

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

Location:

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

Prepared for:

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

LaBella Project No. 210173

September 2018

Table of Contents

1.0	Introduction]
2.0	Site Background	1
3.0	Previous Investigations	
3.1	Guidance Documents	2
3.2	Soil Vapor Intrusion	2
4.0	Standards, Criteria and Guidelines	3
5.0	Objective	3
6.0	System Installation	
7.0	System Startup and Post-Installation Testing	4
7.1	Pressure Field Extension Testing	4
7.2	Indoor Air Sampling	
8.0	Conclusions	5
8.0	Conclusions	

Figures

Figure 1- Former Emerson Street Landfill Project Map

Figure 2- Soil Vapor Intrusion Sampling Results

Figure 3- Sub-Slab Depressurization System As-Built

Figure 4- Pressure Field Extension Testing Results

Figure 5- Sub-Slab Depressurization System Details

Tables

Table 1 – Soil Vapor Intrusion Sampling Results (1st Round)

Table 2 – Soil Vapor Intrusion Sampling Results (2nd Round)

Table 3 - Post-SSDS Startup Indoor Air Sampling Results

Appendices

Appendix 1 – Annual Certification and Operation and Maintenance

Appendix 2 - Field Logs

Appendix 3 - Photograph Log

Appendix 4 – Laboratory Reports

Appendix 5 - Data Usability Summary Reports



CERTIFICATION

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



081996

NYS Professional Engineer #

1/10/18

Date

Signature



1.0 Introduction

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

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

2.0 Site Background

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

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

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

- 1 -



3.0 Previous Investigations

3.1 Guidance Documents

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

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

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

3.2 Soil Vapor Intrusion

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

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

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

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

Soil Vapor Intrusion Testing Results- Round 1 May 2016

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

- 2 -



Soil Vapor Intrusion Testing Results- Round 2 November 2016

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

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

4.0 Standards, Criteria and Guidelines

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

 <u>Sub-Slab Soil Vapor and Indoor Air SCGs:</u> The NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York dated October 2006 with subsequent updates in 2013 and 2015 is utilized for the SCG for soil vapor and indoor air.

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

5.0 Objective

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





6.0 System Installation

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

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

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

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

7.0 System Startup and Post-Installation Testing

7.1 Pressure Field Extension Testing

The influence of the system was tested by measuring sub-slab pressures on the day the system was activated (February 14, 2018). Pressure field extension (PFE) testing points consisted of approximately 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 -0.005 to -0.263 inches of water column ("wc). PFE testing locations and contours representing sub-slab pressures measured the day of system startup are included on Figure 4. It should be noted that pressure readings were extrapolated between points in some locations based on depressurization point locations and radius of influence that was determined during fan testing.

- 4 -



7.2 Indoor Air Sampling

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

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

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

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

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

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

8.0 Conclusions

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

- 5 -

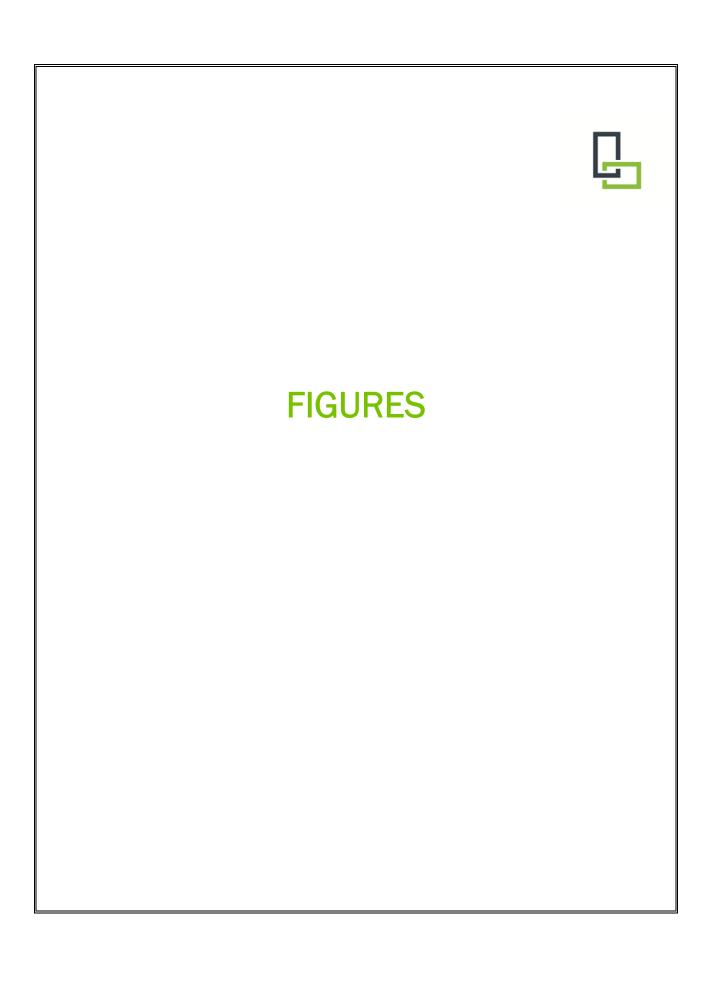


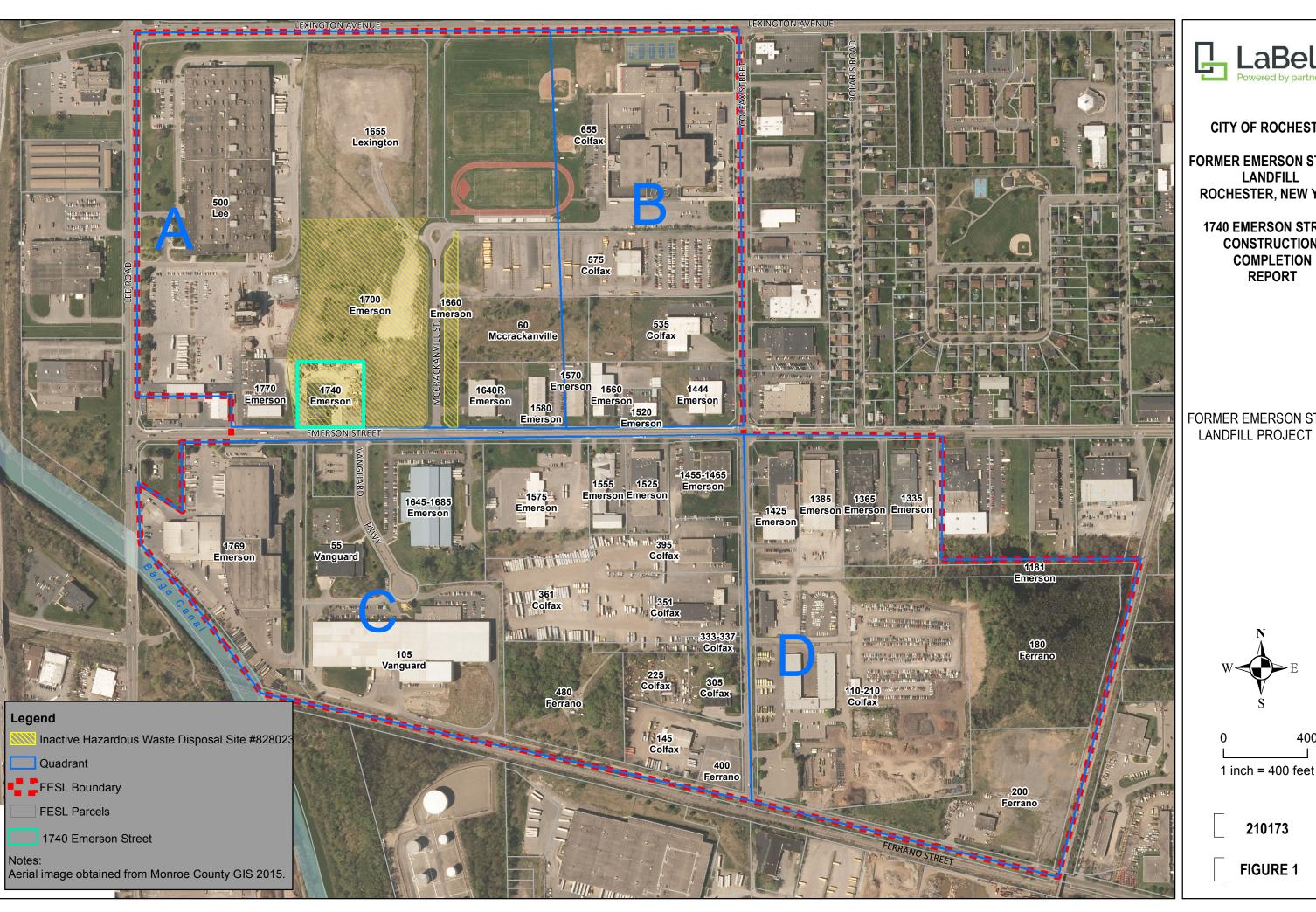
after which time the SSDS operation and maintenance will be the responsibility of the owner. Operation and maintenance information for the system, the fan owner's manual and an annual inspection form are included as Appendix 1.

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











CITY OF ROCHESTER

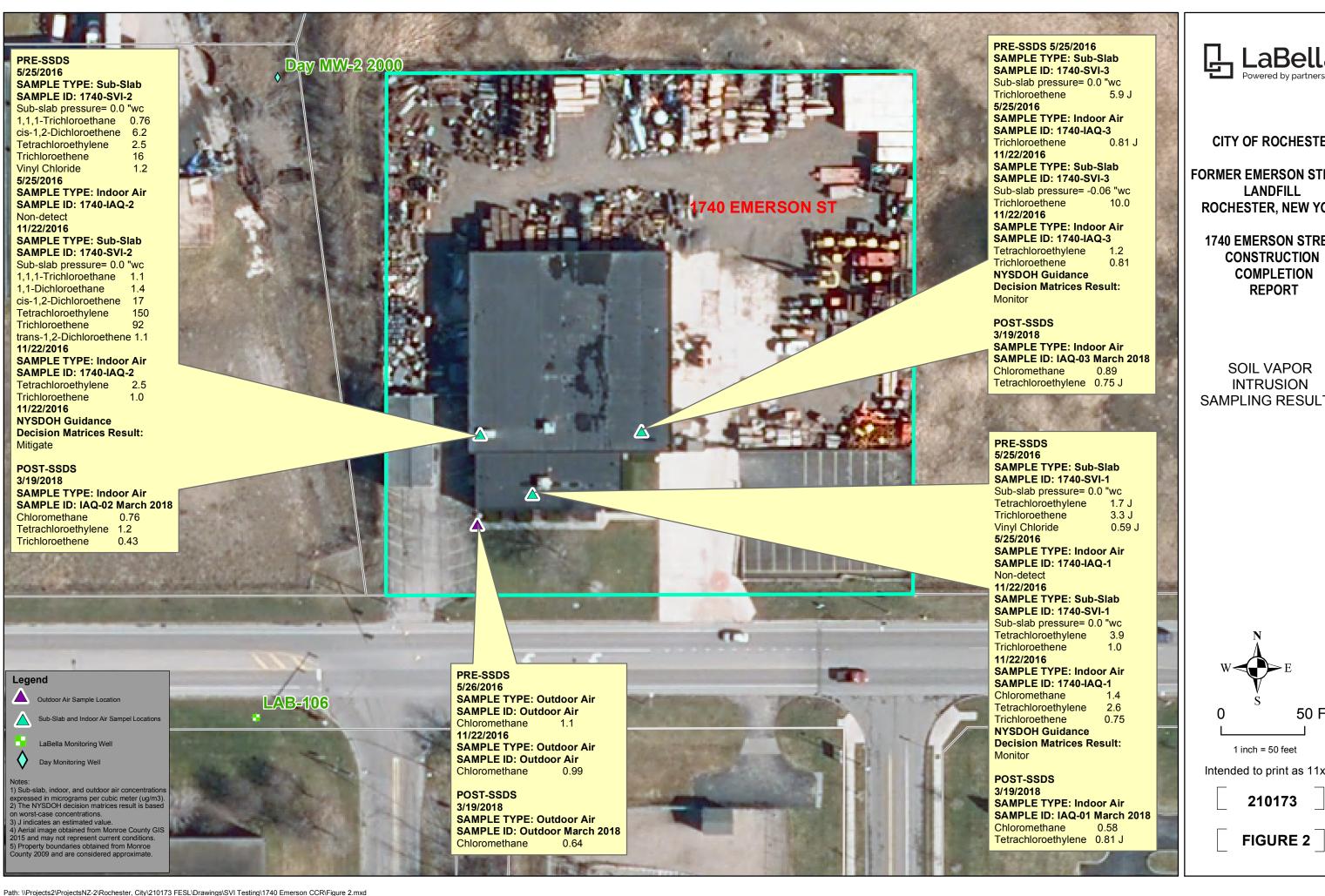
FORMER EMERSON STREET LANDFILL ROCHESTER, NEW YORK

1740 EMERSON STREET **CONSTRUCTION COMPLETION REPORT**

FORMER EMERSON STREET LANDFILL PROJECT MAP



400 Feet



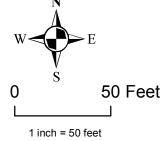


CITY OF ROCHESTER

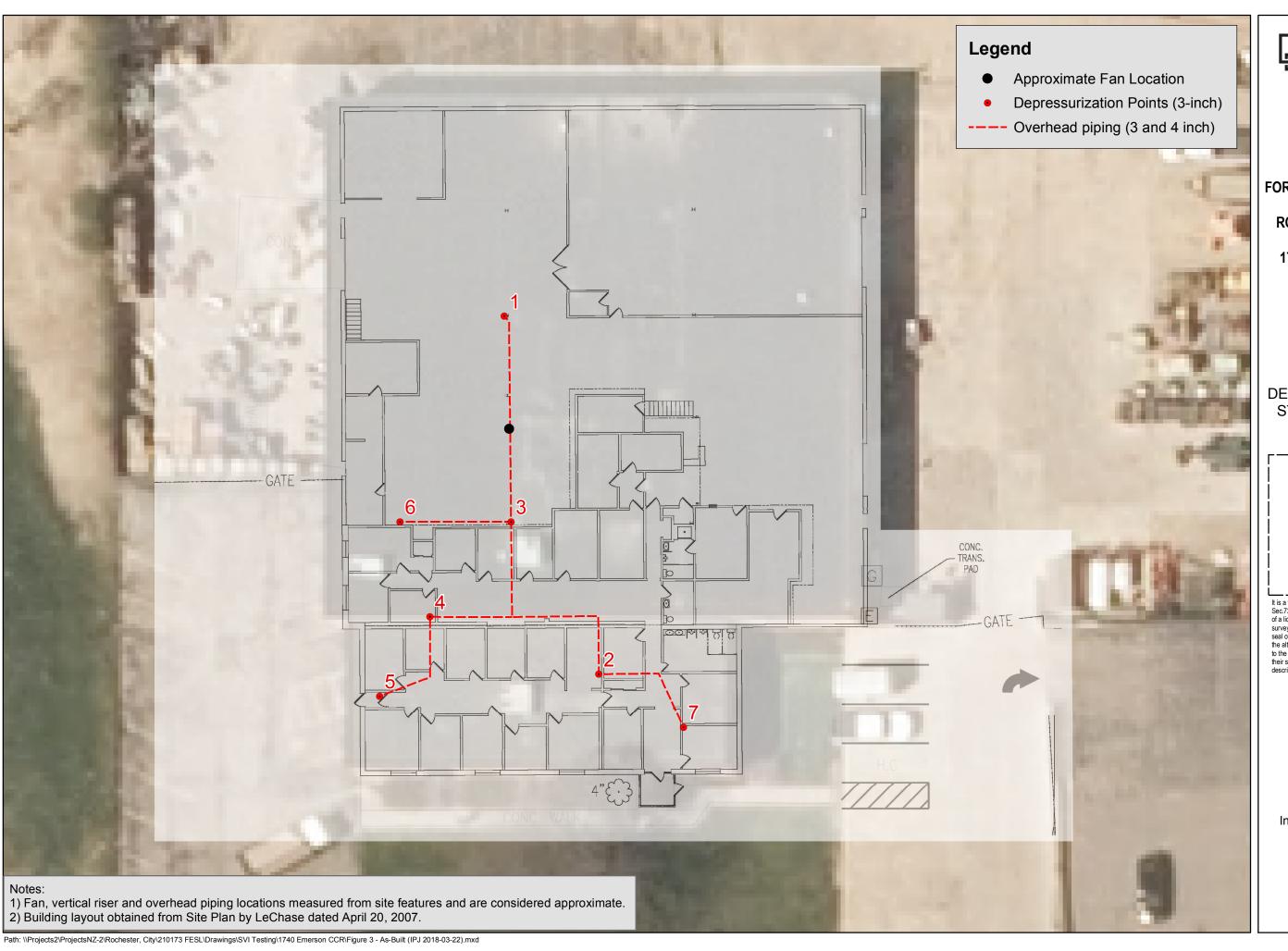
FORMER EMERSON STREET LANDFILL **ROCHESTER. NEW YORK**

1740 EMERSON STREET CONSTRUCTION **COMPLETION REPORT**

SOIL VAPOR **INTRUSION** SAMPLING RESULTS



Intended to print as 11x17





CITY OF ROCHESTER

FORMER EMERSON STREET LANDFILL ROCHESTER, NEW YORK

1740 EMERSON STREET
CONSTRUCTION
COMPLETION
REPORT

SUB-SLAB DEPRESSURIZATION SYSTEM AS-BUILT



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

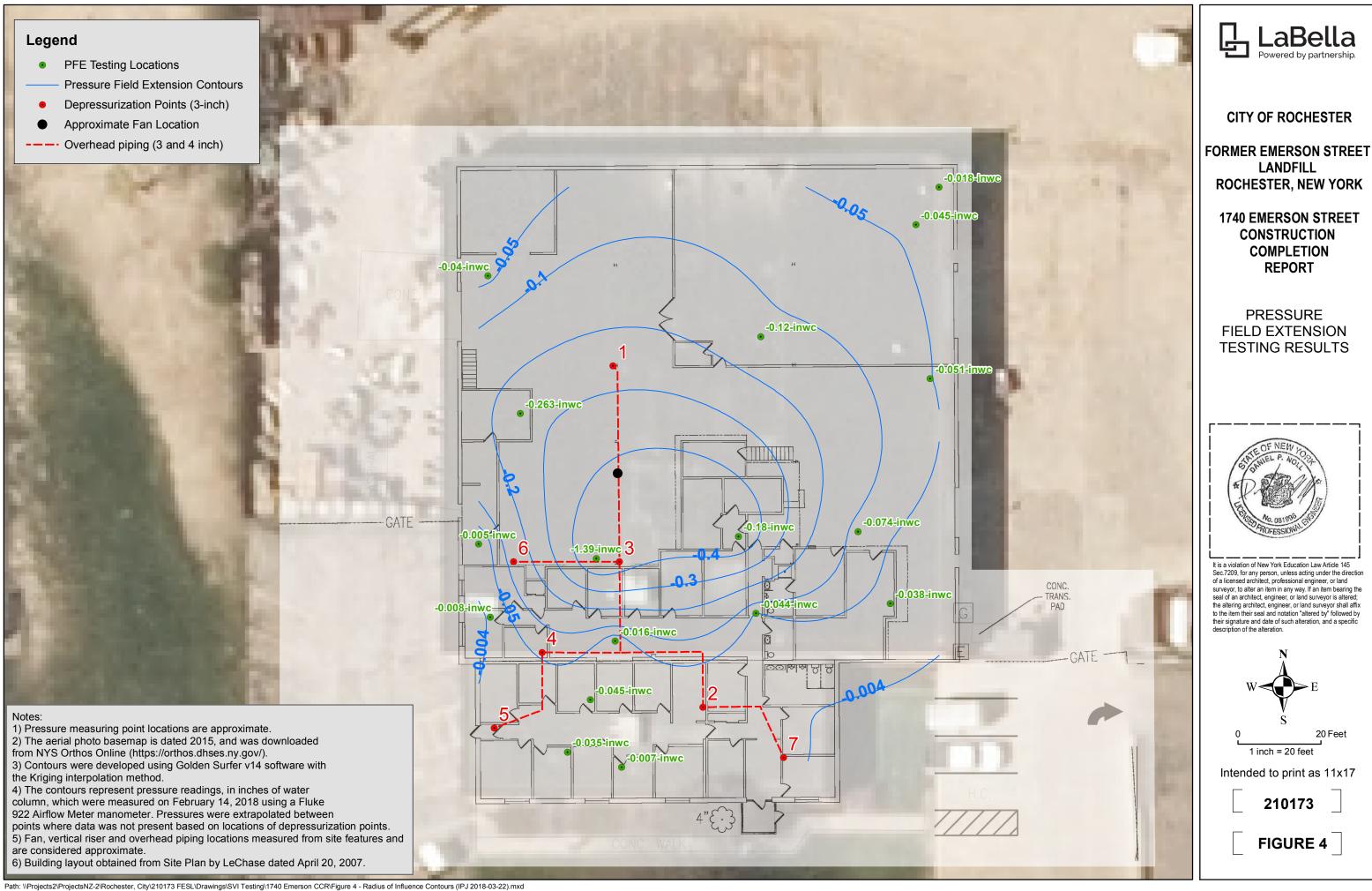


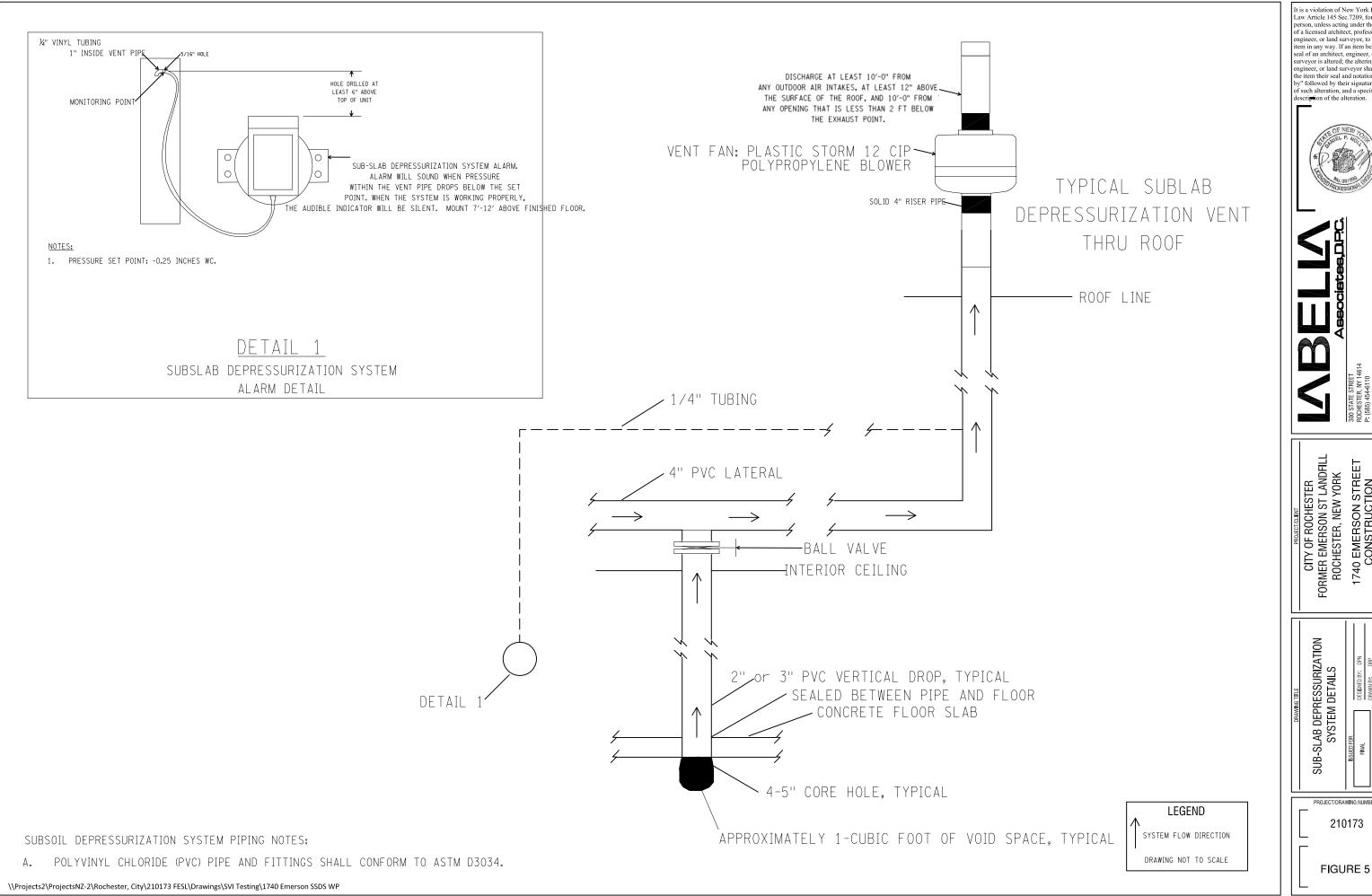
1 inch = 20 feet

Intended to print as 11x17

210173

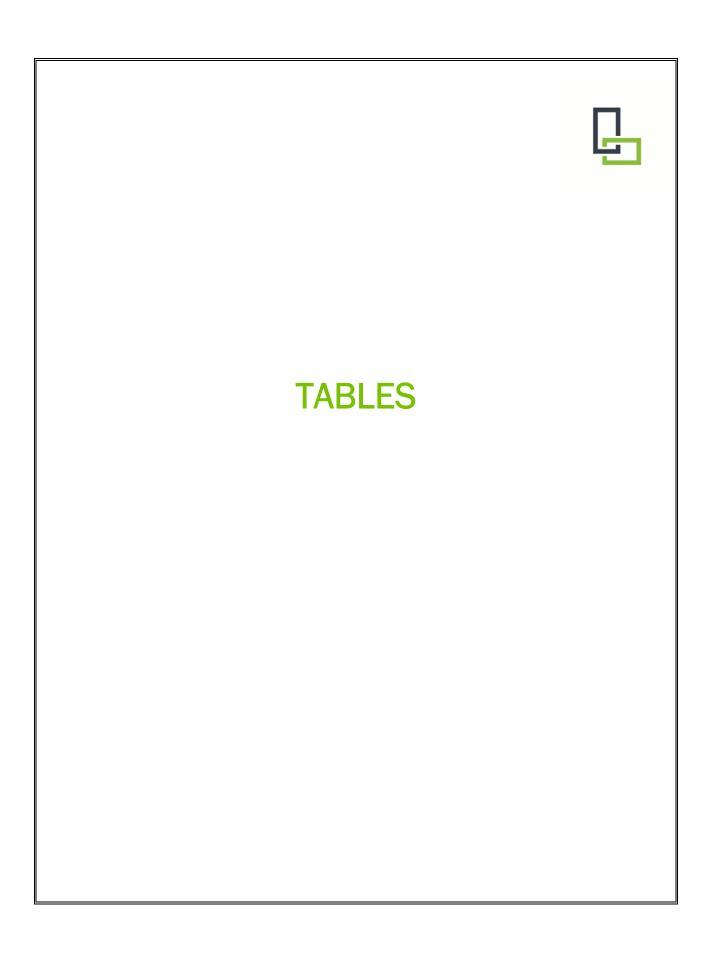
FIGURE 3





t is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direct of a licensed architect, professional 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.





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

Sample ID	1740-SVI-1 Sub-Slab	1740-SVI-2 Sub-Slab	1740-SVI-3 Sub-Slab	1740-IAQ-1 Indoor Air	Dupe (1740- IAQ-1) Indoor Air	1740-IAQ-2 Indoor Air	1740-IAQ-3	Outdoor Air	Concentration Decision Matrix (minimum action	NYSDOH Indoor Air Concentration (minimum action	USEPA (2001) (BASE) Database - 90th Percentile (2)
Sample Date	5/25/2016	5/25/2016	5/25/2016	5/25/2016	5/25/2016	5/25/2016	5/25/2016	5/25/2016	level) ⁽¹⁾	level) ⁽¹⁾	
1,1,1-Trichloroethane	<0.82 J	0.76	<0.82 J	<0.82	<0.82	<0.82	<0.82 J	<0.82	<100***	<3***	20.6
1,1-Dichloroethane	<0.61 J	<0.61	<0.61 J	<0.61	<0.61	<0.61	<0.61 J	<0.61	NL	NL	<0.7
1,1-Dichloroethene	<0.59 J	<0.59	<0.59 J	<0.59	<0.59	<0.59	<0.59 J	<0.59	<100***	<3***	<1.4
Chloroethane	<0.40 J	<0.40	<0.40 J	<0.40	<0.40	<0.40	<0.40 J	<0.40	NL	NL	<1.1
Chloromethane	<0.31 J	<0.31	<0.31 J	<0.31	<0.31	<0.31	<0.31 J	1.1	NL	NL	3.7
cis-1,2-Dichloroethene	<0.59 J	6.2	0.59 UJ	<0.59	<0.59	<0.59	<0.59 J	<0.59	<100***	<3***	<1.9
Tetrachloroethylene	1.7 J	2.5	<1.0 J	<1.0	<1.0	<1.0	<1.0 J	<1.0	<100***	<3*** / 30*	15.9
trans-1,2-Dichloroethene	<0.59 J	<0.59	<0.59 J	<0.59	<0.59	<0.59	<0.59 J	<0.59	NL	NL	NL
Trichloroethene	3.3 J	16	5.9 J	<0.21	0.21 U	<0.21	0.81 J	<0.21	<5 **	<0.25** / 2*	4.2
Vinyl Chloride	0.59 J	1.2	<0.38 J	<0.10	<0.10	<0.10	<0.10 J	<0.10	<5**	<0.25**	<1.9

Notes:

Concentrations in micrograms per cubic meter (ug/m³)

Samples analyzed by USEPA Method TO-15

- < indicates the concentration was not detected above the reporting limit
- (1) New York State Department of Health (NYSDOH), Guidance for Evaluating Soil Vapor Intrusion in the State of New York. [Note: This Guidance uses a combination of indoor air and subslab soil vapor when comparing to the matrices. In addition, for compounds not listed in the matrices an overall site approach is employed which utilizes the USEPA BASE Database (see 2. below) as typical background for commercial buildings and also uses the outdoor air sample, refer to Guidance document for details.]
- (2) USEPA Building Assessment and Survey Evaluation (BASE) Database (90th Percentile). As recommended in Section 3.2.4 of the NYSDOH Guidance (Refer to Footnote "1") this database is referenced for the indoor air sampling results. This database is also referenced to provide initial benchmarks for comparison to the air sampling data and does not represent regulatory
- * = Air Guideline Values obtained from Table 3.1, NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York as updated by a September 2013 Fact Sheet for PCE and an August 2015 Fact Sheet for TCE.
- ** = Guideline Value obtained from Soil Vapor/Indoor Air Matrix 1 (minimum action level), NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York.
- *** = Guidance Value obtained from Soil Vapor/Indoor Air Matrix 2 (minimum action level), NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

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

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

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

J indicates an estimated value

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

 $\ensuremath{\mathsf{U}}$ indicates the DUSR deemed the concentration undetected

Former Emerson Street Landfill Table 1

Soil Vapor Intrusion Sampling Results (1st Round) 1740 Emerson Street

May 2016

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

			MATRIX 1- TRICH	ILOROETHENE NCENTRATION (ug/	′m ³)	
	Sample IDs		IAQ-1 (<2.1) IAQ-2 (<2.1)	IAQ-3 (0.81)		
			<0.25	0.25 to <1	1 to <5.0	5.0 and above
					3. Take reasonable and	4. Take reasonable
				2. Take	practical	and practical
				reasonable and	actions to	actions to
				practical actions	identify	identify
				to identify	source(s) and	source(s) and
SUB-SLAB VAPOR			1. No further	source(s) and	reduce	reduce
CONCENTRATION (ug/m 3)	SVI-1 (3.3)	<5	action	reduce exposure	exposure	exposure
	SVI-2 (16)		5. No further			
	SVI-3 (5.9)	5 to <50	action	6. MONITOR	7. MONITOR	8. MITIGATE
			0.1401/1700	10. MONITOR/	44 14110175	40 MITIOATE
		50 to <250	9. MONITOR	MITIGATE	11. MITIGATE	12. MITIGATE
		250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

			MATRIX 1- VINYL	. CHLORIDE		
			INDOOR AIR CO	NCENTRATION (ug/	′m ³)	
	Sample IDs		IAQ-1 (<0.10) IAQ-2 (<0.10)			
			<0.25	0.25 to <1	1 to <5.0	5.0 and above
					3. Take reasonable and	4. Take reasonable
				2. Take	practical	and practical
				reasonable and	actions to	actions to
				practical actions	identify	identify
				to identify	source(s) and	source(s) and
SUB-SLAB VAPOR	SVI-1 (0.59)		1. No further	source(s) and	reduce	reduce
CONCENTRATION (ug/m 3)	SVI-2 (1.2)	<5	action	reduce exposure	exposure	exposure
			5. No further			
		5 to <50	action	6. MONITOR	7. MONITOR	8. MITIGATE
		50 to <250	9. MONITOR	10. MONITOR/ MITIGATE	11. MITIGATE	12. MITIGATE
		250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

Former Emerson Street Landfill Table 1

Soil Vapor Intrusion Sampling Results (1st Round)

1740 Emerson Street May 2016

			may Lord			
			MATRIX 2- TETRA	ACHLOROETHYLEN	IE	
			INDOOR AIR COM	NCENTRATION (ug/	/m ³)	
			IAQ-1 (<1.0)			
	Sample IDs		IAQ-2 (<1.0)			
			<3	3 to <30	30 to <100	100 and above
					3. Take	4. Take
					reasonable and	reasonable
				2. Take	practical	and practical
				reasonable and	actions to	actions to
				practical actions	identify	identify
SUB-SLAB VAPOR				to identify	source(s) and	source(s) and
CONCENTRATION (ug/m 3)	SVI-1 (1.7)		1. No further	source(s) and	reduce	reduce
	SVI-2 (2.5)	<100	action	reduce exposure	exposure	exposure
				6. MONITOR/		
		100 to <1,000	5. MONITOR	MITIGATE	7. MITIGATE	8. MITIGATE
		1,000 and abov	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

				-TRICHLOROETHAI NCENTRATION (ug/	_	
			INDOOR AIR OOF	TOENTIAMON (ug/		
	Sample IDs		IAQ-2 (<0.82)			
			<3	3 to <30	30 to <100	100 and above
					3. Take	4. Take
					reasonable and	reasonable
				2. Take	practical	and practical
				reasonable and	actions to	actions to
				practical actions	identify	identify
SUB-SLAB VAPOR				to identify	source(s) and	source(s) and
CONCENTRATION (ug/m ³)			1. No further	source(s) and	reduce	reduce
	SVI-2 (0.76)	<100	action	reduce exposure	exposure	exposure
				6. MONITOR/		
		100 to <1,000	5. MONITOR	MITIGATE	7. MITIGATE	8. MITIGATE
		1,000 and abov	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

Former Emerson Street Landfill Table 1

Soil Vapor Intrusion Sampling Results (1st Round) 1740 Emerson Street

May 2016

			Way 2010			
	•	•	MATRIX 2- CIS-1	,2-DICHLOROETHE	NE	
			INDOOR AIR CON	NCENTRATION (ug/	′m ³)	
	Sample IDs		IAQ-2 (<0.59)			·
			<3	3 to <30	30 to <100	100 and above
					3. Take	4. Take
					reasonable and	reasonable
				2. Take	practical	and practical
				reasonable and	actions to	actions to
				practical actions	identify	identify
SUB-SLAB VAPOR				to identify	source(s) and	source(s) and
CONCENTRATION (ug/m 3)			1. No further	source(s) and	reduce	reduce
	IAQ-2 (6.2)	<100	action	reduce exposure	exposure	exposure
				6. MONITOR/		
		100 to <1,000	5. MONITOR	MITIGATE	7. MITIGATE	8. MITIGATE
		1,000 and above	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

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

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

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

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

Former Emerson Street Landfill Table 2

Soil Vapor Intrusion Sampling Results (2nd Round)

1740 Emerson Street November 2016

Sample ID		Dupe (1740-SVI- 1)	1740-SVI-2	1740-SVI-3	1740-IAQ-1	1740-IAQ-2	1740-IAQ-3	Outdoor Air	NYSDOH Sub-Slab Vapor Concentration Decision Matrix (minimum action	NYSDOH Indoor Air Concentration (minimum	USEPA (2001) (BASE) Database -
Sample Location	Sub-Slab	Sub-Slab	Sub-Slab	Sub-Slab	Indoor Air	Indoor Air	Indoor Air	Outdoor Air		action level) (1)	90th Percentile (2)
Sample Date	11/22/2016	11/22/2016	11/22/2016	11/22/2016	11/22/2016	11/22/2016	11/22/2016	11/22/2016	level) ⁽¹⁾		
1,1,1-Trichloroethane	R	R	1.1	<0.82	<0.82	<0.82	<0.82	<0.82	<100***	<3***	20.6
1,1-Dichloroethane	R	R	1.4	<0.61	<0.61	<0.61	<0.61	<0.61	NL	NL	<0.7
1,1-Dichloroethene	R	R	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<100***	<3***	<1.4
Chloroethane	R	R	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	NL	NL	<1.1
Chloromethane	R	R	<0.31	<0.31	1.4	<0.31	<0.31	0.99	NL	NL	3.7
cis-1,2-Dichloroethene	R	R	17 J	<0.59	<0.59	<0.59	<0.59	<0.59	<100***	<3***	<1.9
Tetrachloroethylene	3.9 J	3.3 J	150	<1.0	2.6	2.5	1.2	<1.0	<100***	<3*** / 30*	15.9
trans-1,2-Dichloroethene	R	R	1.1	<0.59	<0.59	<0.59	<0.59	<0.59	NL	NL	NL
Trichloroethene	1.0 J	0.91 J	92	10	<u>0.75</u>	<u>1.0</u>	0.81	<0.21	<5 **	<0.25** / 2*	4.2
Vinyl Chloride	R	R	<0.38	<0.38	<0.10	<0.10	<0.10	<0.10	<5**	<0.25**	<1.9

Notes:

Concentrations in micrograms per cubic meter (ug/m³)

Samples analyzed by USEPA Method TO-15

- < indicates the concentration was not detected above the reporting limit
- (1) New York State Department of Health (NYSDOH), Guidance for Evaluating Soil Vapor Intrusion in the State of New York. [Note: This Guidance uses a combination of indoor air and sub-slab soil vapor when comparing to the matrices. In addition, for compounds not listed in the matrices an overall site approach is employed which utilizes the USEPA BASE Database (see 2. below) as typical background for commercial buildings and also uses the outdoor air sample, refer to Guidance document for details.]
- (2) USEPA Building Assessment and Survey Evaluation (BASE) Database (90th Percentile). As recommended in Section 3.2.4 of the NYSDOH Guidance (Refer to Footnote "1") this database is referenced for the indoor air sampling results. This database is also referenced to provide initial benchmarks for comparison to the air sampling data and does not represent regulatory standards or compliance values.
- * = Air Guideline Values obtained from Table 3.1, NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York as updated by a September 2013 Fact Sheet for PCE and an August 2015 Fact Sheet for TCE.
- ** = Guideline Value obtained from Soil Vapor/Indoor Air Matrix 1 (minimum action level), NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York.
- *** = Guidance Value obtained from Soil Vapor/Indoor Air Matrix 2 (minimum action level), NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

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

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

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

J indicates an estimated value

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

U indicates the DUSR deemed the concentration undetected

Former Emerson Street Landfill

Table 2

Soil Vapor Intrusion Sampling Results (2nd Round)

1740 Emerson Street

November 2016

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

			MATRIX 1- TRIC	HLOROETHENE		
			INDOOR AIR CO	NCENTRATION (u	g/m³)	
	Sample IDs			IAQ-1 (0.75) IAQ-3 (0.81)	IAQ-2 (1.0)	
			<0.25	0.25 to <1	1 to <5.0	5.0 and above
SUB-SLAB VAPOR	SVI-1 (1.0)	<5	No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposure	reasonable and	4. Take reasonable and practical actions to identify source(s) and reduce exposure
CONCENTRATION (ug/m³)		\5	5. No further	exposure	reduce exposure	reduce exposure
	SVI-3 (10)	5 to <50	action	6. MONITOR	7. MONITOR	8. MITIGATE
	SVI-2 (92)	50 to <250	9. MONITOR	10. MONITOR/ MITIGATE	11. MITIGATE	12. MITIGATE
		250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

Former Emerson Street Landfill

Table 2

Soil Vapor Intrusion Sampling Results (2nd Round) 1740 Emerson Street

N	n	/e	m	h	er	• •	O	11	F

			NOVEITIBET ZOT	-		
			MATRIX 2- TETR	ACHLOROETHYLI	ENE	
			INDOOR AIR CO	NCENTRATION (u	g/m³)	
	Sample IDs		IAQ-1 (2.6) IAQ-2 (2.5) IAQ-3 (1.2)			
			<3	3 to <30	30 to <100	100 and above
SUB-SLAB VAPOR CONCENTRATION (ug/m³)	SVI-1 (3.9)		1. No further	2. Take reasonable and practical actions to identify source(s) and reduce	reasonable and practical actions to identify	4. Take reasonable and practical actions to identify
					source(s) and	source(s) and
	SVI-3 (<1.0)	<100	action	exposure	reduce exposure	reduce exposure
				6. MONITOR/		
	SVI-2 (150)	100 to <1,000	5. MONITOR	MITIGATE	7. MITIGATE	8. MITIGATE
		1,000 and above	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

				1-TRICHLOROETH NCENTRATION (u	_	
	Sample IDs		IAQ-2 (<0.82)			
			<3	3 to <30	30 to <100	100 and above
SUB-SLAB VAPOR CONCENTRATION (ug/m³)	SVI-2 (1.1)	<100	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposure		4. Take reasonable and practical actions to identify source(s) and reduce exposure
	_ (=-,			6. MONITOR/		,,,,,,
		100 to <1,000	5. MONITOR	MITIGATE	7. MITIGATE	8. MITIGATE
	•	1,000 and above	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

Former Emerson Street Landfill Table 2

Soil Vapor Intrusion Sampling Results (2nd Round) 1740 Emerson Street

November 2016

			MATRIX 2- CIS-	1,2-DICHLOROETI	HENE	
	INDOOR AIR CONCENTRATION (ug/m³)					
	Sample IDs		IAQ-2 (<0.59)			
			<3	3 to <30	30 to <100	100 and above
SUB-SLAB VAPOR CONCENTRATION (ug/m³)	IAO-2 (17)	<100	1. No further action	,		4. Take reasonable and practical actions to identify source(s) and reduce exposure
	INQ-2 (11)	100	action	6. MONITOR/	reduce exposure	reduce exposure
		100 to <1,000	5. MONITOR 9. MITIGATE	MITIGATE 10. MITIGATE	7. MITIGATE	8. MITIGATE
		1,000 and above	9. WITTIGATE	TO. WITTIGATE	II. WITTIGATE	12. WITTIGATE

No further action: Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is

not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

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

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

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

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

Former Emerson Street Landfill Table 3

Post-SSDS Startup Indoor Air Sampling Results 1740 Emerson Street March 2018

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

Notes:

Concentrations in micrograms per cubic meter (ug/m³)

Samples analyzed by USEPA Method TO-15

- < indicates the concentration was not detected above the reporting limit
- (1) New York State Department of Health (NYSDOH), Guidance for Evaluating Soil Vapor Intrusion in the State of New York. [Note: This Guidance uses a combination of indoor air and sub-slab soil vapor when comparing to the matrices. In addition, for compounds not listed in the matrices an overall site approach is employed which utilizes the USEPA BASE Database (see 2. below) as typical background for commercial buildings and also uses the outdoor air sample, refer to Guidance document for details.]
- (2) USEPA Building Assessment and Survey Evaluation (BASE) Database (90th Percentile). As recommended in Section 3.2.4 of the NYSDOH Guidance (Refer to Footnote "1") this database is referenced for the indoor air sampling results. This database is also referenced to provide initial benchmarks for comparison to the air sampling data and does not represent regulatory standards or compliance values.
- * = Air Guideline Values obtained from Table 3.1, NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York and updates in September 2013 for PCE and August 2015 for TCE.
- ** = Guideline Value obtained from Soil Vapor/Indoor Air Matrix A (minimum action level), NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York May 2017.
- *** = Guidance Value obtained from Soil Vapor/Indoor Air Matrix B (minimum action level), NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York May 2017.
- **** = Guidance Value obtained from Soil Vapor/Indoor Air Matrix C (minimum action level), NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York May 2017.

