.D	C1603074-005A		122	17835	48453	36257
AN033133.D	ALCS1UGD-033116		118	22710	52964	34225

t - fails 24hr time check * - fails criteria

Created: Tue Apr 26 14:47:49 2016 MSD #1/

GC/MS QA-QC Check Report

'une File : C:\HPCHEM\1\DATA\AN040102.D
'une Time : 1 Apr 2016 12:06 pm

)aily Calibration File : C:\HPCHEM\1\DATA\AN040102.D

'ile	Sample	DL Surrogate Recovery % (BFB)	Internal Standard Responses (IS1) 20214	(IS2) 45908	(IS3) 32719
.N040103.D	ALCS1UG-040116	116	20858	46019	31397
.N040104.D	AMB1UG-040116	91	18252	46023	41257
.N040106.D	C1603074-002A	119	22278	65852*	42749
.N040107.D	C1603074-004A	135*	26461	85051*	45205
.N040125.D	ALCS1UGD-040116	108	20437	45874	33404

t - fails 24hr time check * - fails criteria

Created: Tue Apr 26 14:49:11 2016 MSD #1/

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN040203.D
Tune Time : 2 Apr 2016 12:08 pm

Daily Calibration File : C:\HPCHEM\1\DATA\AN040203.D

File	Sample	DL	Surrogate Recovery % (BFB)	Internal Standard Responses (IS1) 23340	(IS2) 60425	(IS3) 46554
AN040204.D	ALCS1UG-040216		112 ✓	21348 ✓	52201 ✓	44220 ✓
AN040205.D	AMB1UG-040216		90	17717	49878	41390
AN040207.D	C1603074-002A	10X	113	17723	50503	51116
AN040208.D	C1603074-004A	90X	118	17272	49481	49453
AN040224.D	ALCS1UGD-040216		106	16685	39568	28434

t - fails 24hr time check * - fails criteria

Created: Tue Apr 26 15:00:25 2016 MSD #1/

CENTEK LABORATORIES, LLC

Date: *26-Apr-16*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SV1

TestCode: 0.25CT-TCE-VC

Sample ID AMB1UG-033116 SampType: MBLK TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 10817
Client ID: ZZZZZ Batch ID: R10817 TestNo: TO-15 Analysis Date: 3/31/2016 SeqNo: 127095

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-040116 SampType: MBLK TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 10818
Client ID: ZZZZZ Batch ID: R10818 TestNo: TO-15 Analysis Date: 4/1/2016 SeqNo: 127112

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID **AMB1UG-040116** SampType: **MBLK** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**

Client ID: ZZZZZ Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/1/2016** SeqNo: **127112**

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

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Collax FESL SVI

TestCode: 1ugM3_TO15

Sample ID AMB1UG-040216 SampType: MBLK TestCode: 1ugM3_TO15 Units: ppbV Prep Date: RunNo: 10819
Client ID: ZZZZZ Batch ID: R10819 TestNo: TO-15 Analysis Date: 4/2/2016 SeqNo: 127124

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 at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CENTEK LABORATORIES, LLC

Date: 26-Apr-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID: ALCS1UG-033116 | SampType: LCS | TestCode: 0.25CT-TCE- | Units: ppbV | Prep Date: | RunNo: 10817
Client ID: ZZZZZ | Batch ID: R10817 | TestNo: TO-15 | Analysis Date: 3/31/2016 | SeqNo: 127096

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.250	0.15	1	0	125	70	130				
1,1-Dichloroethane	1.120	0.15	1	0	112	70	130				
1,1-Dichloroethene	1.120	0.15	1	0	112	70	130				
Chloroethane	1.220	0.15	1	0	122	70	130				
Chloromethane	1.230	0.15	1	0	123	70	130				
cis-1,2-Dichloroethene	1.060	0.15	1	0	106	70	130				
Tetrachloroethylene	0.9200	0.15	1	0	92.0	70	130				
trans-1,2-Dichloroethene	1.050	0.15	1	0	105	70	130				
Trichloroethene	1.110	0.040	1	0	111	70	130				
Vinyl chloride	1.090	0.040	1	0	109	70	130				