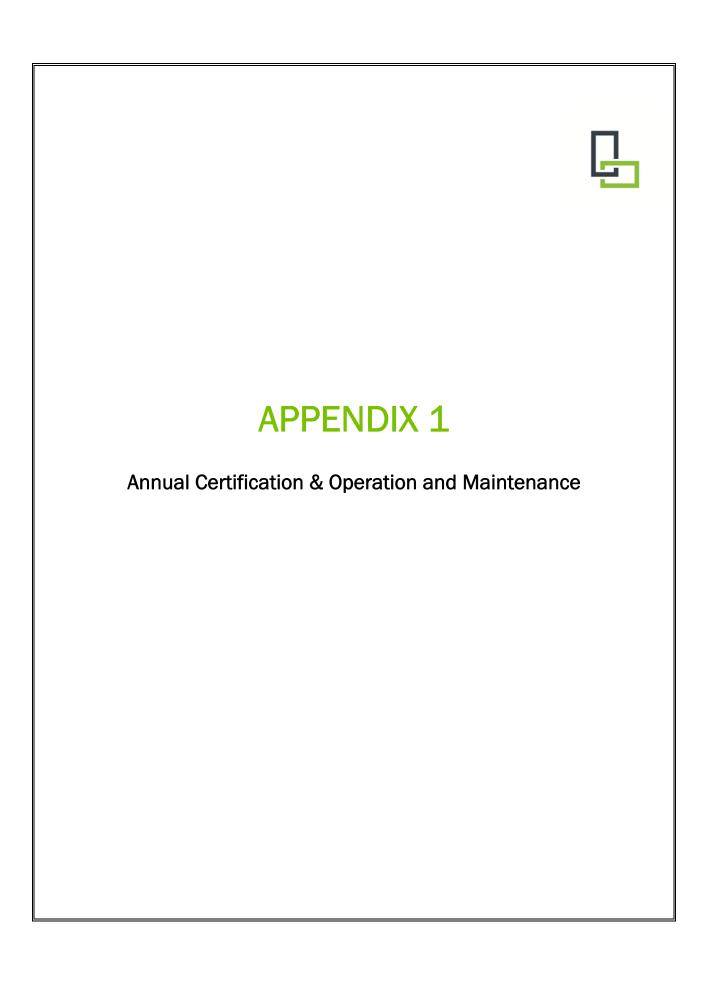
Underlined type denotes that the compound was detected at a concentration that was found to exceed the NYSDOH Indoor Air Concentration (minimum action level).

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

J indicates an estimated value

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

R indicates the DUSR rejected the result due to a malfunction with the sampling equipment



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

Sit	e: 1740 Emerson Street	Camana Facetagas 17 259		
Site Acreage: 2.24 Square Footage: 17,358 Construction Date: 1975				
Sit	e Owner: LeChase Construction			
	yner Address: 1740 Emerson Street y/Town: Rochester, NY 14606			
Re	porting Period:			
1.	Is the information above correct?		YES	NO
	If NO, include handwritten above or on a separate sheet.			
2.	Has some or all of the site property been sold, subdivided, merged, or undergone Period?	a tax map amendment during this Reporting		
3.	Has there been any change of use (new tenant, significantly different operations, e	etc.) at the site during this Reporting Period?		
4.	Have any federal, state, and/or local permits been issued for or at the property utility work or work through the floor slab)?	during this Reporting Period (specifically for		
	If you answered YES to questions 2 thru 4, please include additional informa	tion.		
5.	Is the site currently undergoing development or planned for development (any HVAC equipment, etc.)?	renovation work, changes to building layout,		
6.	Is the venting fan operating properly and has the fan been down at any time through	ghout the year?		
(At Far Sys Ma	b-Slab Depressurization System Monitoring, refer to OM&M Plan ttached any comments on separate sheet, if necessary) in #1 stem Piping Intact? unometer Reading = urm Functioning (Check)?			
Sig	nature of Property Owner or Designated Representative		Date	
	Control Description for S	Site		
•	The existing sub-slab depressurization system at the site must be monitored annual All subsurface activities on the property that disturb fill materials must be conducted Management During Site Development on the Former Emerson Street Landfill by Many new buildings constructed at the Site must have a sub-slab depressurization system Landfill Sub-Slab Ventilation Guidance Document Updated October 2013 and the stress agencies).	ed in accordance with the <i>Guidance for Waste-fill</i> LaBella dated October 2013 vstem installed in accordance with the <i>Former Em</i>	erson Sti	

The use of the groundwater underlying the property is prohibited without written approval from the City of Rochester and NYSDEC/NYSDOH.

Operation, Maintenance and Monitoring Plan 1740 Emerson Street

Sub-Slab Depressurization System

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

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

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

SYSTEM LAYOUT AND COMPONENTS

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

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

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

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

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

SYSTEM MAINTENANCE

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

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

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

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

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

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

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

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

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

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

MONITORING

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



Installation, Operation & Maintenance Manual TABLE OF CONTENTS

PAGE	ITEM
1	GENERAL INSTRUCTIONS: Introduction, Shipping and Receiving
2	. GENERAL INSTRUCTIONS: Installation
3	. GENERAL INSTRUCTIONS: Test & Start
4	. GENERAL INSTRUCTIONS: Maintenance
5	. GENERAL INSTRUCTIONS: Motors
6	. GENERAL INSTRUCTIONS: Warranty
7	. DISASSEMBLY INSTRUCTIONS: Plastec and Storm Blowers
8	REASSEMBLY INSTRUCTIONS: Plastec and Storm Blowers
9	. DISASSEMBLY INSTRUCTIONS: Plastec PSS Series
10	. REASSEMBLY INSTRUCTIONS: Plastec PSS Series
11	. DISASSEMBLY INSTRUCTIONS: JET Series
12	. REASSEMBLY INSTRUCTIONS: JET Series
13	. ILLUSTRATIONS: Plastec/Storm Utility Blower
14	. ILLUSTRATIONS: Plastec PSS Series Blower
15	. ILLUSTRATIONS: JET Series
16-17	. ILLUSTRATIONS: Roof Unit 15-30 Kit Assembly
18	. ILLUSTRATIONS: Roof Unit 35 Kit Assembly
19	ILLUSTRATIONS: Attachment of Plastec Fan to Weather Hood



Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

INTRODUCTION

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

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

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

CONTACT YOUR LOCAL REPRESENTATIVE FOR ANY FURTHER INFORMATION REQUIRED.

SHIPPING & RECEIVING

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

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

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

Contact your sales representative for replacement service.

HANDLING

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

STORAGE

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

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



Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

INSTALLATION

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

CAUTION! Fans contain rotating parts and electrical service is used to operate.

<u>Use appropriate safety precautions</u> during Installation, Operation and Maintenance procedures.

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

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

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

WARNING! This product must be grounded.

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

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

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

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

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



Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

TEST & START PROCEDURES

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

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

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

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

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

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

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



Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

MAINTENANCE

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

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

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

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

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

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



Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

MOTORS

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

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

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

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



Installation, Operation & Maintenance Manual GENERAL INSTRUCTIONS

WARRANTY

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

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

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

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

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

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

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

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

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

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



Installation, Operation & Maintenance Manual DISASSEMBLY INSTRUCTIONS

PLASTEC UTILITY AND STORM BLOWERS

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

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

(See Illustrations)



Installation, Operation & Maintenance Manual REASSEMBLY INSTRUCTIONS

PLASTEC UTILITY AND STORM BLOWERS

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

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

(See Illustrations)



Installation, Operation & Maintenance Manual DISASSEMBLY INSTRUCTIONS

PLASTEC PSS SERIES STAINLESS STEEL UTILITY BLOWERS

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

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

(See Illustrations)

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



Installation, Operation & Maintenance Manual REASSEMBLY INSTRUCTIONS

PLASTEC PSS SERIES STAINLESS STEEL UTILITY BLOWERS

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

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

(See Illustrations)

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



Installation, Operation & Maintenance Manual DISASSEMBLY INSTRUCTIONS

PLASTEC JET SERIES

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

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

(See Illustrations)



Installation, Operation & Maintenance Manual REASSEMBLY INSTRUCTIONS

PLASTEC JET SERIES

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

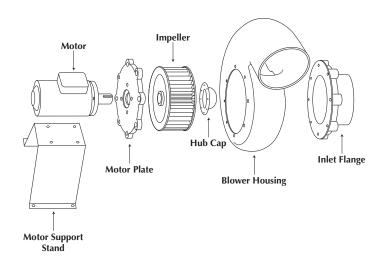
- 1) Complete steps one through five of the Utility Blower assembly procedure.
- 2) Set the motor plate into the fan body in the same orientation as it was before being removed.
- 3) Secure the motor assembly to the fan body with eight Torx head screws.
- 4) Remove the lid from the wiring box. Install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

(See Illustrations)



Installation, Operation & Maintenance Manual ILLUSTRATIONS

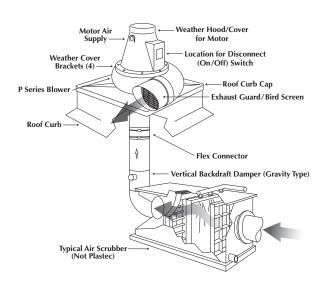
PLASTEC/STORM BLOWERS



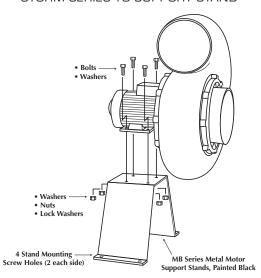
TYPICAL ROOF TOP INSTALLATION FOR PLASTEC/STORM UTILITY BLOWER



TYPICAL INSTALLATION FOR PLASTEC BLOWER WITH ROOF UNIT OPTION



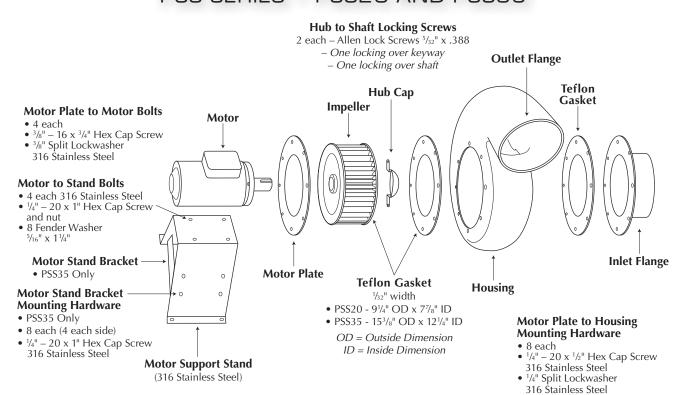
MOUNTING PLASTEC SERIES AND STORM SERIES TO SUPPORT STAND



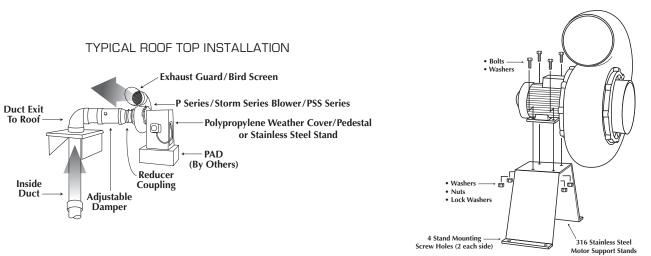


Installation, Operation & Maintenance Manual ILLUSTRATIONS

PSS SERIES - PSS20 AND PSS35



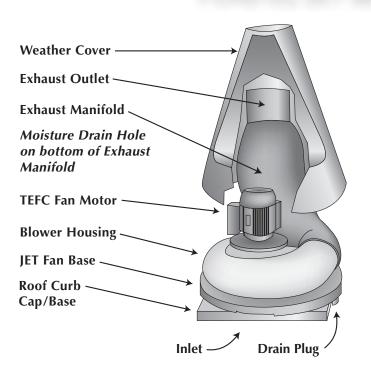
MOUNTING PSS SERIES TO SUPPORT STAND

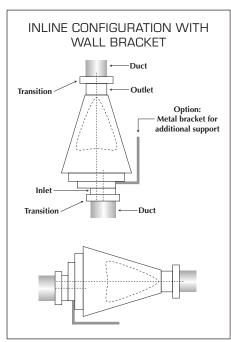


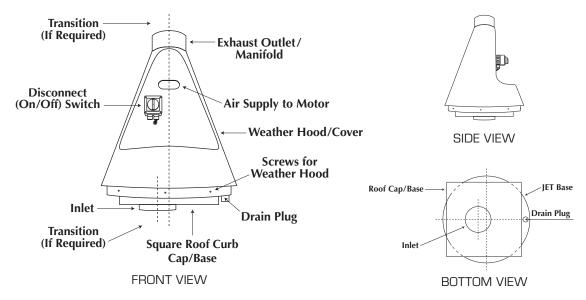


Installation, Operation & Maintenance Manual ILLUSTRATIONS

PLASTEC JET SERIES









Installation, Operation & Maintenance Manual ILLUSTRATIONS

ROOF UNIT 15 - ROOF UNIT 30 KIT ASSEMBLY





Installation, Operation & Maintenance Manual ILLUSTRATIONS

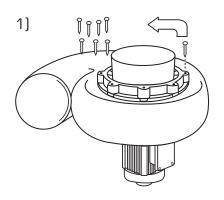
ROOF UNIT 15 - ROOF UNIT 30 KIT ASSEMBLY

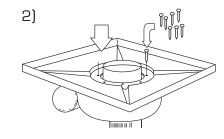
- 1) Components of Roof Kit: Roof Curb Cap, Motor Cap, Cap Bracket, Exhaust Guard
- 2) Place the cap bracket on the motor with the screwing inserts upwards.
- 3) Fix the motor flange.
- 4) Place the O-ring seal.
- 5) Place the impeller.
- 6) Push in the impeller.
- 7) Screw the hub cap on the motor shaft.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

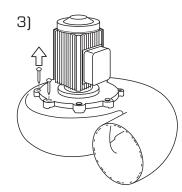


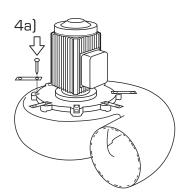
Installation, Operation & Maintenance Manual ILLUSTRATIONS

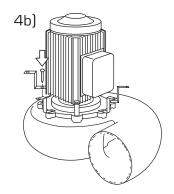
ROOF UNIT 35 KIT ASSEMBLY

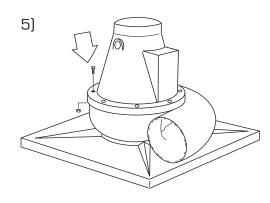


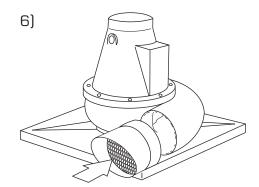












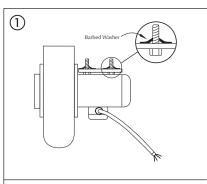
- 1) Remove inlet screws.
- 2) Place roof cap on inlet and secure with inlet screws.
- **3)** Remove applicable motor plate screws where brackets fit.
- **4)** (a & b) Attach brackets using motor plate screws.
- **5)** Attach motor weather cover to brackets using bolts, washers and nuts. (After installing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

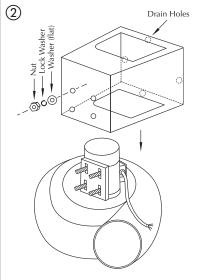


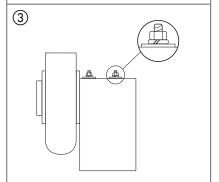
Installation, Operation & Maintenance Manual **ILLUSTRATIONS**

ATTACHMENT OF PLASTEC FAN TO WEATHER HOOD

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







Rotation and Discharge for Centrifugal Fans

OPTIONAL FIELD ADJUSTABLE POSITIONS











Notes:

Standard position is up-blast CCW 360.

[1] Direction of rotation is determined from the drive side of fan.

(2) On single inlet fans, drive side is always considered as the opposite fan inlet.





Project Name: Former Emerson Street Landfill- 1740 Emerson

Project No: 210173 Sampled By: AA

Former Emerson Street
Landfill
Date: 19-May-16
1740 Emerson Street
Weather: ~60 degress

Weather: ~60 degress clear skies Wind Speed/Direction: from SW <5 mph

ID: 1740-SVI-1					
Sub-Slab Pressure	e: 0.00 "wc				
Canister: 357					
Regulator: 375					
Helium Tracer in shroud:					
Helium Tracer at					
Sub-					
Time Vacuum Readir ("Hg)					
Start 740	30+				
830	23				
930	14				
1000	9				
1015	7				
End 1030	4.5				

ID: 174	ID: 1740-SVI-2				
Sub-Slab Pressure: 0.00 "wc					
Canister: 133					
Regulator: 300					
Helium Tracer in shroud:					
Helium Tracer at point: 0% Sub-Slab					
Sub-					
Time	Vacuum Reading ("Hg)				
Start 720	30+				
735	30				
830	26				
930	21				
1000	19				
1030	16				
1130	13				
1230	8				
1300	6				
End 1320	5				

ID: 1740-SVI-3					
Sub-Slab Pressure: 0.00 "wc Canister: 237					
Regulator: 1172					
Helium Tracer i	n shroud:				
Helium Tracer a	at point: 0%				
Sub	-Slab				
Time	Vacuum Reading ("Hg)				
Start 730	30+				
735	30+				
830	21				
930	12				
1000	7				
1015	6				
End 1030	4				

ID 1740	0.41
ID: 1740 Sub-Slab Pressure	-Outdoor
Canister: 482	· IVA
Regulator: 111	
Helium Tracer in s	shroud: NA
Helium Tracer at 1	point:NA
Outdo	or Air
Time	Vacuum Reading ("Hg)
Start 715	30
735	30
830	26
930	22
1000	19
1030	17.00
1130	13
1230	9
1300	6
End 1320	4

1 TOTOS/ / ICTIVITIES.	5 v 1-1 = duplicate (carrister 556 regulator 1154)



Project Name: Former Emerson Street Landfill- 1740 Emerson

Project No: 210173
Sampled By: AA

Date: 19-May-16

Weather: ~60 degress clear skies

Former Emerson Street Landfill 1740 Emerson Street

	0-IAQ-1				
Sub-Slab Pressure	: NA "wc				
Canister: 552					
Regulator: 1154 Helium Tracer in shroud: NA					
Helium Tracer at					
	or Air				
Time Vacuum Reading ("Hg)					
Start 700	30+				
735	30				
830	25				
930	20				
1000	18				
1030	16				
1130	12				
1230	8				
1300	6				
End 1320	4				

	0-IAQ-2
Sub-Slab Pressure	: NA "wc
Canister: 95	
Regulator: 266	1 1 274
Helium Tracer in s Helium Tracer at _l	
Indoo	or Air
Time	Vacuum Reading ("Hg)
Start 720	30+
735	30
830	25
930	21
1000	19
1030	16
1130	12
1230	7
1300	5.00
End 1320	3.5

weather.	~00 degress clear s					
Wind Speed/Direction: from SW <5 mph						
ID: 1740-IAQ-3						
Sub-Slab Pressure: NA "wc						
Canister: 202						
Regulator: 1160						
Helium Tracer in	shroud: NA					
Helium Tracer a	t point: NA					
Indo	or Air					
Time	Time Vacuum Reading ("Hg)					
Start 730	29					
735	28					
830	22					
930	16					
1000	13					
1030	10					
End 1130	5					

Notes/Activities:		



-Truck pulled into garage near room with SVI/IAQ-3 sample.

Soil Gas Testing Log

Former Emerson Street Landfill

1740 Emerson Street

Project Name: Former Emerson St Landfill- 1740 Emerson

Project No: 210173 Sampled By: AGB Date: 11/22/16

Weather: 33 and cloudy

Wind Speed/Direction: 15mph from West

Sub-Slab Pressure: 0" wc Canister: 419 Regulator: 343 Helium Tracer in shroud: NA		Sub-Slab Pressure:	Sub-Slab Pressure: 0" wc		Sub-Slab Pressure: NA		
		Canister: 1190 Regulator: 343 Helium Tracer in shroud: NA		Canister: 483			
				Regulator: 249 Helium Tracer in shroud: NA			
							Helium Tracer at po
		Sı	ub-Slab				
		Time	Vacuum Reading	Time	Vacuum Reading	Time	Vacuum Reading
815	30.0	815	30.0	820	30+		
915	2.0	915	2.0	915	27.0		
E	nd Test	Е	and Test	1035	21.0		
				1124	17.5		
				1224	13.5		
				1333	8.5		
				1442	4.0		
				E	nd Test		
N . /			1		520.45		
Notes/Activities: -S	VI-1 connected with Blind D	up to SVI-1 point location	n. Initial pressure reading or	n gauge displayed a vacuu	m of 30. After one hour		
me vacuum displayed	was 2. Canisters disconnect	ieu aner i nour.					



Former Emerson Street Landfill 1740 Emerson Street Project Name: Former Emerson St Landfill- 1740 Emerson

Project No: 210173 Sampled By: AGB Date: 11/22/16

Weather: 33 and cloudy

Wind Speed/Direction: 15mph from West

TD 1540 CVI A		TD 1710 I + O 2		TD 4540 CVI 2		
ID: 1740-SVI-2 Sub-Slab Pressure: 0	\!! ****	ID: 1740-IAQ-2 Sub-Slab Pressure: NA		ID: 1740-SVI-3 Sub-Slab Pressure: -0.006" wc		
Canister: 483) wc		Canister: 168		Canister: 243	
Regulator: 249		Regulator: 337		Regulator: 342		
	ium Tracer in shroud: NA Helium Tracer in shroud: NA		roud: NA	Helium Tracer in shroud: NA		
Helium Tracer at point: NA		Helium Tracer at po		Helium Tracer at point: NA		
Sub-Slab			loor Air	Sub-Slab		
Time	Vacuum Reading	Time	Vacuum Reading	Time	Vacuum Reading	
828	30+	830	29.5	835	30+	
924	28.0	925	26.0	926	27.0	
1036	23.5	1036	21.0	1037	21.0	
1125	20.0	1125	17.5	1127	17.5	
1224	16.5	1224	13.5	1225	13.0	
1335	11.5	1335	8.5	1337	8.0	
1456	6.0	1445	4.0	1435	4.0	
Er	nd Test	E	nd Test	End Test		
	•		'		1	
-						



Project No: 210173 Sampled By: AGB

Former Emerson Street Landfill 1740 Emerson Street

Date: 11/22/16

Weather: 33 and cloudy

Wind Speed/Direction: 15mph from West

Project Name: Former Emerson St Landfill- 1740 Emerson

ID: 1740-IAQ-3		ID: 1740-Outdoor A			
Sub-Slab Pressure: NA Sub-Slab Pressure: NA		NA			
Canister: 171		Canister: 542			
Regulator: 344		Regulator: 259			
Helium Tracer in sh		Helium Tracer in sh			
Helium Tracer at point: NA		Helium Tracer at po			
Ind	oor Air	Out	door Air	l	
Time	Vacuum Reading	Time	Vacuum Reading		
840	30.0	845	29.8		
926	27.0	936	26.0		
1037	22.0	1039	21.5		
1127	19.0	1130	17.0		
1225	15.0	1252	12.0		
1337	10.0	1340	8.5		
1455	5.0	1450	3.9		
Er	nd Test	Eı	nd Test		



Former Emerson Street Landfill- 1740 Emerson Project Name:

210173 Project No: Sampled By: AA Date:

19-Mar-18

Weather: ~35 degress clear skies **Wind Speed/Direction:** from E <5 mph

Former Emerson Street
Landfill
1740 Emerson Street

Canister: 202 Regulator: 402 Helium Tracer in shroud: NA Helium Tracer at point: NA Indoor Air Indoor Air Canister: 487 Regulator: 381 Helium Tracer in shroud: NA Helium Tracer in shroud: NA Helium Tracer at point: NA Indoor Air Indoor Air Indoor Air		Q-01 March 2018		Q-02 March 2018		03 March 2018	
Regulator: 402 Helium Tracer in shroud: NA Helium Tracer at point: NA Indoor Air Time Vacuum Reading ("Hg) Start 731 29 Start 734 30 Start 736 30+ 910 21 1025 15 1025 20 1025 14 1140 9 1155 7 1210 6 End 1240 4 End 1240 4 1335 6 Regulator: 381 Helium Tracer in shroud: NA Helium Tracer at point: NA Helium Tracer at point: NA Helium Tracer at point: NA Indoor Air Time Vacuum Reading ("Hg) Start 734 30 Start 736 30+ 910 21 1025 120 1025 14 1140 6 1155 5 14 1155 5 14 1155 5 15 1210 11.5 End 1210 4 1240 10 1335 6 1335 6 1335 6 10 10 10 10 10 10 10 10 10 10 10 1		re: NA "wc		e: NA "wc	Canister: 459 Regulator: 381 Helium Tracer in shroud: NA Helium Tracer at point: NA		
Helium Tracer in shroud: NA Helium Tracer in shroud: NA Helium Tracer at point: NA Helium Tracer in shroud: NA Helium Tracer at point: NA Indoor Air Time Vacuum Reading ("Hg) Start 736 30+	Canister: 202		Canister: 487				
Helium Tracer in shroud: NA Helium Tracer in shroud: NA Helium Tracer at point: NA Helium Tracer in shroud: NA Helium Tracer at point: NA Indoor Air Time Vacuum Reading ("Hg) Start 736 30+	Regulator: 402		Regulator: 1419				
Helium Tracer at point: NA Indoor Air Time Vacuum Reading ("Hg) Start 731 29 Start 734 30 Start 736 30+		n shroud: NA	Helium Tracer in	shroud: NA			
Time Vacuum Reading ("Hg) Start 731 29 Start 734 30 Start 736 30+							
Time Vacuum Reading ("Hg) Time Vacuum Reading ("Hg) Time Vacuum Reading ("Hg) Start 731 29 Start 734 30 Start 736 30+ 910 21 910 24 910 21 1025 15 1025 20 1025 14 1140 14 1140 6 1155 5 1210 6 1210 11.5 End 1210 4 End 1240 4 1240 10 10 1335 6							
910 21 910 24 910 21 1025 15 1025 20 1025 14 1140 9 1140 14 1140 6 1155 7 1155 14 1155 5 1210 6 1210 11.5 End 1210 4 End 1240 4 1240 10 1335 6		Vacuum Reading		Vacuum Reading		Vacuum Read	
1025 15 1025 20 1025 14 1140 9 1140 14 1140 6 1155 7 1155 14 1155 5 1210 6 1210 11.5 End 1210 4 End 1240 4 1240 10 1335 6	Start 731	29	Start 734	30	Start 736	30+	
1140 9 1140 14 1140 6 1155 7 1155 14 1155 5 1210 6 1210 11.5 End 1210 4 End 1240 4 1240 10 1335 6	910	21	910	24	910	21	
1155 7 1155 14 1155 5 1210 6 1210 11.5 End 1210 4 End 1240 10 1335 6	1025	15	1025	20	1025	14	
1210 6 1210 11.5 End 1210 4 End 1240 10 1335 6	1140	9	1140	14	1140	6	
End 1240 4 1240 10 1335 6	1155	7	1155	14	1155	5	
1335 6	1210	6	1210	11.5	End 1210	4	
	End 1240	4	1240	10			
End 1400 5			1335	6			
			End 1400	5			

Notes/Activities:	IAQ-02 March 2018 MS/MSD	
-		



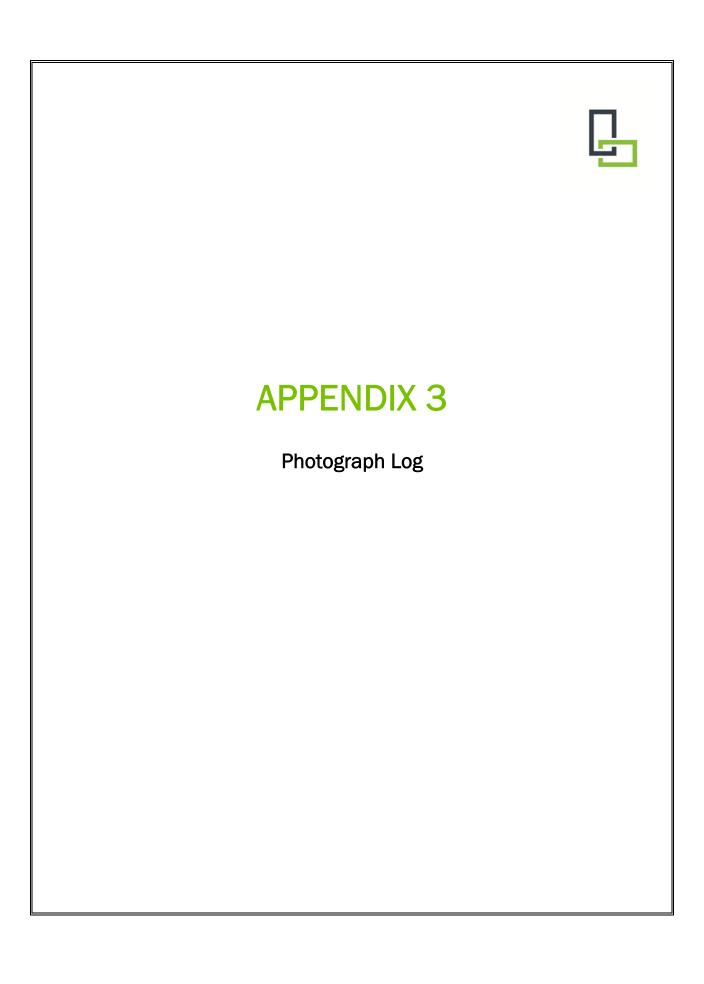
Project Name: Former Emerson Street Landfill- 1740 Emerson

Former Emerson Street Landfill 1740 Emerson Street Project No: 210173
Sampled By: AA
Date: 19-Mar-18

Weather: ~35 degress clear skies
Wind Speed/Direction: from E <5 mph

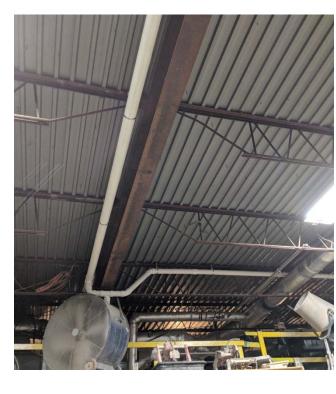
ID: Outdoor March 2018		ID: Dupe March 2018			
Sub-Slab Pressure		Sub-Slab Pressure: NA "wc			
Canister: 290		Canister: 1181			
Regulator: 1152		Regulator: 209			
Helium Tracer in	shroud: NA	Helium Tracer in	shroud: NA		
Helium Tracer at	point: NA	Helium Tracer at point: NA			
Outde	oor Air	Outdo	or Air		
Time	Vacuum Reading ("Hg)	Time	Vacuum Reading ("Hg)		
Start 743	22.5	Start 745	26		
910	7	910	19		
End 940	3	1025	13		
		1140	6		
		1155	5		
		End 1210	4		

Notes/Activities:				
-				
,				
•	•	•	•	

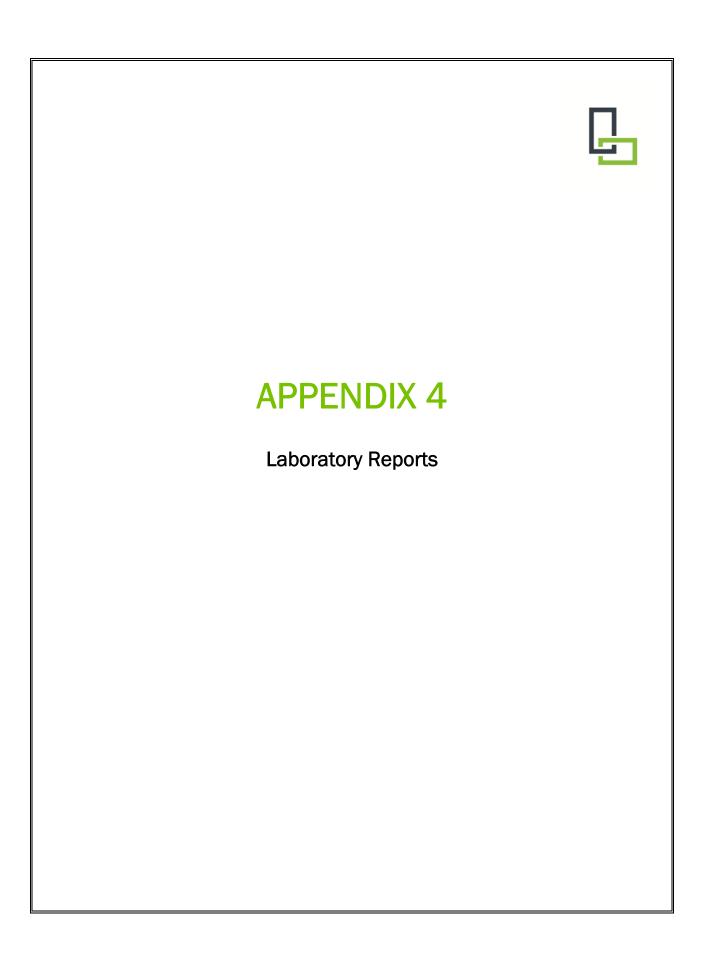












TO-15 Package Review Checklist

Client: La Bella	Project: Emerson Land	1:11 SDG: 0/605057
,		YES NO NA
Analytical Results TIC's present	Present and Complete Present and Complete Holding Times Met	
Comments:		V 2014
Chain-of-Custody	Present and Complete	
Surrogate Recovery	Present and Complete Recoveries within limits Sample(s) reanalyzed	
Internal Standards Recovery	Present and Complete Recoveries within limits Sample(s) reanalyzed	
Comments:		
Lab Control Sample (LCS)	Present and Complete Recoveries within limits	<u> </u>
Lab Control Sample Dupe (LCSD)	Present and Complete Recoveries within limits	AND
MS/MSD	Present and Complete Recoveries within limits	
Comments:		
Sample Raw Data	Present and Complete Spectra present for all samples	**************************************
Comments:	THE PROPERTY AND ADMINISTRATION OF THE PROPERTY OF THE PROPERT	
Centek Laboratories, LLC	Private and Confidential	Page 1 of 2

Private and Confidential

Page 1 of 2

TO-15 Package Review Checklist

Client: La Bella	Project: Emerson Land A	:11 SDG: C1606057
		THE PARTY OF THE P
		<u>YES NO NA</u>
Standards Data		
Initial Calibration Summary	Present and Complete	
	Calibration(s) met criteria	The state of the s
Continuing Calibration Summary	Present and Complete	AND THE PERSON NAMED AND THE P
	Calibration(s) met criteria	
Standards Raw Data	Present and Complete	AND
Comments:	The state of the s	
	The state of the s	
STREET, STREET	· · · · · · · · · · · · · · · · · · ·	
Raw Quality Control Data		`
Tune Criteria Report	Present and Complete	normalis situation continues
Method Blank Data	MB Results < PQL	MATERIAL STREET, STREE
T CO as a state of the state of	Associated results flagged "B"	and an
LCS sample data	Present and Complete	
LCSD sample data	Present and Complete	
MS/MSD sample data	Present and Complete	
Comments:		
Logbooks	SEA Code, and a second	
Injection Log	Present and Complete	,
Standards Log	Present and Complete	
Can Cleaning Log	Present and Complete	
	Raw Data Present	residence commence enteriore
Calculation sheet	Present and Complete	The second second
IDL's	Present and Complete	
Bottle Order Form	Present and Complete	
Sample Tracking Form	Present and Complete	<u> </u>
Additional Comments:		
Marian Marian - Committee	THE THE THE PARTY OF THE PARTY	

Section Supervisor: Well De	M Date:	7/6/14
QC Supervisor:		16/16
Centek Laboratories, LLC	Private and Confidential	Page 2 of 2

NYSDOH ELAP

Analytical Report

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

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

Dear Daniel Noll:

Tuesday, May 31, 2016 Order No.: C1605057

Centek Laboratories, LLC received 8 sample(s) on 5/23/2016 for the analyses presented in the following report.

Certificate No. 11830

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.

Centek Laboratories, LLC

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

Sincerely,

William Dobbin

Lead Technical Director

well Dall

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

Centek Laboratories, LLC

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

- 1. Package Review Check List
- 2. Case Narrative
- a. Corrective actions
- 3. Sample Summary Form
- 4. Sample Tracking Form
- 5. Bottle Order
- 6. Analytical Results
- a. Form 1
- 7. Quality Control Summary
- a. Qc Summary Report
- b. IS Summary Report
- c. MB Summary Report
- d. LCS Summary Report
- e. MSD Summary Report
- f. IDL's
- g. Calculation
- 8. Sample Data
 - a. Form 1 (if requested) TIC's
 - b. Quantitation Report with Spectra
- 9. Standards Data
 - a. Initial Calibration with Quant Report
 - b. Continuing Calibration with Quant Report
- 10. Raw Data
 - a. Tuning Data
- 11. Raw QC Data
 - a. Method Blank
 - b. LCS
 - c. MS/MSD
- 12. Log Books
 - a. Injection Log Book
 - b. Standards Log Book
 - c. QC Canister Log Book



Date: 06-Jul-16

CLIENT:

LaBella Associates, P.C.

Project:

Emerson Landfill

Lab Order:

C1605057

CASE NARRATIVE

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

Centek Laboratories, LLC SOP TS-80

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

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

NYSDEC ASP samples:

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

	Centek Chain of Custody	Sustody	Site Name: 1340 GG.	\vdash	
				WCDO Section Filling	Report Level
Contak Laboratonas	143 Midler Park Drive		Project. Chr.	Spots Spots	Leveil
1	Syracuse, NY 13206		CCIOL #5J	100/43	100
<i>y</i>	315-431-9730 www.Centeklahs.com	Vapor Intrusion & IAO	Quote # 0-00/	Naz 301+ EMIN 110E 25	ပ
TAT Check		Company	Joiner: 1000	→ 0/	
:e:	Surcharge %	" Label	la	Company:	
5 Business Days		ľ.	Con Novi	Invoice to:	
4 DUSINESS Days	25%	Address:	~-1-1	Address: STWI	
2 Business Dave		City, State, Zip 300	名かとゆア	City, State, Zip	
*Next Day hy 50m		100 00 00 00 00 00 00 00 00 00 00 00 00	MAM YO		
*Next Day by Noon		Cilian danil olabel		Email: Inclassification for com	ellage.com
	200%	Phone: AC 1045	10.00 1 VI DC : C WW	Dhona.	1
*For Same and Next Day TAT Ple	TAT Please Notify Lab	Capieter Dogulates	1	gt trulic.	
	Data Samulad	********	lor Analysis Kequest	Comments	Vaсциш
1-1 NC OH! B	Vise 11.	Incilina incilina	+		Starts
1	2 -	+	101		30+ 14.5
		23 6 1154	26/607		8+
7.7.0.4.		6	ST		301/38
40 CM W		997 266			30-15
120 CF.		237 1172	1		,
14-10 -144-3		202 160			79 / 5
つみるともし		7		MSIMSTO	30 / 4
luge	>	+511 Jue	À	Moder Air	307/4
•					
	m-v				
· ·					
-					
		er eserci			
Chain of Custody	Print Name	Signature		Date/Time Courter: CIRCLE ON	
Sampled by: KIND	Anny Saminon	a	May -	of Fedex UPS	Pickup/Dropaff
Relinquished by: 1/12		C	40	JNLY	ι.
Received at Lab by:	121 \ calc	Ż	つが	conder# C/	1405057 B
*** By signing Centek Labs Chain of Custody, you are accepting Centek Labs Terms and Conditions listed on the reverse side.	iain of Custody, you are acce	pting Centek Lab& Ten	ns and Conditions listed on	the reverse side.	

Page 9 of 223



Date: 06-Jul-16

CLIENT: Project: Lab Order:	LaBella Associates, P.C. Emerson Landfill C1605057		Work Orde	r Sample Summary
Lab Sample ID C1605057-001A	Client Sample ID 1740 -SVI-}	Tag Number 357,278	Collection Date 5/19/2016	Date Received 5/23/2016
C1605057-002A	1740-IAQ-1	552,1154	5/19/2016	5/23/2016
C1605057-003A	1740-SVI-2	133,300	5/19/2016	5/23/2016
C1605057-004A	1740-IAQ-2	95,266	5/19/2016	5/23/2016
C1605057-005A	1740-SVI-3	237,1172	5/19/2016	5/23/2016
C1605057-006A	1740-IAQ-3	202,1160	5/19/2016	5/23/2016
C1605057-007A	Outdoor Air	482,111	5/19/2016	5/23/2016

CLIENT: LaBella Associates, P.C.

Project: Emerson Landfill Work Order Sample Summary

Lab Order: C1605057

Tag Number Lab Sample ID Client Sample ID Collection Date Date Received

C1605057-008A Dupe 358,1154 5/19/2016 5/23/2016

CENTEK LABORATO	RIES, LLC			Sample Re	eceipt Checklist
Client Name LABELLA - ROCHESTER	/ /		Date an	d Time Receive	5/23/2016
Work Order Numbe C1605057		7	Receive	d by JDS	
Checklist completed by	Or Je	<u></u>	23 -/C Reviews	ed by <u>with the base of the ba</u>	5/25/36 Date
Matrix:	Carrier name	FedEx Gr	<u>round</u>		
Shipping container/cooler in good condition?		Yes 🔽	No 🗀	Not Presen	
Custody seals intact on shippping container/cod	iter?	Yes 🗌	No 🗀	Not Presen	
Custody seals intact on sample bottles?		Yes 🗀	No 🗀	Not Presen	$oldsymbol{arnothing}$
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 complian	çe?	Yes 🔽	No 🗀		
Water - VOA vials have zero headspace?	No VOA vials subm	nitted 🗔	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:	**************************************	war aw maw ta Bunka and transcrip			
			alad and anal and 1977 (1984) (1884) (1884) (1984) (1984)		and and all the Control of the Contr
Corrective Action	Na articological in the first form of the control o	- ,			
				ark kana di kana di saman mana di sambi di sambi di di 1911 (1816 di 1816 di 1816 di 1816 di 1816 di 1816 di 1	Administration of the Control of the

DATES REPORT

06-Jul-16

<u>_</u>	7	
,		ĺ
•	I les	
,	210	
	abor	
-		
•	3	
ζ		

LaBella Associates, P.C.

C1605057

Lab Order: Client:

Project:	Emerson Landfill				:	,	
Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date Prep Date	Prep Date	Anatysis Date
C1605057-001A 1740-SVF-1	1740-SVF1	5/19/2016	Air	sug/M3 by Method TO15			5/26/2016
C1605057-002A	1740-IAQ-1			lug/m3 w/ 0.25 ng/M3 CT-TCE-VC			5/25/2016
C1605057-003A	1740-SVI-2			lug/M3 by Method TO15			5/27/2016
				lug/M3 by Method TO15			\$726/2016
C1605057-004A	1740-14Q-2			lug/m3 w/ 0,25ug/M3 CT-TCE-VC			\$/25/2016
C1605057-005A	1740-SVI-3			lug/M3 by Method TO15			5/26/2016
C1605057-006A	1740-IAQ-3			lug/m3 w/ 0.25ug/M3 CT-FCE-VC			5/25/2016
C1605057-007A	Outdoor Air			1ug/m3 w/ 0.25ug/M3 CT-TCE-VC			5/25/2016
C1605057-008A	Dupe			lug/m3 w/ 0,25ug/M3 CT-TCE-VC			5/25/2016



CANISTER ORDER

CENTEK LABORATORIES, LLC

Air Quality Testing...It's a Clas-

143 Midler Park Drive * Syracuse, NY 13206 TEL: 315-431-9730 * FAX: 315-431-9731 5780

06-Jul-16

SHIPPED TO:

Company: LaBella Associates, P.C.

Contact: Ann Aquilina

Address: 300 State Street, Suite 201

Rochester, NY 14614

Description

Phone: (585) 454-6110

Quote ID: (

Can / Reg ID

Project:

PO: Emerson Street L

Submitted By:

MadeBy: rjp

Ship Date: 5/16/2016

VIA: FedEx Ground

Due Date: 5/17/2016

Bottle Code	Sottle Type	TEST(s)	QTY
MC1400GC	1.4L Mini-Can	1ug/m3 w/ 0.25ug/M3 CT-TCE-VC	1
MC1000CC	1L Mini-Can	1ug/M3 by Method TO15	

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

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

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 ANALYTICAL RESULTS

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-001A

Date: 05-Jul-16

C. Client Sample ID: 1740 -SVI-1

Tag Number: 357,278

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qı	al Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-5		"Hg		5/23/2016
Lab Vacuum Out	-30		"Hg		5/23/2016
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	Vđqq	1	5/26/2016 9:02:00 AM
1.1-Dichloroethane	< 0.15	0.15	∨dqq	1	5/26/2016 9:02:00 AM
1,1-Dichloroethene	< 0.15	0.15	∨dqq	1	5/26/2016 9:02:00 AM
Chloroethane	< 0.15	0.15	Vđạq	1	5/26/2016 9:02:00 AM
Chloromethane	< 0.15	0.15	ppb∨	1	5/26/2016 9:02:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15	∨dqq	1	5/26/2016 9:02:00 AM
Tetrachloroethylene	0.25	0.15	∨dqq	1	5/26/2016 9:02:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	5/26/2016 9:02:00 AM
Trichloroethene	0.61	0.15	₽₽b∨	3	5/26/2016 9:02:00 AM
Vinyl chloride	0.23	0.15	Vdqq	1	5/26/2016 9:02:00 AM
Surr: Bromofluorobenzene	96.0	70-130	%REC	1	5/26/2016 9:02:00 AM

Qualifiers:

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

Page 1 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-001A

Date: 05-Jul-16

Client Sample ID: 1740 -SVI-1

Tag Number: 357,278

Collection Date: 5/19/2016

Matrix: AIR

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

Qualifiers:

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

Page 1 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-002A

Date: 05-Jul-16

C. Client Sample ID: 1740-IAQ-1

Tag Number: 552,1154

Collection Date: 5/19/2016

Matrix: AIR

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

Qualifiers:

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

Page 2 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-002A

Date: 05-Jul-16

Client Sample ID: 1740-IAQ-1

Tag Number: 552,1154

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qua	d Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	5/25/2016 4:47:00 AM
1,1-Dichloroethane	< 0.61	0.61	սց/m3	1	5/25/2016 4:47:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 4:47:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 4:47:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	5/25/2016 4:47:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 4:47:00 AM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 4:47:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 4:47:00 AM
Trichloroethene	< 0.21	0.21	ug/m3	1	5/25/2016 4:47:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	5/25/2016 4:47:00 AM

Qualifiers:

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

Page 2 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: Clo

C1605057

Emerson Landfill

Project: Lab ID:

C1605057-003A

Date: 05-Jul-16

Client Sample ID: 1740-SVI-2

Tag Number: 133,300

Collection Date: 5/19/2016

Matrix: AlR.

Analyses	Result	**Limit Qu	ial Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-4		"Hg		5/23/2016
Lab Vacuum Out	~30		"Hg		5/23/2016
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.14	0.15 J	₽pb∨	1	5/26/2016 1:56:00 PM
1,1-Dichloroethane	< 0.15	0.15	∨dqq	1	5/26/2016 1:56:00 PM
1,1-Dichloroethene	< 0.15	0.15	ppb∨	1	5/26/2016 1:56:00 PM
Chloroethane	< 0.15	0.15	ррЬ∨	1	5/26/2016 1:56:00 PM
Chloromethane	< 0.15	0.15	ppb∨	1	5/26/2016 1:56:00 PM
cis-1,2-Dichloroethene	1.6	0.15	Vđqq	1	5/26/2016 1:55:00 PM
Tetrachloroethylene	0.37	0.15	₽₽₽V	1	5/26/2016 1:56:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	5/26/2016 1:56:00 PM
Trichloroethene	3.0	0.30	Vdqq	2	5/27/2016 3:24:00 AM
Vinyi chloride	0.45	0.15	ppbV	1	5/26/2016 1:56:00 PM
Surr: Bromofluorobenzene	98.0	70-130	%REC	1	5/26/2016 1:56:00 PM

Qualifiers:

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

Page 3 of 8

CLIENT: LaBella Associates, P.C.

Lab Order:

C1605057

Project: En

Emerson Landfill

Lab ID:

C1605057-003A

Date: 05-Jul-16.

Client Sample ID: 1740-SVI-2

Tag Number: 133,300

Collection Date: 5/19/2016

Matrix: AlR

Analyses	Result	**Limit	Quai	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		то	-15			Analyst: RJP
1,1,1-Trichloroethane	0.76	0.82	Ţ	ug/m3	1	5/26/2016 1:56:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	5/26/2016 1:56:00 PM
1.1-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	5/26/2016 1:56:00 PM
Chloromethane	< 0,31	0.31		ug/m3	1	5/26/2016 1:56:00 PM
cis-1,2-Dichloroethene	6.2	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Tetrachloroethylene	2.5	1.0		ug/m3	1	5/26/2016 1:56:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Trichloroethene	16	1.6		ug/m3	2	5/27/2016 3:24:00 AM
Vinvl chloride	1.2	0.38		ug/m3	1	5/26/2016 1:56:00 PM

Qualifiers:

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

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID:

C1605057-004A

Date: 05-Jul-16

Client Sample ID: 1740-1AQ-2

Tag Number: 95,266

Collection Date: 5/19/2016

Matrix: AIR

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

Qualifiers:

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

Page 4 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID:

C1605057-004A

Date: 05-Jul-16

Client Sample ID: 1740-IAQ-2

Tag Number: 95,266

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qua	Units	ÐF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	5/25/2016 5:28:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/25/2016 5:28:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 5:28:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 5:28:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	5/25/2016 5:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 5:28:00 AM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 5:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 5:28:00 AM
Trichloroethene	< 0.21	0.21	ug/m3	1	5/25/2016 5:28:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	5/25/2016 5:28:00 AM

Qualifiers:

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

Page 4 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-005A

Date: 05-Jul-16

.C. Client Sample ID: 1740-SVI-3

Tag Number: 237,1172

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qı	ial Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	^4		"Hg		5/23/2016
Lab Vacuum Out	-30		"Hg		5/23/2016
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	Vđqq	1	5/26/2016 2:36:00 PM
1,1-Dichloroethane	< 0.15	0.15	Vđqq	1	5/26/2016 2:36:00 PM
1,1-Dichloroethene	< 0.15	0.15	Vdqq	1	5/26/2016 2:36:00 PM
Chloroethane	< 0.15	0.15	Vdqq	1	5/26/2016 2:36:00 PM
Chloromethane	< 0.15	0.15	ppbV	1	5/26/2016 2:36:00 PM
cis-1,2-Dichloroethene	2.0	0.15	PpbV	1	5/26/2016 2:36:00 PM
Tetrachioroethylene	< 0.15	0.15	ppbV	1	5/26/2016 2:36:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	Vďqq	1	5/26/2016 2:36:00 PM
Trichloroethene	1.1	0.15	ppb∨	1	5/26/2016 2:36:00 PM
Vinyl chloride	< 0.15	0.15	ppbV	1	5/26/2016 2:36:00 PM
Surr: Bromofluorobenzene	97,0	70-130	%REC	1	5/26/2016 2:36:00 PM

Qualifiers:

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

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID:

C1605057-005A

Date: 05-Jul-16

.C. Client Sample ID: 1740-SVI-3

Tag Number: 237,1172

Collection Date: 5/19/2016

Matrix: AlR

Analyses	Result	**Limit Qua	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	បg/m3	1	5/26/2016 2:36:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/26/2016 2:36:00 PM
1,1-Dichtoroethene	< 0.59	0.59	ug/m3	1	5/26/2016 2:36:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	5/26/2016 2:36:00 PM
Chloromethane	< 0.31	0.31	ug/m3	1	5/26/2016 2:36:00 PM
cis-1,2-Dichloroethene	7.8	0.59	ug/m3	1	5/26/2016 2:36:00 PM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	5/26/2016 2:36:00 PM
trans-1,2-Dichtoroethene	< 0.59	0.59	ug/m3	1	5/26/2016 2:36:00 PM
Trichloroethene	5.9	0.81	ug/m3	1	5/26/2016 2:36:00 PM
Vinyl chloride	< 0.38	0.38	ug/m3	1	5/26/2016 2:36:00 PM

Qualifiers:

** Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte, Quantitation estimated.

S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 5 of 8

CLIENT:

LaBella Associates, P.C.

Lab Order:

C1605057

Emerson Landfill

Project: Lab ID:

C1605057-006A

Date: 05-Jul-16

Client Sample ID: 1740-IAQ-3

Tag Number: 202,1160

Collection Date: 5/19/2016

Matrix: AIR

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

Qualifiers:

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

Page 6 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-006A Date: 05-Jul-16

Client Sample 1D: 1740-IAQ-3

Tag Number: 202,1160

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qu	ial Units	DF	Date Analyzed
UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichtoroethane	< 0.82	0.82	ug/m3	1	5/25/2016 6:10:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/25/2016 6:10:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:10:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 6:10:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	5/25/2016 6:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:10:00 AM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 6:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:10:00 AM
Trichloroethene	0.81	0.21	ug/m3	1	5/25/2016 6:10:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	5/25/2016 6:10:00 AM

Qualifiers:

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

Page 6 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-007A

Vinyt chloride

Surr: Bromofluorobenzene

Date: 05-Jul-16

Client Sample ID: Outdoor Air

Tag Number: 482,111 Collection Date: 5/19/2016

Matrix: AIR

Analyses **Limit Qual Units Result DF Date Analyzed FIELD PARAMETERS FLD Analyst: Lab Vacuum In -4 "Hg 5/23/2016 Lab Vacuum Out -30 "Hg 5/23/2016 1UG/M3 W/ 0.25UG/M3 CT-TCE-VC TO-15 Analyst: RJP 1,1,1-Trichloroethane < 0.15 0.15 ppbV 1 5/25/2016 6:51:00 AM 1,1-Dichloroethane < 0.15 0.15 ppbV 1 5/25/2016 6:51:00 AM 1.1-Dichloroethene < 0.15 0.15 ppbV 5/25/2016 6:51:00 AM Chloroethane < 0.15 0.15 Vdqq 5/25/2016 6:51:00 AM Chloromethane 0.51 0.15 ppbV 5/25/2016 6:51:00 AM cis-1,2-Dichloroethene < 0.15 0.15 ppbV 5/25/2016 6:51:00 AM 1 Tetrachloroethylene < 0.15 0.15 Vdaq 5/25/2016 6:51:00 AM trans-1,2-Dichloroethene < 0.15 0.15 Vợqq 5/25/2016 6:51:00 AM 7 Trichloroethene < 0.040 0.040 ppbV 5/25/2016 6:51:00 AM

0.040

70-130

∨dqq

%REC

< 0.040

93.0

Qualifiers:

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

NO Not Detected at the Limit of Detection

Page 7 of 8

5/25/2016 6:51:00 AM

5/25/2016 6:51:00 AM

CLIENT: LaBella Associates, P.C.

Lab Order:

C1605057

Emerson Landfill

Project: Lab ID:

C1605057-007A

Date: 05-Jul-16

Client Sample ID: Outdoor Air

Tag Number: 482,111

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qu	al 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	t	5/25/2016 6:51:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/25/2016 6:51:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:51:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 6:51:00 AM
Chloromethane	1.1	0.31	ug/m3	1	5/25/2016 6:51:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:51:00 AM
Tetrachioroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 6:51:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:51:00 AM
Trichloroethene	< 0.21	0.21	ug/m3	1	5/25/2016 6:51:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	5/25/2016 6:51:00 AM

Qualifiers:

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

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-008A Date: 05-Jul-16

marine manufacture of the property of the prop

Client Sample 1D: Dupe

Tag Number: 358,1154 Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-4		"Hg		5/23/2016
Lab Vacuum Out	-30		"Hg		5/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichtoroethane	< 0.15	0.15	ppb∨	1	5/25/2016 3:45:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	1	5/25/2016 3:45:00 PM
1,1-Dichloroethene	< 0.15	0.15	∨dqq	1	5/25/2016 3:45:00 PM
Chloroethane	< 0.15	0.15	ppb∨	1	5/25/2016 3:45:00 PM
Chloromethane	< 0.15	0,15	∨dqq	1	5/25/2016 3:45:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	5/25/2016 3:45:00 PM
Tetrachloroethylene	< 0.15	0.15	ρρbV	1	5/25/2016 3:45:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	5/25/2016 3:45:00 PM
Tríchioroethene	0.13	0.040	ppbV	1	5/25/2016 3:45:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	1	5/25/2016 3:45:00 PM
Surr: Bromofluorobenzene	101	70-130	%REC	1	5/25/2016 3:45:00 PM

Qualifiers:

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

CLIENT:

LaBella Associates, P.C.

Lab Order:

C1605057

Project:

Emerson Landfill

Lab ID:

C1605057-008A

Date: 05-Jul-16

Client Sample 1D: Dupe

Tag Number: 358,1154

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	5/25/2016 3:45:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/25/2016 3:45:00 PM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 3:45:00 PM
Chloroethane	< 0.40	0.40	սց/m3	1	5/25/2016 3:45:00 PM
Chloromethane	< 0.31	0.31	ยg/m3	1	5/25/2016 3:45:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 3:45:00 PM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 3:45:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 3:45:00 PM
Trichloroethene	0.70	0.21	ug/m3	1	5/25/2016 3:45:00 PM
Vinyl chloride	< 0.10	0.10	นg/m3	1	5/25/2016 3:45:00 PM

Qualifiers:

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

Page 8 of 8

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 QUALITY CONTROL SUMMARY



Date: 05-Jul-16

QC SUMMARY REPORT SURROGATE RECOVERIES

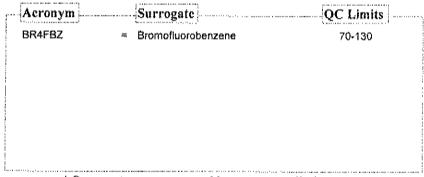
CLIENT: LaBella Associates, P.C.

Work Order: C1605057

Project: Emerson Landfill

Test No: TO-15 Matrix: A

Sample ID	BR4FBZ	
ALCS1UG-052416	99.0	
ALCS1UG-052516	95.0	
ALCS1UG-052616	96.0	
ALCS1UGD-052416	98.0	
ALCS1UGD-052516	98.0	**************************************
ALCS1UGD-052616	95.0	
AMB1UG-052416	103	
AMB1UG-052516	90.0	
AMB1UG-052616	93.0	
C1605057-001A	96,0	
C1605057-002A	110	
C1605057-003A	98.0	
C1605057-004A	97.0	
C1605057-005A	97.0	
C1605057-006A	92.0	
C1605057-007A	93.0	
21605057-007A MS	96.0	
1605057-007A MSD	94.0	
C1605057-008A	101	



* Surrogate recovery outside acceptance limits

Centek Laboratories, LLC GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN052402.D
Tune Time : 24 May 2016 9:01 am

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

(IS1) (IS2) (IS3) 28909 124023 112008 (BFB)

						20909	124023	112000	
	Sample		Surrogate	Recovery	₽-	Internal	Standard I	?esponses	
	ALCS1UG-05241		99	na are use ata dan inse sun Ja kin a		27568	121586	110436	
	AMB1UG-052416		103			32220		130938	
	ALCS1UGD-0524		98			30886	136888	122919	
AN052425.D	C1605057-002A		110	W W W W W W W W W W W W W W W W W W W	_ 20 20 00	31146	143773	131129	
AN052426.D	C1605057-004A		97			32994	151877	134890	
	C1605057-006A		92			34031	154167	139832	
	C1605057-007A		93			33187	153820	134344	
AN052429.D	C1605057-007A	MS	96			35023	155307	141397	
AN052430.D	C1605057-007A	MSD	94	77 PR		33863	151029	134777	
		,							

t - fails 24hr time check * - fails criteria

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

Centek Laboratories, LLC GC/MS QA-QC Check Report

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

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

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

File	Sample		Surrogate	Recovery	& 	Internal	Standard	Responses	
	ALCS1UG-05251		95	NE DV DE DE DE DE DV DE NO DO	No. 117 117 117	32260	144109	128882	
AN052504.D	AMB1UG-052516		90			29901	138589	122793	
AN052511.D	C1605057-008A		101			31435	140644	130607	
AN052526.D	ALCS1UGD-05251	L 6	98			28173	119863	110297	
AN052537.D	C1605057-001A		96			38693	176249	164783	

t - fails 24hr time check * - fails criteria

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

Centek Laboratories, LLC GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN052603.D Tune Time : 26 May 2016 11:20 am

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

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

File	Sample	DL	Surrogate	Recovery	8	Internal	Standard	Responses	
AN052605.D	AMB1UG-052616		93			35017	160418	141574	
AN052606.D	ALCS1UG-05261	6	96			33909	160629	142992	
AN052607.D	C1605057-003A		98			35540	169900	156999	
AN052608.D	C1605057-005A		97			38889	194963	178304	
AN052627.D	C1605057-003A	2X	100			33396	156833	146762	
AN052628.D	ALCS1UGD-0526	16	95	TO THE OF HE MET ON AND AND AND AND		33398	153762	138123	W W W W

t - fails 24hr time check * - fails criteria

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

TestCode: 0.25CT-TCE-VC

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limit

~~ c~;



ANALYTICAL QC SUMMARY REPORT

Date: 05-Jul-16

LaBella Associates, P.C. CLAENT:

C1605057 Work Order: Project:

Emerson Landfill

Sample ID ALCS1UG-052416	SampType: LCS	TestCo	TestCode: 0.25CT-TCE-	Units: ppbV		Prep Date:	āú		RunNo: 10999		
Client ID: ZZZZZ	Batch ID: R10999	Test	TestNo: TO-15			Analysis Date:	e: 5/24/2016	16	SeqNo: 128925	ю	
Analyte	Resuit	Pal	SPK value SP	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD R	RPDLimit	Ottail
1,1,1-Trichloroethane	0.9900	0.15	+	0	99.0	70	130				
1,1-Dichloroethane	1.020	0.15	τ	0	102	70	130				
1,1-Dichloroethene	1.020	0.15	Ţvr	0	102	70	130				
Chloroethane	1.140	0.15	Mann	o	4.4	22	130				
Chloromethane	1,250	0.15	ų.	O	125	22	130				
cis-1,2-Dichloroethene	0.9900	0.15	4	O	99.0	70	130				
Tetrachioroethylene	1.040	0.15	***	O	40	73	130				
Irans-1,2-Dichloroethene	0.9800	0.15		0	98.0	70	130				
Trichloroethene	1.050	0.040	₩.	0	105	70	130				
Vinyl chioride	1.190	0.040	-	0	119	70	130				
Sample ID ALCS1UG-052516	SampType: LCS	TestCo	TestCode: 0,25CT-TCE-	Units: ppbV		Prep Date:	ia)		RunNo: 11000		
Cflent ID: ZZZZZ	Batch ID: R11000	Test	TestNo: TO-15			Analysis Date:	e: 5/25/2016	16	SeqNo: 128944	7	
Analyte	Resuft	PQL	SPK value SP	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD R	RPDLimit	Qual
f,1,1-Trichloroethane	1.010	0.15	•	0	101	70	130				
1, 1-Dichloroethane	1.080	0.15	₹"	O	108	70	130				
1,1-Dichloroethene	1.050	0.15	•	Û	105	02	130				
Chloroethane	1,190	0.15	¥.	0	119	70	130				
Chloromethane	1 220	0.15	T	0	122	70	130				
cis-1,2-Dichloroethene	1.040	0.15	dun	0	* 0 *	70	130				
Tetrachloroethylene	1.100	0.15	v-	¢	110	70	130				
trans-1,2-Dichloroethene	1.020	0.15	4 ···	0	102	02	130				
Trichloroethene	1.090	0.040	₩-	ð	109	70	130				
Qualifiers. Results report	Results reported are not blank corrected		E Estimated V	Estimated Value above guantitation range	tation rang	9	=	dolding times for a	Holding times for preparation or analysis exceeded	vsis exceede	700
j Analyte detec	Analyte detected below quantitation limit		ND Not Detecte	Not Detected at the Limit of Detection	, Jetection			PD outside accen	RPD outside accorded recovery limits		3
. ,								the same beautiful to the	descript fine space and		

CLIENT:		LaBella Associates, P.C.	}									
Project:		andfil							TestCode: 0	0.25CT-TCE.VC	Ų.	
)	
Sample ID	Sample ID ALCS1UG-052516	SampType: LCS	TestCo	TestCode: 0.25CT-TCE-	E- Units: pobV		Prep Date:	11		RunNo: 11000		
,	7	BAICH ILL: K11000	Fest				Anaiysis Date:	(e: 5/25/2016	016	SeqNo: 128944	*	
Alianyle		Kesuit	Po	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD R	RPDLimit	Qual
					•							
Qualifiers:		Results reported are not blank corrected Analyte detected below quantitation firmf		E Estimate ND Not Det	Estimated Value above quantitation range Not Deserted at the 3 imit of Desertion	Mitation range Detection	a)	π ۵	Holding times for p	Holding times for preparation or analysis exceeded	sis exceeder	-
	S Spike Recove	Spike Recovery outside accepted recovery limits	Sign		colou al une compresa	Detection			KPD outside accep	RPD oatside accepted recovery limits	(,

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

-- --

Estimated Value above quantitation range Not Detected at the Limit of Detection

m g

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

-- s

Qualifiers:

Work Order: C1605057										
	andfill						£	estCode: 1	TestCode: 1ugM3_T015	
Sample ID ALCS1UG-052616	SampType: LCS	TestCo	TesiCode: 1ugM3_TO15 Units: ppbV	S: ppbV		Prep Date:	te:		RunNo: 11001	
Client ID: ZZZZZ	Batch ID: R11001	Test	TesiNo: TO-15		-4	Analysis Date:	ite: 5/26/2016	116	SeqNo: 128976	
Analyte	Result	PQL	SPK value SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Vai	%RPD RPDLimit	Quai
1,1,1-Trichloroethane	0.9500	0.15	1	0	95.0	70	130			
1,1-Dichloroethane	1.040	0.15	-	0	10	70	130			
1,1-Dichloroethene	1.040	0.15	-	0	104	70	130			
Chloroethane	1.200	0.15		0	120	70	130			
Chloromethane	1,270	0.15	₹	ф.	127	70	130			
cis-1,2-Dichloroethene	1.000	0.15	•	0	100	70	133			
Tetrachloroethylene	1.060	0.15		0	106	22	130			
trans-1,2-Dichloroethene	0.9900	0.15	V erm	0	39.0	70	130			
Trichforcethene	1.070	0.15	don	¢	107	70	130			
Vinyl chloride	1.280	0.15	** -	Ф	128	70	130			

LaBella Associates, P.C.

CLIENT:



ANALYTICAL QC SUMMARY REPORT

Date: 05-Jul-16

LaBella Associates, P.C. CLIENT:

C1605057 Work Order:

Project: Emerson Landfill	ındfill						(TestCode: 0.25CT-TCE.VC).25CT-TC	E-VC	
Sample ID ALCS1UGD-052416 SampType: LCSD	SampType: LCSD	TesfCo	TestCode: 0.25CT-TCE-	E- Units: ppbV		Prep Date:	.;		RunNo: 10999	666	
Client ID: ZZZZZ	Batch ID: R10999	Test	TestNo: TO-15			Analysis Date:	e: 5/25/2016	16	SeqNo: 12	128926	
Analyte	Result	집	SPK value	SPK Ref Val	%REC	LowLimit	Hight.imit	RPD Ref Val	%RPD	RPOLimit	Qual
1,1,1-Trichloroethane	1.080	0.15	Ļ	0	108	2	130	0.99	8.70	30	
1,1-Dichloroethane	1.110	0.15		٥		70	130	1.02	8.45	30	
1,1-Dichloroethene	1.090	0.15	***	0	109	20	130	1.02	6,64	8	
Chloroethane	1.200	0.15	***	O.	120	70	130	7	5.13	33	
Chloromethane	1.270	0.15	•	0	127	22	130	1.25	1.59	8	
cis-1,2-Dichloroethene	1.040	0.15	Aun	0	₽	70	130	0.99	4.93	33	
Tetrachloroethylene	1.110	0.15	V IT	0	A-er Acer A-er	70	130	1.04	6.51	33	
trans-1,2-Dichloroethene	1.050	0.15	γm	0	105	20	130	0.98	6.90	30	
Trichloroethene	1.100	0.040	Aum	Ф	110	202	130	1.05	4.65	8	
Vinyl chloride	1.220	0.040	Anr	ō	122	202	130	1.19	2.49	30	
Sample ID ALCS1UGD-052516	SampType: LCSD	TestCo	TestCode: 0.25CT-TCE-	XE- Units: ppbV		Prep Date:	, i		RunNo: 11000	000	
Client (D: ZZZZZ	Batch ID: R11000	Test	TestNo: TO-15			Analysis Date:	e: 5/26/2016	16	SeqNo: 128945	3945	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual

sis exceeded	Holding times for preparation or analysis exceeded RPD outside accepted recovery limits	Holding times for preparation or analy RPD outside accepted recovery limits	H Holdi		Estimated Value above quantitation range Not Detected at the Limit of Detection	ue above qua it the Limit o	Estimated Value above quantitation ra Not Detected at the Limit of Detection	₩ 2		biank corrected quantitation linsi	Results reported are not blank corrected Analyte detected below quantitation limit	Qualifiers:
	!											
8	4.48	1.09	130	70	114	0	-	c	0.048	1.140		Trichloroethene
8	1.94	1.02	130	22	104	0	-	S	0.15	1.040	thene	trans-1,2-Dichloroethene
30	1.80	 -	130	7.0	112	0	-	2	0.15	1.120	Ď,	Tetrachioroethylene
30	0.968	1.04	130	70	103	O	-	ις.	0.15	1:030	ene	cis-1,2-Dichloroethene
30	5.04	1.22	130	70	116	O	-	ις.	0.15	1.160		Chloromethane
ස	3.31	1.19	130	20	123	0	_	S)	0.15	1.230		Chloroethane
30	2.82	1.05	130	70	108	0	-	ις.	0.15	1.080		1,1-Dichloroethene
30	0.922	1.08	\$30	33	109	O	-	ω	0.1	1,090		1,1-Dichloroethane
	ř	 	130	20	<u>-</u>	0	Ψ.	co.	0.15	1.110	90	1, i, 1-1 nchloroethare

Work Order:	C1605057	C1605057										
Project:	Emerson Landfill							Te	stCode: (TestCode: 0.25CT-TCE-VC	3-VC	
Sample ID ALCS	Sample ID ALCS1UGD-052516 SampType: LCSD	ampType: LCSD	TesfCo	de: 0.25CT-TC	TestCode: 0.25CT-TCE- Units: ppbV		Prep Date:) 		RunNo: 11000	00	
Client ID: ZZZZZ		Batch ID: R11000	Test	TestNo: TO-15		-	Analysis Dat	Analysis Date: 5/26/2016	**	SeqNo: 128945	945	
Analyte		Result	POL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	PD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Vinyl chloride		1,230	0.040	+	0	123	70	130	1.18	4.15	30	

Qualifiers:		Results reported are not blank corrected	E Estimated Value above quantitation rang	ge H	Holding times for preparation or analysis exceeded
	 -	Analyte detected below quantitation limit	ND Not Detected at the Limit of Detection	A R	RPD outside accepted recovery limits
	⊘ n	Spike Recovery outside accepted recovery limits			Page 2 of

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

= ~

Estimated Value above quantitation range Not Detected at the Limit of Detection

⇔ ∂

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

Qualifiers:

CLIENT:	LaBella Ass	LaBella Associates, P.C.										
Work Order:	C1605057											
Project;	Emerson Landfill	ndfill						Eurk	stCode: 1	TestCode: lugM3_TO15	53	
Sample ID ALCS1UGD-052616	UGD-052616	SampType: LCSD	TestCo	de: 1ugM3_T	TestCode: 1ugM3_T015 Units: ppbV		Prep Date:	je .		RupNo. 11081	E	
Client ID: ZZZZ		Batch ID: R11001	Tes#	TestNo: TO-15	:		Analysis Date:	e: 5/27/2016	g.	SeqNo: 128977	3977	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLinit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Oual
1,1,1-Trichloroethane	9.	0.9800	0.15	-	0	98.0	70	130	0.95	3.11	30	
1,1-Dichloroethane		1.080	0.15	Arn	0	108	70	130	1.04	3.77	8 8	
1,1-Dichloroethene		1,070	0.15	****	Đ	107	70	130	9.	2.84	3 68	
Chloroethane		1.170	0.15	***	Ö	117	70	130	1.2	2.53	8	
Chloromethane		1,210	0.15	-	0	121	20	130	1.27	4.84	30	
cis-1,2-Dichloroethene	311e	1.020	0.15	-	0	102	70	130		1.98	; £	
Tetrachloroelinylene		1.060	0.15	-	0	106	70	130	1.06	0	98	
trans-1,2-Dichloroethene	hene	1.020	0.15	1	0	102	2	33	0.99	2.99	: E	
Trichloroethene		1.080	0.15	F	0	108	22	130	1.07	0.930	. e	
Viny! chloride		1.140	0.15		0	114	70	130	1.28	11.5	36	

TestCode: 0.25CT-TCE-VC



ANALYTICAL QC SUMMARY REPORT

Date: 05-Jul-16

LaBella Associates, P.C. CLIENT:

C1605057 Work Order: Emerson Landfill Project:

Sample ID AMB1UG-052416	SampType: MBLK	TestCo	le: 0.25CT-TCI	TestCode: 0.25CT-TCE- Units: ppbV		Prep Date:	31e.		RunNo: 10999	666	
Client ID: ZZZZZ	Batch ID: R10999	Test	Testino: TO-15		7	Analysis Da	Analysis Date: 5/24/2016	016	SeqNo: 128924	8924	
Analyte	Result	Pal	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Q
1,f,1-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichkoroethene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.15	0.15									
Tetrachioroethylene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
Trichloroethene	< 0.040	0.040									
Vinyl chloride	< 0.040	0.040									

Sample ID AMB1UG-052516	SampType: MBLK	TestCox	le: 0.25CT-TCE	TesiCode: 0.25CT-TCE- Units: ppbV		Prep Date:	te:		RunNo: 11000		
Client ID: ZZZZZ	Batch ID: R11000	Test	TestNo: TO-15			Analysis Date: 5/25/2016	te: 5/25/2	016	SeqNo: 128943		
Anaiyte	Result	Po	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	HighLimif	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual	DLimit (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									
Tetrachioroethylene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
Trichloroethene	< 0.040	0.040									

Results reported are not blank corrected Qualifiers:

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limit s/h

Not Detected at the Limit of Detection ω <u>θ</u>

Estimated Value above quantitation range

Holding times for preparation or analysis exceeded **-** ~

RPD outside accepted recovery limits

CLIENT: Work Order:	LaBella As C1605057	LaBella Associates, P.C. C1605057										7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Emerson Landfill		andfill								TestCode: (0.25CT-TCE-VC	
AMB1UG-052516 ZZZZZ		SampType: MBLK Batch ID: R11000	TestCo	rstCode: 0.25CT TestNo: TO-15	TestCode: 0.25CT-TCE- TestNo: TO-15	E. Units: ppbV		Prep Date: Analysis Date:	i)	5/25/2016	RunNo: 11000 SeqNo: 128943	
		Result	POL	SPK	SPK value	SPK Ref Val	%REC	LowLimi	HighLimit	il RPD Ref Val	%RPD RPDLimit	it Quai
		< 0.040	0.040									
	3											
Results report		Results reported are not blank corrected		щŞ	Estimat	Estimated Value above quantitation range	ditation rang	ಟ	= 4	Holding times for	Holding times for preparation or analysis exceeded	papaa
Spike Recover	3 43	Spike Recovery outside accepted recovery limits	nits	Š	1801 1941	NOT EXERCICA AL MIC LIGHT OF EXECUTIVE	Lenection		포	KPD OBESIDE ACCE	KPD oatside accepted recovery limits	ć
,	'											Page Zof S

Bolding times for preparation or analysis exceeded

RPD outside accepted recovery limits

I ~

Estimated Value above quantitation range Not Detected at the Limit of Detection

ш <u>₽</u>

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

- so

Qualifiers;

CLIENT:	LaBella A	LaBella Associates, P.C.) · · · · · · · · · · · · · · · · · · ·	
Work Order:	C1605057							
Project:	Emerson Landfill	andfill				TestCode:	TestCode: 1ugM3_F015	
Sample ID AMB1UG-052616	UG-052616	SampType: MBLK	TesfCox	TesiCode: 1ugM3_T015 Units: ppbV	Pr	Prep Date:	RunNo: 11001	
Clent ID: ZZZZZ		Batch ID: R11001	Testh	TestNo: TO-15	Analy	Analysis Date: 5/26/2016	SeqNo: 128975	
Analyte		Result	PQL	SPK value SPK Ref Val	%REC LOW	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit (Qual
1,1,1-Trichloroethane	ne	< 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	ene	< 0.15	0.15					
Tetrachloroethylene	ďο	< 0.15	0.15					
trans-1,2-Dichloroethene	thene	< 0.15	0.15					
Trichloroethene		< 0.15	0.15					
Vinyl chioride		< 0.15	0.15					

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 05-Jul-16

LaBella Associates, P.C. CLIENT:

C1605057 Work Order:

Project: Emerson Landfill	andfil						Ţ	TestCode: 0	0.25CT-TCE-VC	F-VC	
Sample ID C1605057-007A MS	SampType: MS	TestCode	TestCode: 0.25CT-TCE.	Units: ppbV		Prep Date	int.		RunNo: 10999	999	
Client ID: Outdoor Air	Batch ID: R10999	TestN(TestNo: TO-15			Analysis Date:	: 5/25/2016		SeqNo: 128941	1941	
Anaiyle	Result	POL	SPK value SF	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD	RPOLimit	Qual
1,1,1-Trichloroethane	0.9700	0.15	*	0	97.0	70	130				
1,1-Dichloroethane	1.020	0.15		0	102	70	130				
1,1-Dichloroethene	1.030	0.15	+	0	103	70	130				
Chloroethane	1.130	0.15	-	0	113	70	130				
Chloromethane	1.290	0.15	-	0.51	78.0	70	130				
cis-1,2-Dichloroethene	1.010	0.15	-	0	401	70	130				
Tetrachloroethylene	1.040	0.15	-	0	104	22	130				
trans-1,2-Dichloroethene	1.020	0.15	-	O	\$02	70	130				
Trichloroethene	1.150	0.040	•	0	115	70	130				
Vinyl chloride	1,070	0.040	•	Q.	107	70	130				
Sample ID C1505057-007A MS	SampType: MSD	TestCode	TestCode: 0.25CT-TCE-	Units: ppbV		Prep Date			RunNo: 10999	66	
Client ID: Outdoor Air	Batch ID: R10999	TestMo	TestNo: TO-15			Anatysis Date:	: 5/25/2016		SegNo: 128942	1942	
Analyte	Result	PQL	SPK value SF	SPK Ref Val	%REC	LowLimit	HighLimil R	RPD Ref Val	%RPD	RPDLimit	Qual
1, t, 1-Trichloroethane	1,010	0.15	-	0	101	26	130	0.97	4.04	30	
1,1-Dichloroethane	1.040	0.15	+	0	₹	2	130	1.02	1.94	30	
1, *-Dichloroethere	1.040	0.15	-	0	\$	70	130	1.03	0.966	30	
Chloroethane	1,200	0.15	-	0	120	20	130	1,13	6.01	30	
Chloromethane	1.280	0.15	-	0.51	77.0	70	130	1.29	0.778	30	
cis-1,2-Dichloroethene	1.030	0.15	-	0	103	27	130	1.01	1.96	93	
Tetrachloroethylene	1.080	0.15	-	0	108	22	130	1.04	3.77	30	
trans-1,2-Dichloroethene	1.040	0.15	-	0	104	70	130	1.02	<u>2.</u>	30	
Trichloroethene	1.180	0.040	***	0	#~ 60	70	130	1.15	2.58	30	
Qualifiers: Results report	Results reported are not blank corrected		E Estimated	Estimated Value above quantitation range	itation rang	2	H Ho	ding times for 1	Holding times for preparation or analysis exceeded	nalvsis exceed	
	Anaiyse detected below quantitation limit		ND Not Detect	Not Detected at the Limit of Detection	Detection		RRP	D outside accep	RPD outside accepted recovery limits	, sir	
S Spike Recover	Spike Recovery outside accepted recovery limits	mils								ď	Page 1 of?

Project: Sample ID C160	1													
D C160	Emerson Landfill	III								TestCode: (0.25CT-TCE-VC	E-VC		
Client ID: Outd	Sample ID C1605057-007A MS Client ID: Outdoor Air	SampType: MSD Batch ID: R10999	MSD R10999	TestCod	TestCode: 0.25CT-TCE- TestNo: TO-15	CE- Units: ppbV		Prep Date: Analysis Date:	le: \$/25/2016	316	RunNo: 10999 SeqNo: 128942	999		I
			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Vinyl chloride				0.040	· Com	O	41.	70	130	1.07	6.33	OE		1
Qualifiers:	Ì	Results reported are not blank corrected Analyte detected below quantitation limit Spike Recovery outside accepted recovery	Results reported are not blank corrected Analyte detected below quantitation limit Spike Recovery outside accepted recovery limits	<u>.</u>	E Estin	Estimated Value above quantitation range Not Detected at the Limit of Detection	titation rang Detection	Ų	H &	Holding times for RPD outside acce	Holding times for preparation or analysis exceeded	nalysis exceeded	7	

od TO-15A	Units=ppb
fethod [*]	5

1ug/M3 Detection Limit January 2016

Centek Laboratories IDL Study

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDI_#8	10L#7	Average	StdDev	% Rec	Ē
	0.15	0.16	0.15	0.16	0.14	0.16	0.14	0.16	0.153	0.010	98.1	0.030
	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	(C) (C)	0.075
	0.15	0.18	0.17	0.17	0.17	0.18	0.17	0.18	0.174	0.005	R6 1	0.047
Vinyl Chloride	0.15	0.17	0.16	0.16	0.15	0.16	0.15	0.15	0.157	0.008	95.5	7000
	0.15	0.18	0.16	0.17	0.18	0.18	0.19	0.19	0.179	0.011	840	0.024
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	0.09
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	814	0.036
	0.15	0.16	0.16	0.18	0.17	0.19	0.18	0.19	0.176	0.013	85.4	0.040
	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	913	0.025
	0.15	0.18	0.17	0.17	0.18	0.19	0.17	0.18	0.177	0.008	84.7	0.024
	0.15	0.2	0.17	0.18	0.15	0.15	0.18	0.14	0.167	0.021	80.7	0.067
	0.15	0.18	0.17	0.18	0.16	0.17	0.2	0.16	0.174	0.014		0.00
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	0.033
	0.15	0.17	0.16	0.18	0.18	0.18	0.17	0.17	0.173	0.008	80.8	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
	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-dichioroethane	0.15	0.17	0.15	0.16	0.15	0.17	0.16	0.16	0.160	0.008	93.8	0.026
	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
	0.15	0.12	0.14	0.13	0.13	0.13	0.12	0.12	0.127	0.008	118,0	0.024
	0.15	0.16	0.17	0.14	0.15	0.14	0.16	0.13	0.150	0.014	100.0	0.044
	0.15	0.16	0.16	0,16	0.16	0.17	0.16	0.17	0.163	0.005	92.1	0.015
Fetrahydrofuran	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
	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
	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
	0.15	0.18	0.18	0.19	0.18	0.15	0.17	0.12	0.167	0.024	89.7	0.076

1/8/2016

Centek Laboratories				ĵnţ	fug/M3 Detection Limit	ion Limit					Method TO-15A	-15A
Name	Amount	101#1	IDL#2	IDL#3	January 2016 IDL#4 IE	JI5 IDL#5	DL#	DL#7	Average	StdDev	Units=ppb %Rec	odd-
2,2,4-frimethylpentane	0.15	0.15	0.15	0.15	0.16	0.14	0.16	0.15	0.151	0.007	99.4	0.000
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
I richloroethene	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, z-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
loluene	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
Ulbromochloromethane	0.15	0.16	0.16	0.17	0.18	0.16	0.17	0.18	0.169	0.009	0.68	0.028
Metryl Butyl Retone	0.15	0.17	0.16	<u>0</u>	0.17	0.16	0.17	0.14	0.164	0.013	91.3	0.040
t,z-dioromoetnane	C.75	0.16	0.17	0.16	0,16	0,16	0.16	0.17	0.163	0.005	92.1	0.015
etrachioroethylene	0.15	0.16	0.17	0.16	0.16	0.16	0.17	0.17	0.164	0.005	91.3	0.017
Chioropenzene	0.15	0.15	0.16	0.16	0.17	0.15	0.17	0.17	0.163	0.008	92.1	0.024
T, T, T, Z-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	<u>.</u>	<u>0</u> .1	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
Бготогот	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	,	0.88	60	6.0	0.87	0.89	68'0	0.9	0.890	0.012	112.4	0.036
1,1,2,2-tetrachioroethane	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
Z-Chlorotoluene	0.15	0.13	0.13	0.13	0.14	0.13	0.12	0.13	0.130	9000	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
benzył 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	ر در در در در	0.13	0.13	0.14	0.11	0.12	0.14	0.12	0.127	0.011	118.0	0.035
nexaciioio-1,3-buladieile	<u>0</u> 5	<u>.</u>	<u>-</u>	<u>}</u>	<u>.</u>	<u>e</u>	U. 10	<u>ب</u> ت	U.154	0.005	91.3	0.017

Charles

Average StdDev %Rec	0.009 0.000 101.4 0.000	4.101 0.000	0.035 0.010 107.7	0.084 0.011 118.6	
	-0				
IDL#6	0.09	0.00	0000	0.70	
IDL#6	5.0	0.09	80.0	0.00	
DL#	0.03	0.09	800	00.0	
IDL#3	0.09	0.08	0.07	000	
(DL#2	0.11	0.11	-	0.43	7
	0.11	0	0.1		,
Amount	0,1	0.1	0.1	<u>-</u>	;
Name	Vinyl Chloride	Carbon tetrachloride	Trichloroethene	Tetrachioroethylene	

Confidential

GC/MS-Whole Air Calculations

Relative Response Factor (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

Cx = concentration of the compound being measured (ppbv)

Cis = concentration of the internal standard (ppbv)

Percent Relative Standard Deviation (%RSD)

Percent Difference (%D)

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

Sample Calculations

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

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

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.