Sample ID: ALCS1UG-040116 | SampType: LCS | TestCode: 0.25CT-TCE- | Units: ppbV | Prep Date: | RunNo: 10818
Client ID: ZZZZZ | Batch ID: R10818 | TestNo: TO-15 | Analysis Date: 4/1/2016 | SeqNo: 127113

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.290	0.15	1	0	129	70	130				
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130				
1,1-Dichloroethene	1.100	0.15	1	0	110	70	130				
Chloroethane	1.130	0.15	1	0	113	70	130				
Chloromethane	1.230	0.15	1	0	123	70	130				
cis-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130				
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130				
trans-1,2-Dichloroethene	0.9900	0.15	1	0	99.0	70	130				
Trichloroethene	1.230	0.040	1	0	123	70	130				

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID: **ALCS1UG-040116** SampType: **LCS** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10818**
Client ID: **ZZZZZ** Batch ID: **R10818** TestNo: **TO-15** Analysis Date: **4/1/2016** SeqNo: **127113**

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				

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 1ugM3_TO15

Sample ID: ALCS1UG-040216 | SampType: LCS | TestCode: 1ugM3_TO15 | Units: ppbV | Prep Date: | RunNo: 10819
Client ID: ZZZZZ | Batch ID: R10819 | TestNo: TO-15 | Analysis Date: 4/2/2016 | SeqNo: 127125

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.290	0.15	1	0	129	70	130				
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130				
1,1-Dichloroethene	1.200	0.15	1	0	120	70	130				
Chloroethane	1.230	0.15	1	0	123	70	130				
Chloromethane	1.290	0.15	1	0	129	70	130				
cis-1,2-Dichloroethene	1.170	0.15	1	0	117	70	130				
Tetrachloroethylene	0.7800	0.15	1	0	78.0	70	130				
trans-1,2-Dichloroethene	1.180	0.15	1	0	118	70	130				
Trichloroethene	1.260	0.15	1	0	126	70	130				
Vinyl chloride	1.140	0.15	1	0	114	70	130				

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

CENTEK LABORATORIES, LLC

Date: *26-Apr-16*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID: ALCS1UGD-033116 SampType: LCSD TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 10817
Client ID: ZZZZZ Batch ID: R10817 TestNo: TO-15 Analysis Date: 4/1/2016 SeqNo: 127097

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.280	0.15	1	0	128	70	130	1.25	2.37	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.12	7.41	30	
1,1-Dichloroethene	1.120	0.15	1	0	112	70	130	1.12	0	30	
Chloroethane	1.250	0.15	1	0	125	70	130	1.22	2.43	30	
Chloromethane	1.210	0.15	1	0	121	70	130	1.23	1.64	30	
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	1.06	4.83	30	
Tetrachloroethylene	0.9000	0.15	1	0	90.0	70	130	0.92	2.20	30	
trans-1,2-Dichloroethene	1.000	0.15	1	0	100	70	130	1.05	4.88	30	
Trichloroethene	1.150	0.040	1	0	115	70	130	1.11	3.54	30	
Vinyl chloride	1.050	0.040	1	0	105	70	130	1.09	3.74	30	

Sample ID: ALCS1UGD-040116 SampType: LCSD TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 10818
Client ID: ZZZZZ Batch ID: R10818 TestNo: TO-15 Analysis Date: 4/2/2016 SeqNo: 127114

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.280	0.15	1	0	128	70	130	1.29	0.778	30	
1,1-Dichloroethane	1.040	0.15	1	0	104	70	130	1.04	0	30	
1,1-Dichloroethene	1.100	0.15	1	0	110	70	130	1.1	0	30	
Chloroethane	1.240	0.15	1	0	124	70	130	1.13	9.28	30	
Chloromethane	1.230	0.15	1	0	123	70	130	1.23	0	30	
cis-1,2-Dichloroethene	0.9400	0.15	1	0	94.0	70	130	0.98	4.17	30	
Tetrachloroethylene	0.8300	0.15	1	0	83.0	70	130	0.88	5.85	30	
trans-1,2-Dichloroethene	0.9600	0.15	1	0	96.0	70	130	0.99	3.08	30	
Trichloroethene	1.210	0.040	1	0	121	70	130	1.23	1.64	30	