C1605057

Project: Emerson Landfill

Lab Order:

Lab ID: C1605057-001A

Client Sample ID: 1740 -SVI-1

Tag Number: 357,278
Collection Date: 5/19/2016

Matrix: AIR

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

Qualifiers:

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

Page 1 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID:

C1605057-001A

Date: 05-Jul-16

.C. Client Sample ID: 1740 -SVI-1

Tag Number: 357,278

Collection Date: 5/19/2016

Matrix: AIR

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

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052537.D Vial: 35 Acq On : 26 May 2016 9:02 am Operator: RJP Sample : C1605057-001A Inst : MSD #1 Misc : A505_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

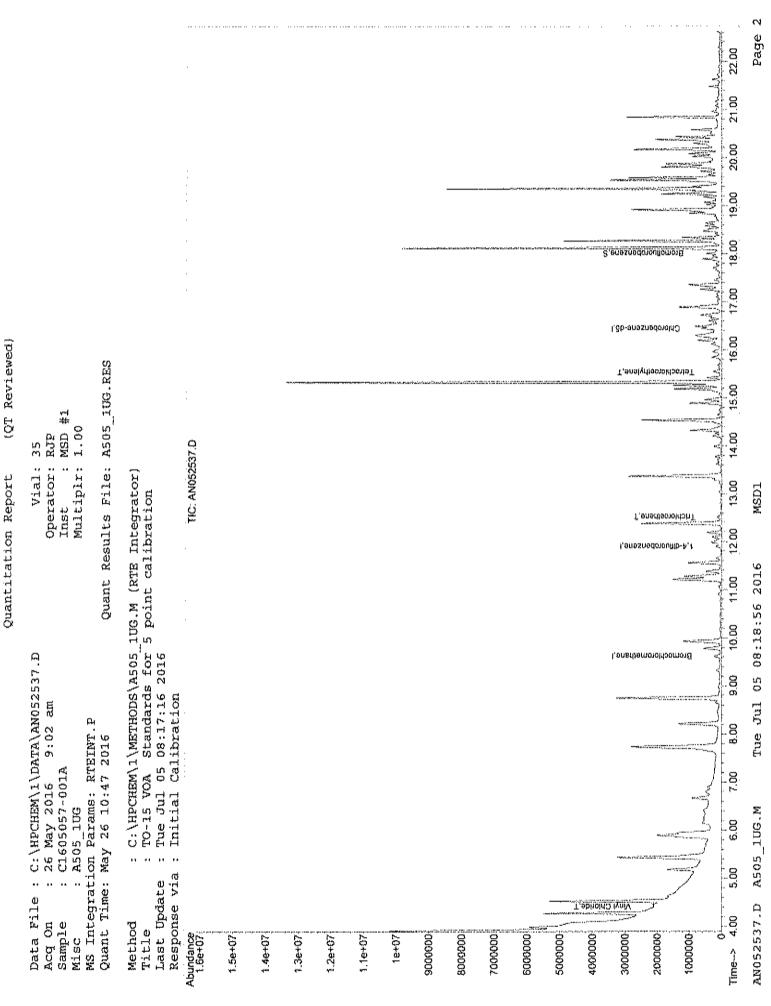
Quant Results File: A505_1UG.RES Quant Time: May 26 10:08:33 2016

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

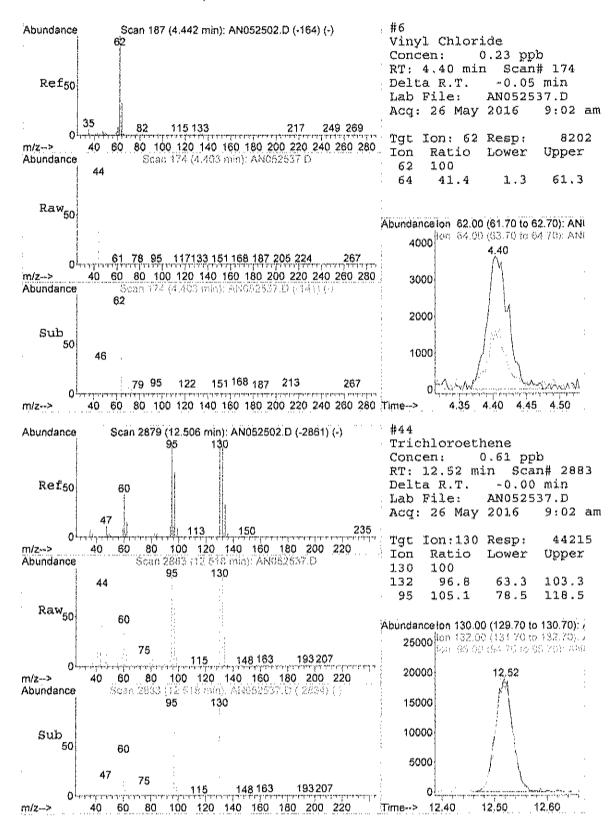
Last Update : Fri May 06 07:26:12 2016

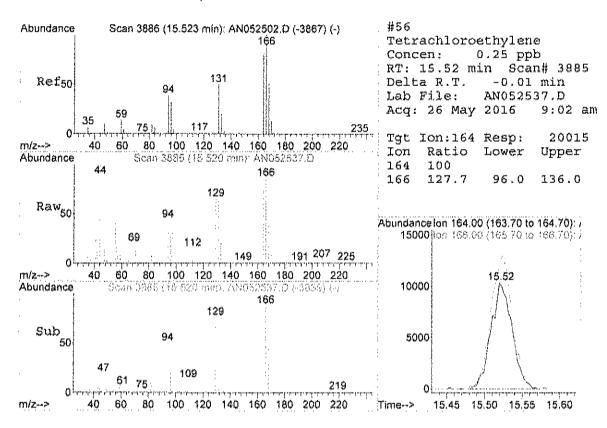
Response via : Initial Calibration DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	onc U	nits De	v(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.62 11.90 16.42	128 114 117	38693 176249 164783	1.00	ppb	0.00 0.00 0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.00 Range 70	95 - 130	111563m	0.96	200.96	0.00
Target Compounds 6) Vinyl Chloride 44) Trichloroethene 56) Tetrachloroethylene	4.40 12.52 15.52	62 130 164	8202 44215 20015	0.23 0.61 0.25	dqq dqq	value 82 90 89



Page 56 of 223





Date: 05-Jul-16

LaBella Associates, P.C. CLIENT:

Client Sample ID: 1740-IAQ-1

Lab Order:

C1605057

Tag Number: 552,1154

Project:

Collection Date: 5/19/2016 Emerson Landfill

Lab ID:

C1605057-002A

Matrix: AlR

Analyses	Result	**Limit Qua	l Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum in	4		"Hg		5/23/2016
Lab Vacuum Out	-30		"Hg		5/23/2016
IUG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	₽₽bV	1	5/25/2016 4:47:00 AM
1,1-Dichloroethane	< 0.15	0.15	ppb∨	1	5/25/2016 4:47:00 AM
1,1-Dichloroethene	< 0.15	0.15	₽₽₽V	1	5/25/2016 4:47:00 AM
Chloroethane	< 0.15	0.15	ppb∨	1	5/25/2016 4:47:00 AM
Chloromethane	< 0.15	0.15	ppb∨	1	5/25/2016 4:47:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	5/25/2016 4:47:00 AM
Tetrachioroethylene	< 0.15	0.15	ppbV	1	5/25/2016 4:47:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	5/25/2016 4:47:00 AM
Trichloroethene	< 0.040	0.040	ppb∨	1	5/25/2016 4:47;00 AM
Vinyl chloride	< 0.040	0.040	ppbV	1	5/25/2016 4:47:00 AM
Surr: Bromofiuorobenzene	110	70-130	%REC	1	5/25/2016 4:47:00 AM

Qualifiers:

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

Page 2 of 8

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C. Client Sample ID: 1740-IAQ-1

Lab Order: C1605057 Tag Number: 552,1154

Project: Emerson Landfill Collection Date: 5/19/2016

Lab ID: C1605057-002A Matrix: AIR

Analyses	Result	**Limit	Qual Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-	15		Analyst: RJP
1.1.1-Trichloroethane	< 0.82	0.82	ug/m3	1	5/25/2016 4:47:00 AM
1.1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/25/2016 4:47:00 AM
1.1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 4:47:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 4:47:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	5/25/2016 4:47:00 AM
cis-1.2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 4:47:00 AM
Tetrachioroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 4:47:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 4:47:00 AM
Trichloroethene	< 0.21	0.21	ug/m3	1	5/25/2016 4:47:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	5/25/2016 4:47:00 AM

Qualifiers:

- Quantitation Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 3N Non-routine analyte, Quantitation estimated.
- S Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- E Estimated Value above quantitation range
- J Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Page 2 of 8

Quantitation Report

(QT Reviewed)

 Data File : C:\HPCHEM\1\DATA\AN052425.D
 Vial: 25

 Acq On : 25 May 2016 4:47 am
 Operator: RJP

 Sample : C1605057-002A
 Inst : MSD #1

 Misc : A505_1UG
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 25 09:00:06 2016 Quant Results File: A505_1UG.RES

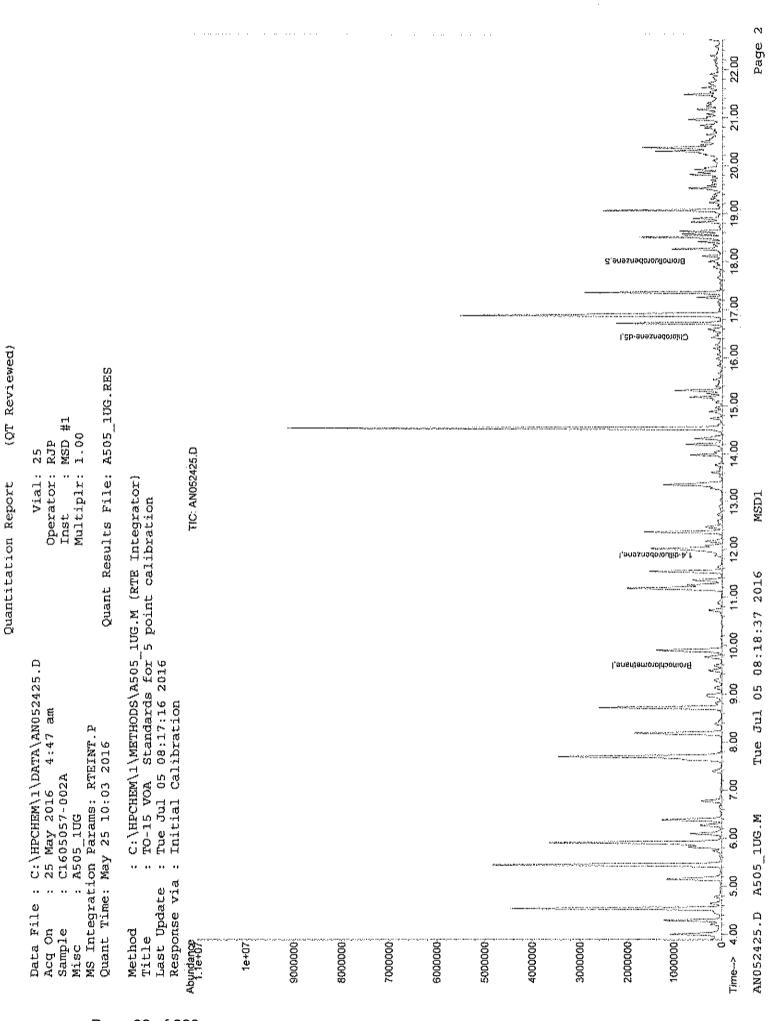
Quant Method : C:\HPCHEM\1\METHODS\A505_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016

Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response (Conc Uni	ts Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.59 11.88 16.42	128 114 117	31146 143773 131129	1.00 p 1.00 p 1.00 p	pb -0.02
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.00 Range 70	95 - 130	101713 Recovery	1.10 p	pb ~0.01
Target Compounds					Ovalue



Page 62 of 223

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C. Client Sample ID: 1740-SV1-2

 Lab Order:
 C1605057
 Tag Number:
 133,300

 Project:
 Emerson Landfill
 Collection Date:
 5/19/2016

Lab ID: C1605057-003A Matrix: AIR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
FIELD PARAMETERS		FLD	• • • • • • • • • • • • • • • • • • • •		Analyst:
Lab Vacuum In	-4		"Hg		5/23/2016
Lab Vacuum Out	-30		"Hg		5/23/2016
1UG/M3 BY METHOD TO15		TO-1	5		Analyst: RJP
1.1.1-Trichloroethane	0.14	0.15	J ppb∨	1	5/26/2016 1:56:00 PM
1.1-Dichloroethane	< 0.15	0.15	Vđạq	1	5/26/2016 1:56:00 PM
1.1-Dichloroethene	< 0.15	0.15	∨dqq	1	5/26/2016 1:56:00 PM
Chloroethane	< 0.15	0.15	ppb∨	1	5/26/2016 1:56:00 PM
Chloromethans	< 0.15	0.15	Vdqq	1	5/26/2016 1:56:00 PM
	1.6	0.15	ppbV	1	5/26/2016 1:56:00 PM
cis-1,2-Dichloroethene	0.37	0.15	Vdqq	1	5/26/2016 1:56:00 PM
Tetrachloroethylene	< 0.15	0.15	۷dqq	1	5/26/2016 1:56:00 PM
trans-1,2-Dichloroethene		0.10	Vdqq	2	5/27/2016 3:24:00 AM
Trichloroethene	3.0			4	5/26/2016 1:56:00 PM
Vinyl chloride	0.45	0.15	ppbV	1	*·
Surr: Bromofluorobenzene	98.0	70-130	%REC	1	5/26/2016 1:56:00 PM

Qualifiers:

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

Page 3 of 8

Date: 05-Jul-16

CLIENT:

LaBella Associates, P.C.

Client Sample ID: 1740-SVI-2

Lab Order:

C1605057

Tag Number: 133,300

Project:

Emerson Landfill

Collection Date: 5/19/2016

Lab ID:

C1605057-003A

Matrix: AIR

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

- Quantitation Limit
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H
- Non-routine analyte, Quantitation estimated. JN
- Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- Estimated Value above quantitation range E
- Analyte detected below quantitation limit 1
- ND Not Detected at the Limit of Detection

Page 3 of 8

(OT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\AN052607.D Vial: 7 Acq On : 26 May 2016 1:56 pm Operator: RJP Sample : C1605057-003A Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

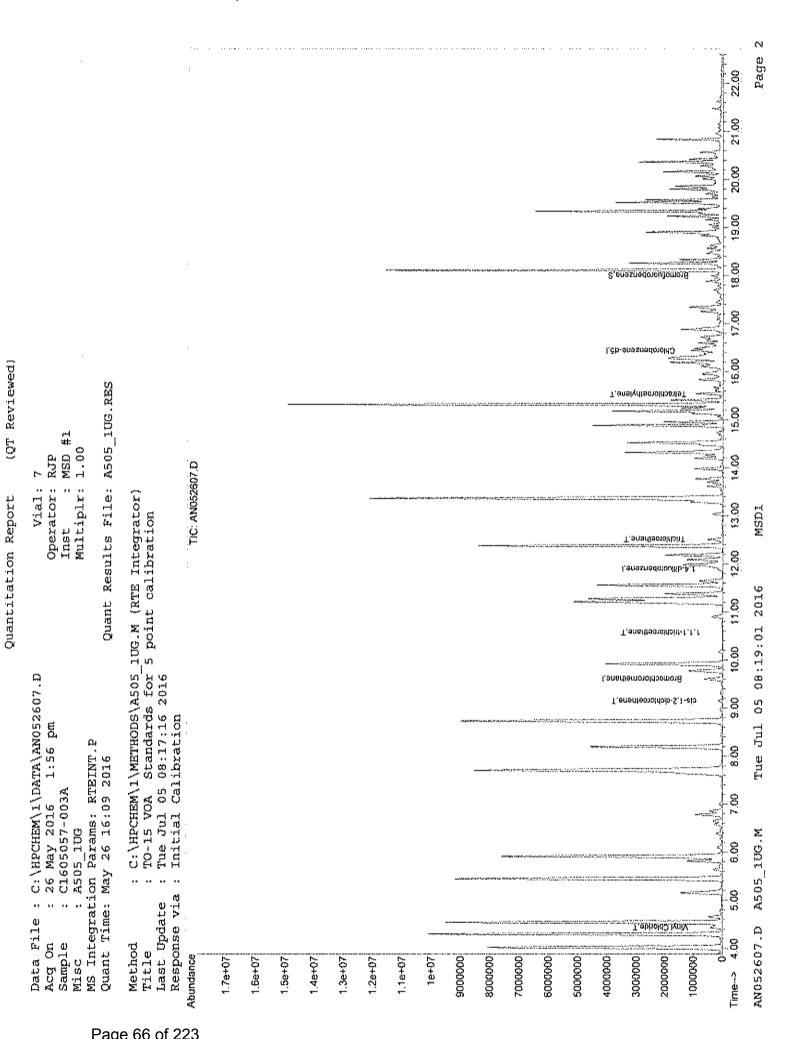
MS Integration Params: RTEINT.P

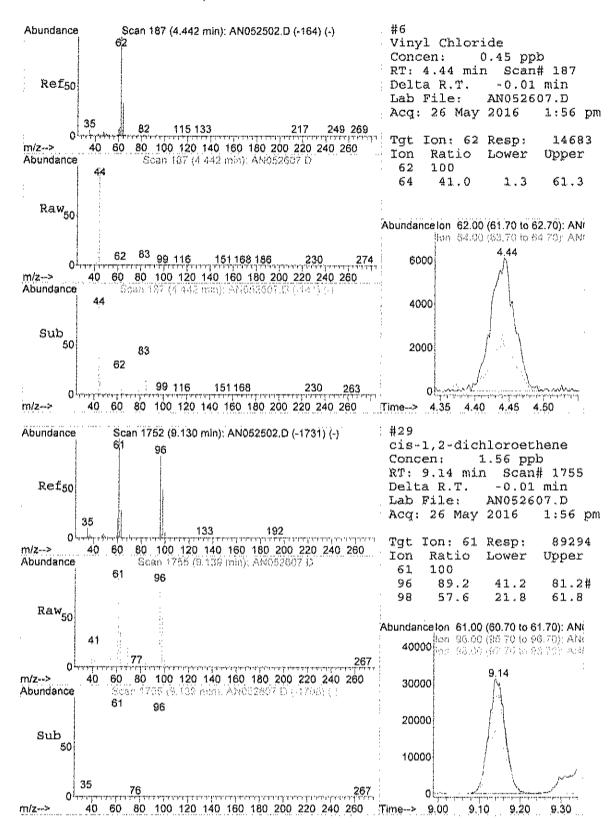
Quant Time: May 26 14:58:41 2016 Quant Results File: A505 1UG.RES

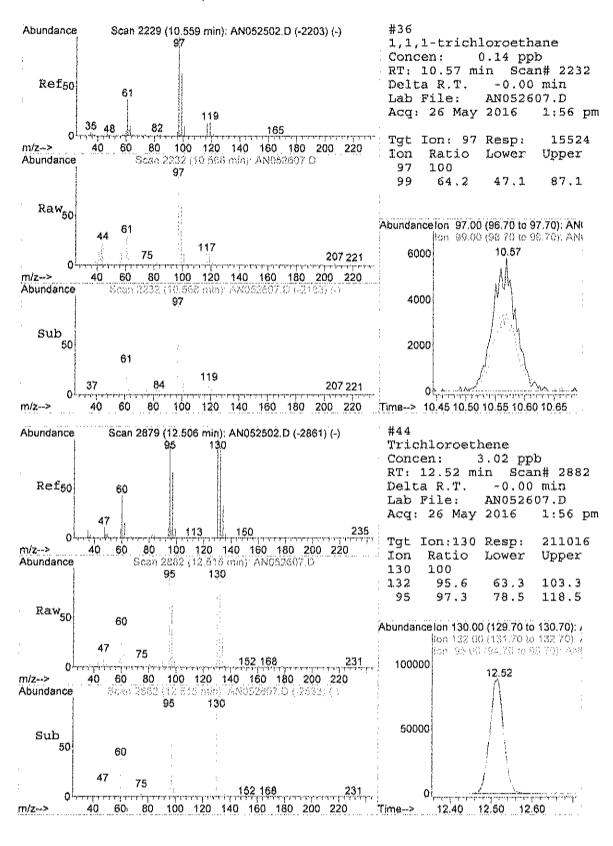
Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu May 26 10:56:15 2016
Response via : Initial Calibration

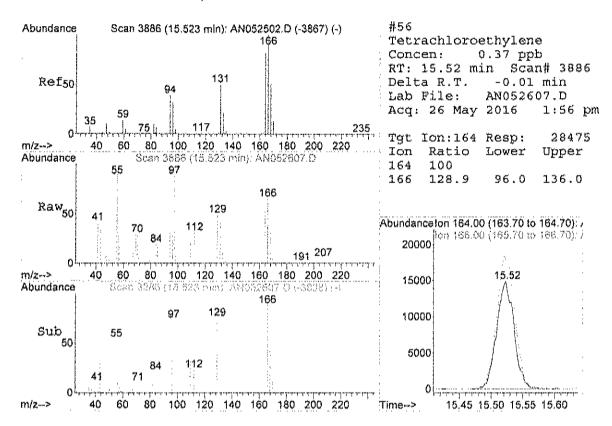
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response (Conc (Jnits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.60 11.89 16.42	114	35540 169900 156999	1.00	dqq (dqq (
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1,000	18.00 Range 70		108716m/ Recovery			
Target Compounds						Qvalue
6) Vinyl Chloride	4.44	62	14683	0.45	dgg a	82
29) cis-1,2-dichloroethene	9.14	61	89294	1.56	dag	# 68
36) 1,1,1-trichloroethane	10.57	97	15524	0.14	dqq	96
44) Trichloroethene	12.52	130	211016	3.02	dqq s	93
56) Tetrachloroethylene	15.52	164	28475	0.37	dqq v	88









Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052627.D

Vial: 20 Operator: RJP Inst : MSD #1

Acq On : 27 May 2016 3:24 am Sample : C1605057-003A 2X

Multiplr: 1.00

Misc : A505_1UG

MS Integration Params: RTEINT.P

Quant Results File: A505_1UG.RES

Quant Time: May 27 09:32:49 2016

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

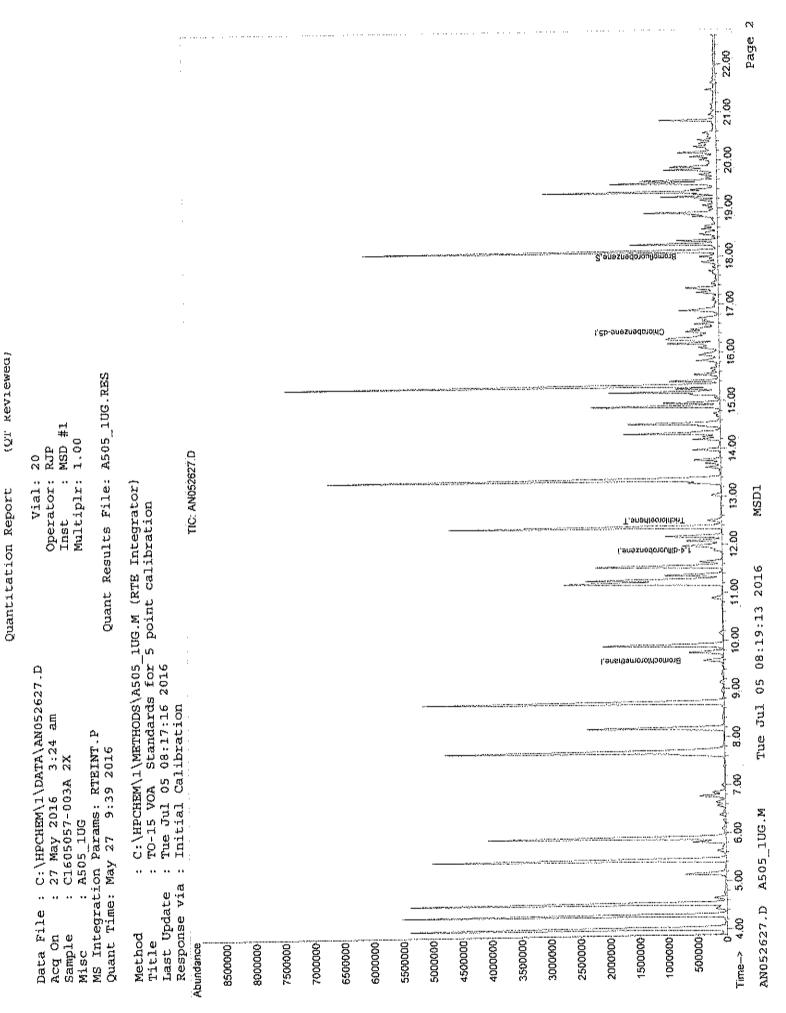
Title Last Update : Thu May 26 10:56:15 2016

Response via : Initial Calibration

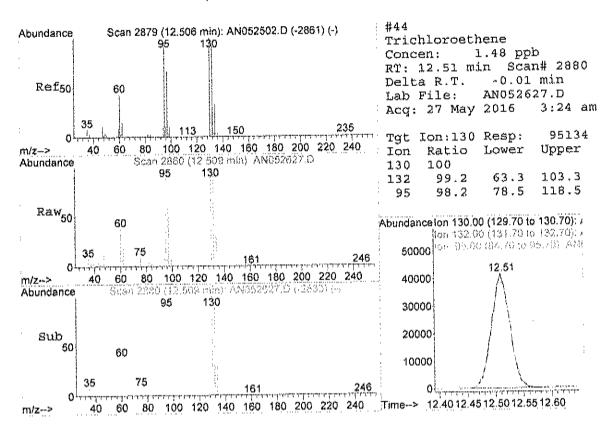
DataAcq Meth : 1UG RUN

Internal Standards	R.T. QIor	Response Co	onc Units Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.59 128 11.89 114 16.43 117	156833	1.00 ppb -0.02 1.00 ppb 0.00 1.00 ppb 0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.00 95 Range 70 - 13	,,	1.00 ppb 0.00 = 100.00%
Target Compounds 44) Trichloroethene	12.51 130	95134	Qvalue 1.48 ppb 92

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed Tue Jul 05 08:19:12 2016 MSD1 AN052627.D A505_1UG.M



Page 71 of 223



Date: 05-Jul-16

CLIENT:

LaBella Associates, P.C.

Client Sample ID: 1740-IAQ-2

Lab Order:

C1605057

ban 05 066

Project:

Emerson Landfill

Tag Number: 95,266 Collection Date: 5/19/2016

Lab ID:

C1605057-004A

Matrix: AIR

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

Qualifiers:

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

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-004A

Date: 05-Jul-16

Client Sample ID: 1740-IAQ-2

Tag Number: 95,266

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Q	ual Units	ÐF	Date Analyzed
IUG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichtoroethane	< 0.82	0.82	ug/m3	1	5/25/2016 5:28:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/25/2016 5:28:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 5:28:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 5:28:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	5/25/2016 5:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 5:28:00 AM
Tetrachloroethylene	< 1,0	1.0	ug/m3	1	5/25/2016 5:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 5:28:00 AM
Trichloroethene	< 0.21	0.21	ug/m3	1	5/25/2016 5:28:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	5/25/2016 5:28:00 AM

Qualifiers:

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

Page 4 of 8

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052426.D Vial: 26 Acq On : 25 May 2016 5:28 am Operator: RJP Sample : C1605057-004A Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A505_1UG.RES Quant Time: May 25 09:00:07 2016

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

Internal Standards	R.T. Ç)Ion	Response C	onc Units Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5		128 114 117	32994 151877 134890	1.00 ppb -0.02 1.00 ppb -0.01
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.00 Range 70 -	95 · 130	92439 Recovery	0.97 ppb -0.01 = 97.00*
Tawas Compounds				Ovalue

Target Compounds

(QT Kevlewed)

Quantitation Report

CLIENT: LaBella Associates, P.C.

Lab Order:

C1605057

Project:

Emerson Landfill

Lab ID:

C1605057-005A

Date: 05-Jul-16

Client Sample ID: 1740-SVI-3

Tag Number: 237,1172

Collection Date: 5/19/2016

Matrix: AIR

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

Qualifiers:

- Quantitation Limit
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H

Spike Recovery outside accepted recovery limits

- JN Non-routine analyte. Quantitation estimated.

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

CLIENT:

LaBella Associates, P.C.

Lab Order:

C1605057

Project:

Emerson Landfill

Lab ID:

C1605057-005A

Date: 05-Jul-16

Client Sample ID: 1740-SVI-3

Tag Number: 237,1172

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
TUG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	5/26/2016 2:36:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/26/2016 2:36:00 PM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/26/2016 2:36:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 2:36:00 PM
Chloromethane	< 0.31	0.31	ug/m3	1	5/26/2016 2:36:00 PM
cis-1,2-Dichloroethene	7.8	0.59	ug/m3	1	5/26/2016 2:36:00 PM
Tetrachloroethylene	< 1.0	1.0	ug/m3	ì	5/26/2016 2:36:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/26/2016 2:36:00 PM
Trichloroethene	5.9	0.81	ug/m3	í	5/26/2016 2:36:00 PM
Vinyl chloride	< 0.38	0.38	ug/m3	1	5/26/2016 2:36:00 PM

Qualifiers:

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

Page 5 of 8

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052608.D Acq On : 26 May 2016 2:36 pm Sample : C1605057-005A Misc : A505_1UG Vial: 8 Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Results File: A505_1UG.RES Quant Time: May 26 16:06:46 2016

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration

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

Response via : Initial Calibration

DataAcq Meth : UG_RUN

Internal Standards	R.T.	QIon	Response C	onc (Jnits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.60 11.89 16.43	128 114 117	38889 194963 178304	1.00	dqq C dqq C dqq C	0.00 0.00 0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.00 Range 70		121705m M Recovery			0.00
Target Compounds 29) cis-1,2-dichloroethene 44) Trichloroethene	9.15 12.52	61 130	124062 87213		dqq 8 dqq e	

(OT Reviewed)

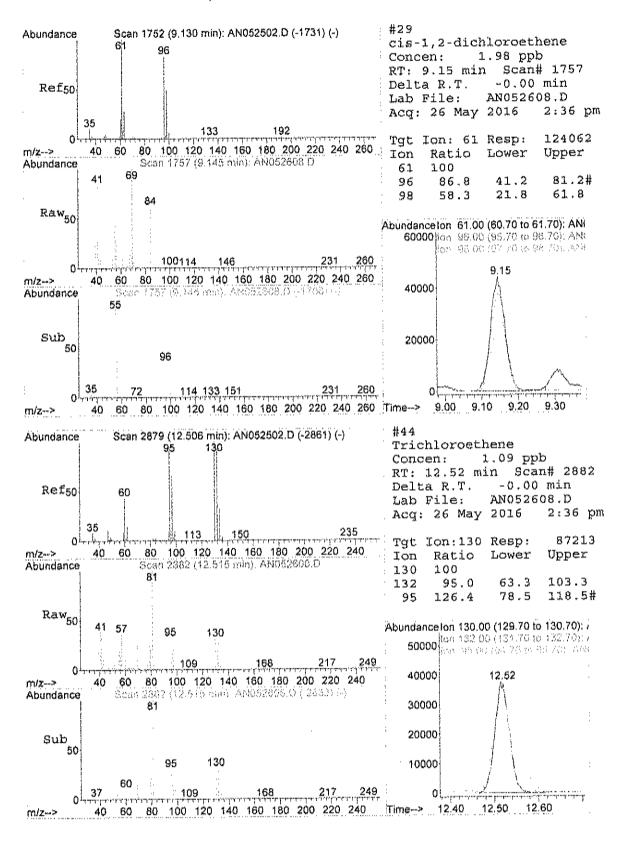
Quantitation Report

vial:

C:\HPCHEM\1\DATA\AN052608.D

Data File

Page 80 of 223



Date: 05-Jul-16

CLIENT:

LaBella Associates, P.C.

Client Sample ID: 1740-IAQ-3

Lab Order:

C1605057

Tag Number: 202,1160

Project:

Collection Date: 5/19/2016

Lab ID:

Emerson Landfill C1605057-006A

Matrix: AIR

Analyses	Result	**Limit Qua	l Units	DF	Date Analyzed	
FIELD PARAMETERS		FLD			Analyst:	
Lab Vacuum In	-5		"Hg		5/23/2016	
Lab Vacuum Out	~30		"Hg		5/23/2016	
IUG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP	
1,1,1-Trichloroethane	< 0.15	0.15	₽₽bV	1	5/25/2016 6:10:00 AM	
1,1-Dichloroethane	< 0.15	0.15	Vdqq	1	5/25/2016 6:10:00 AM	
1,1-Dichloroethene	< 0.15	0.15	PpbV	1	5/25/2016 6:10:00 AM	
Chloroethane	< 0.15	0.15	ppbV	1	5/25/2016 6:10:00 AM	
Chloromethane	< 0.15	0.15	Vdqq	1	5/25/2016 6:10:00 AM	
cis-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	5/25/2016 6:10:00 AM	
Tetrachloroethylene	< 0.15	0.15	Vdqq	1	5/25/2016 6:10:00 AM	
trans-1,2-Dichloroethene	< 0.15	0,15	ppb∨	1	5/25/2016 6:10:00 AM	
Trichloroethene	0.15	0.040	ppbV	1	5/25/2016 6:10:00 AM	
Vinyi chloride	< 0.040	0.040	ppbV	7	5/25/2016 6:10:00 AM	
Surr: Bromofluorobenzene	92.0	70-130	%REC	1	5/25/2016 6:10:00 AM	

Qualifiers:

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

Page 6 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID:

C1605057-006A

Date: 05-Jul-16

Client Sample ID: 1740-1AQ-3

Tag Number: 202,1160

Collection Date: 5/19/2016

Matrix: AlR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15	,		Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	5/25/2016 6:10:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/25/2016 6:10:00 AM
1,1-Dichlaroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:10:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 6:10:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	5/25/2016 6:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:10:00 AM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 6:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:10:00 AM
Trichloroethene	0.61	0.21	ug/m3	1	5/25/2016 6:10:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	5/25/2016 6:10:00 AM

Qualifiers:

* Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte. Quantitation estimated.

S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 6 of 8

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052427.D

Acq On : 25 May 2016 6:10 am

Operator: RJP Inst : MSD #1

Vial: 27

Sample : C1605057-006A Misc : A505_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 25 09:00:08 2016

Quant Results File: A505_1UG.RES

Quant Method: C:\HPCHEM\1\METHODS\AS05_1UG.M (RTE Integrator)
Title: TO-15 VOA Standards for 5 point calibration
Last Update: Fri May 06 07:26:12 2016
Response via: Initial Calibration
DataAcq Meth: 1UG_RUN

Internal Standards	R.T.	QIon	Response (Conc Uni	ts Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.59 11.88 16.42	128 114 117	34031 154167 139832	1.00 p 1.00 p	pb ~0.02
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.00 Range 70	95 - 130	90855 Recovery	0.92 g y =	pb -0.01 92.00%
Target Compounds 44) Trichloroethene	12.50	1.30	9387	0.15 p	Qvalue 60

^(#) = qualifier out of range (m) = manual integration (+) = signals summed AN052427.D A505_1UG.M Tue Jul 05 08:18:42 2016 MSD1

(QT Reviewed)

Quantitation Report

RJP

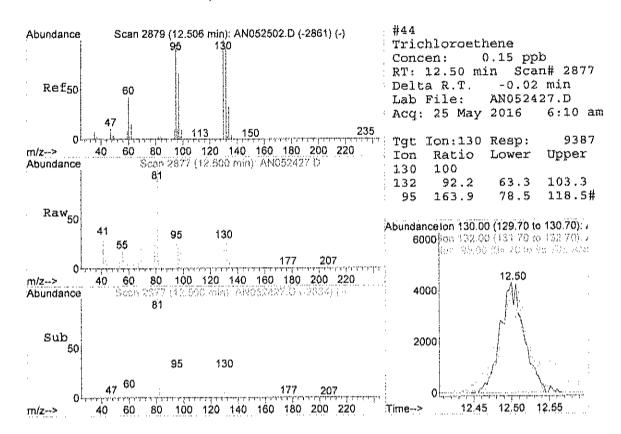
Vial: Operator:

C:\HPCHEM\1\DATA\AN052427.D

Data File

Acq On

25 May 2016



CLIENT: LaBella Associates, P.C. Client Sample ID: Outdoor Air

Lab Order:C1605057Tag Number: 482,111Project:Emerson LandfillCollection Date: 5/19/2016

Lab ID: C1605057-007A Matrix: AIR

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

Qualifiers:

- Quantitation Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- IN Non-routine analyte. Quantitation estimated.
- S Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected

Date: 05-Jul-16

- E Estimated Value above quantitation range
- 3 Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Page 7 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-007A

Date: 05-Jul-16

Client Sample ID: Outdoor Air

Tag Number: 482,111

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	5/25/2016 6:51:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/25/2016 6:51:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:51:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 6:51:00 AM
Chloromethane	1,1	0.31	ug/m3	1	5/25/2016 6:51:00 AM
cis-1,2-Dichtoroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:51:00 AM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 6:51:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:51:00 AM
Trichloroethene	< 0.21	0.21	ug/m3	1	5/25/2016 6:51:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	5/25/2016 6:51:00 AM

Qualifiers:

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

Page 7 of 8

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052428.D Vial: 28 Acq On : 25 May 2016 6:51 am Operator: RJP Sample : C1605057-007A Inst : MSD #1 Misc : A505_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 25 09:00:09 2016 Quant Results File: A505_1UG.RES

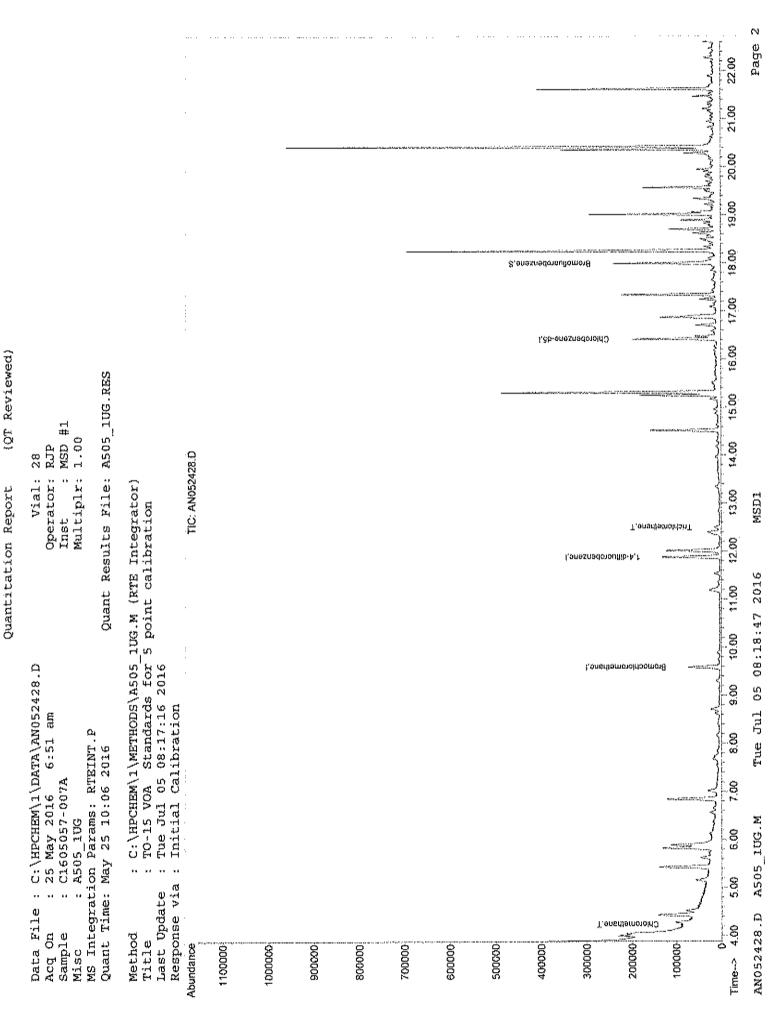
Quant Method : C:\HPCHEM\1\METHODS\A505_lUG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016

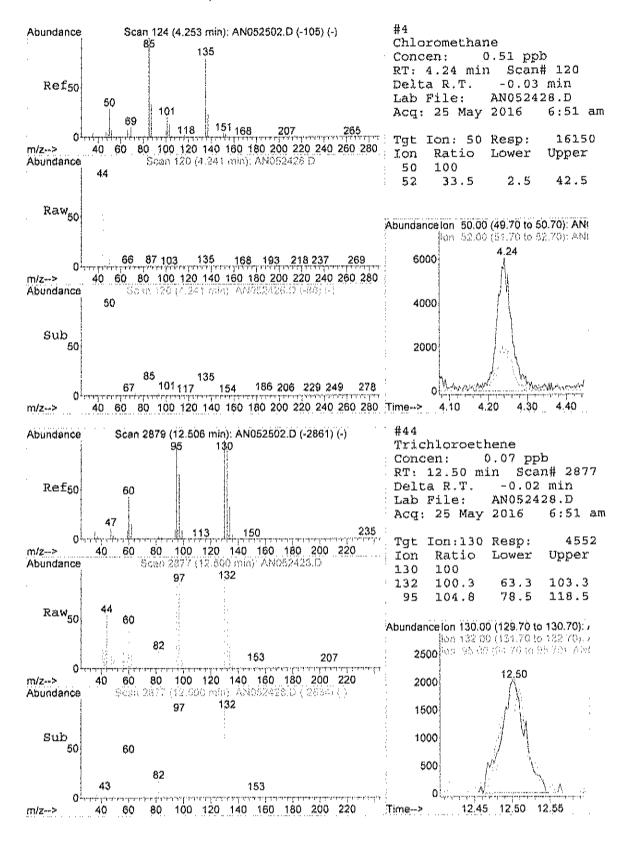
Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Internal Standards	R_+T_+	QIon	Response C	onc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9,59 11.87 16.42	128 114 117	33187 153820 134344	1.00	dqq	-0.03 -0.03 -0.01
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.00 Range 70	95 - 130	88444 Recovery	0.93		-0.01 .00%
Target Compounds						Qvalue
4) Chloromethane	4.24	50	16150	0.51	ppb	77
44) Trichloroethene	12.50	130	4552	0.07	dag	88



Page 90 of 223



Date: 05-Jul-16

CLIENT:

LaBella Associates, P.C.

Lab Order:

C1605057

Project:

Emerson Landfill

Lab ID:

C1605057-008A

Client Sample ID: Dupc

Tag Number: 358,1154 Collection Date: 5/19/2016

MORE EXPERENT

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-4		"Hg		5/23/2016
Lab Vacuum Out	-30		"Hg		5/23/2016
UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	Vdqq	1	5/25/2016 3:45:00 PM
1.1-Dichloroethane	< 0.15	0.15	ppbV	1	5/25/2016 3:45:00 PM
1.1-Dichloroethene	< 0.15	0.15	Vdqq	1	5/25/2016 3:45:00 PM
Chloroethane	< 0.15	0.15	ppbV	1	5/25/2016 3:45:00 PM
Chloromethane	< 0.15	0.15	ppbV	1	5/25/2016 3:45:00 PM
cis-1.2-Dichloroethene	< 0.15	0.15	ppbV	1	5/25/2016 3:45:00 PM
Tetrachloroethylene	< 0.15	0.15	ppbV	1	5/25/2016 3:45:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	5/25/2016 3:45:00 PM
Trichloroethene	0.13	0.040	ppbV	1	5/25/2016 3:45:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	1	5/25/2016 3:45:00 PM
Surr: Bromofluorobenzene	101	70-130	%REC	1	5/25/2016 3:45:00 PM

Qualifiers:

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

Page 8 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID:

C1605057-008A

Date: 05-Jul-16

Client Sample ID: Dupe

Tag Number: 358,1154

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qua	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	5/25/2016 3:45:00 PM
1,1-Dichloroethane	< 0.61	0.61	ម ្វ/ m3	1	5/25/2016 3:45:00 PM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 3:45:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 3:45:00 PM
Chioromethane	< 0.31	0.31	ug/m3	1	5/25/2016 3:45:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 3:45:00 PM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 3:45:00 PM
trans-1,2-Dichtoroethene	< 0.59	0.59	ug/m3	1	5/25/2016 3:45:00 PM
Trichloroethene	0.70	0.21	ug/m3	1	5/25/2016 3:45:00 PM
Vinyi chloride	< 0.10	0.10	ug/m3	1	5/25/2016 3:45:00 PM

Qualifiers:

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

Page 8 of 8

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052511.D Vial: 11 : 25 May 2016 3:45 pm Acq On Operator: RJP : C1605057-008A Sample Inst : MSD #1 Misc : A505_1UG Multiplr: 1.00

MS Integration Params: RTEINT, P

Quant Time: May 26 10:08:07 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_lUG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

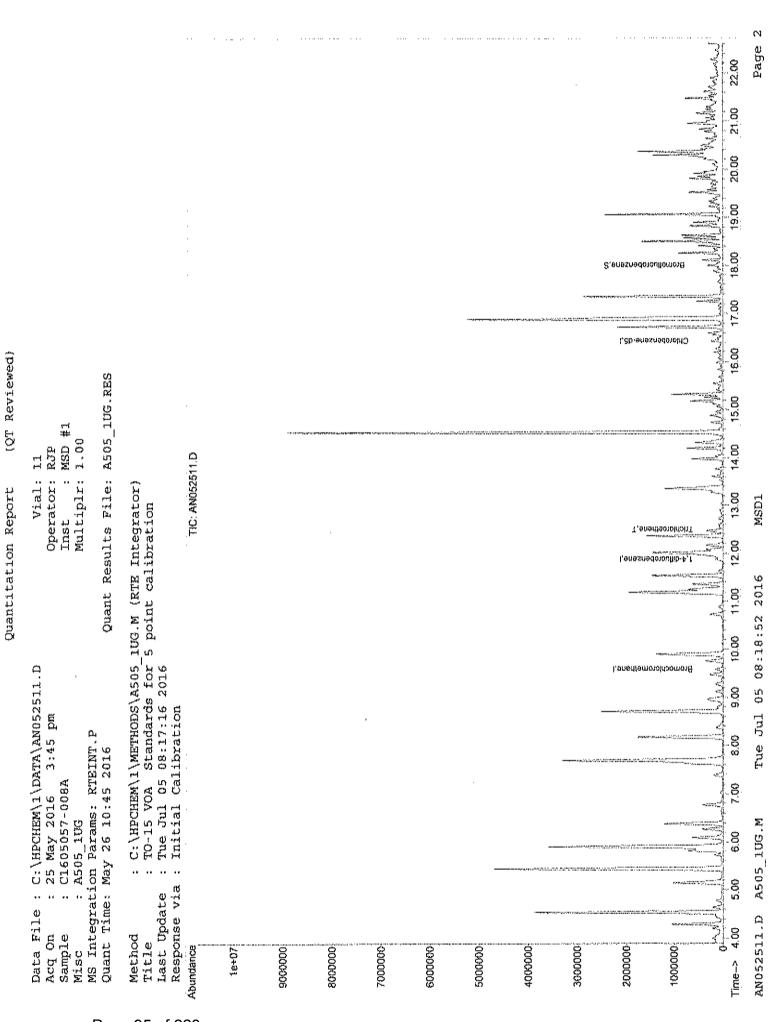
Last Update : Fri May 06 07:26:12 2016

Response via : Initial Calibration

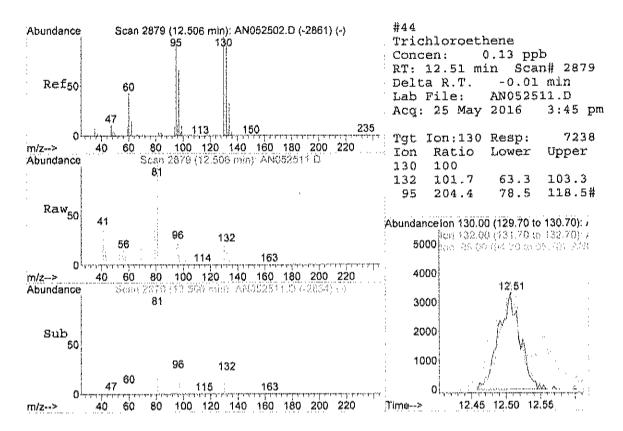
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response (Conc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.59 11.88 16.42	128 114 117	31435 140644 130607	1.00 1.00 1.00	dąą	-0.02 -0.02 -0.01
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.99 Range 70	95 - 130	93521 Recovery	1.01	ppb 101	
Target Compounds 44) Trichloroethene	12.51	130	7238	0.13	ppb	Qvalue # 33

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AN052511.D A505 1UG.M Tue Jul 05 08:18:51 2016



Page 95 of 223



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 STANDARDS DATA

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 INITIAL CALIBRATION

Response Factor Report MSD #1

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

Calibration Files

0.04 =AN050513.D 0.10 =AN050512.D 0.30

		Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
1)		Bromochloromethan	e -			IST	0	W W W IN IN IN	******	
2)		Propylene			1.131	1.010	1.016	0.911	0.956	9.31 4.61
3)	T	Freon 12			4.465	4.380	4.134	4.256	4.161	4.61
4)		Propylene Freon 12 Chloromethane Freon 114 Vinyl Chloride			1.267	0.913	0.918	0.915	0.949	14.16
5)	Ţ	Freon 114			3.441	2.937	2.903	2.790	2.925	8.34
6)		Freon 114 Vinyl Chloride	1,301	1.019	1.041	0.859	0.835	0.816	0.928	16.87
7)		- · · · ·								15.54
8)	Ť	1.3-butadiene			1.043				0.871	
9)		Promomet have			1 100	3 347	0.776	0 964	0 993	70 22
10)		Chloroethane			V 340	0 200	0.320	0.304	0.335	10.22 6.16
11)		Ethanol			0.342	0.243	0.377	0.70	0.302	13.48
	r	Acrel oir			0.376	0.343	0.230	0.271	0.302	10.70
12)		Butane 1,3-butadiene Bromomethane Chloroethane Ethanol Acrolein Vinyl Bromide Freon 11 Acetone Pentane				0.341	0.49/	0.284	0.282 0.989	10.50
13)		Vinyi Bromide			1.081	1.249	0.901	0.960	0.707	12.98 6.30
14)		rreon ir			2.723	2.959	2.5/9	2.504	2.070	6.30
15)		Acetone			0.459	0.470	0.343	0.378	0.397	11.55
16)		Pentane			0.818	0.844	0.733	0.674	0.721	3.0.67
17)		Isopropyl alcoh			1.305	1.389	1.095	1.041	1,190	11.55 10.67 9.30
18)		1,1-dichloroeth			1.447	1.535	1.344	1.389	1.378	5.64
19)		Freon 113			2.942	2.953	2.893	2.978	2.907	1.75 3.11 9.79
20)		t-Butyl alcohol			2.557	2.325	2.391	2.400	2.434	3,11
21)		Methylene chlor			1.425	1.394	1.338	1.176	1.244	9.79
22)		Allyl chloride			1.645	1.599	1.342	1.500	1.490	6.59
23)		Carbon disulfid			3,967	3.796	3.554	3.632	3.615	4.94
24)		trans-1,2-dichl			1.728	1.766	1.677	1.715	3.615 1.696 3.520	2.36
25)		methyl tert-but			3.939	3.458	3.380	3.418	3.520	5.27
26)		1,1-dichloroeth			2.239	2.225	2.207	2.180	2.182	1.89
27)		Vinyl acetate			3.024	2.826	2.764	2.819	2.832	3.01
28)	x	Methyl Ethyl Ke			0.547	0.553	0.557	0.555	0.558	2.97
29)		cis-1,2-dichlor			1.605	1.668	1.654	1.620	1.615	1.89
30)		Hexane			2.081	2.131	1.783	1.827	1.883	7.40
31)		Ethyl acetate			2.265	1.944	2.084	2.043	2.106	5.01
32)	${f T}$	Chloroform			3.107	2.967	2.858	2.914	2.911	5.01 3.05 11.71
33)	T	Tetrahydrofuran			1.441	1.281	1.035	1.098	1.157	11.71
34)	T	1,2-dichloroeth			1.670	1.687	1.685	1.716	1.681	1.34
35)	T	1,4-difluorobenze	ne -			TSTI	") ~ ~ ~ ~ ~ · ·			
36)	T	1,1,1-trichloro Cyclohexane Carbon tetrachl	_		0.700	0.653	0.657	0.662	0,661	2.53
37)	Ť	Cvclohexane			0.426	0.419	0.380	0.364	0.385	6.42
38)	T	Carbon tetrachl	0.636	0.667	0.685	0.706	0.700	0.697	0.686	3.01
39)	7	Benzene			0.895	0.843	0.817	0.803	0.826	3.78
40)		Methyl methacry					0.278			4.87
41)		1,4-dioxane					0.141			6.10
42)		2,2,4~trimethyl					1.131			0.94
43)		Heptane					0.395			14.03
	$\dot{\mathbf{r}}$	Trichloroethene	0 398	0.392						2.77
45)		1,2-dichloropro	0.550	V.J.A			0.299			2,64
46)		Bromodichlorome					0.627			3.07
47)		cis-1,3-dichlor					0.487			3.65
48)		trans-1,3-dichl					0.429			3.57
49)		1,1,2-trichloro					0.374			2.35
 	*	., ., & C C			0.090	146.0	0.0/4	0.010	نکدلی س د ب	2.33
50)	I.	Chlorobenzene-d5				ISTI)			
51)		Toluene			0.690	0.696	0.676	0.693	0.692	1.12

^{(#) =} Out of Range ### Number of calibration levels exceeded format ### Tue Jul 05 08:21:45 2016 MSD1 A505_1UG.M

Response Factor Report MSD #1

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

Calibration Files

		Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
52)	 Т	Methyl Isobutyl			0.425	0.438	0.393	0.395	0.416	4.53
53)	Ť	Dibromochlorome						0.805		2.32
54)	T	Methyl Butyl Ke							0.301	10.73
55)	Ť	1,2-dibromoetha						0.691		1.42
56)	$\bar{\mathbf{T}}$	Tetrachloroethy						0.491		1.23
57)	T	Chlorobenzene						0.971		1.33
58)	\mathbf{T}	1,1,1,2-tetrach						0.568		1.50
59)	T	Ethylbenzene						1.574		1.66
60)	T	m&p-xylene						1.200		2,12
61)	Ţ	Nonane			0.742	0.659	0.655	0.663	0.669	4.43
62)	Ť	Styrene						0.943		1.86
63)	T	Bromoform						0.664		3.59
64)	T	o-xylene						1.208		5.12
65)	T	Cumene			1.714	1.682	1.647	1.717	1.711	1.83
66)	S	Bromofluorobenz	0.713	0.704	0.718	0.707	0.694	0.703	0.706	1.07
67)	\mathbf{T}	1,1,2,2-tetrach			0.933	0.842	0.852	0.867	0.875	3.11
68)	\mathbf{T}	Propylbenzene			2.188	1.899	1.940	2.078	2.028	4.72
69)	T	2-Chlorotoluene			1.137	1.115	1,265	1.171	1,194	4.72
70)	T	4-ethyltoluene			1.763	1.590	1.563	1.640	1.637	3.68
71)	T'	1,3,5-trimethyl			1.602	1.427	1.368	1.424	1.443	4.82
72)	\mathbf{T}	1,2,4-trimethyl			1.478	1.348	1.262	1.326	1.355	4.49
73)	\mathbf{T}	1,3-dichloroben			0.969	0.944	0.941	0.943	0.953	1.21
74)	${f T}$	benzyl chloride			1,316	1.060	1.072	1.255	1.245	9.37
75)	\mathbf{T}	1,4-dichloroben			0.992	0.937	0.942	0.960	0.953	1.88
76)	\mathbf{T}	1,2,3-trimethyl			1.424	1.350	1.253	1.282	1,317	4.19
77)	Ţ	1,2-dichloroben			0.978	0.922	0.883	0.880	0.900	3.84
78)	T	1,2,4-trichloro			0.630	0.608	0.603	0.638	0.641	4.51
79)	${f T}$	Naphthalene							1.447	6.25
80)	T	Hexachloro-1,3-			0.666	0.636	0.603	0.605	0.629	3.41

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050504.D Vial: 3 Acq On : 5 May 2016 6:22 pm Operator: RJP Sample : Alug_2.0 Misc : A505_lug Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 07:00:08 2016 Quant Results File: A505_1UG.RES

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

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Соло	: U:	nits	Dev	(Min)
1) Bromochloromethane	9.60	128	55142	1.		ppb		-0.01
35) 1,4-difluorobenzene	11.89	114	262449	1.				0.00
35) 1,4-difluorobenzene 50) Chlorobenzene-d5	16.43	117	235118	1.	00	dqq		0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.01 Range 70	95 ~ 130	166491 Recove	1. rv	02	ppb	. 00%	0.00
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ROOOVO	u. y		102		
Target Compounds							Qva	llue
2) Propylene	4.01	41	94939	1.		ppb		99
3) Freon 12	4.07	85	431999	A 1.	90	ppb		99
4) Chloromethane	4.26	50				ppb		
5) Freon 114	4.26		304516	1 1.		ppb		96
6) Vinyl Chloride	4.45 4.55	62	90146m 112255m	1 1.	71	dqq		
7) Butane						ppb		
8) 1,3-butadiene	4.55					ರಭರ		
9) Bromomethane	4.89		93292	1		$_{\mathrm{dqq}}$		81
10) Chloroethane	5.06	64	43179m			bbp		
11) Ethanol	5.17	45	29212	2.	00	dqq		76
12) Acrolein	5.73	56				bbp		76
13) Vinyl Bromide	5.38	106	98323 279884			ದ್ವಡ		93
14) Freon 11	5.65	101	279884	1 1.	74	qqq		97
15) Acetone	5.85	58		1.	76	dqq		
16) Pentane	5.91	42	69978	1.		ppb		21
17) Isopropyl alcohol	5.96	45	127851m 145030	1.	94	qqq		
18) 1,1-dichloroethene	6.40	96	145030			dqq		88
19) Freon 113	6.58		314176			ppb		87
20) t-Butyl alcohol	6.67	59	278199			dqq		98
21) Methylene chloride	6.87 6.84	84	125020 156418m\	1 1.	88	ppb		94
22) Allyl chloride	6.84				93	bbp		
23) Carbon disulfide	7.01	76	388576	2.		dqq		98
24) trans-1,2-dichloroethene	7.79	61	181053	1.		ppp		81
25) methyl tert-butyl ether 26) 1,1-dichloroethane	7.81	73	389080 235654	1.		dqq		98
	8.22	63	235654	1.		bbp		94
27) Vinyl acetate	8.20	43	314437	2.		dqq		93
28) Methyl Ethyl Ketone	8.72	72	65071 174521	2.		$_{\rm ddd}$		
29) cis-1,2-dichloroethene		61	174521			bbp		68
30) Hexane	8.73		197003	1.		ppb		89
31) Ethyl acetate	9,32					ББр		86
32) Chloroform	9.77	83	314184			dqq		96
33) Tetrahydrofuran	9.95	42	124370			ppb		92
34) 1,2-dichloroethane	10.89	62	181809			ppb		87
36) 1,1,1-trichloroethane	10.57	97	338619			dqq	.,	98
37) Cyclohexane	11.27	56	196101			ppp	#	63
38) Carbon tetrachloride	11.22	117	362157			dqq		87
39) Benzene	11.19	78	423327			ББр		97
40) Methyl methacrylate	12.76	41.	150882			ppp	#	91
41) 1,4-dioxane	12.81	88	79278			bbp		77
42) 2,2,4-trimethylpentane	12.03	57	599050			qqq		88
43) Heptane	12.37	43	206042			ppb		92
44) Trichloroethene	12.52	130	218056			bbp		93
45) 1,2-dichloropropane	12.64	63	152663	1. 	99	dqq 		8 6

^{(#) =} qualifier out of range (m) = manual integration

Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050504.D Vial: 3 Acq On : 5 May 2016 6:22 pm Operator: RJP Sample : AlUG_2.0 Misc : A505_lUG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 07:00:08 2016 Quant Results File: A505_1UG.RES

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

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.97	83	330390	1.98 ppb	95
47)	cis-1,3-dichloropropene	13.74	75	258937	2.01 ppb	89
48)	trans-1,3-dichloropropene	14.48	75	245532	2.00 ppb	86
49)	1,1,2-trichloroethane	14.79	97	197252	1.98 ppb	98
51)	Toluene	14.53	92	324989	1.99 ppb	96
52)	Methyl Isobutyl Ketone	13.67	43	199637	2.09 ppb	92
53)		15.47	1.29	377945m 🎷		
54)	Methyl Butyl Ketone	14.96	43	159722	2.39 ppb	90
55)	1,2-dibromoethane	15.71	107	330162	2.00 ppb	96
56)	Tetrachloroethylene	15.53	164	228784	2.01 ppb	89
57)	Chlorobenzene	16.48	112	458586	2.02 ppb	96
58)	1,1,1,2-tetrachloroethane	16.58	131	268448	2.02 ppb	96
59)	Ethylbenzene	16.72	91	730154	1.99 ppb	95
60)	m&p-xylene	16.92	91	1145378	4.07 ppb	100
61)	Nonane	17.26	43	310586	2.02 ppb	94
62)	Styrene	17.34	104	452205	2.05 ppb	96
63)	Bromoform	17.46	173	330960	2.06 ppb	98
64)	o-xylene	17.36	91	568662	2.01 ppb	83
65)	Cumene	17.89	105	814705	2.00 ppb	# 92
67)	1,1,2,2-tetrachloroethane	17.80	83	416019 🖍	2.04 ppb	97
68)	Propylbenzene	18.42	91	940589m 🖔	1.94 ppb	
69)	2-Chlorotoluene	18.46	91	585060m /	2.07 ppb	
70)		18.58	105	781539m /	2.03 ppb	
71)	1,3,5-trimethylbenzene	18.64	105	684361m 🕡	2.04 ppb	
72)	1,2,4-trimethylbenzene	19.07	105	644501	2,04 ppb	93
73)	1,3-dichlorobenzene	19.36	1.46	451214	2.01 ppb	92
74)	benzyl chloride	19.44	91	641327	2.13 ppb	100
75)	1,4-dichlorobenzene	19.50	146	447700	2.01 ppb	96
76)	1,2,3-trimethylbenzene	19.53	105	624311	2.02 ppb	88
77)	1,2-dichlorobenzene	19.81	146	413277	1.99 ppb	96
78)	1,2,4-trichlorobenzene	21.68	180	321593	2.14 ppb	93
79)	Naphthalene	21.87	128	749008	2.26 ppb	96
80)	Hexachloro-1,3-butadiene	21.96	225	301856	2.03 ppb	91

Revlewed)

[0]

Quantitation Report

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: May 06 06:59:45 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

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

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

DataAcq Meth : 1UG_RUN

	rnal Standards			Response		Units		
1)	Bromochloromethane	9.60	128	54237	1.	dgg 00		0.00
35)	1,4-difluorobenzene	11.90	114	259165	1.	oo ppb		
50)	Chlorobenzene-d5	16.43	117	229649	1.	dqq 00		0.00
	em Monitoring Compounds							
	Bromofluorobenzene		95			dqq E0		0.00
Sp	iked Amount 1.000	Range 70	- 130	Recove	ry	= 103	.00%	
Targ	et Compounds						Q٧	alue
2)	Propylene	4.02	41	74163	1	dqq 08		93
3)	Freon 12	4.07	85	328277	_ 1.4	47 ppb		98
	Chloromethane	4.26	50	70191m		वंद्रव्यू es		
	Freon 114	4.27		222765m		32 ppb		
6)	Vinyl Chloride	4.45	62 43	64997	1.	25 ppb		87
7)	Butane	4.55	43	97175m	1.	56 ppb		
8)	1,3-butadiene	4.55	39	65575m	1 1.	31 ppb		
	Bromomethane	4.90	94 64 45	73530]	dqq EE		79
10)	Chloroethane	5.07	64	29402m	1.	34 ppb		
11)	Ethanol	5.19	45	21426m	1	49 ppb		
	Acroleín	5.74	56	20805	1.	dqq 8E	#	58
13)	Vinyl Bromide	5.39	1.06	74020 209813	1.	31 ppb		96
14)	Freon 11	5.65	101	209813	1.	dqq EE		99
15)	Acetone	5.85	58	31468m	1,4	45 ppb		
16)	Pentane	5.92	42	54295	1.:	35 ppb	#	26
17)	Isopropyl alcohol	5.97	45	94919m 110180	1.4	46 ppb		
18)	1,1-dichloroethene	6.41	96	110180	1 !	52 ppb	#	84
19)	Freon 113	6.59	101	236324	1.5	dqq 05		88
	t-Butyl alcohol	6.68	59	199272	1, , !	50 ppb		95
	Methylene chloride	6.87 6.85	84	93915	1.4	43 ppb		93
	Allyl chloride		41	117774m	1 1.4	47 ppb		
	Carbon disulfide	7.02	76	286361	. 2!	51 ppb		98
	trans-1,2-dichloroethene		61	137805		dqq 05		81.
	methyl tert-butyl ether		73	286240	1.	48 ppb		97
	1,1-dichloroethane			286240 173256	1.4	15 ppb		94
27)	Vinyl acetate	8.21		230677	1.	52 ppb		93
28)	Methyl Ethyl Ketone	8.74	72	46578 129781	1.9	ಕೆಲ್ಲಿ ಕಿಕ		34
	cis-1,2-dichloroethene		61	129781		dqq 05		71
30)	Hexane	8.73		146631		17 ppb		88
31)	Ethyl acetate	9.32		177751	1.5	54 ppb		87
	Chloroform	9.77	83	233256	1.!	51 ppb		97
	Tetrahydrofuran	9.97	42	89358		daa E		95
34)	1,2-dichloroethane	10.89	62	135733	1.4	46 ppb		88
	1,1,1-trichloroethane	10.57	97	252942		dqq 84		98
37)	Cyclohexane	11.28	56	143281		15 ppb		64
38)	Carbon tetrachloride	11.22	117	267795		47 ppb		88
39)	Benzene	11.19	78	313980	1.4	16 ppb		97
40)	Methyl methacrylate	12.76	41	109085	1 4	12 ppb		93
47.)	1,4-dioxane	12,82	88	63967	1.0	56 ppb		86
42)	2,2,4-trimethylpentane	12.03	57	441928	1.4	17 ppb		88
	Heptane	12,38	43	150314	1.4	dqq is		90
	Trichloroethene	12.52	130	163723	1 3	51 ppb		92
	1,2-dichloropropane	12.64	63	114881		52 ppb		98

(#) = qualifier out of range (m) = manual integration ANOSOSOS.D ASOS 1UG.M Tue Jul 05 08:22:09 2016

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050505.D Vial: 4 Acq On : 5 May 2016 7:03 pm Operator: RJP Sample : AlUG_1.5 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

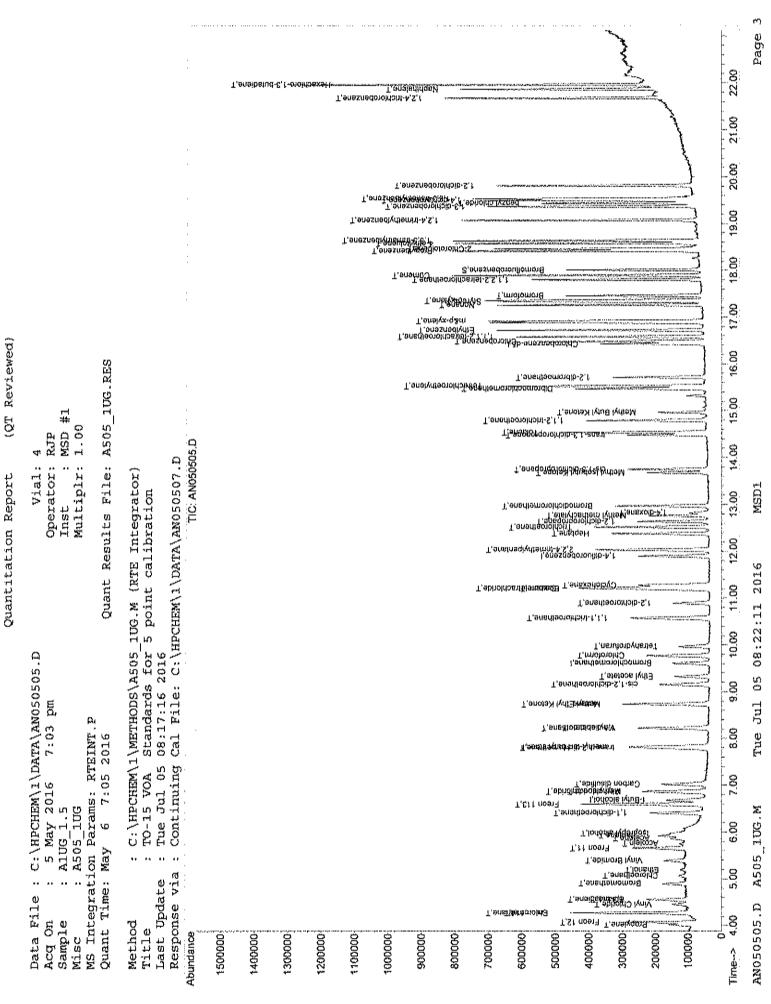
Quant Time: May 06 06:59:45 2016 Quant Results File: A505_1UG.RES

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

DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.97	83	240859	1.47 ppb	95
47)	cis-1,3-dichloropropene	13.75	75	189126	1.48 ppb	91
48)	trans-1,3-dichloropropene	14.49	75	180504	1.49 ppb	85
49)	1,1,2-trichloroethane	14.80	97	149631	1.52 ppb	95
51)	Toluene	14.54	92	242597	1.52 ppb	96
52)	Methyl Isobutyl Ketone	13.68	43	152529	1.64 ppb	94
53)	Dibromochloromethane	15.47	129	279382m 🧗	1.53 ppb	
54)	Methyl Butyl Ketone	14.96	43	113928	1.75 ppb	91
55)	1,2-dibromoethane	15.71	107	244681	1.51 ppb	95
56)	Tetrachloroethylene	15.53	164	170433	1.53 ppb	90
57)	Chlorobenzene	16.48	112	343990	1.55 ppb	98
58)	1,1,1,2-tetrachloroethane	16.58	131	199445	1.54 ppb	95
59)	Ethylbenzene	16.72	91	537927	1.50 ppb	96
60)	m&p-xylene	16.92	9.1	839887	3.06 ppb	100
61)	Nonane	17.26	43	226387	1.51 ppb	93
62)	Styrene	17.34	104	331456	1.54 ppb	96
63)	Bromoform	17.46	173	240534	1.53 ppb	98
64)	o-xylene	17.36	91	418664	1.51 ppb	84
65)	Cumene	17.90	1.05	598276	1.50 ppb	92
67)	1,1,2,2-tetrachloroethane	17.80	83	302362	1.52 ppb	96
68)	Propylbenzene	18.42	91	731017m 🕺	1.54 ppb	
69)	2-Chlorotoluene	18.46	91	399108m	1.45 ppb	
70)	4-ethyltoluene	18.58	105	568678m	1.51 ppb	
71)	1,3,5-trimethylbenzene	18.63	105	496029m	1.52 ppb	
72)	1,2,4-trimethylbenzene	19.07	105	472922	1.53 ppb	93
73)	1,3-dichlorobenzene	19.36	146	333264	1.52 ppb	90
	benzyl chloride	19.44	91	463160	1.57 ppb	100
75)	1,4-dichlorobenzene	19.50	146	328418	1.51 ppb	95
76)	1,2,3-trimethylbenzene	19.53	105	455785	1.51 ppb	88
77)	1,2-dichlorobenzene	19.82	146	308350	1.52 ppb	97
78)	1,2,4-trichlorobenzene	21.68	180	233124	1.59 ppb	95
79)	Naphthalene	21.87	128	533391	1.65 ppb	95
80)	Hexachloro-1,3-butadiene	21.96	225	219469	1.51 ppb	92

______ (#) = qualifier out of range (m) = manual integration (+) * signals summed AN050505.D A505 1UG.M Tue Jul 05 08:22:10 2016



Page 106 of 223

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: May 06 06:59:26 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

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

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

DataAcq Meth : 1UG RUN

Inte	rnal Standards	R.T.	QIon	Response	Conc U	nits	Dev	(Min)
1)	Bromochloromethane	9.61	128	54192	1.00	dąą		0.00
35)	1,4-difluorobenzene Chlorobenzene-d5	11.90	114	255757	1.00	ppb		0.00
50)	Chlorobenzene-d5	16.43	117	227751	1.00	qqq		0.00
	em Monitoring Compounds							
	Bromofluorobenzene		95					0.00
ട്ടാ	iked Amount 1.000	Range 70	- 130	Recover	Υ 🚾	102	.00%	
	et Compounds							alue
	Propylene	4.01	41	61015	1.24			99
	Freon 12	4.07	85	269934	1.21			99
-	Chloromethane	4.27		56284m (∤)				
	Freon 114	4.26	85	184786m				
	Vinyl Chloride	4.45 4.55	62 43	57810m		ББр		
-	Butane	4.55	43	74211m	1.19	qqq		
	1,3-butadiene	4.55	39	53451m				
	Bromomethane	4.90	94	70848m	1.28			
	Chloroethane	4.90 5.06 5.19	64	70848m 26353m 19474	1.20			
	Ethanol	5.19	45	19474				57
	Acrolein	5.75		18079	1.20			73
	Vinyl Bromide	5.39	106	59481 171784	1.05			96
-	Freon 11	5.65	101 58	171784 26274m 44681	1.09			96
	Acetone			26274m	1.22			5.0
	Pentane	5.92	4.2					26
	Isopropyl alcohol	5.96	45	79499m 88442	1.23			0.4
	1,1-dichloroethene	6.58		191654				84 86
	Freon 113	6.68			1.22 1.22			93
21)	t-Butyl alcohol Methylene chloride	0.00	59	161910	1.17			94
22)	Allyl chloride	6.07	41	76419 98061m v	1.23	DDD		34
	Carbon disulfide	7.01	76	233302	1.23	ppb		98
	trans-1,2-dichloroethene							80
クラン	methyl tert hutyl other	7 82	73	112367	1.17			98
26)	methyl tert-butyl ether 1,1-dichloroethane	8.22	63	227001 145365	1.22	ppb		94
27)	Vinyl acetate	8.21	43		1.24	daa		
28)	Methyl Ethyl Ketone	8.74	72					
29)	cis-1,2-dichloroethene	9.15	61	36407 108417	1.25			72
	Hexane	8.73	57	123316	1.24	dqq		88
31)	Ethyl acetate	9.33		136265	1.18			81
	Chloroform	9,77	83	194527	1.26	dag		99
	Tetrahydrofuran	9.97	42	74815	1.28			95
	1,2-dichloroethane	10.89	62	112866	1.22	daa		89
	1,1,1-trichloroethane	10.57	97	210584		ppb		94
	Cyclohexane	11.28	56	115738	1.18			58
	Carbon tetrachloride	11.22	117	222130	1,24			87
39)	Benzene	11.19	78	257472	1.22			99
40)	Methyl methacrylate	12.76	41	91395m 🖍	1.21			
41)	1,4-dioxane	12.82	88	47132	1.24			77
	2,2,4-trimethylpentane	12.03	57	363404	1.22			89
	Heptane	12.37	43	126155	1.20			92
	Trichloroethene	12.52	130	133706	1.25			93
	1,2-dichloropropane	12.64	63	95108	1.27			98

MSD1

^{(#) =} qualifier out of range (m) ≈ manual integration AN050506.D AS05_1UG.M Tue Jul 05 08:22:13 2016

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050506.D Vial: 5 Acq On : 5 May 2016 Operator: RJP 7:43 pm Sample : A1UG_1.25 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

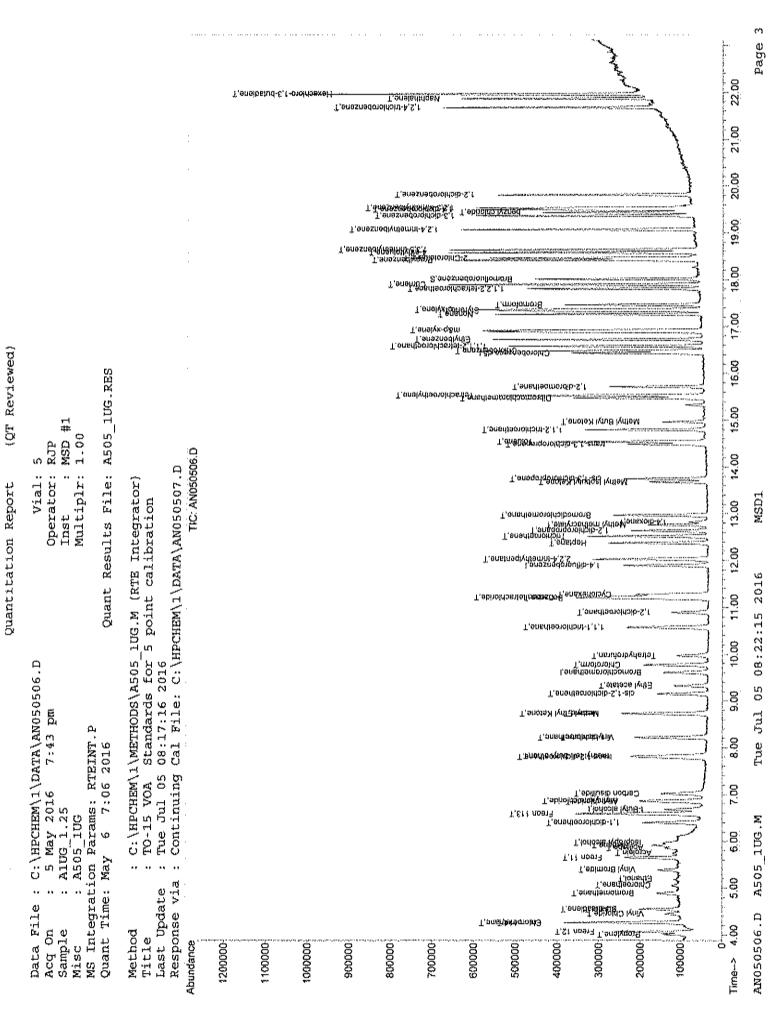
MS Integration Params: RTEINT, P

Quant Time: May 06 06:59:26 2016 Quant Results File: A505_1UG.RES

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

DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.97	83	199722	1.23 ppb	97
47)	cis-1,3-dichloropropene	13.75	75	154612	1.23 ppb	88
48)	trans-1,3-dichloropropene	14.48	75	146681	1.22 ppb	85
49)	1,1,2-trichloroethane	14.80	97	119263	1.23 ppb	100
51)	Toluene	14.54	92	197790	1.25 ppb	96
52)	Methyl Isobutyl Ketone	13.67	43	116324	1.26 ppb	91
53)	Dibromochloromethane	15.47	129	232381m 🎮		
54)	Methyl Butyl Ketone	14.96	4.3	78371	1.21 ppb	91
55)	1,2-dibromoethane	15.71	107	199227	1.24 ppb	97
56)	Tetrachloroethylene	15.53	164	140790	1.27 ppb	90
57)	Chlorobenzene	16.48	112	279334	1.27 ppb	98
58)	1,1,1,2-tetrachloroethane	16.58	131	162736	1.27 ppb	95
59)	Ethylbenzene	16.72	91	446990	1.26 ppb	95
60)	m&p-xylene	16.92	91	688325	2.52 ppb	99
61)	Nonane	17.26	43	188696	1.27 ppb	94
62)	Styrene	17.34	104	269322	1.26 ppb	95
63)	Bromoform	17.46	173	195339	1.26 ppb	98
64)	o-xylene	17.36	91	379415	1.38 ppb	91.
65)	Cumene	17.90	105	489926	1.24 ppb	92
67)	1,1,2,2-tetrachloroethane	17.80	83	249158	1.26 ppb	96
68)	Propylbenzene	18.42	91	568073m	1.21 ppb	
69)		18.46	91	344602m /	1.26 ppb	
70)		18.58	105	461892m,[1.24 ppb	
71)	1,3,5-trimethylbenzene	18.64	105	399301m V	1.23 ppb	
72)	•	19.07	105	379441	1.24 ppb	92
73)	1,3-dichlorobenzene	19.36	146	268721	1.23 ppb	92
74)		19.44	91	360163	1.23 ppb	100
	1,4-dichlorobenzene	19.50	146	266768	1.24 ppb	95
	1,2,3-trimethylbenzene	19.53	3.05	358451	1.20 ppb	88
77)	1,2-dichlorobenzene	19.81	146	249976	1.24 ppb	96
78)		21.68	180	185631	1.28 ppb	94
79)	Naphthalene	21.87	128	420041	1.31 ppb	96
80)	Hexachloro-1,3-butadiene	21.96	225	174273	1.21 ppb	92



Page 109 of 223

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050507.D Vial: 6 Acq On : 5 May 2016 Operator: RJP 8:23 pm Sample : A1UG 1.0 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 06:59:16 2016 Quant Results File: A505 | LUG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505 1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration Title

Last Update : Fri May 06 06:59:07 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D

DataAcq Meth : 1UG_RUN

Internal Standards	Ŕ.Ť.	QIon	Response	Conc U	nits	Dev	(Min)
1) Bromochloromethane	9.61	128	53072	1.00	daa		0.00
35) 1,4-difluorobenzene	11.90		250462				0.00
50) Chlorobenzene-d5	16.43		228195	1.00			0.00
System Monitoring Compounds	- 6 6-		- " ~ ~ ~				
66) Bromofluorobenzene	18.01	95	158600	1.00		000	0.00
Spiked Amount 1.000	Range 70	- 130	Recover	У 🚟	100	.00%	
Target Compounds						Ova	alue
2) Propylene	4.02	41	48170	1.00	daa	-	85
3) Freon 12	4.07		218463	1.00			99
4) Chloromethane	4.27		51087m 🖟	0.96			
5) Freon 114	4.27		164533	1.00			96
6) Vinyl Chloride	4.45		49864m	0.98			
7) Butane	4.55	43	65744	1.08			93
8) 1,3-butadiene	4.56	39	48868	0.99			98
9) Bromomethane	4.90			1.00			79
10) Chloroethane	5.07	94 64 45	22491	1.05			71
11) Ethanol	5.20	45	16402m	1.16		"	
12) Acrolein	5.75	56		0.93			
13) Vinyl Bromide	5.39	106	55148	1.00			99
14) Freon 11	5.66	101	154393	1.00			99
15) Acetone	5.86	58	21133	1.00			1.
16) Pentane	5.93	42	39284	1.00			î
17) Isopropyl alcohol	5.97		63320	1.00			100
18) 1,1-dichloroethene	6.41	96	70934	1.00	daa		89
19) Freon 113	6.59	101	154104	1.00			87
20) t-Butyl alcohol	6.69	59	129500	1.00			96
21) Methylene chloride	6.87	84	63945	1.00			91
22) Allyl chloride	6.85	41	80482m	1.03			
23) Carbon disulfide	7.02	76	185063	1.00			99
24) trans-1,2-dichloroethene			89504	1.00	daa		79
25) methyl tert-butyl ether		73	189372	1.00			98
26) 1,1-dichloroethane	8.23	63	116409	1.00			96
27) Vinyl acetate	8.21	43	147379	1.00			92
28) Methyl Ethyl Ketone	8.73	72		1.00			1
29) cis-1,2-dichloroethene	9.15	61	29110 84624	1.00			70
30) Hexane	8.73	57	97270	1.00		"	87
31) Ethyl acetate	9.32		112811	1.00			87
32) Chloroform	9.77	83	151332	1.00	daa		93
33) Tetrahydrofuran	9.97	42	56923	1.00			97
34) 1,2-dichloroethane	10.89	62	90643	1.00			91
36) 1,1,1-trichloroethane	10.57	97	165005	1.00			98
37) Cyclohexane	11.28	56	95715	1.00		#	65
38) Carbon tetrachloride	11.22	117	175962	1.00			88
39) Benzene	11.19	78	207261	1.00			96
40) Methyl methacrylate	12.76	41	74179	1.00			98
41) 1,4-dioxane	12.83	88	37177	1.00		#	68
42) 2,2,4-trimethylpentane	12.03	57	290656	1.00			89
43) Heptane	12.38	43	103405	1.00			93
44) Trichloroethene	12.52	130	104982	1.00			92
45) 1,2-dichloropropane	12.64	63	73241	1.00			99