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UGD-040116 SampType: LCSD TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 10818
Client ID: ZZZZZ Batch ID: R10818 TestNo. TO-15 Analysis Date: 4/2/2016 SeqNo: 127114

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.070	0.040	1	0	107	70	130	1.1	2.76	30	

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603074
Project: 575 Colfax FESL SVI

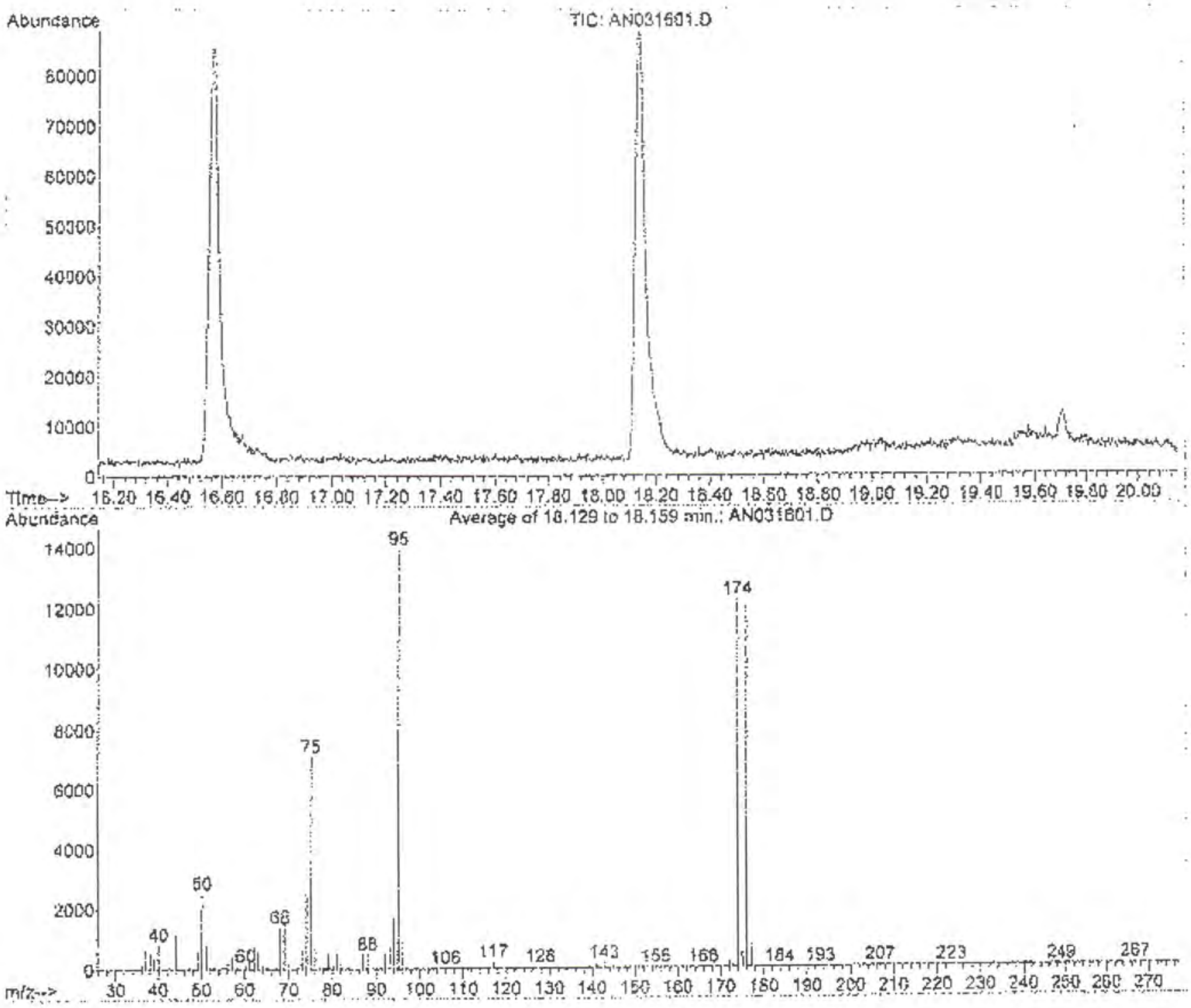
TestCode: 1ugM3_TO15

Sample ID ALCS1UGD-040216 SampType: LCSD TestCode: 1ugM3_TO15 Units: ppbV Prep Date: RunNo: 10819
Client ID: ZZZZZ Batch ID: R10819 TestNo: TO-15 Analysis Date: 4/3/2016 SeqNo: 127130

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.300	0.15	1	0	130	70	130	1.29	0.772	30	
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130	1.17	0	30	
1,1-Dichloroethene	1.110	0.15	1	0	111	70	130	1.2	7.79	30	