MSD1

^{(#) =} qualifier out of range (m) = manual integration AN050507.D A505 1UG.M Tue Jul 05 08:22:17 2016

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050507.D Vial: 6 Acq On : 5 May 2016 8:23 pm Operator: RJP Sample : AlUG_1.0 Misc : A505_lUG Inst : MSD #1 Multiplr: 1.00

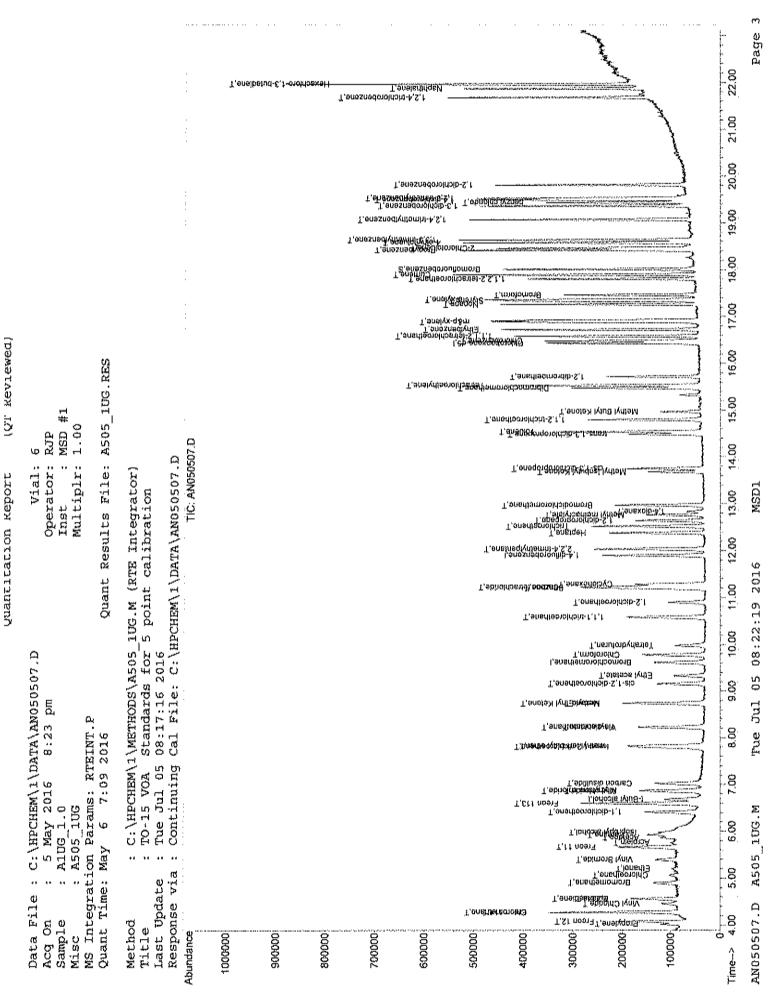
MS Integration Params: RTRINT.P

Quant Time: May 06 06:59:16 2016 Quant Results File: A505 1UG.RES

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

DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.97	83	158923	1.00 ppb	94
47)	cis-1,3-dichloropropene	13.75	75	121870	0.99 ppb	87
48)	trans-1,3-dichloropropene	14.48	75	117232	1.00 ppb	86
49)	1,1,2-trichloroethane	14.79	97	94813	1.00 ppb	98
51)	Toluene	14.54	92	158310	dqq 00.1	97
52)	Methyl Isobutyl Ketone	13.68	43	92657	1.00 ppb	94
53)	Dibromochloromethane	15.47	129	182084m /	0 1.00 ppb	
54)	Methyl Butyl Ketone	14.96	43	64816	1.00 ppb	93
55)		15.71	107	160649	1.00 ppb	94
56)	Tetrachloroethylene	15.53	164	110766	1.00 ppb	89
57)	Chlorobenzene	16.48	112	220347	1.00 ppb	96
50)		16.58	1.31	128920	1.00 ppb	95
59)	Ethylbenzene	16.72	91	355850	1.00 ppb	94
60)	m&p-xylene	16.89	91	546541	2.00 ppb	99
61.)	Nonane	17.26	4.3	148961	1.00 ppb	93
62)	Styrene	17.34	104	214226	1.00 ppb	95
63)	Bromoform	17.46	173	155822	dqq 00.1	98
64)	o-xylene	17.36	91	274720	1.00 ppb	85
65)	Cumene	17.90	105	395809	1.00 ppb	# 92
67)	1,1,2,2-tetrachloroethane	17.80	83	197826	1.00 ppb	97
68)	Propylbenzene	18.42	91	456091m	0.97 ppb	
69)	2-Chlorotoluene	18.46	91	285308m	1.04 ppb	
70)		18.58	105	366600m	0.98 ppb	
ツュ)	1,3,5-trimethylbenzene	18.64	105	324671m 🕻	1.00 ppb	
72)	1,2,4-trimethylbenzene	19.07	105	307021	1.00 ppb	94
73)		19.36	146	218418	1.00 ppb	91
	benzyl chloride	19.44	91	293055	1.00 ppb	98
75)	1,4-dichlorobenzene	19.49	146	216409	1.00 ppb	95
76)	1,2,3-trimethylbenzene	19.53	105	299668	1.00 ppb	89
77)	1,2-dichlorobenzene	19.81	146	202347	1,01 ppb	96
78)	1,2,4-trichlorobenzene	21.68	180	145548	1.00 ppb	98
79)	Naphthalene	21.87	128	322595	1.00 ppb	94
80)	Hexachloro-1,3-butadiene	21.96	225	144419	dqq 00.1	91



Page 112 of 223

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050508.D Vial: 7 Acq On : 5 May 2016 9:02 pm Sample : Alug 0.75 Misc : A505_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 07:00:25 2016 Quant Results File: A505 1UG.RES

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

DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response C		Units		
1) Bromochloromethane	9.61	128	52122		dqq 0		0.00
35) 1,4-difluorobenzene	11.90	114	250327	1.0	dqq 0		0.00
50) Chlorobenzene-d5	1.6.43		226181	1.0	dqq 0		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.01	95			1 ppb		0.00
Spiked Amount 1.000	Range 70	- 130	Recovery	F 192	101	.00%	
Target Compounds						Qva	lue
2) Propylene	4.02	4.1	35627	0.79	dag 3		92
3) Freon 12	4.07	85	166362	0.7	7 ppb		1.00
4) Chloromethane	4.27	50	35764m P	0.6	g pp		
5) Freon 114	4.27	85	109053	0.6	7 ppb		99
6) Vinyl Chloride	4.45	62	31898		4 ppb		83
7) Butane	4.55	43	41109		dag 8		90
8) 1,3-butadiene	4.56	39	30205		dqq E		73
9) Bromomethane	4.89	94	37674		1 ppb		90
10) Chloroethane	5.07	64	15693	0.7	4 စွာစွာ န		7
11) Ethanol	5.19	94 64 45	10610m 👂	0.7	7 စို့စိုဗ		
12) Acrolein	5.74	56	11099m 🚶		7 ppb		
13) Vinyl Bromide	5.39	106	37544 ⁹	0.6	dવુવ		96
14) Freon 11	5.65	101	101792		dag 7		97
15) Acetone	5.86	58	14793		dqq 1	#	1.
16) Pentane	5.92	42	26337	0.6	dqq B		12
17) Isopropyl alcohol	5.98	45		0.69	dqq 8		100
18) 1,1-dichloroethene	6.40	45 96	54300	0.78	dqq 8		86
19) Freon 113	6.59	101	116431		7 ppb		88
20) t-Butyl alcohol	6.69	59	93804		4 ppb		97
21) Methylene chloride	6.87	84	45976		g ppb		94
22) Allyl chloride	6.84	41	58649m 🕖	0.76	dqq a		
23) Carbon disulfide	7.02	76	141991		g ppb		91
24) trans-1,2-dichloroethene	7.79	61	67053		dqq a		81
25) methyl tert-butyl ether	7.83	73	133608		2 ppb		93
26) 1,1-dichloroethane	7.83 8.22	63	85209		4 ppb		91
27) Vinyl acetate	8.21	43	110186	0.70	dqq a		93
28) Methyl Ethyl Ketone	8.73	72	21715	0.70	dqq 3	#	1
29) cis-1,2-dichloroethene	9.15	61	63332	0.76	ජ හූහුර්	#	66
30) Hexane	8.73	57	71425	0.7	5 ppb		87
31) Ethyl acetate	9.33	43	79875	0.72	dqq S		89
32) Chloroform	9.77	83	113901	0.7	7 ppb		97
33) Tetrahydrofuran	9.97	42	42903	0.7	dqq 7		98
34) 1,2-dichloroethane	10.89	62	67089		dqq t		88
36) 1,1,1-trichloroethane	10.57	97	124256	0.79	dqq a		95
37) Cyclohexane	11.27	56	68424	0.7	dqq S	#	62
38) Carbon tetrachloride	11.22	117	129796	0.74	4 ppb		87
39) Benzene	11.19	78	150836	0.73	dqq E		96
40) Methyl methacrylate	12.76	41	59522m 💋	0.80	dqq 0		
41) 1,4-dioxane	12.82	88	25782	0.69	dqq e		76
42) 2,2,4-trimethylpentane	12.03	57	216622	0.75	dqq z		88
43) Heptane	12.37	43	78462	0.70	qqq a		95
44) Trichloroethene	12.52	130	79433		dqq 3		93
45) 1,2-dichloropropane	12.64	63	55316		5 ppb		99

^{(#) =} qualifier out of range (m) = manual integration

AN050508.D A505_1UG.M Tue Jul 05 08:22:21 2016

Quantitation Report (QT Reviewed)

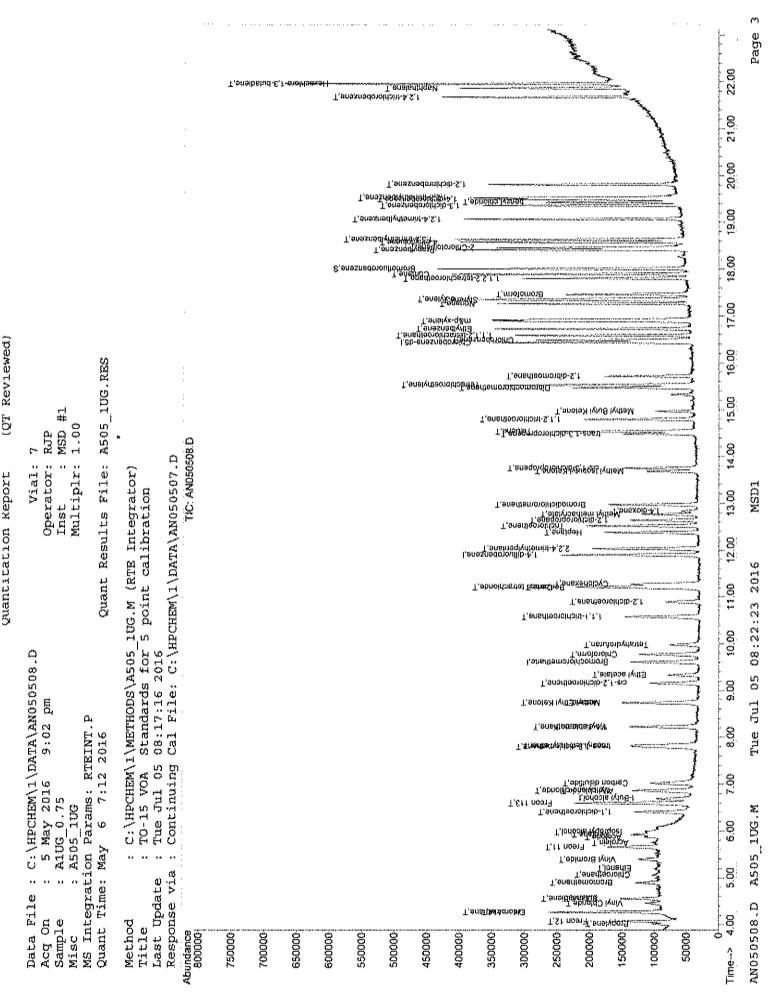
Data File : C:\HPCHEM\1\DATA\AN050508.D Vial: 7 Acq On : 5 May 2016 Operator: RJP 9:02 pm Sample : AlUG_0.75 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT, P

Quant Time: May 06 07:00:25 2016 Quant Results File: A505_1UG.RES

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

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



Page 115 of 223

Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050509.D Vial: 8 Acq On : 5 May 2016 9:39 pm Operator: RJP Sample : AlUG_0.50 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 07:00:44 2016 Quant Results File: A505 lUG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri May 06 06:59:07 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN050507.D
DataAcq Meth : lUG_RUN

Inte	rnal Standards	R.T.	QIon	Response (Conc	Units	Dev	(Min)
1)	Bromochloromethane 1,4-difluorobenzene Chlorobenzene-d5	9.61	128	52254	1.0	dqq 0		
35)	1,4-difluorobenzene	11.90	114	246068	1.0	dqq 0		0.00
50)	Chlorobenzene-d5	16.43	117	225455	1.0	0 ppb		0.00
Syst	em Monitoring Compounds							
66)	Bromofluorobenzene	18.01	95	156419	1.0	dqq 0		0.00
Sp	iked Amount 1.000	Range 70	- 130	Recovery	<i>r</i>	100	.००%	
Targ	et Compounds						Qva	alue
2)	Propylene	4.02		26548m 🗗		6 ppb		
3)	Freon 12	4.07	85	108016	0.5	dqq 0		96
4)	Chloromethane	4.27		23979	0.4	6 ppb		85
5)	Freon 114	4.26 4.45	85	75836 21825 26888	0.4	7 ppb		8.9
6)	Vinyl Chloride			21825	0.4	4 ppb		83
	Butane	4.55	4.3	26888	0.4	5 ppb		87
8)	1,3-butadiene	4.55	39	20326	Δ	2 ppb		82
	Bromomethane		94	20326 24187 9782	0.4	5 ppb		
	Chloroethane	4.89 5.05	64	9782	0.4	e ppp	#	19
	Ethanol	5.19	45	7779m 🔑		6 ppb		
12)	Acrolein	5.75	56	7756		4 ppb		3
	Vinyl Bromide	5.38	106	7756 23538 67372		dqq E		98
	Freon 11	5.64	101	67372	0.4	4 ppb		99
	Acetone	5.86	58	8970m 🔿	0.4	dag E		
	Pentane	5.91	42	19155	0.4	9 ppb		25
	Isopropyl alcohol	5,98	42 45 96	28618	0 4	6 ppb		100
	1,1-dichloroethene	6.40	96	28618 35127	0.5	o ppb		85
	Freon 113	6.59	101	75574		0 ppb		87
	t-Butyl alcohol	6.69	50	60491	0.4	9 ppb		89
	Methylene chloride	6.87	59 84	34949	0.4	5 ppb		85
	Allyl chloride	6.84	41	62481 34949 35056	n 4	6 ppb		89
	Carbon disulfide	7.02	76	33036	0.4	l ppb		93
24)	trans-1 2-dishleresthers	7.02	63	92856	0.5			80
かなり	trans-1,2-dichloroethene methyl tert-butyl ether 1,1-dichloroethane	7.12	61 73	43802 88298	0.5	0 ppb 7 ppb		93
20/	1 1 dichlerenthans	7.03	63	57673	0.4			
20)	1,1-dichloroethane	8.44	0.0			0 ppb		99 91
27)	Vinyl acetate	8.21	*£3	72227		dqq 0		
20)	Vinyl acetate Methyl Ethyl Ketone cis-1,2-dichloroethene	8.73 9.15	43 72 61	14558 43219	0.5	1 ppb	#	- 1
~ > /		9.15	67	43213	0.5	5 bbp		
_	Hexane	8.72	57	46572	0.4	dqq e		90
	Ethyl acetate	9.33	43 83	54447	0 4	9 ppb		87
	Chloroform	9.77		, 10,0		dqq 0		99
33)	Tetrahydrofuran	9.97	42	27044	0.4	dqq 8		97
34)	1,2-dichloroethane	10.89	62	44025		qqq e		8.9
	1,1,1-trichloroethane	10.57	97	80863		o bbp	.,	98
	Cyclohexane	11.27	56	46771		dgg 0	#	61
	Carbon tetrachloride	11,22	117	86084		dqq 0		87
39)	Benzene	11.19	78	100535	0.4	9 ppb		99
40)	Methyl methacrylate	12.76	41	34239		dqq 7		95
	1,4-dioxane	12.83	88	17380		8 ppb	#	70
42)	2,2,4-trimethylpentane	12.03	57	139198		dqq e		93
43)	Heptane	12.38	43	48583	0.4	g bbp		93
44)	Trichloroethene	12.52	130	50862		dgg e		92
	1,2-dichloropropane	12.64	63	36829		1 ppb		99

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

AN050509.D A505 1UG.M Tue Jul 05 08:22:25 2016

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050509.D Vial: 8 Acq On : 5 May 2016 9:39 pm Operator: RJP Sample : AlUG_0.50 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

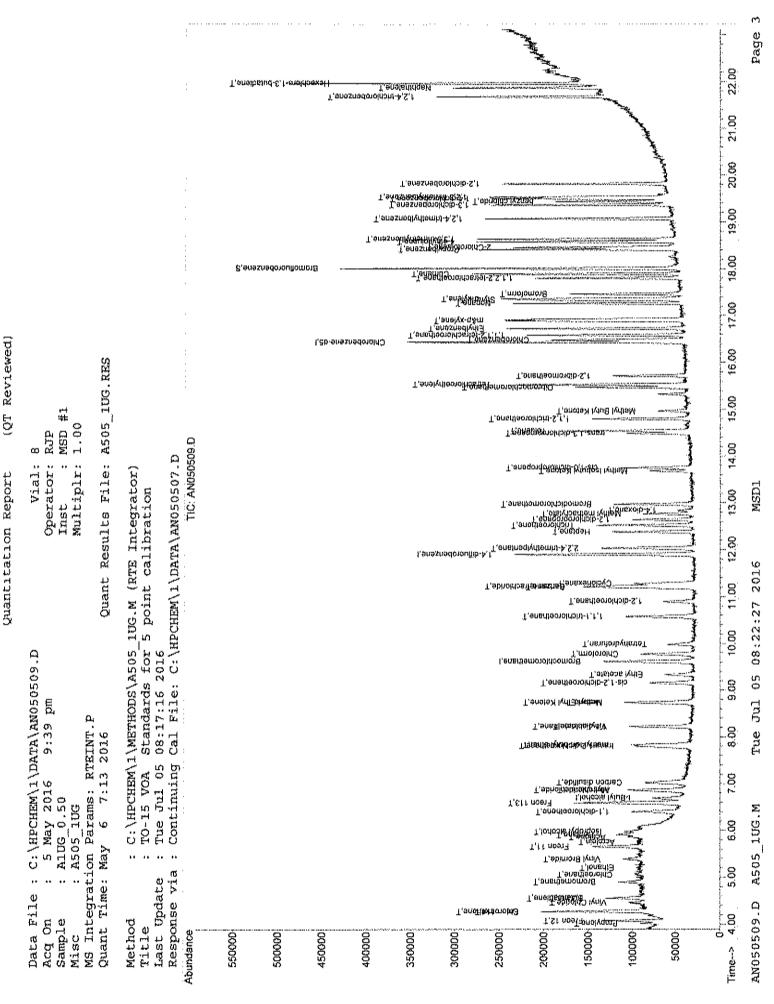
MS Integration Params: RTEINT.P

Quant Time: May 06 07:00:44 2016 Quant Results File: A505_1UG.RES

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

DataAcq Meth : LUG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qva	lue
46)	Bromodichloromethane	12.96	83	77106	0.49 ppb	2 3 4 6 6	94
47)	cis-1,3-dichloropropene	13.75	75	59960	0.50 ppb		87
48)	trans-1,3-dichloropropene	14.48	75	52776	0.46 ppb		77
49)	1,1,2-trichloroethane	14.80	97	46037	0.49 ppb		99
51)	Toluene	14.54	92	76257	0.49 ppb		97
52)	Methyl Isobutyl Ketone	13.67	43	44255	0.48 ppb		95
53)	Dibromochloromethane	15.47	129	88812m 🗗			
54)	Methyl Butyl Ketone	14.97	43	31093	0.49 ppb	#	84
55)	1,2-dibromoethane	15.71	107	77146	0.49 ppb		97
56)	Tetrachloroethylene	15.53	164	53868	0.49 ppb		89
57)	Chlorobenzene	16.48	112	108750	0.50 ppb		94
58)	1,1,1,2-tetrachloroethane	16.58	131	62351	0.49 ppb		96
59)	Ethylbenzene	16.72	91.	168901	0.48 ppb		99
60)		16.89	91	263118	0.97 ppb		99
61)	Nonane	17.26	43	73785	0.50 ppb		95
62)	Styrene	17.34	104	102938	0.49 ppb		93
63)	Bromoform	17.46	173	73115	0.48 ppb		99
64)	o-xylene	17.36	91.	129076	0.48 ppb		81
65)	Cumene	17.89	105	185624	0.47 ppb	#	92
67)	1,1,2,2-tetrachloroethane	17.80	83	96074 🚓	0.49 ppb		97
	Propylbenzene	18.43	91	218695m 🧗	0.47 ppb		
69)		18.46	91	142596m	0.53 ppb		
	4-ethyltoluene	18.58	105	176241m	0.48 ppb		
71)		18.64	105	154187m 🞝	$0.48~\mathrm{ppb}$		
72)		19.07	105	142295	0.47 ppb		91
73)	1,3-dichlorobenzene	19.36	146	106099	0.49 ppb		90
74)	benzyl chloride	19.43	91	120839	0.42 ppb		92
75)	1,4-dichlorobenzene	19.49	146	106205	0.50 ppb		96
76)		19.53	105	141292	0.48 ppb		91
77)		19.81	146	99587	0.50 დდხ		97
78)		21.68	180	68026	0.47 ppb		97
	Naphthalene	21.87	128	153050	0.48 ppb		89
80)	Hexachloro-1,3-butadiene	21.96	225	68022	0.48 ppb		92



Page 118 of 223

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050510.D Vial: 9 Operator: RJP Acq On : 5 May 2016 10:17 pm Sample : A1UG_0.30 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 07:00:59 2016 Quant Results File: A505 1UG.RES

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

DataAcq Meth : 1UG RUN

DataAcq Metn : 100_RON							
Internal Standards	R.T.	QIon	Response	Conc U	nits	Dev	(Min)
 Bromochloromethane 	9.61	128	50949	1.00	dqq		0.00
35) 1,4-difluorobenzene	11.90	114	244973		dqq		0.00
50) Chlorobenzene-d5	16.43		220988		qqq		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.01	95	156226	1.02	dqq		0.00
Spiked Amount 1.000	Range 70	- 130	Recover	У =	102.	008	
AND							
Target Compounds	4 00		75430- Ø			QVä	alue
2) Propylene	4.01	41	15438m P				AT 1874
3) Freon 12	4.07	85	66940	0.32	ppp		97
4) Chloromethane	4.27	50	13953		bbp	#	53
5) Freon 114	4.26	85	44896	0.28	ppb		95
6) Vinyl Chloride	4.45	62		0.27	рÞр		80
7) Butane	4.55	43	14309m 🎉		agg		
8) 1,3-butadiene	4.55	39	14794	0.31	ppb		98
9) Bromomethane	4.89	94	1.7461		dqq	#	63
10) Chloroethane	5.06	64	6087m	0.29	ದ್ದಡ್ಡ		
11) Ethanol	5.21	4.5	5245m	0.39	ppp		
12) Acrolein	5.75	56	5206m	0.37	ರದ್ವರ		
13) Vinyl Bromide	5.39	106		0.36	bbp		96
14) Freon 11	5.65	101	45228	0.30	dqq		94
15) Acetone	5.86	58	7187m 🗸	0.35	ppb		
16) Pentane	5.92	42	12904		ppb		11
17) Isopropyl alcohol	5.97	45	21236		ɗgg		1.00
18) 1,1-dichloroethene	6.40	96	23469	0.34	ppb	#	79
19) Freon 113	6.59	101	45133		dqq		85
20) t-Butyl alcohol	6.69	59	35530	0.29	ppb	#	72
21) Methylene chloride	6.87	84	21306	0.35	$_{ m dqq}$	#	87
22) Allyl chloride	6.84	41	24438	0.33	ppb		85
23) Carbon disulfide	7.02	76	58025	0.33	ppb		80
24) trans-1,2-dichloroethene		61	26997	0.31	dqq	#	76
25) methyl tert-butyl ether	7.84	73	52852	0.29	ppp		91
26) 1,1-dichloroethane	8.22	63	34005	0.30	dqq		85
27) Vinyl acetate	8.21	43	43189	0.30	dqq		92
28) Methyl Ethyl Ketone	8.74	7.2	8445		ppb	#	1
29) cis-1,2-dichloroethene	9.15	61	25496	0.31	dqq	#	68
30) Hexane	8.73	57 43	32569		ppb		86
31) Ethyl acetate	9.33	43	29711	0.27	dqq		65
32) Chloroform	9.77	83	45346	0.31	ppb		79
 Tetrahydrofuran 	9.98	42	19584	0.36	ppb		93
34) 1,2-dichloroethane	10.89	62	25789	0.30	ppb		77
36) 1,1,1-trichloroethane	10.58	97	47983	0.30	dqq		99
37) Cyclohexane	11.28	56	30829	0.33	dqq	#	64
38) Carbon tetrachloride	11.22	117	51896	0.30			88
39) Benzene	11.19	78	61988	0.31	dag		94
40) Methyl methacrylate	12.76	41	20008	0.28	ppb		94
41) 1,4-dioxane	12.84	88	10083	0.28	daa	#	67
42) 2,2,4-trimethylpentane	12.03	57	84097	0.30			89
43) Heptane	12.38	4.3	33141	0.33	daa		97
44) Trichloroethene	12.52	130	30556	0.30			89
45) 1,2-dichloropropane	12.64		22842	0.32			94
						11 % 0	7 74 Mr. P47

^{(#) =} qualifier out of range (m) = manual integration AN050510.D A505_1UG.M Tue Jul 05 08:22:29 2016

Quantitation Report (QT Reviewed)

Data File: C:\HPCHEM\1\DATA\AN050510.D
Acq On: 5 May 2016 10:17 pm
Sample: A1UG_0.30
Misc: A505_1UG Vial: 9 Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

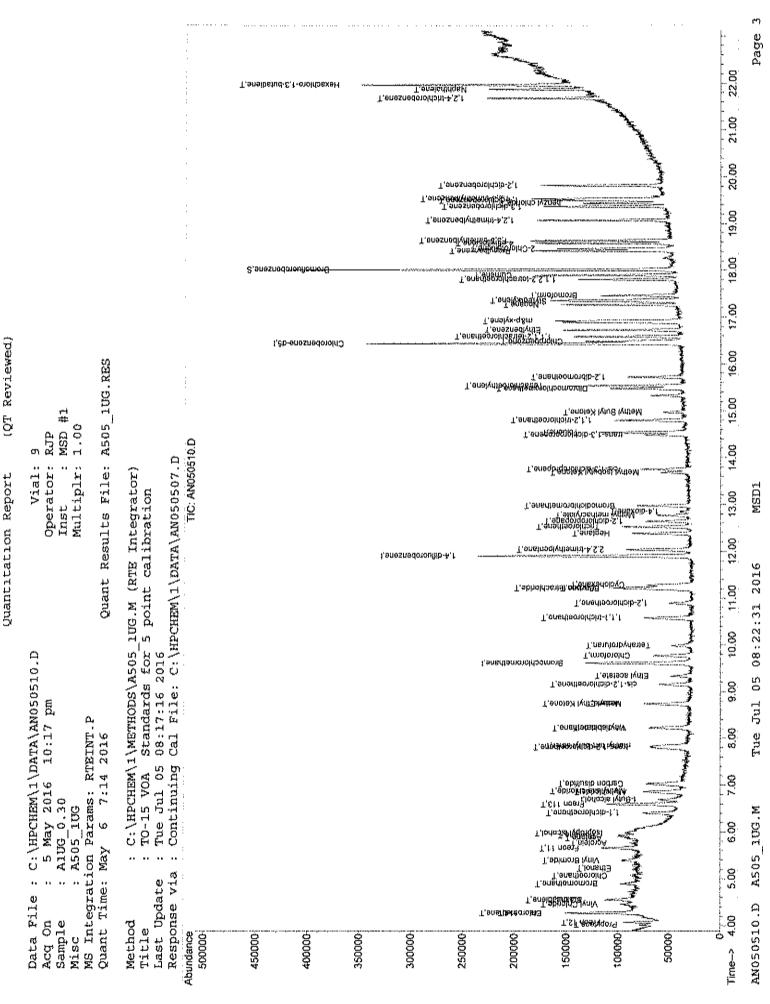
Quant Time: May 06 07:00:59 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\l\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri May 06 06:59:07 2016

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

DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qva	lue
46)	Bromodichloromethane	12.97	83	46406	0.30 ppb		84
47)	cis-1,3-dichloropropene	13.75	75	38256	0.32 ppb		91
48)	trans-1,3-dichloropropene	14.48	75	31772	0.28 ppb	#	58
49)	1,1,2-trichloroethane	14.79	97	29151	0.31 ppb		98
51)	Toluene	14.54	92	46132	0.30 ppb		96
52)	Methyl Isobutyl Ketone	13.68	43	29009	0.32 ppb		95
53)	Dibromochloromethane	15,47	129	51640m 🗸	0.29 ppb		
54)	Methyl Butyl Ketone	14.96	43	18476	0.29 ppb		80
55)	1,2-dibromoethane	15.72	107	45220	0.29 ppb		95
56)	Tetrachloroethylene	15.53	164	32680	dqq 08.0		91
57)		16.48	112	64324	0.30 ppb		96
58)	1,1,1,2-tetrachloroethane	1.6.58	131	36952	0.30 ppb	#	94
59)	Ethylbenzene	16.72	91	101329	0.29 ppb		96
60)	m&p-xylene	16.92	91	156326	0.59 ppb		98
61)	Nonane	17.26	43	43693	0.30 ppb		93
62)	Styrene	17.34	104	61470	0.30 ppb		88
63)	Bromoform	17.46	173	43480	0.29 ppb		98
64)	o-xylene	17.36	91	87215	0.33 ppb		91
65)	Cumene	17.89	105	111482	0.29 ppb	#	91
67)	1,1,2,2-tetrachloroethane	17.81	83	55844 🖍	0.29 ppb		92
68)		18.41	91	125872m 👫	0.28 ppb		
69)	2-Chlorotoluene	18.46	91	73946m	0.28 ppb		
70)		18.58	105	105427m	0.29 ppb		
71)	1,3,5-trimethylbenzene	18.64	105	94600m 🗸	dqq 08.0		
72)	1,2,4-trimethylbenzene	19.07	105	89381	0.30 ppb		91
73)	1,3-dichlorobenzene	19.36	146	62563	dqq 08.0		94
74)	•	19.44	91	70254	0.25 ppb		91
75)		19.50	146	62113	0.30 ppb		93
	1,2,3-trimethylbenzene	19.53	105	89509	0.31 ppb		90
77)	1,2-dichlorobenzene	19.81	146	61126	0.31 ppb		97
78)		21.68	180	40330	0.29 ppb		96
79)		21.87	128	88178	0.28 ppb		87
80)	Hexachloro-1,3-butadiene	21.96	225	42189	0.30 ppb		90



Page 121 of 223

(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\AN050511.D Vial: 10 Acq On : 5 May 2016 10:54 pm Operator: RJP Sample : AlUG_0.15 Misc : A505_lUG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 06 07:01:16 2016 Quant Results File: A505 | 1UG.RES

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

Internal Standards	R.T.	QIon	Response C	onc U	nits	Dev	(Min)
1) Bromochloromethane	9.61	128	51160	1.00	dqq		0.00
35) 1,4-difluorobenzene	11.89	114	244242		ppb		0.00
50) Chlorobenzene-d5	16.43	117	219351	1.00	dqq		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.01	95	157444	1.03	$_{\mathrm{dqq}}$		0.00
Spiked Amount 1.000	Range 70	- 130	Recovery	- 22	103	.00%	
Target Compounds						Qva	alue
<pre>2) Propylene</pre>	4.03	41.	8676m 🔑		dqq		
3) Freon 12	4.07	85	34262	0.16	ppb		99
4) Chloromethane	4.27	50	9721	0.19	dqq	#	55
5) Freon 114	4.26	85	26406	0.17	ppb		89
6) Vinyl Chloride	4.45	62	7990		ppp		7
7) Butane	4.55	43	11473m Ø	0.19	dqq		
8) 1,3-butadiene	4.55	39	8001m		dqq		
Bromomethane	4.89	94	8440		dqq		81
10) Chloroethane	5.05	64	2679m		ppb		
11) Ethanol	5.19	4.5	2903m		dqq		
13) Vinyl Bromide	5.38	106	8294		ppb		83
14) Freon 11	5.65	101	20898		ppb		89
15) Acetone	5.89	58	3520		dqq	#	1.
16) Pentane	5.91		6278m		ppb		
17) Isopropyl alcohol	6.00	45	10015		dqq		100
18) 1,1-dichloroethene	6.40	96	11106	0.16	dqq	••	82
19) Freon 113	6.58	101	22577		ppb		86
20) t-Butyl alcohol	6.69	59	19624		ppb		77
21) Methylene chloride	6.87	84	10935		ppb		84
22) Allyl chloride	6.86	41	12627		dqq	"	79
23) Carbon disulfide	7.02	76	30439	0.17	ppb		81
24) trans-1,2-dichloroethene		61	13264		dqq	#	72
25) methyl tert-butyl ether		73	30229		ppb	11	87
26) 1,1-dichloroethane	8.22	63	17181		ppb		88
27) Vinyl acetate	8.23	43	23205		ppb		88
28) Methyl Ethyl Ketone	8.75	72	4195		ppb		1
29) cis-1,2-dichloroethene	9.15	61	12320		dqq		59
30) Hexane	8.73	57	15967	0.17	ppb		86
31) Ethyl acetate	9.34	43			ppb		63
32) Chloroform	9.77	83	23845	0 16	dqq		98
33) Tetrahydrofuran	9.99	42	11057	0.20	ppb		94
34) 1,2-dichloroethane	10.88	62	12816	0.15			62
36) 1,1,1-trichloroethane	10.56	97	25636	0.36	ppb		91
37) Cyclohexane	11.27	5 <i>6</i>	15615		dqq	#	62
38) Carbon tetrachloride			25112		dqq	17	85
	11.22	117					97
39) Benzene	11.19	78	32796	O 15	ppb		
40) Methyl methacrylate	12.77	41	10904	0.15			89
41) 1,4-dioxane	12.85	88	5540	0.15	ppb		72
42) 2,2,4-trimethylpentane	12.03	57 43	41395	0.15	ည်ည		91
43) Heptane	12.37	43	20743	0.21	ББD		90
44) Trichloroethene	12.52	130	14518	0.14	agg		90
45) 1,2-dichloropropane	12.63	63	11409	0.16			91
46) Bromodichloromethane	12.97	83	24800	0.16			100

^{(#) =} qualifier out of range (m) = manual integration

Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050511.D Vial: 10 Acq On : 5 May 2016 10:54 pm Sample : A1UG_0.15 Misc : A505_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

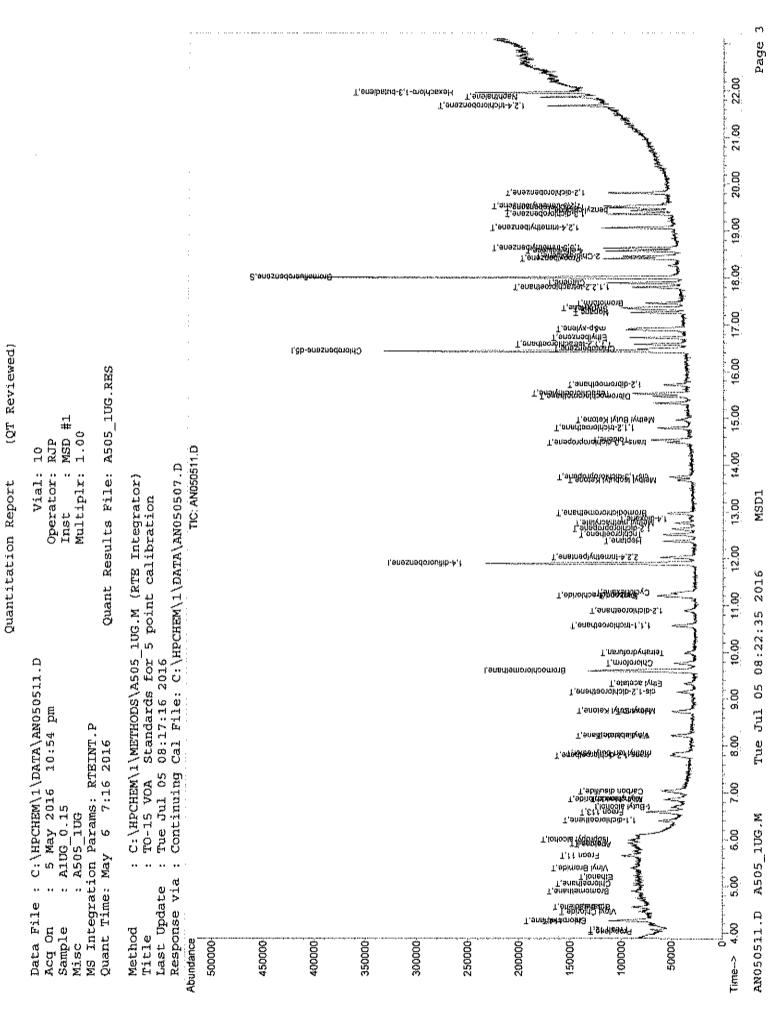
MS Integration Params: RTEINT.P

Quant Time: May 06 07:01:16 2016 Quant Results File: A505_1UG.RES

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

DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qva	alue
47)	cis-1,3-dichloropropene	13.74	75	19515	0.16 ppb		83
48)	trans-1,3-dichloropropene	14.48	75	16180	0.14 ppb	#	41
49)	1,1,2-trichloroethane	14.80	97	14411	0.16 ppb		100
51)	Toluene	14.54	92	22705	0.15 ppb		97
52)	Methyl Isobutyl Ketone	13.67	43	13983	0.16 ppb		90
53)	Dibromochloromethane	15.47	129	25032m 🕺	0.14 ppb		
54)	Methyl Butyl Ketone	14.96	43	11442m 🎝	0.18 ppb		
55)	1,2-dibromoethane	15.71	107	23052	0.15 ppb		91.
56)	Tetrachloroethylene	15.53	164	15909	0.15 ppb		87
57)	Chlorobenzene	16.48	112	32743	0.15 ppb		8.9
58)	1,1,1,2-tetrachloroethane	16.59	131	18421	0.15 ppb	#	90
59)		16.72	91	50385	0.15 ppb		96
60)	m&p-xylene	16.91	91	75561	0.29 ppb		97
61)	Nonane	17.26	43	24406	0.17 ppb		94
62)	Styrene	17.33	104	30409	0.15 ppb		87
63)	Bromoform	17.46	173	20982	0.14 ppb		98
64)	o-xylene	17.37	91	39540	0.15 ppb		77
65)	Cumene	17.90	105	56396	0.15 ppb	#	92
67)	1,1,2,2-tetrachloroethane	17.80	83	30695	0.16 ppb		99
68)	Propylbenzene	18.41	91	71991m 🔑			
69)	2-Chlorotoluene	18.46	91	37408m /	0.14 ppb		
70)	4-ethyltoluene	18.58	105	58012m/	0.16 ppb		
71)	1,3,5-trimethylbenzene	18.64	105	52726m			
72)	1,2,4-trimethylbenzene	19.07	105	48640	0.16 ppb		92
73)	1,3-dichlorobenzene	19.36	146	31871	0.15 ppb		92
74)		19.44	91	43292	0.15 ppb		99
75)	1,4-dichlorobenzene	19.49	146	32649	0.16 ppb		91
76)	1,2,3-trimethylbenzene	19.53	105	46851	0.16 ppb		90
77)	1,2-dichlorobenzene	19.82	146	32173	0.17 ppb		96
78)		21.68	180	20734	0.15 ppb		98
79)		21.87	128	47883	0.16 ppb		83
80)	Hexachloro-1,3-butadiene	21.96	225	21918	0.16 ppb		93



Page 124 of 223

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050512.D Vial: 11 Acq On : 5 May 2016 11:32 pm Operator: RJP Sample : AlUG_0.10 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

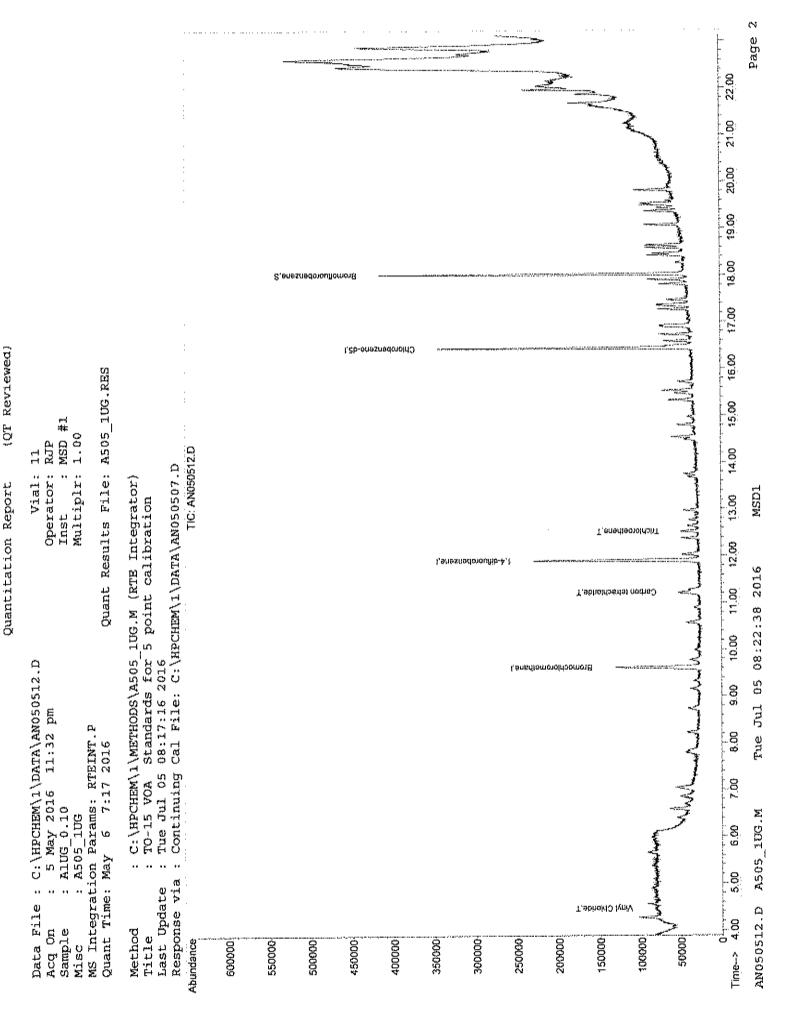
MS Integration Params: RTEINT.P

Quant Time: May 06 07:01:36 2016 Quant Results File: A505_1UG.RES

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

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response (Conc 1	Units D	ev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.61 11.90 16.43	128 114 117	51754 241393 220463	1.0	dqq 0 dqq 0 dqq 0	0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.01 Range 70	95 - 130	155139 Recovery		l ppb 101.0	0.00
Target Compounds 6) Vinyl Chloride 38) Carbon tetrachloride 44) Trichloroethene	4.45 11.21 12.52	62 117 130	5274 16104 9458	0.0	dqq e	Qvalue 64 82 # 78