Chloroethane	1.090	0.15	1	0	109	70	130	1.23	12.1	30	
Chloromethane	1.190	0.15	1	0	119	70	130	1.29	8.06	30	
cis-1,2-Dichloroethene	1.110	0.15	1	0	111	70	130	1.17	5.26	30	
Tetrachloroethylene	0.8900	0.15	1	0	89.0	70	130	0.78	13.2	30	
trans-1,2-Dichloroethene	1.150	0.15	1	0	115	70	130	1.18	2.58	30	
Trichloroethene	1.220	0.15	1	0	122	70	130	1.26	3.23	30	
Vinyl chloride	1.220	0.15	1	0	122	70	130	1.14	6.78	30	

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

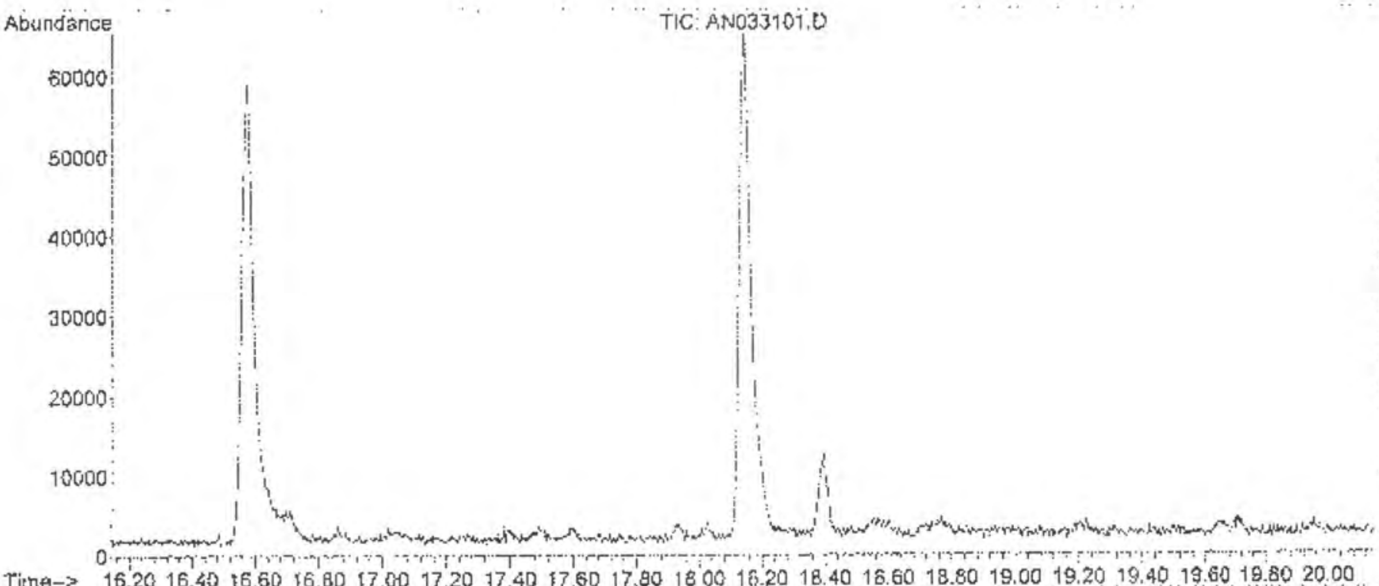
```
Data File : C:\HPCHEM\1\DATA\AN031601.D                    Vial: 1
Acq On    : 16 Mar 2016   5:26 pm                      Operator: RJP
Sample    : BFB1UG                                     Inst     : MSD #1
Misc      : A316_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Method    : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title     : TO-15 VOA  Standards for 5 point calibration
```

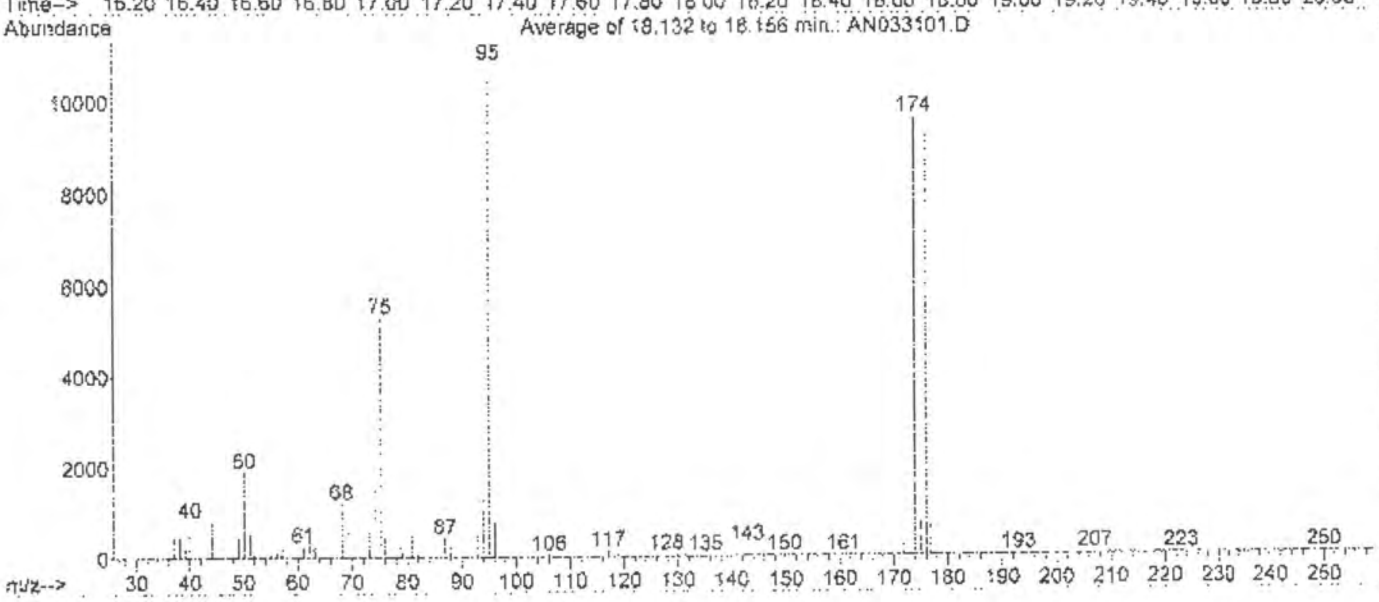


Spectrum Information: Average of 18.129 to 18.159 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.0	2513	PASS
75	95	30	66	51.1	7135	PASS
95	95	100	100	100.0	13975	PASS
96	95	5	9	6.7	936	PASS
173	174	0.00	2	0.6	79	PASS
174	95	50	120	87.9	12278	PASS
175	174	4	9	4.1	498	PASS
176	174	95	101	98.5	12090	PASS
177	176	5	9	6.9	829	PASS

```
Data File : C:\HPCHEM\1\DATA2\AN033101.D                    Vial: 1
Acq On    : 31 Mar 2016   9:33 am                       Operator: RJP
Sample    : BFB1UG                                      Inst    : MSD #1
Misc      : A316_1UG                                    Multiplr: 1.00
MS Integration Params: RTEINT.P
Method    : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title     : TO-15 VOA  Standards for 5 point calibration
```