Page 126 of 223

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN050513.D Vial: 12
Acq On : 6 May 2016 12:09 am Operator: RJP
Sample : AlUG_0.04 Inst : MSD #1
Misc : A505_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P
Quant Time: May 06 07:01:54 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

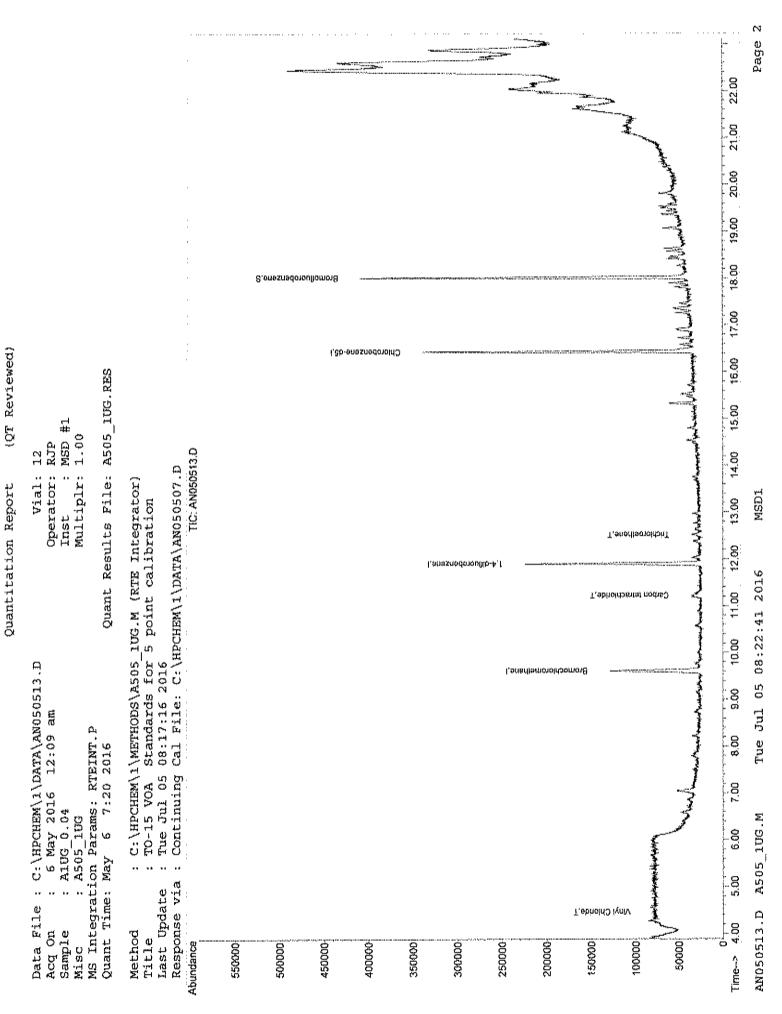
Last Update : Fri May 06 06:59:07 2016

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

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	onc U	Inits De	v(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.61 11.90 16.43	128 114 117	51599 245316 219782	1.00	dqq o	0.00 0.00 0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.01 Range 70	95 - 130	156606 Recovery		ppb 103.00	0.00
Target Compounds 6) Vinyl Chloride 38) Carbon tetrachloride 44) Trichloroethere	4.45 11.22 12.52	62 117 130	2685 6243 3907	0.04) dqq i dqq i t dqq i	83

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AN050513.D A505_1UG.M Tue Jul 05 08:22:40 2016 MSD1



Page 128 of 223

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Vial: 2 Data File : C:\HPCHEM\1\DATA\AN052402.D Operator: RJP : 24 May 2016 9:01 am Acq On Inst : MSD #1 Sample : AlUG 1.0 Misc : A505 lUG Multiplr: 1.00

MS Integration Params: RTEINT.P

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

Response via : Multiple Level Calibration

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

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

Page 1

^{(#) ≃} Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN052402.D Vial: 2 Acq On Operator: RJP : 24 May 2016 9:01 am : A1UG_1.0 Inst : MSD #1 Sample Misc : A505 1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

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

Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	*Dev	Area%	Dev(min)
51	 Т	Toluene	0.692	0.746	-7.8	53	0.00
52	$\bar{f T}$	Methyl Isobutyl Ketone	0.416	0.537	-29.1	65	-0.01
53	T	Dibromochloromethane	0.795	0.746	6.2	46#	0.00
54		Methyl Butyl Ketone	0.301	0.594	97.3排	103	-0.01
55	T	1,2-dibromoethane	0.697	0.763	-9.5	53	0.00
56		Tetrachloroethylene	0.488	0.561	-15.0	57	0.00
57	$\overline{\mathbf{T}}$	Chlorobenzene	0.978	1.056	-8.0	54	0.00
58	T	1,1,1,2-tetrachloroethane	0.566	0.574	-1.4	50#	0.00
59	${f T}$	Ethylbenzene	1.547	1,663	-7.5	52	0.00
60		m&p-xylene	1.192	1.295	-8.6	53	0.00
61		Nonane	0.669	0.680	-1.6	51	0.00
62		Styrene	0.940	0.971	-3.3	51	0.00
63	T	Bromoform	0.672	0.539	19.8	39#	0.00
64	\mathbf{T}	o-xylene	1.229	1.439	-17.1	59	0.00
65	T	Cumene	1.711	1.814	-6.0	51	0.00
66	Ş	Bromofluorobenzene	0.706	0.689	2.4	49#	0.00
67	T	1,1,2,2-tetrachloroethane	0.875	0.979	-11.9	55	0.00
68	${f T}$	Propylbenzene	2.028	2.119	-4.5	52	0.00
69	T	2-Chlorotoluene	1.194	1.308	-9.5	51	0.00
70	${f T}$	4-ethyltoluene	1.637	1.724	-5.3	53	0.00
71	\mathbf{T}	1,3,5-trimethylbenzene	1.443	1.572	~8.9	54	0.00
72	T	1,2,4-trimethylbenzene	1.355	1.452	-7.2	53	0.00
73	${f T}$	1,3-dichlorobenzene	0.953	1.049	-10.1	54	0.00
74	\mathbf{x}	benzyl chloride	1.245	0.880	29.3	34#	0.00
75	\mathbf{T}	1,4-dichlorobenzene	0.953	1.039	-9.0	54	0.00
76	\mathbf{r}	1,2,3-trimethylbenzene	1.317	1.447	-9.9	54	0.00
77	${f T}$	1,2-dichlorobenzene	0.900	1.002	-11.3	55	0.00
78	\mathbf{T}	1,2,4-trichlorobenzene	0.641	0.706	-10.1	54	0.00
79	T	Naphthalene	1.447	1.843	-27.4	64	0.00
80	T	Hexachloro-1,3-butadiene	0.629	0.758	-20.5	59	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052402.D Vial: 2 : 24 May 2016 : Alug_1.0 Operator: RJP 9:01 am Acq On Inst : MSD #1 Sample Misc : A505_lug Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Results File: A505_1UG.RES Quant Time: May 24 09:24:46 2016

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016 Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Inte:	rnal Standards	R.T.	QIon	Response	Conc U	nits	Dev	(Min)
								0 07
	Bromochloromethane				1.00	agg		-0.03 -0.03
35)	1,4-difluorobenzene	11.87	114	124023	1.00	ppo	,	-0.01
50)	Chlorobenzene-d5	16.42	117	112008	1.00	թբո		-0.01
Syst	em Monitoring Compounds							
66)	Bromofluorobenzene	18.00		77188				-0.01
Sp.	iked Amount 1.000	Range 70	- 130	Recove	ry =	98	.00%	
ves	-1 -0						Ove	alue
	et Compounds	3.99	41	30007 151255	1.09	daa		86
	Propylene Freon 12	4.05		151255	1.25			100
	Chloromethane	4.24		32272	1.18	ppb		95
	Freon 114	4.24		105712	1.25	DUP.		97
		4.43		105712 29655 38097	1.11			95
	Vinyl Chloride	4.52		38097	1.16			95
	Butane 1,3-butadiene	4.53		26022	1.03			98
	Bromomethane		94	35533				86
	Chloroethane	5.04		32831				34
		5.16	45	12831 10451m	P 1.20			•
-	Ethanol	5.72	56	8589	1.05			50
	Acrolein	5.36	706	34011	1.19			100
	Vinyl Bromide	5.63	101	25033m	() 1.27			100
	Freon 11	5.84		34011 98033m 13586	1.18			1
	Acetone	5.89	4.5	25279	1.26			22
	Pentane	5.95		26278 41057 40840	1.19			100
177	Isopropyl alcohol	6.37	92	41037	1.02			93
T8)	1,1-dichloroethene	6.56	101	96924	1.15			88
	Freon 113	6.66	59					79
20)	t-Butyl alcohol	6.00	3 <i>3</i> 84	74571				91
21)	Methylene chloride	6.84 6.81	41	42200 36831	0.86			93
	Allyl chloride	6.99		110032	1.05			100
	Carbon disulfide							81
24)	trans-1,2-dichloroethene	7.70	73	51575 100745	0.99			91
25)	methyl tert-butyl ether	7.79 8.19	63	66365	1.05			93
20)	1,1-dichloroethane	8.19	43	76399	0.93			94
	Vinyl acetate Methyl Ethyl Ketone			17471				31
	cis-1,2-dichloroethene		61	17471 47861	1.03	trop oraq	#	74
		8.71	57	50293	0.92			90
	Hexane	9.30	43	66042	1.08			89
	Ethyl acetate Chloroform	9.74		90027	1.07	daa		97
32)	Tetrahydrofuran	9.94						94
	1,2-dichloroethane	10.87		54567	1.12	ppb		89
	1,1,1-trichloroethane	10.54		92161		dag		99
		11.25		50193		dqq		66
	Cyclohexane Carbon tetrachloride	11.20		90147		dqq		88
		11.17		114932		ppb		98
	Benzene	12.74		38882		ppb		96
	Methyl methacrylate	12.80		21957m	<i>#</i> / 1.20	ppb		
41)	1,4-dioxane	12.00		149311	y' 1 0 α	ppb		91
	2,2,4-trimethylpentane	12.36		50682		dqq		95
	Heptane	12.50		57773	1 73	ppb		92
	Trichloroethene	12.50		41050	7 . 7 7	ggg		97
45)	1,2-dichloropropane	#V. 41 *	****					

MSD1

Quantitation Report (QT Reviewed)

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

Vial: 2 Acq On : 24 May 2016 Operator: RJP 9:01 am Inst : MSD #1 Sample : AlUG 1.0 Misc : A505_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A505_1UG.RES Quant Time: May 24 09:24:46 2016

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

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.95	83	86399	1.10 ppb	95
47)	cis-1,3-dichloropropene	13.73	75	59668	0.96 ppb	90
48)		14.47	75	51800	0.92 ppb	78
49)	1,1,2-trichloroethane	14.78	97	54116	1.14 ppb	97
51)	Toluene	14.52	92	83561 6	dqq 80.1	97
52)	Methyl Isobutyl Ketone	13.66	43	60152m /	1.29 ppb	
53)	Dibromochloromethane	15.46	129	83596m/	0.94 დღბ	
54)	Methyl Butyl Ketone	14.95	43	66578m 🗸		
55)	1,2-dibromoethane	15.70	107	85490	1.10 დებ	95
56)	Tetrachloroethylene	15.51		62809	1.15 ppb	90
57)	Chlorobenzene	16.47		118229	dqq 80.1	97
58)	1,1,1,2-tetrachloroethane	16.57		64248	1.01 ppb	94
59)	Ethylbenzene	16.73	91	186264	1.07 ppb	95
60)	m&p-xylene	16.90		290021	2.17 დღნ	99
61)	Nonane	17.25		76195	1.02 ppb	98
62)	Styrene	17.32		108778	1.03 քք	93
63)	Bromoform	17.45		60427	dqq 08.0	99
64)	o-xylene	17.35		161184	1.17 ppb	91
65)		17.88		203151	1.06 ppb	94
67)	1,1,2,2-tetrachloroethane	17.79		109678	0 1.12 ppb	97
68)	Propylbenzene	18.40	91	237398m ∉	dqq 20.1	
69)	2-Chlorotoluene	18.45		146555m	1.10 ppb	
70)		18.56		193126m	1.05 ppb	
71)	1,3,5-trimethylbenzene	18.62		176121m	1.09 ppb	
72)		19.06		162674	1.07 ppb	97
73)	1,3-dichlorobenzene	19.35		117543	1.10 ppb	90
74)		19.43		98620m	0.71 ppb	JL 30
75)		19.49		116365	1.09 ppb	95
76)		19.52		162114	1.10 ppb	88
77)	1,2-dichlorobenzene	19.80		112187	1.11 ppb	97
78)	1,2,4-trichlorobenzene	21.69		79056	1.10 ppb	96
79)	Naphthalene	21.90		206467	1.27 ppb	95
80)	Hexachloro-1,3-butadiene	22.00	225	84919m /	1.20 ppb	

Reviewed)

(QT

Quantitation Report

Page 134 of 223

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN052502.D Vial: 2 Acq On : 25 May 2016 9:49 am Operator: RJP : Alug 1.0 Sample Inst : MSD #1 Misc : A505 1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A505 1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Jul 05 08:17:16 2016 Response via : Multiple Level Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	60	0.00
2 T	Propylene	0.956	0.975	-2.0	64	0.00
3 T	Freon 12	4.161	4.817			0.00
4 T	Chloromethane	0.949	1.202	-26.7		0.00
5 T	Freon 114	2.925	3.743	-28.0		0.00
6 T	Vinyl Chloride	0.928	1.174	-26.5		0.00
7 T	Butane	1.132	1.392	-23.0		0.00
8 T	1,3-butadiene	0.871	1.069	-22.7	70	0.00
9 T	Bromomethane	0.993	1.284	-29.3	76	0.00
10 T	Chloroethane	0.386	0.463	-19.9	65	0.00
ll T	Ethanol	0.302	0.351	-16.2	68	0.00
12 T	Acrolein	0.282	0.274	2.8	64	0.00
13 T	Vinyl Bromide	0.989	1.224	-23.8	71	0.00
14 T	Freon 11	2.678	3.406	-27.2	70	0.00
15 T	Acetone	0.397	0.427	-7.6	64	0.00
16 T	Pentane	0.721	0.894	-24.0	72	0.00
17 T	Isopropyl alcohol	1.190	1.239	-4.1	62	0.00
18 T	1,1-dichloroethene	1.378	1.337	3.0	60	0.00
19 T	Freon 113	2.907	3.013	-3.6	62	0.00
20 t	t-Butyl alcohol	2.434	1.932	20.6		0.00
21 T	Methylene chloride	1.244	1.287	~3.5	64	0.00
22 T	Allyl chloride	1.490	1.233	17.2	49#	0.00
23 T	Carbon disulfide	3.615	3.395	6.1.	58	0.00
24 T	trans-1,2-dichloroethene	1.696	1,604	5.4		0.00
25 T	methyl tert-butyl ether	3.520	3.188	9.4		0.00
26 T	l,1-dichioroethane	2.182	2.080	4.7	57	0.00
27 T	Vinyl acetate	2.832	2.424	14.4	52	0.00
28 T	Methyl Ethyl Ketone	0.558	0.475	14.9		0.00
29 T	cis-1,2-dichloroethene	1.615	1.491	7.7		0.00
30 T	Hexane	1.883	1.613	14.3	53	0.00
31 T	Ethyl acetate	2.106	1.912	9.2	54	0.00
32 T	Chloroform_	2.911	2.837	2.5	60	0.00
33 T	Tetrahydrofuran	1.157	0.922	20.3	51	0.00
34 T	1,2-dichloroethane	1.681	1.666	0.9	58	0.00
35 I	1,4-difluorobenzene	1,000	1.000	0.0	58	0.00
36 T	1,1,1-trichloroethane	0.661	0.616	6.8	55	0.00
37 T	Cyclohexane	0.385	0.338	12.2	52	0.00
38 T	Carbon tetrachloride	0.686	0.619	9.8	52	0.00
39 T	Benzene	0.826	0.767	7.1	54	0.00
40 T	Methyl methacrylate	0.289	0.246	14.9	49#	0.00
41 T	1,4-dioxane	0.147	0.125	15.0	49#	0.00
42 T	2,2,4-trimethylpentane	1,142	1.036	9.3	52	0.00
43 T	Heptane	0.427	0.345	19.2	49#	0.00
44 T	Trichloroethene	0.411	0.394	4.1	55	0.00
45 T	1,2-dichloropropane	0.299	0.276	7.7	55	0.00
46 T	Bromodichloromethane	0.632	0.580	8.2	53	0.00
47 T	cis-1,3-dichloropropene	0.499	0.410	17.8	49#	0.00
48 T	trans-1,3-dichloropropene	0.453	0.366	19.2	46#	0.00
49 T	1,1,2-trichloroethane	0.382	0.361	5.5	56	0.00

^{(#) =} Out of Range AN052502.D A505_1UG.M Tue Jul 05 08:32:55 2016 MSD1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN052502.D Vial: 2 : 25 May 2016 Operator: RJP Acq On 9:49 am Sample : AlUG_1.0 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

: C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
: TO-15 VOA Standards for 5 point calibration Method Title

Last Update : Tue Jul 05 08:17:16 2016 Response via : Multiple Level Calibration

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

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

		Compound	AvgRF	CCRF	*Dev	Areat	Dev(min)
51	T	Toluene	0.692	0.654	5.5	53	0 00
52	_	Methyl Isobutyl Ketone	0.692	0.854	7.0	54	0.00
53		Dibromochloromethane	0.416	0.567			0.00
54		Methyl Butyl Ketone	0.795		15.8		0.00
55		1,2-dibromoethane		0.291	3.3	58 54	
56 56			0.697	0.670	3.9		0.00
		Tetrachloroethylene Chlorobenzene	0.488	0.478	2.0	56	0.00
57			0.978	0.920	5.9	54	0.00
58		1,1,1,2-tetrachloroethane	0.566	0.518	8.5	52	0.00
59		Ethylbenzene	1.547	1.461	5.6		0.00
60		m&p-xylene	1.192	1.145	3.9		0.00
61		Nonane	0.669	0.599	10.5		0.00
62		Styrene	0.940	0.864	8.1	52	0.00
63		Bromoform	0.672	0.472	29.8		0.00
64		o-xylene	1.229	1.169	4.9		0.00
65		Cumene	1.711	1.598	6.6		0.00
66		Bromofluorobenzene	0.706	0.698	1.1	57	0.00
67		1,1,2,2-tetrachloroethane	0.875	0.847	3.2		0.00
68		Propylbenzene	2.028	1.921	5.3	54	0.00
69	\mathbf{T}	2-Chlorotoluene	1.194	1.125	5.8	51	0.00
70	${f T}$	4-ethyltoluene	1.637	1.543	5.7	54	0.00
71		1,3,5-trimethylbenzene	1.443	1.321	8.5	52	0.00
72	T	1,2,4-trimethylbenzene	1.355	1.257	7.2	53	0.00
73	${f T}$	1,3-dichlorobenzene	0.953	0.903	5.2	53	0.00
74	'n	benzyl chloride	1.245	0.899	27.8	39#	0.00
75		1,4-dichlorobenzene	0.953	0.903	5.2	54	0.00
76		1,2,3-trimethylbenzene	1.317	1.235	6.2	53	0.00
77		1,2-dichlorobenzene	0.900	0.847	5.9	54	0.00
78	ΩP	1,2,4-trichlorobenzene	0.641	0.584	8.9		0.00
79	T	Naphthalene	1.447	1,333	7.9		0.00
80	${f T}$	Hexachloro-1,3-butadiene	0.629	0.705	-12.1	63	0.00

Quantitation Report (QT Reviewed)

 Data File : C:\HPCHEM\1\DATA\AN052502.D
 Vial: 2

 Acq On : 25 May 2016 9:49 am
 Operator: RJP

 Sample : AlUG_1.0
 Inst : MSD #1

 Misc : A505_1UG
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 25 10:14:14 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\l\METHODS\A505_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016

Response via : Initial Calibration

DataAcg Meth : 1UG RUN

_						
Internal Standards	R.T.	QIon	Response C	onc U	nits	Dev(Min)
				MA CM DT 107 TT		
1) Bromochloromethane	9.59				ppb	
35) 1,4-difluorobenzene	11.88		146372		ÞБр	
50) Chlorobenzene-d5	16.42	117	128608	1.00	ಡಡ್ಞ	0.00
and the second beautiful and a second as						
System Monitoring Compounds	10.00	0.5	00767	0 00		^ ^^
66) Bromofluorobenzene	18.00	95			ppb	
Spiked Amount 1.000	Range 70	- 130	Recovery	_	99	.00%
Target Compounds						Qvalue
2) Propylene	4.00	41	30991	3 02	dqq	95
3) Freon 12	4.05	85			ppb	99
4) Chloromethane	4.25	50	153084 38185m	1 27	dqq	
5) Freon 114	4.25	85	118972m	1 28	ppb	
6) Vinyl Chloride	4.44	62	37320		ppb	
7) Butane	4.53				ppb	95
8) 1,3-butadiene	4.54	30	33974		ppb	
9) Bromomethane	4.87	43 39 94	40808m		dqq	
10) Chloroethane	5.05	64	14724		dqq	
11) Ethanol	5.21	4 =	11162m		ppp	
12) Acrolein	5.74	45 56	8710		gpb	
13) Vinyl Bromide	5.37	1.06	38890		ppb	99
14) Freon 11	5.63	101	108238m		dqq	23
·	5.86	58				# 1
15) Acetone			13578		dqq	
16) Pentane	5.90 5.98	42 45	28402 39382			
17) Isopropyl alcohol					dqq	
18) 1,1-dichloroethene	6.38	96	42500		ppp	89
19) Freon 113	6.57	101	95758		dqq	
20) t-Butyl alcohol	6.68	5 <i>9</i>	61393		ppb	92
21) Methylene chloride	6.86	84	40892 39193m /	1.03		,74
22) Allyl chloride	6.83	41		0.83		0.0
23) Carbon disulfide	7.00	76	107910		ddd	98 82
24) trans-1,2-dichloroethene		61	50977		dqq	93
25) methyl tert-butyl ether		73	101333		bbp	96
26) 1,1-dichloroethane	8.20	63	66109		dqq	
27) Vinyl acetate	8.20	43 72	77031 15106		ppb	
28) Methyl Ethyl Ketone	8.73				dqq	
29) cis-1,2-dichloroethene		51	47400	0.92	ppb	
30) Hexane	8.71	57 43	51265	0.00		
31) Ethyl acetate	9.32 9.76		60774 90173		dqq	96
32) Chloroform		83			ppb	95
33) Tetrahydrofuran	9.97	42 62	29296	0.80	ppp	92
34) 1,2-dichloroethane	10.87 10.56		52946	0.99		99
36) 1,1,1-trichloroethane		97 56	90101 49432		ppb	
37) Cyclohexane	11.26	56			ppb	86
38) Carbon tetrachloride	11.21	117	90625		bbp	97
39) Benzene	11.18	78	112214		dqq	89
40) Methyl methacrylate	12.75	41	36044 18326		ppb	83
41) 1,4-dioxane	12.83	88		0.85		91
42) 2,2,4-trimethylpentane	12.02	57 43	151674		ppb	92
43) Heptane	12.36	43	50500 57644	0.81		92
44) Trichloroethene	12.51		57644 40356		ppb	92
45) 1,2-dichloropropane	12.63	63		0.92	-11 1-	
		MI _ MI _ MI _ MI _ MI _ MI _ MI				

^{(#) =} qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052502.D Vial: 2 Acq On : 25 May 2016 9:49 am Sample : A1UG_1.0 Misc : A505_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A505_1UG.RES Quant Time: May 25 10:14:14 2016

Quant Method : C:\HPCHEM\1\METHODS\A50S_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri May 06 07:26:12 2016
Response via : Initial Calibration

DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.96	83	84848	0.92 ppb	95
47)		13.73	75	59956	0.82 ppb	90
48)	trans-1,3-dichloropropene	14.47	75	53577	0.81 ppb	82
49)	1,1,2-trichloroethane	14.78	97	52905	0.95 ppb	95
51)	Toluene	14.52	92	84155	0.95 ppb	98
52)	Methyl Isobutyl Ketone	13.67	43	49766	0.93 ppb	94
53)	Dibromochloromethane	15.46	129	86013m P	0.84 ppb	
54)	Methyl Butyl Ketone	14.96	43	37456	0.97 დებ	97
55)	1,2-dibromoethane	15.71	107	86111	0.96 ppb	96
56)	Tetrachloroethylene	15.52	1.64	61536	0.98 ppb	87
57)	Chlorobenzene	16.47	112	118303	0.94 ppb	97
58)	1,1,1,2-tetrachloroethane	16.57	131	66632	0.92 ppb	95
59)	Ethylbenzene	16.72	91	187854	0.94 ppb	95
60)	m&p-xylene	16.91	91	294399	1.92 ppb	99
61)	Nonane	17.25	43	77010	0.90 ppb	98
62)	Styrene	17.33	104	111116	A AA	94
63)	Bromoform	17.45	173	60673m	0.70 ppb	
	o-xylene	17.35	91	150370	0.95 ppb	86
	Cumene	17.88	105	205458	dqq 89.0	94
67)	1,1,2,2-tetrachloroethane	17.79	83	108889 /	0.97 ppb	97
68)	Propylbenzene	18.40	91	247067m 💃	0.95 ppb	
69)	2-Chlorotoluene	18.45	91	144734m	0.94 ppb	
70)	4-ethyltoluene	18.57	105	198418m	0.94 ppb	
71)	1,3,5-trimethylbenzene	18.63	105	1.69890m	0.92 ppb	
72)	1,2,4-trimethylbenzene	19.06	105	161697	0.93 ppb	95
73)	1,3-dichlorobenzene	19.36	146	116115	0.95 ppb	90
74)	benzyl chloride	19.43	91	115608m 🖤	0.72 ppb	
	1,4-dichlorobenzene	19.49	146	116164	dqq 20.0	94
76)	1,2,3-trimethylbenzene	19.52	105	158892	0.94 ppb	88
77)	1,2-dichlorobenzene	19.80	146	108909	0.94 ppb	95
78)	1,2,4-trichlorobenzene	21.69	180	75137	dqq 10.0	94
79)	Naphthalene	21.90	128	171465	0.92 ppb	96
80)	Hexachloro-1,3-butadiene	22.01	225	90648	1.12 ppb	92

(QT Reviewed)

Quantitation Report

Page 139 of 223

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN052603.D Vial: 3 Operator: RJP Acq On : 26 May 2016 11:20 am Inst : MSD #1 Sample : AlUG_1.0 Multiplr: 1.00 Misc : A505 1UG

MS Integration Params: RTEINT.P

: C:\HPCHEM\1\METHODS\A505 1UG.M (RTE Integrator) Method : TO-15 VOA Standards for 5 point calibration Title

Last Update : Tue Jul 05 08:17:16 2016 Response via : Multiple Level Calibration

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

	Compound	AvgRF				Dev(min)
	Decard the Lawson than a	1.000		0.0	69	0.02
1 X 2 T	Bromochloromethane Propylene	0.956		4.3	70	0.00
2 T	Freon 12	4.161	4.475	-7.5		0.00
4 T	Chloromethane	0.949	0.951	-0.2	68	0.00
5 T	Freon 114	2.925	0.951 3.331	-13.9	74	0.00
5 T	Vinyl Chloride	0.928	0.938	-1.1		0.00
7 T	Butane	1.132	1.090	3.7		0.01
8 T	1,3-butadiene	0.871	0.760	12.7		0.00
9 T	Bromomethane	0.973	1.095	-10.3	74	0.00
10 T	Chloroethane		0.392	-1.6		0.00
10 T	Ethanol	0.302	0.333	-10.3		-0.03
12 T	Acrolein	0.282	0.333 0.244	13.5		0.00
13 T	Vinyl Bromide	0.989		-8.4		0.01
14 T	Freon 11	2.678	3.083		73	0.00
15 T	Acetone	0.397		6.3		0.00
16 T	Pentane	0.721	0.372 0.819	-13.6		0.00
17 T	Isopropyl alcohol	1.190	1.133	4.8		-0.02
18 T	1,1-dichloroethene	1 378	1.308			0.00
19 T	Freon 113	2.907	2.998	5.1 -3.1	71	0.00
20 t	t-Butyl alcohol	2.434	2.998 2.176	10.6	62	-0.02
20 C	Methylene chloride	1 244	1.188			0.00
22 T	Allyl chloride	1.490	1.170			0.00
22 I 23 T	Carbon disulfide	3.615	3 440	4.8		0.00
24 T	trans-1,2-dichloroethene	7 696	1.582	6.7		0.00
24 1 25 T	mathad text but at her	3.520	3.248			0.00
26 T	methyl tert-butyl ether 1,1-dichloroethane	2.182	2.071	5.1		0.00
20 T	Vinyl acetate	2.832	2.424	14.4		0.00
27 T 28 T	Methyl Ethyl Ketone	0.559	0.547	2.0		0.00
20 T	cis-1,2-dichloroethene		1.506	6.7		0.01
29 X 30 T	Hexane	1.883	1.633	13.3		0.00
31 T	Ethyl acetate	2.106	2.004	4.8	65	0.00
32 T	Chloroform		2.803	3.7		0.00
32 T	Tetrahydrofuran	1.157	0.957	17.3		-0.01
33 I 34 T	1,2-dichloroethane	1.681	1.641	2.4		0.00
34 1	1,2-dichioroechane	1.001	M. + O T H	2.1	10 10	
35 X	1,4-difluorobenzene	1.000	1000	0.0	65	0.00
36 T	1,1,1-trichloroethane	0.661	0.639	3.3	63	0.00
37 T	Cyclohexane	0.385	0.354	8.1	60	0.00
38 T	Carbon tetrachloride	0.686	0.639	6.9	59	0.00
39 T	Benzene	0.826	0.823	0.4	65	0.00
40 T	Methyl methacrylate	0.289	0.264	8.7	58	0.00
41 T	1,4-dioxane	0.147	0.155	-5.4	68	-0.01
42 T	2,2,4-trimethylpentane	1.142	1.100	3.7	62	0.00
43 T	Heptane	0.427	0.364	14.8	57	0.00
44 T	Trichloroethene	0.411	0.424	-3.2	66	0.00
45 T	1,2-dichloropropane	0.299	0.290	3.0	65	0.00
46 T	Bromodichloromethane	0.632	0.601	4.9	62	0.00
47 T	cis-1,3-dichloropropene	0.499	0.433	13.2	58	0.00
48 T	trans-1,3-dichloropropene	0.453	0.372	17.9	52	0.00
49 T	1,1,2-trichloroethane	0.382	0.388	-1.6	67	0.00
'''						

Page 1

^{(#) =} Out of Range AN052603.D A505_1UG.M Tue Jul 05 08:34:18 2016 MSD1

Evaluate Continuing Calibration Report

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

Vial: 3 Operator: RJP : 26 May 2016 11:20 am Acq On Inst : MSD #1 : AlUG 1.0 Sample Misc : A505 1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A505_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Jul 05 08:17:16 2016

Response via : 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	Areat	Dev(min)
51	***	Toluene	0.692	0.669	3.3	62	0.00
52		Methyl Isobutyl Ketone	0.416	0.429	-3.1	68	0.00
53		Dibromochloromethane	0.795	0.690	13.2	56	0.00
54	Ī	Methyl Butyl Ketone	0.301	0.241	19.9	55	0.00
55	'n	1,2-dibromoethane	0.697	0.690	1.0	63	0.00
56	T	Tetrachloroethylene	0.488	0.506	-3.7	68	0.00
57	T	Chlorobenzene	0.978	0.981	-0.3	66	0.00
58	T	1,1,1,2-tetrachloroethane	0.566	0.522	7.8	60	0.00
59	\mathbf{T}	Ethylbenzene	1.547	1.501	3.0	62	0.00
60		m&p-xylene	1.192	1.180	1.0	64	-0.02
61		Nonane	0.669	0.596	10.9	59	0.00
62	${f r}$	Styrene	0.940	0.905	3.7	62	0.00
63	T	Bromoform	0.672	0.479	28.7		0.00
64	Т	o-xylene	1.229	1.275	-3.7	69	0.00
65	Ť	Cumene	1.711	1.725	-0.8	64	0.00
66	S	Bromofluorobenzene	0.706	0.653	7.5		0.00
67	${f T}$	1,1,2,2-tetrachloroethane	0.875	0.867	0.9		0.00
68	T	Propylbenzene	2.028	1.867	7.9	61	0.00
69	\mathbf{r}	2-Chlorotoluene	1.194	1.243	-4.1		0.00
70	T	4-ethyltoluene	1.637	1.572	4.0		0.00
71	Ţ,	1,3,5-trimethylbenzene	1.443	1.425	1.2	65	0.00
72	Ť	1,2,4-trimethylbenzene	1.355	1.324	2.3		0.00
73	Ţ	1,3-dichlorobenzene	0.953	0.938	1.6	64	0.00
74	T	benzyl chloride	1.245	0.936	24.8	47#	0.00
75	\mathbf{T}	1,4-dichlorobenzene	0.953	0.922	3.3		0.00
76	\mathbf{T}	1,2,3-trimethylbenzene	1.317	1.298	1.4		0.00
77	${f T}$	1,2-dichlorobenzene	0.900	0.888	1.3		0.00
78	\mathbf{T}	1,2,4-trichlorobenzene	0.641	0.647	-0.9		0.00
79	T	Naphthalene	1.447	1.525	~5.4		0.00
80	T	Hexachloro-1,3-butadiene	0.629	0.783	-24.5	80	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052603.D Vial: 3 Acq On : 26 May 2016 11:20 am Operator: RJP Sample : AlUG_1.0 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A505_1UG.RES Quant Time: May 26 15:52:06 2016

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

Internal Standards	R.T.	QIon	Response	Conc U	nits	Dev ((Min)
1) Bromochloromethane	9.60		36716	1.00			0.01
	11.89	114		1.00			0.00
50) Chlorobenzene-d5	11.89 16.42	117	147852	1.00			0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.00	95	96539	0.93	daa		0.00
	Range 70					.00%	
	_			•			
Target Compounds						Qva	ılue
2) Propylene	4.01	41	33586	0.96			95
3) Freon 12	4.06	85	164306	1.08			100
4) Chloromethane	4.26	50	34915	1.00			93
5) Freon 114	4.26	85	122316	1,14			96
6) Vinyl Chloride	4.45	62	34444	1.01			97
7) Butane	4.54	43		0.96			94
8) 1,3-butadiene	4.54	39 94 64	27915	0.87			91
9) Bromomethane	4.88	94	40195	1.10			84
10) Chloroethane	5.05	64	14377	1.01			57
11) Ethanol	5.18			1.10			92
12) Acrolein	5.73	56	8966 39346	0.87		#	42
13) Vinyl Bromide	5.38			1.08			99
14) Freon 11	5.64	101	113194	1.15			98
15) Acetone	5.85	58	13670	0.94			1
16) Pentane	5.90	42	30073	1.14			26
17) Isopropyl alcohol	5.96	45	41609	0.95		#	100
18) 1,1-dichloroethene	6.39			0.95			89
19) Freon 113	6.58	101	110060	1.03		11	88
20) t-Butyl alcohol	6.66	59	79894	0.89		#	93
21) Methylene chloride	6.87	84	43623	0.95			90
22) Allyl chloride	6.84		42948	0.79			91
23) Carbon disulfide	7.00	76	126288	0.95			99 77
24) trans-1,2-dichloroethene		61 73	58071	0.93			95
25) methyl tert-butyl ether	7.81 8.21	63	119260 76047	0.92 0.95			97
26) 1,1-dichloroethane	8.21			0.86			93
27) Vinyl acetate	8.73		20067	0.98			1
28) Methyl Ethyl Ketone 29) cis-1,2-dichloroethene			55305	0.93			70
30) Hexane	8.71	57		0.87		11	87
31) Ethyl acetate	9.32	43	73585	0.95			89
32) Chloroform	9.75	83	73585 102898	0.96	ppb		97
33) Tetrahydrofuran	9.96	42	35130	0.83			95
34) 1,2-dichloroethane	10.88	62	60233	0.98	daa		91
36) 1,1,1-trichloroethane	10.56	97	104097	0.97	daa		98
37) Cyclohexane	11.27	56	57567	0.92		#	62
38) Carbon tetrachloride	11.21	117	103967	0.93			87
39) Benzene	11.18	78	134080	1.00			97
40) Methyl methacrylate	12.75	41	43045	0.91		#	89
41) 1,4-dioxane	12.82	88	25277	1.05		.,	80
42) 2,2,4-trimethylpentane	12.02	57	179076	0.96			89
43) Heptane	12.37	43		0.85			92
44) Trichloroethene	12,51	130	59300 68989	1.03			92
45) 1,2-dichloropropane	12.63	63	47295	0.97			97
							L AV 10 MT

^{(#) =} qualifier out of range (m) = manual integration

AN052603.D A505_1UG.M Tue Jul 05 08:34:21 2016

(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\AN052603.D Vial: 3 Operator: RJP Acq On : 26 May 2016 11:20 am Inst : MSD #1 : A1UG_1.0 Sample Multiplr: 1.00 Misc : A505_1UG

MS Integration Params: RTEINT.P Quant Results File: A505_1UG.RES Quant Time: May 26 15:52:06 2016

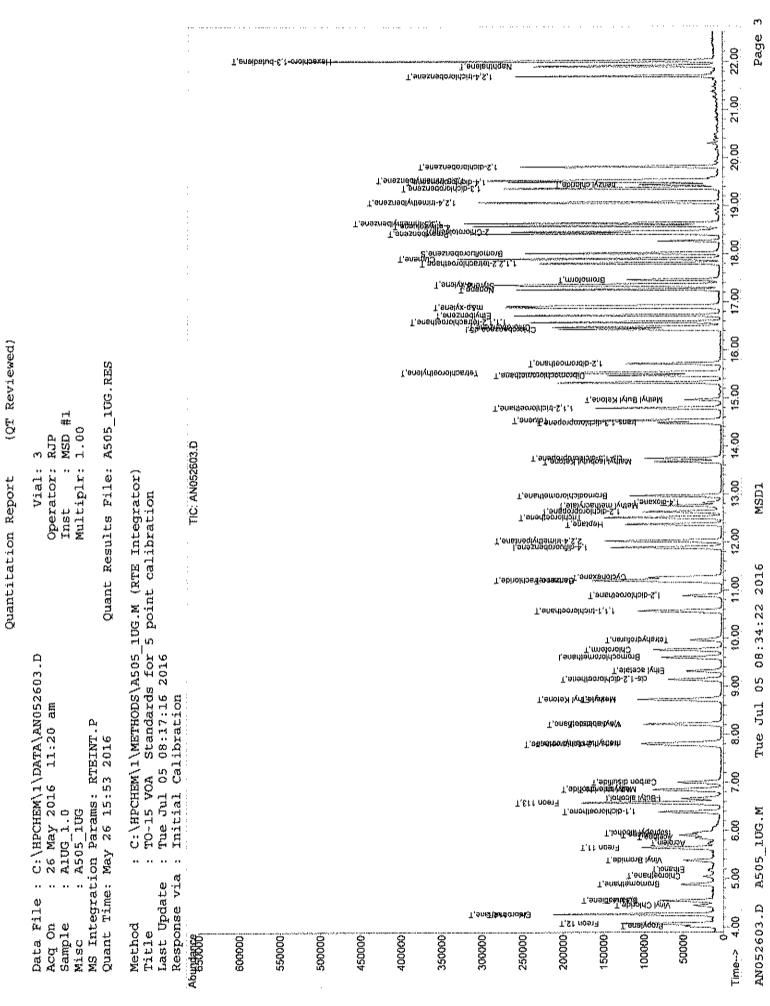
Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

Last Update : Thu May 26 10:56:15 2016 Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.96	83	97821	0.95 ppb	96
47)	cis-1,3-dichloropropene	13.74	75	70488	0.87 ppb	90
48)	trans-1,3-dichloropropene	14.48	75	60608	0.82 ppb	78
49)	1,1,2-trichloroethane	14.79	97	63112	1.02 ppb	95
51)	Toluene	14.53	92	98932	0.97 ppb	99
52)	Methyl Isobutyl Ketone	13.67	43	63381. /	1.03 ppb	92
53)		15.47	129	102057m /	' 0.87 ppb	
54)		14.96	43	35690	dqq 08.0	96
55)		15.71	107	102001	0.99 ppb	96
56)	Tetrachloroethylene	15.52	164	74849	1.04 ppb	87
57)	Chlorobenzene	16.48	112	145047	1.00 ppb	98
58)	1,1,1,2-tetrachloroethane	16.58	131	77112	0.92 ppb	96
59)	Ethylbenzene	16.72	91	221968	0.97 დდბ	95
60)	m&p-xylene	16,88	91	348931	1,98 ppb	99
61)		17.25	43	88099	dqq 68.0	93
62)		17.33	104	133769	g 0.96 ppb	98
63)		17.46	173	133769 70775m /	0.71 ppb	
64)		17.36	91	T0020%	T.O. PPD	89
65)	Cumene	17.89	105	255026	1.01 ppb	93
67)	1,1,2,2-tetrachloroethane	17.80		128170	7 0.99 ppb	97
68)	Propylbenzene	18.41	91	276056m	👫 0.92 ppb	
69)	2-Chlorotoluene	18.45	91	183723m	1.04 ppb	
70)	4-ethyltoluene	18.57	105	232466m	0.96 ppb	
71)	1,3,5-trimethylbenzene	18.63	105	210763m	0.99 ppb	
72)	1,2,4-trimethylbenzene	19.06	105	195821	dqq 8e.0	94
73)	1,3-dichlorobenzene	19.36		138729	0.98 ppb	90
74)		19.43		138458m \		
75)	1,4-dichlorobenzene	19.49		136373	0.97 ppb	95
76)	1,2,3-trimethylbenzene	19.52		191972	0.99 ppb	88
77)	1,2-dichlorobenzene	19.81		131311	dqq ee.o	95
78)	1,2,4-trichlorobenzene	21.69		95686	1.01 ppb	95
79)	Naphthalene	21.90		225435	1.05 ppb	95
80)	Hexachloro-1,3-butadiene	22.01	225	115763	1.24 ppb	91

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed Tue Jul 05 08:34:21 2016 MSD1 AN052603.D A505__1UG.M



Page 144 of 223

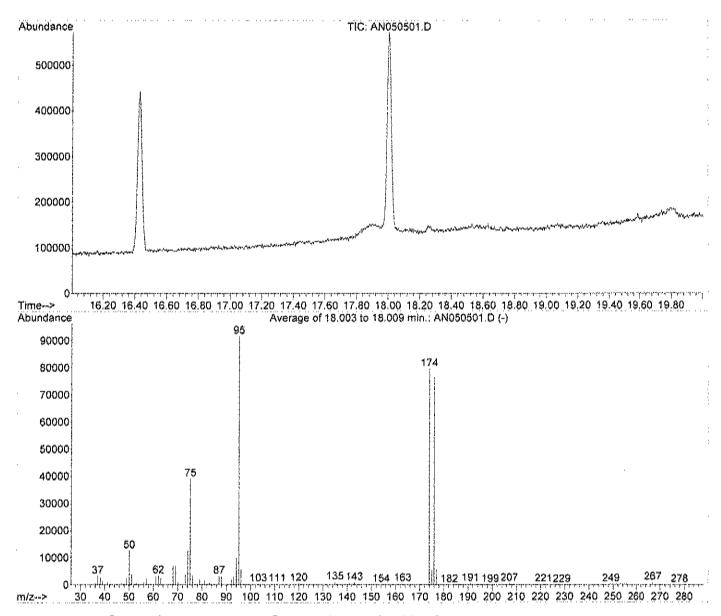
GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW DATA

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\MBTHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 18.003 to 18.009 min.