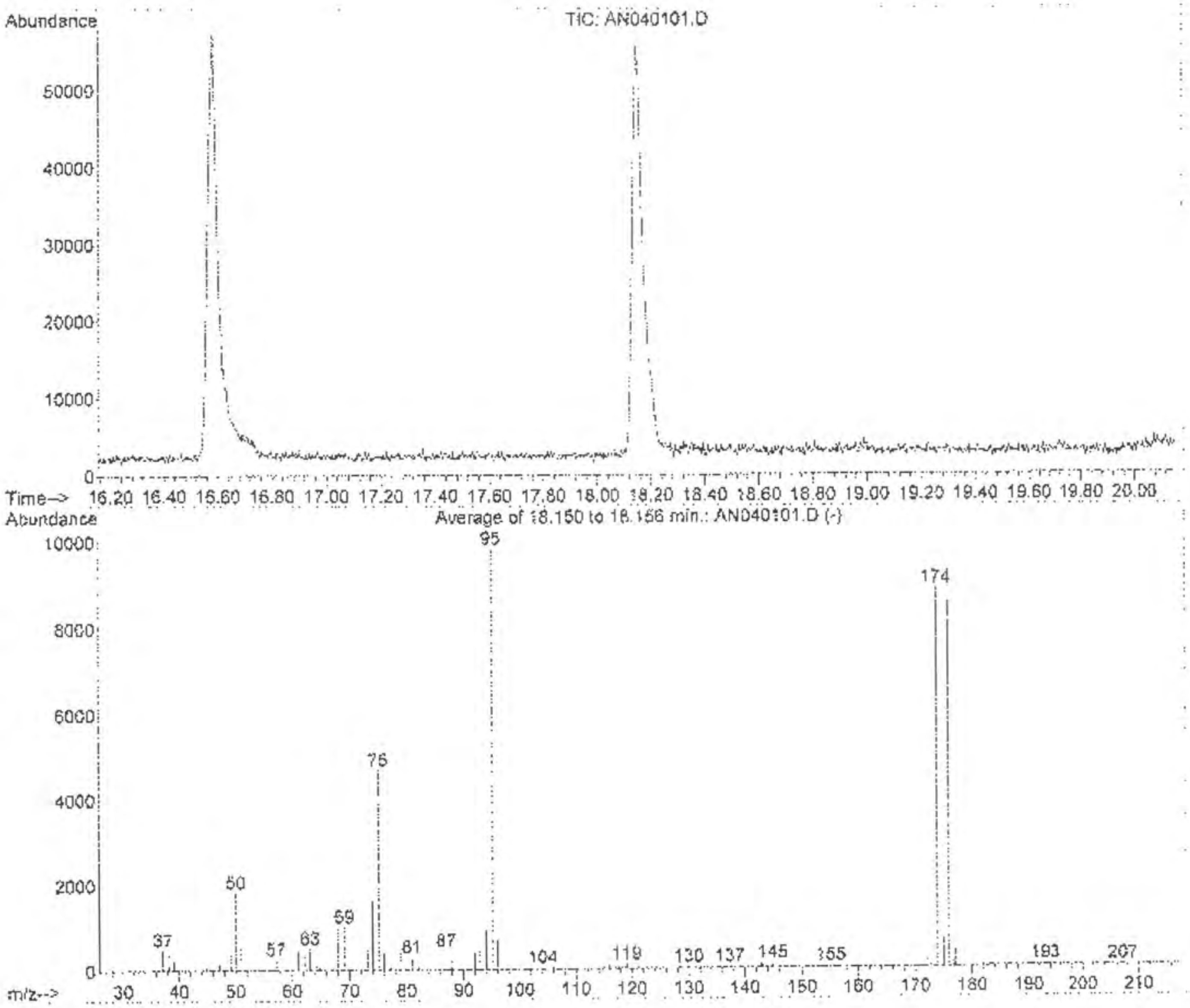




Spectrum Information: Average of 18.132 to 18.156 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.5	1890	PASS
75	95	30	66	49.0	5299	PASS
95	95	100	100	100.0	10811	PASS
96	95	5	9	7.0	757	PASS
173	174	0.00	2	0.7	65	PASS
174	95	50	120	89.2	9645	PASS
175	174	4	9	7.8	750	PASS
176	174	95	101	97.0	9355	PASS
177	176	5	9	7.5	704	PASS

```
Data File : C:\HPCHEM\1\DATA\AN040101.D                Vial: 16
Acq On    : 1 Apr 2016  10:05 am                       Operator: RJP
Sample    : BFB1UG                                     Inst     : MSD #1
Misc      : A316_1UG                                   Multiplr: 1.00
MS Integration Params: RTEINT.P
Method    : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title     : TO-15 VOA  Standards for 5 point calibration
```

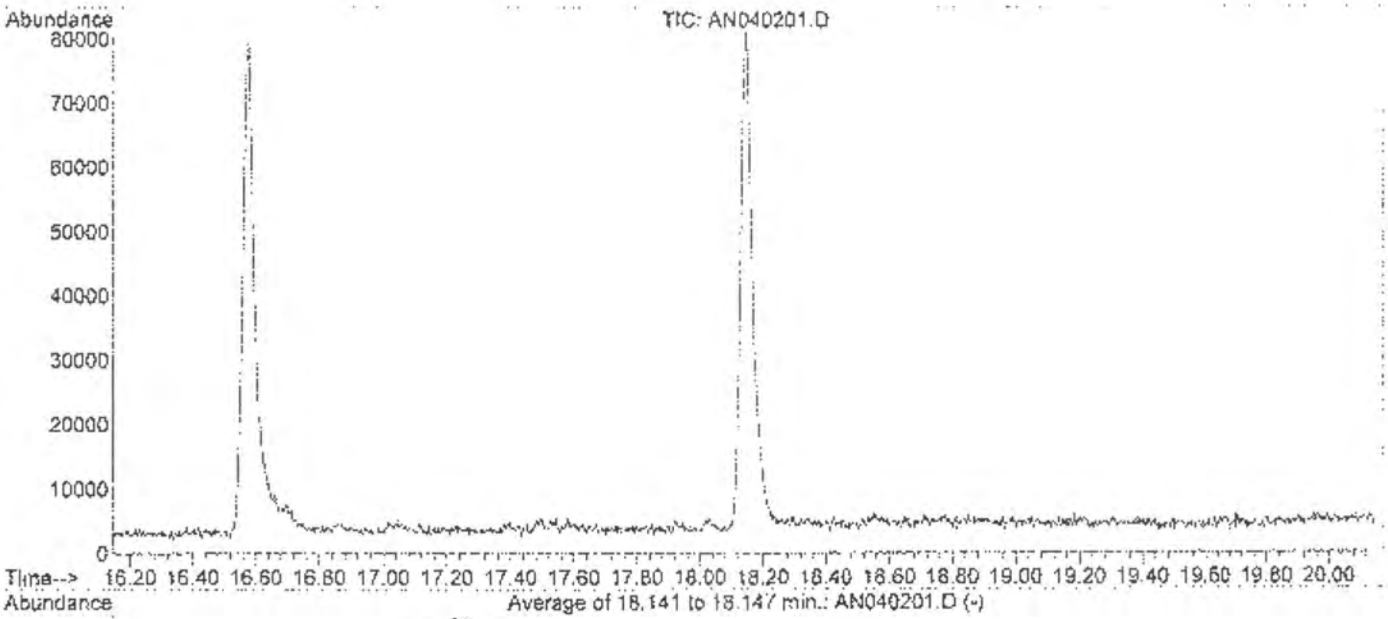


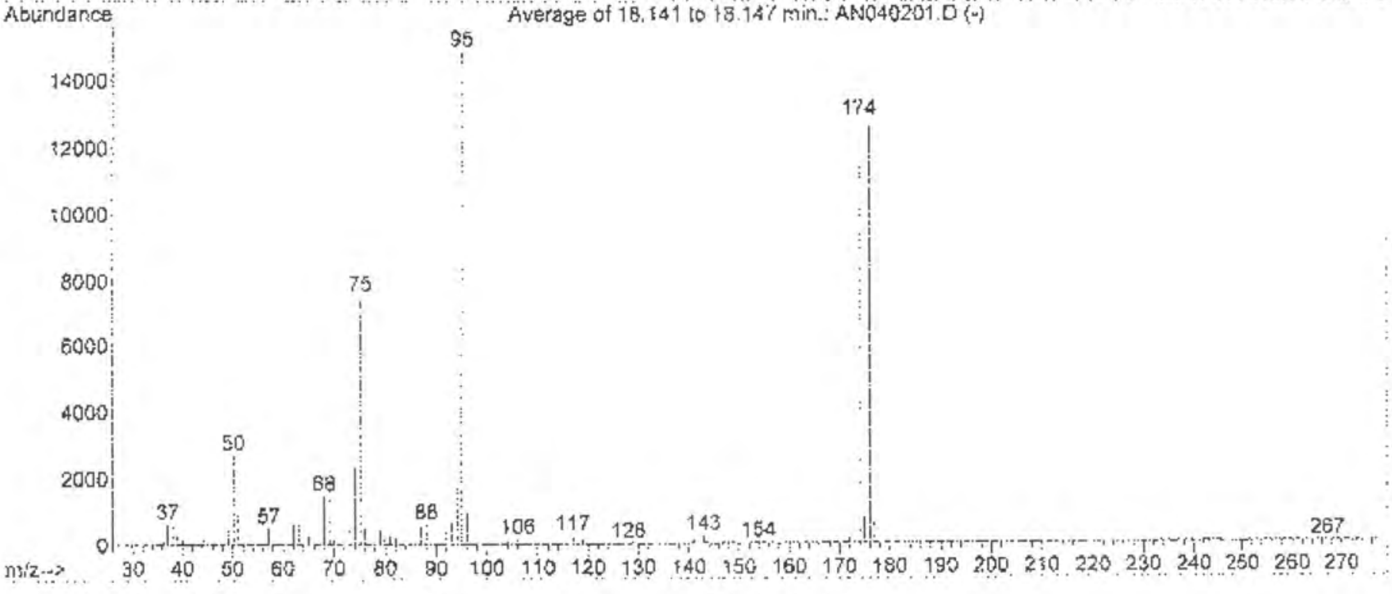
Spectrum Information: Average of 18.150 to 18.156 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.6	1827	PASS
75	95	30	66	47.8	4708	PASS
95	95	100	100	100.0	9841	PASS
96	95	5	9	7.0	692	PASS
173	174	0.00	2	0.8	70	PASS
174	95	50	120	90.2	8875	PASS
175	174	4	9	7.4	658	PASS
176	174	95	101	96.4	8557	PASS
177	176	5	9	5.2	443	PASS

Data File : C:\HPCHEM\1\DATA\AN040201.D
Acq On : 2 Apr 2016 10:48 am
Sample : BFB1UG
Misc : A316_1UG
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\A316_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 18.141 to 18.147 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.2	2718	PASS
75	95	30	66	50.7	7557	PASS
95	95	100	100	100.0	14902	PASS
96	95	5	9	6.7	1000	PASS
173	174	0.00	2	0.2	31	PASS
174	95	50	120	85.9	12799	PASS
175	174	4	9	6.0	772	PASS
176	174	95	101	98.7	12634	PASS
177	176	5	9	6.7	841	PASS