	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit*	Rel. Abn∜	Raw Abn	Result Pass/Fail
Ī	50	95	8	40	13.8	12678	PASS
İ	75	95	30	66	42.7	39147	PASS
	95	95	100	100	100.0	91710	PASS
	96	95	5	9	6.4	5836	PASS
ĺ	173	174	0.00	2	0.0	0	PASS
ĺ	174	95	50	120	86.8	79606	PASS
ĺ	175	174	4	9	6.9	5515	PASS
İ	176	174	95	1.01	96.2	76554	PASS
	177	176	5	9	7.3	5624	PASS
			·		·		

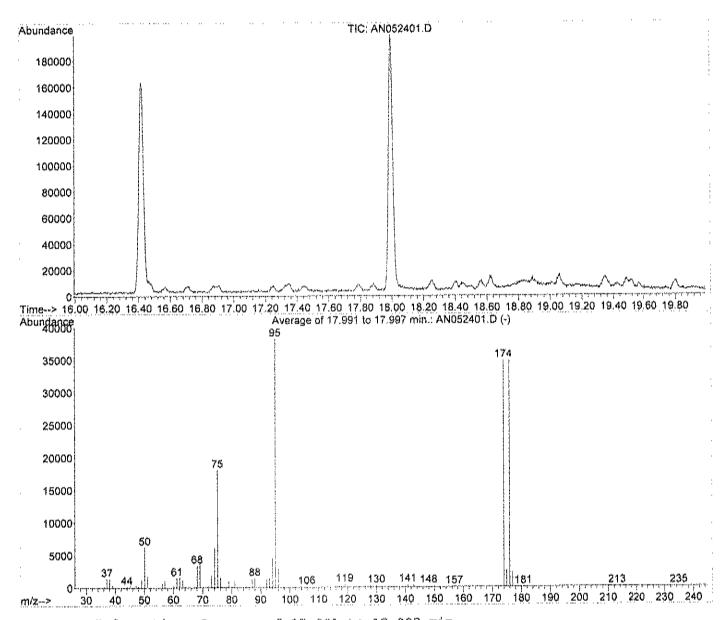
AN050501.D A505_1UG.M

Tue Jul 05 08:21:34 2016 MSD1

BFB

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A505_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



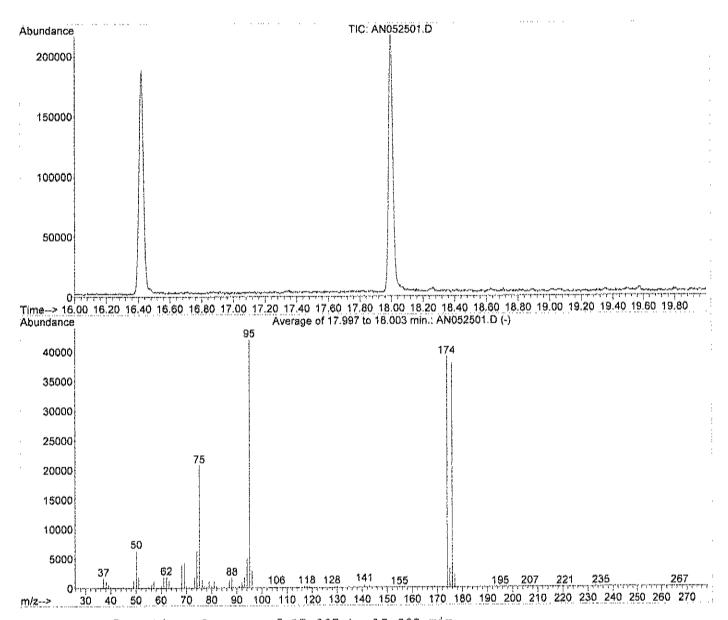
Spectrum Information: Average of 17.991 to 17.997 min.

7	Carget Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
1	50		8 !	4.0	16.2	6206	PASS
	75	95	30	66	47.4	18098	PASS
	95	95	100	100	100.0	38210	PASS
İ	96	95	5	9	7.7	2937	PASS
	173	174	0.00	2	0.4	131	PASS
-	174	95	50	120	91.1	34805	PASS
-	175	174	4	9	7.3	2538	PASS
	176	174	95	101	99.8	34725	PASS
	177	176	5	9	6.7	2317	PASS

BFB

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 17.997 to 18.003 min.

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

Data File : C:\HPCHEM\1\DATA\AN052601.D Acq On : 26 May 2016 9:53 am

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

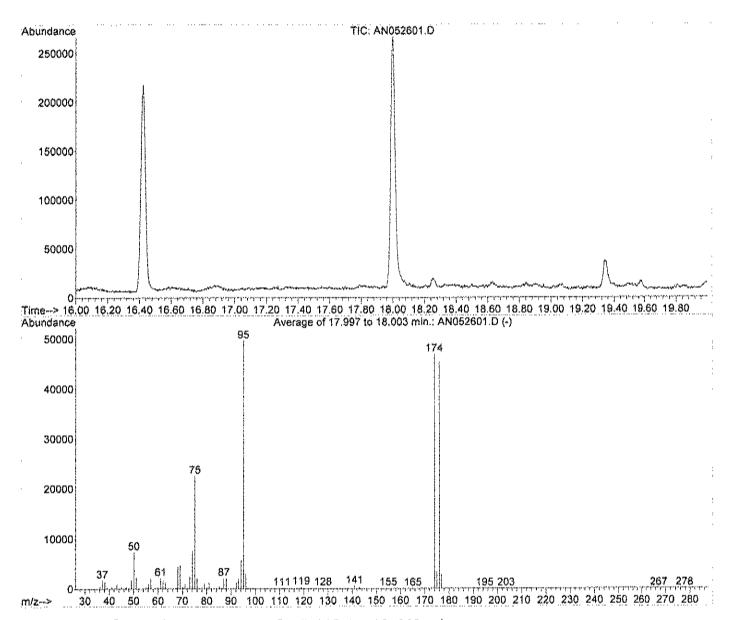
: A505 1UG MS Integration Params: RTEINT.P

: BFB1UG

Sample

Misc

: C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator) Method : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 17.997 to 18.003 min.

	Target Mass	Rel. to Mass	Lower Limit*	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
ĩ	50	95	8 !	40	14.8	. 7373	PASS
- [75	95	30	66	45.5	22605	PASS
-]	95	95	100	100	100.0	49675	PASS
	96	95	5	9	6.3	31.18	PASS
	173	174	0.00	2	0.0	0	PASS
	174	95	50	1.20	94.4	46906	PASS
	175	174	4	9	7.4	3477	PASS
	176	174	95	101	96.7	45349	PASS
	177	176	5	9	6.2	2821	PASS
'	'	'					

AN052601.D A505 1UG.M

Tue Jul 05 08:34:11 2016 MSD1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15
RAW QC DATA

TestCode: 0.25CT-TCE-VC

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 05-Jul-16

LaBella Associates, P.C. CLIENT:

C1605057 Work Order: Emerson Landfill

Project:

Sample ID AMB1UG-052416	SampType: MBLK	TestCode: 0.25CT-TCE-	- Units: ppbV	Prep Date:		RunNo: 10999	
Client ID: ZZZZZ	Batch ID: R10999	TestNo: T0-15		Analysis Date: 5/24/2016	5/24/2016	SeqNo: 128924	
Analyte	Result	PQL SPK value SPK Ref Val	PK Ref Val	%REC LowLimit F	%REC LowLimit HighLimit RPD Ref Val	%RPO RPOLimit	Quai
1 1-Trichiomethane	<0.15	0.15					

0.15 0.15

0.15 0.15 0.15

< 0.15 < 0.15 < 0.15 < 0.15 < 0.15 < 0.15 < 0.15

0.15 0.15

cis-1,2-Dichloroethene Tetrachloroethylene

Chloromethane

Chloroethane

1,1-Dichloroethene

f, 1-Dichloroethane

< 0.15 < 0.15

trans-1,2-Dichloroethene Trichloroethene	< 0.15 < 0.040	0.15	
Vinyl chloride	< 0.040	0.040	
Sample ID AMB1UG-052516	SampType: MBLK	TestCode: 0.25CT-TGE. Units: ppbV Prep Date:	RunNo: 11000
Client ID: ZZZZZ	Batch ID: R11000	TestMo: T0-15 Analysis Date: 5/25/2016	SeqNo: 128943
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val	Val %RPD RPDLimit Qual

1,1,1-Trichloroethane	< 0.15	0.15	
f, 1-Dichloroethane	< 0.15	0.15	
t, 1-Dichloroethane	< 0.15	0.15	
Chloroethane	< 0.15	0.15	
Chloremethane	< 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	

	Results reported are not blank corrected	ш	Estimated Value above quantitation range
7	Analyte detected below quantitation limit	S	Not Detected at the Limit of Detection
so	Spike Recovery outside accepted recovery limits		

Qualifiers;

RPD outside accepted recovery limits

Holding times for preparation or analysis exceeded

II 04

Page 1 of 3

CLIENT: Work Order: Project:	ler:	LaBella Associate C1605057 Emerson Landfill	LaBella Associates, P.C. C1605057 Emerson Landfill) }					-	TestCode: 0	0.25CT-TCE-VC	۷C	
Sample ID: Client ID:	Sample ID AMB1UG-052516 Client ID: ZZZZZ	052516	SampType: MBLK Batch ID: Rf1000	TestCo Testi	TestCode: 0.25CT-TCE- TestNo: TO-15	S. Units: ppbV		Prep Date: Analysis Date:	e: s: 5/25/2016	16	RunNo; 11000 SeqNo: 128943	_ m	
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD R	RPDLimit	Qual
Vinyl chloride	<u>0</u>		o o o o o o o o o o o o o o o o o o o	0.040									
Qualifiers;		esults repor	Results reported are not blank corrected		ļ	Estimated Value above quantitation range	ntitation rang	9ã	H	Holding times for	Holding times for preparation or analysis exceeded	tysis exceede	72
		inalyte detec	Analyte detected below quantitation limit	,	ND Not Del	Not Detected at the Limit of Detection	f Detection			RPD outside acce	RPD outside accepted recovery limits		
	S.	pike Recon	Spike Recovery outside accepted recovery limits	imits								P	Page 2 of 3

H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits

E Estimated Value above quantitation range ND Not Detected at the Little of Detection

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

--- vs

Qualifiers:

CLIENT: LaBella A	LaBella Associates, P.C.			
Work Order: C1605057				
Project: Emerson Landfill	andfill		TestCode: 1	TestCode: 1ugM3_T015
Sample ID AMB1UG-052616	SampType: MBLK	TestCode: fugM3_TO15 Units: ppbV	V Prep Date:	RunNo: 11001
Client ID: ZZZZZ	Batch ID: R11001	TestNo: TO-15	Analysis Date: 5/26/2016	SeqNo: 128975
Analyte	Resuli	POL 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		

Quantitation Report (QT Reviewed)

Vial: 4 Data File : C:\HPCHEM\1\DATA\AN052404.D Acq On : 24 May 2016 10:20 am Operator: RJP Sample : AMB1UG-052416 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

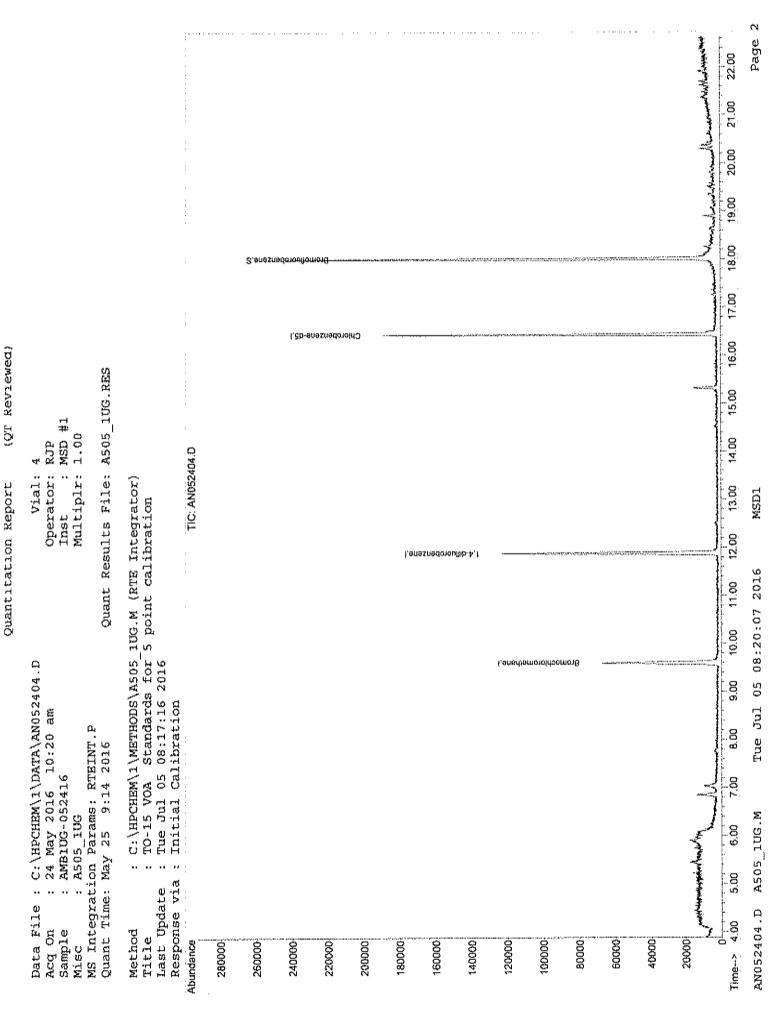
MS Integration Params: RTEINT.P

Quant Time: May 25 08:59:45 2016 Quant Results File: A505_1UG.RES

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

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	one U	nits Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.59 11.88 16.42	128 114 117	32220 142168 130938	1.00	ppb -0.02
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.00 Range 70	95 - 130	95275 Recovery	1.03	ppb 0.00
Target Compounds					Qvalue



Page 155 of 223

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: May 26 10:08:00 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\l\METHODS\AS05_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016

Response via : Initial Calibration

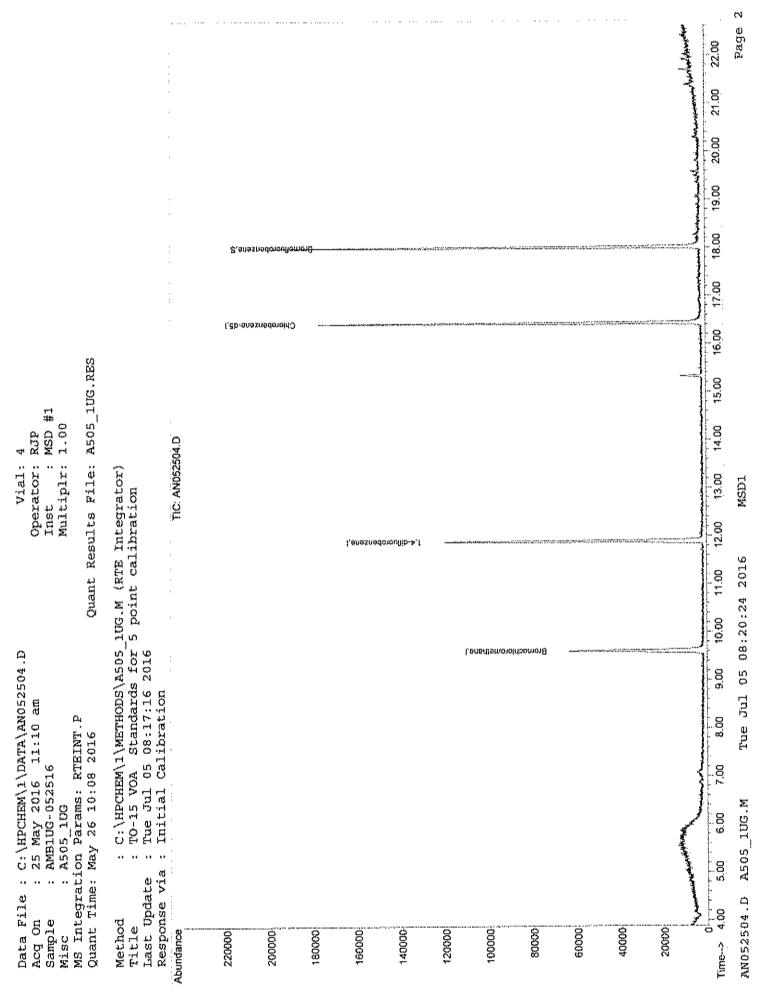
DataAcq Meth : 1UG_RUN

Internal Standards	R.T,	QIon	Response	Conc Un	its Dev	(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.60 11.89 16.42	128 114 117	29901 138589 122793	1.00	dqq	-0.01 0.00 0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.00 Range 70	95 ~ 130	78310 Recover	y =	dqq 90.00%	0.00

Target Compounds Qvalue

(Ul Revlewed)

Quantitation Report



Page 157 of 223

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

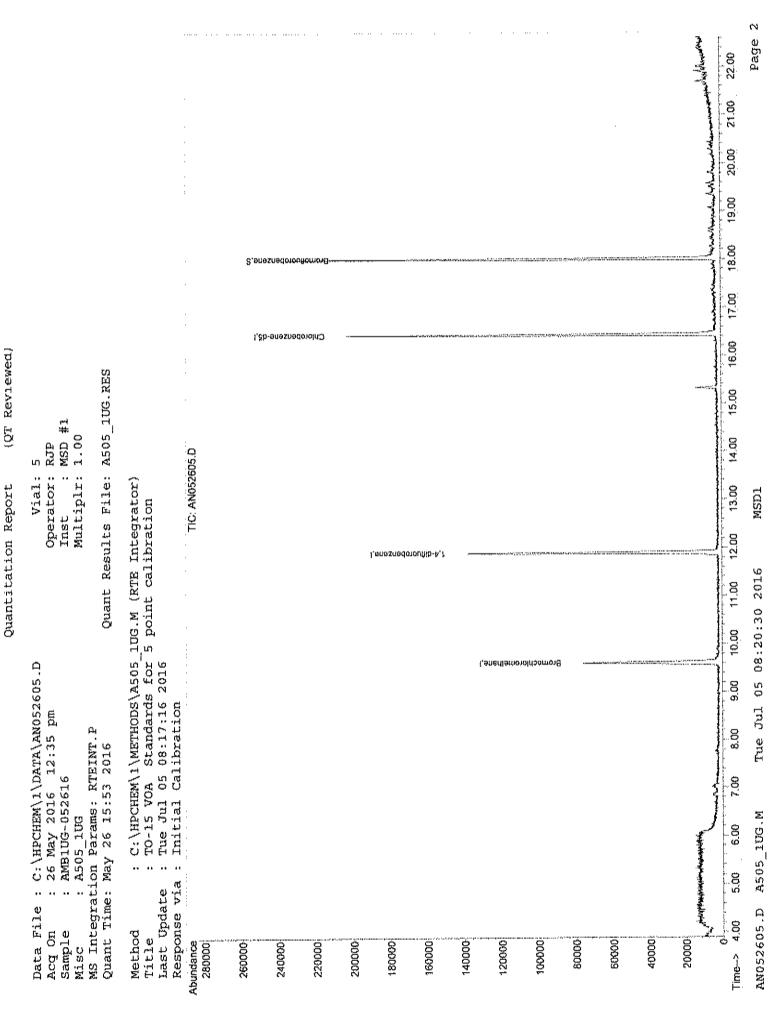
Quant Time: May 26 15:53:31 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AS05_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

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

Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response (Conc U	nits Dev	(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.60 11.89 16.42	128 114 117	35017 160418 141574	1.00	ppb	0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.00 Range 70	95 - 130	93226 Recovery	0.93 / =	dqq %00.Ee	0.00
Target Compounds					Qv	alue



Page 159 of 223

TestCode: 0.25CT-TCE-VC

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 05-Jul-16

LaBella Associates, P.C. CLIENT:

C1605057 Work Order:

Emerson Landfill Project

Sample ID C1505057-007A MS SampType: MS	SampType:	MS	TestCode:		0,25CT-TCE- Units: ppbV		Prep Date:	a)		RunNo: 10999	666	
Client ID: Outdoor Air	Batch ID: R10999	R10999	TestNo	c: TO-15		٠,	Analysis Dat	Analysis Date: \$/25/2016	9	SeqNo: 128941	3941	
Analyte		Result	PQL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Vai	%RPD	%RPD RPDLimit Qual	Quai
1,1,1-Trichloroethane		0.9700	0.15	-	0	97.0	7.0	130				
1,1-Dichloroethane		1.020	0.15	***	Û	102	70	130				
1, t-Dichloroethene		1.030	0.15	4	Ф	103	70	130				

113 78.0 101 104 105 115 107

0.51

0.15 0.15 0.15

1.040 1.040 1.020

trans-1,2-Dichloroethene

Trichloroethene

Vinyl chłoride

cis-1,2-Dichloroethene Tetrachloroethylene

Chloromethane

Chloroethane

0.040 0.040

1,150

0.15 0.15

1,130

Sample ID C1505057-007A MS SampType: MSD	ampType: MSD	TestCo	de: 0.25CT-TC	TestCode: 0.25CT-TCE- Units: ppbV		Prep Date			RunNo: 10999	666	
Client ID: Outdoor Air E	Batch ID: R10999	Test	TestNo: TO-15		-•	Analysis Date:	5/25/2016	16	SeqNo: 128942	3942	
Analyte	Result	Pal	SPK value	SPK Ref Vai	%REC	Low_imit HighLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichlorcethane	1.010	0.15	-	0	101	2	130	76.0	4.04	30	
1,1-Dichloroethane	1.040	0.15	_	0	42	20	130	1.02	1.94	30	
1,1-Dichlaroethere	1.040	0.15	_	0	₹	70	130	1.03	0.966	30	
Chloroethane	1,200	0.15	-	0	120	70	130	£.,	6.01	93	
Chloromethane	1,280	0.15	~~	0.51	77.0	70	130	1,29	0.778	30	
cis-1,2-Dichloroethene	1,030	0.15	***	0	103	70	130	1.01	1.96	39	
Tetrachloroethylene	1.080	0.15	V erm	0	108	70	130	1.04	3.77	33	
trans-1.2-Dichlomethene	1.040	0.15	۲۰	O	104	70	130	1.02	1.94	30	
Trichloroethere	1.180	0.040	•	0	118	70	130	1.15	2.58	30	

ND Not Detected at the Limit of Detection

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limit

-- V3

∝

RPD outside accepted recovery limits

Qualifiers:

Sample ID C1605057-007A MS SampType: MSD Client ID: Outdoor Air Batch ID: R109	MS SampType: MSD Batch ID: R10999	TestCode: (TestNo: 1	le: 0.25CT-TCE. lo: TO-15	0.26CT-TCE- Units: ppbV TO-15		Prep Date: 5/25/2016	5725/20	5	RunNo: 10999 SeqNo: 128942	999 3942	
Апађ/е	Result	P.	SPK value S	SPK Ref Val	%REC	LowLimi	HighLimit	%REC LowLimil HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Oual
Vinyi chloride	1.140	0.040	1	0	114	70	130	1.07	6.33	30	

TestCode: 0.25CT-TCE-VC

LaBella Associates, P.C.

C1605057 Emerson Landfill

Work Order:

Project:

CLIENT:

Quantitation Report

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052429.D Vial: 29 Acg On : 25 May 2016 7:37 am Operator: RJP : C1605057-007A MS Sample Inst : MSD #1 Misc : A505_1UG Multiplr: 1.00

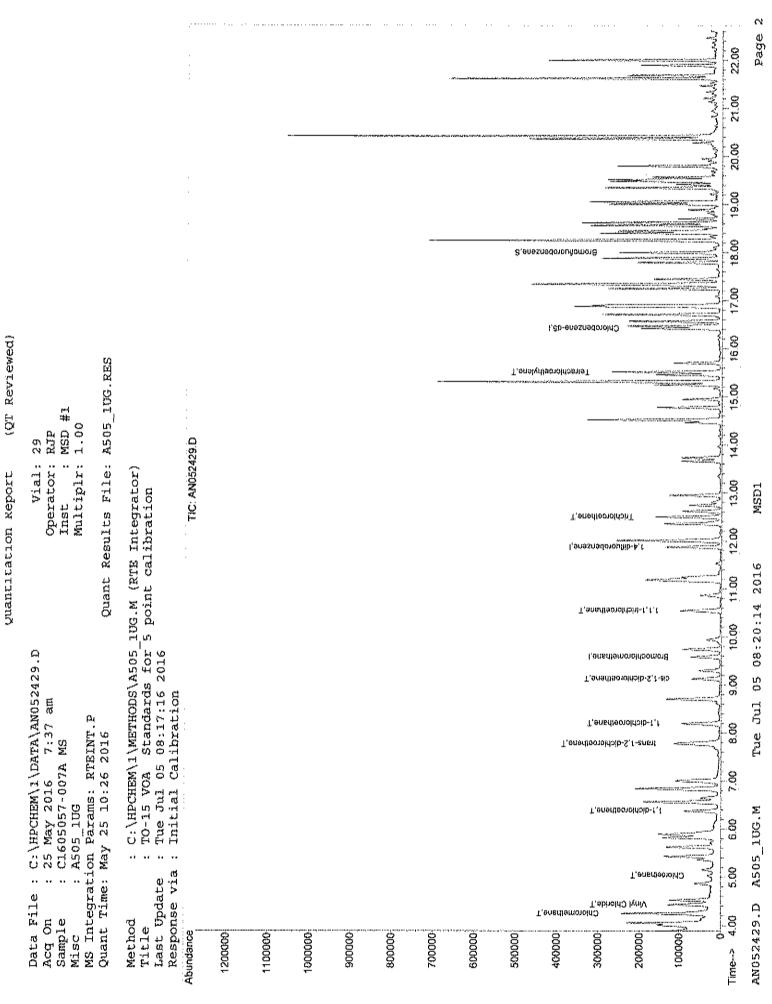
MS Integration Params: RTEINT.P

Quant Time: May 25 09:00:10 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505 1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Fri May 06 07:26:12 2016 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response (one U	nits	Dev(Min)
1) Bromochloromethane	9.59	128	35023	1.00	dqq	~0.03
35) 1,4-difluorobenzene	11.87	114	155307	1.00	ppb	-0.03
50) Chlorobenzene-d5	16.42	1.1.7	141397		dqq	
System Monitoring Compounds						
66) Bromofluorobenzene	17.99	95	95831	0.96	dqq	~0.01
Spiked Amount 1.000	Range 70		Recovery			.00%
Target Compounds						Qvalue
4) Chloromethane	4.24	50	42988m 🎢	1.29	dqq	
6) Vinyl Chloride	4.43	62	34788		dqq	94
10) Chloroethane	5.04	64	15333		dqq	
18) 1,1-dichloroethene	6.38	96	49907	1.03		88
24) trans-1,2-dichloroethene	7.76	61	60289	1.02	dqq	84
26) 1,1-dichlorocthane	8.20	63	78302	1.02	dqq	96
29) cis-1,2-dichloroethene	9.13	61	57256	1.01	ppb	# 72
36) 1,1,1-trichloroethane	10.55	97	99631	0.97	dqq	96
44) Trichloroethene	12.50	130	73599	1.15	ppb	94
56) Tetrachloroethylene	15.52	164	71689	1 04	dqq	88

______ (#) = qualifier out of range (m) = manual integration (+) = signals summed AN052429.D A505 1UG.M Tue Jul 05 08:20:13 2016 MSDL



Page 163 of 223

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: May 25 09:00:11 2016 Quant Results File: A505_1UG.RES

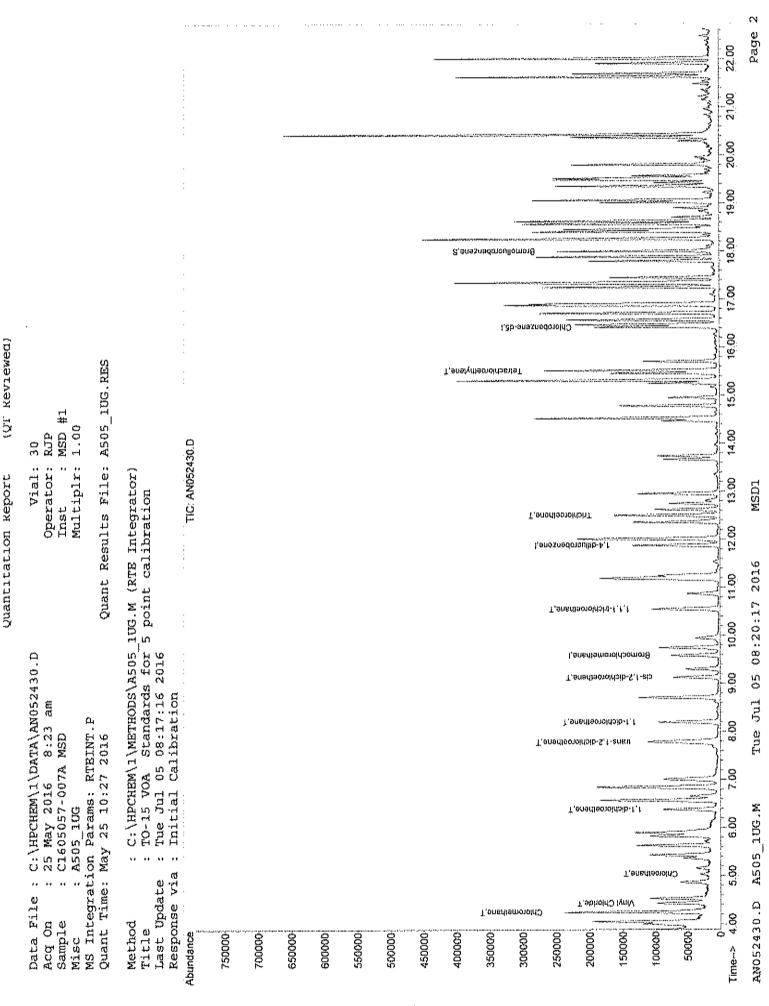
Quant Method : C:\MPCHEM\1\METHODS\A505_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016

Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response C	one U	nits	Dev(Min)
1) Bromochloromethane	9.58	128	33863		dqq	
35) 1,4-difluorobenzene	11.88	114	151029	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.42	117	134777	1.00	dqq	-0.01
System Monitoring Compounds						
66) Bromofluorobenzene	18.00	95	89346	0.94	dqq	-0.01
Spiked Amount 1.000	Range 70				94	
Target Compounds			21			Qvalue
4) Chloromethane	4.24	50	41032m/V	1.28	dqq	
6) Vinyl Chloride	4.43	62	35835		ppb	96
10) Chloroethane	5.03	64	15668	120	dqq	# 60
18) 1,1-dichloroethene	6.38	96	48707		dqq	
24) trans-1,2-dichloroethene	7.77	61	59617	1.04	ppb	83
26) 1,1-dichloroethane	8.20	63	76495	1.04	ppb	94
29) cis-1,2-dichloroethene	9.13	61	56553	1.03	ppb	# 70
36) 1,1,1-trichloroethane	10.54	97	101088	1.01	ppb	97
44) Trichloroethene	12.50	130	73172	1.18	ppb	93
56) Tetrachloroethylene	15.51	164	71234	1.08	dqq	88

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AN052430.D A505_1UG.M Tue Jul 05 08:20:16 2016 MSD1



Page 165 of 223

TestCode: 0.25CT-TCE-VC



ANALYTICAL QC SUMMARY REPORT

Date: 05-/ul-16

LaBella Associates, P.C. CLIENT:

C1605057 Work Order: Emerson Landfill Project:

Sample ID ALCS1UG-052416	SampType: LCS	TestCo	TestCode: 0,25CT-TCE-	Units: ppbV		Prep Date;	ja;	Run	RunNo: 10999	
Client ID: ZZZZZ	Batch ID: R10999	Test	TestNo: TO-15			Analysis Da	Analysis Date: 5/24/2016	Seq	SeqNo: 128925	
Analyte	Result	POL	SPK value SPK Ref Val	PK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	ef Vai	%RPD RPDLimit Qual	nit Qua
1,1,1-Trichloroethane	0.9900	0.15	-	0	0.66	22	130			
1,1-Dichloroethane	1.020	0.15	-	0	102	70	130			
1,1-Dichloroethene	1.020	0.15	-	0	102	70	130			
Chloroethane	1.140	0.15	-	0	114	70	130			
Chloromethane	1.250	0.15	-	0	125	70	130			
cis-1,2-Dichloroethene	0.9900	0.15	-	0	0.99	70	130			
Tetrachloroethylene	1.040	0.15	-	0	104	70	130			
trans-1,2-Dichloroethene	0.9800	0.15	-	0	98.0	70	130			
Trichloroethene	1,050	0.040	-	0	105	70	130			
Vinyl chloride	1.190	0.040	-	0	119	70	130			

		2	2	-	>	,	2	2				
1, 1-Dichloroethane		1.020	0.15	-	0	102	7.0	130				
1,1-Dichloroethene		1.020	0.15	-	0	102	70	130				
Chloroethane		1.140	0.15	-	0	114	70	130				
Chloromethane		1.250	0.15	-	0	125	70	130				
cis-1,2-Dichloroethene	믎	0.9900	0.15	-	0	99.0	70	130				
Tetrachloroethylene		1.040	0.15	-	0	75	70	130				
trans-1,2-Dichloroethene	ene	0.9800	0.15	-	0	98.0	70	130				
Trichloroethene		1.050	0.040	-	0	105	70	130				
Vinyl chloride		1.190	0.040	-	0	119	70	130				
Sample ID ALCS1UG-052516	JG-052516	SampType: LCS	TestCode:	TestCode: 0.25CT-TCE-	- Units: ppbV		Prep Date:			RunNo: 11000	00	
Client ID: ZZZZZ		Batch ID: R11000	TestNo: TO-15	10-15			Analysis Date:	5/25/2016		SeqNo: 128944	944	
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichforoethane	40	1.010	0.15	1	c	101	70	130				
1,1-Dichloroethane		1.080	0.15	-	O.	408	70	130				
1,1-Dichloroelhene		1.050	0.15	-	o	105	70	130				
Chloroethane		1.190	0.15	-	0	119	70	130				
Chloromethane		1.220	0.15	-	0	122	70	130				
cis-1,2-Dichloroethene	ij	1.040	0.15	-	0	2	70	130				
Tetrachloroethylene		1.100	0.15	-	0	110	70	130				
irans-1,2-Dichloroethene	ene.	1.020	0.15	-	0	102	70	130				
Trichloroethene		1.090	0.040	-	0	109	92	\$30				
							****				***************************************	
Qualifiers:	Results repor	Results reported are not blank corrected		E Estimate	Estimated Value above quantitation range	itation rang	2.	H Hol	ding times for p	Holding times for preparation or analysis exceeded	ialysis exceede	9
•	Analyte deter	Analyte detected below quantitation limit	~	ND Not Dete	Not Detected at the Limit of Detection	Detection		R RPI	Outside accep	RPD outside accepted recovery limits	sits	
SO	Spike Recove	Spike Recovery outside accepted recovery limits	mits							•		5
		· · · · · · · · · · · · · · · · · · ·									200	Prop 1 nt 3

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

≖ ~

E Estimated Value above quantitation range ND Not Detected at the Limit of Delection

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

Qualifiers:

	o: 128944
	RunNo: 11000 SeqNo: 128944
	s: 5/25/2016
Pren Date	Analysis Date:
	Units: ppbV
	:TCE:
Total	TestMo: TO-15
11	
90	. F. 150
	Sample ID ALCS1UG-052516 SampType: LCS Client ID: ZZZZZ Batch ID: R11000

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

≭ ~

Estimated Value above quantilation range Not Detected at the Limit of Detection

w **€**

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

. 60

Qualifiers:

Project: Emerson Landfill	andfill						TestCode:	TestCode: 1ugM3_T015	
Sample ID ALCS1UG-052616	SampType: LCS	TestCo	TestCode: 1ugM3_T015 Units: ppbV	5 Units: ppbV		Prep Date:	æ;	RunNo: 11001	
Client ID: ZZZZZ	Batch ID: R11001	Test	TestNo: TO-15			Analysis Da	Analysis Date: 5/26/2016	SeqNo: 128976	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimil RPD Ref Val	%RPD RPOLimit	Qual
1,1,1-Trichloroethane	0.9500	0.15	qua	0	95.0	52	130		
1,1-Dichloroethane	1.040	0.15	₩-	0	\$	20	130		
1,1-Dichloroethene	1.040	0.15		చ	104	7.0	130		
Chloroethane	1.200	0.15	4-1	٥	120	70	136		
Chloromethane	1.270	0.15	"	0	127	25	130		
cis-1,2-Dichłoroethеле	1.060	0.15	Ų	0	100	20	130		
Tetrachloroethylene	1.060	0.15	yw	o	106	22	130		
trans-1,2-Dichloroethene	0.9900	0.15	ψmm	o	99.0	70	130		
Trichforoethene	1.070	0.15	***	¢	107	8	130		
Vinyl chlaride	1.280	0.15	V ····	Ф	128	70	130		

LaBella Associates, P.C.

C1605057

CLIENT: Work Order: Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052403.D Vial: 3 Acq On : 24 May 2016 9:44 am Sample : ALCS1UG-052416 Operator: RJP Inst : MSD #1 Misc : A505_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 25 08:59:44 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016 Response via : Initial Calibration

Inte	ernal Standards	R.T.	Olon	-	Conc U			
1)	Bromochloromethane	9.58	120	27568	1.00			-0.03
35)	1,4-difluorobenzene	11.88	114	121586	1.00	daa		-0.02
50)	Chlorobenzene-d5	16.42	117	110436	1.00	ppb		-0.01
Syst	em Monitoring Compounds							
66)	Bromofluorobenzene	18.00	95	77141	0.99	ppp		-0.01
s_{p}	oiked Amount 1.000	Range 70	- 130	Recover	y =	99.	. ዕዕቴ	
Tarq	et Compounds						Qv	alue
	Propylene	3.99	41	30330	1.15	dqq		91
	Freon 12	4.05	A. 44	145357 /		dqq		100
4)	Chloromethane	4.25	50	145357 32696m P	1.25			
5)	Freon 114	4.25	147 mg	*****	1.29	ppb		99
6)	Vinyl Chloride	4.43	62	30330	1.19			93
	Butane	4.53	43	39134m				
8)	1,3-butadiene	4.54	39 94 64	27709	1.15			97
	Bromomethane	4.87	94	33530m	1.22	dqq		
10)	Chloroethane	5.03	64	12097	1,14			40
11)	Ethanol	5.17	45	8899m				
12)	Acrolein	5.72	56	7357	0.95			56
13)	Vinyl Bromide	5.36	56 106	32947	1.21			99
14)	Freon 11	5.63	101	91461m	1.24	ppb		
15)	Acetone	5.83	58 42 45	12384	1 2.13	dag	#	1
16)	Pentane	5.90	42	19590m 📏	<i>5</i> 0.99	dqq		
17)	Isopropyl alcohol	5.95	45	35532	1.08			100
1.8)	1,1-dichloroethene	6.39	96	38817	1.02	dqq		91.
19)	Freon 113	6.56	101	89512	1.12	ppb		87
20)	t-Butyl alcohol	6.65	59	89512 65526 41079	0.98	dqq	##	92
21)	Methylene chloride	6.84	84	41079	1.20			93
22)	Allyl chloride	6.82	41	34586	0.84	dqq		90
23)	Carbon disulfide	6.99	76	101242 46047	1.02	ppb		99
	trans-1,2-dichloroethene	7.77	61	46047	0.98			81
25)	methyl tert-butyl ether		, ,	20077	0.93			93
	1,1-dichloroethane	8.20	63	61641	1.02			96
27)	Vinyl acetate	8.19	63 43 72	60274	0.77			94
	Methyl Ethyl Ketone	8.72	72	16367	1.06			
	cis-1,2-dichloroethene		61	43980	0.99			75
	Hexano	8.70	57 43 83	44967	0.87			91
31)		9.31	43	62740	1.08			90
32)	Chloroform	9.74			1.05			98
33)		9.96	42	26032	0.82			95
34)	1,2-dichloroethane	10.87	62	48900	1.06			91
	1,1,1 trichloroethane	10.55	97	79558	0.99			98
	Cyclohexane	11.25	56	43256	0.93		#	61
38)		11.19	117	83727	1.00			87
39)		11.17	78	103004	1.03			98
40)	_	12.75	41	36207	103			95
41)		12.81	88	22612	1.26			84
42)	2,2,4-trimethylpentane	12.01	57	136082	0.98			91
43)	Heptane	12.36	4.3	45649	0.88			93
_	Trichloroethene	12.50	130	52395	1.05			91
45)	1,2-dichloropropane	12.62	63	34860	0.96	aqq		99

^{(#) =} qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN052403.D Vial: 3 Acq On : 24 May 2016 9:44 am Operator: RJP Sample : ALCS1UG-052416 Inst : MSD #1 Misc : A505_lUG Multiplr: 1.00

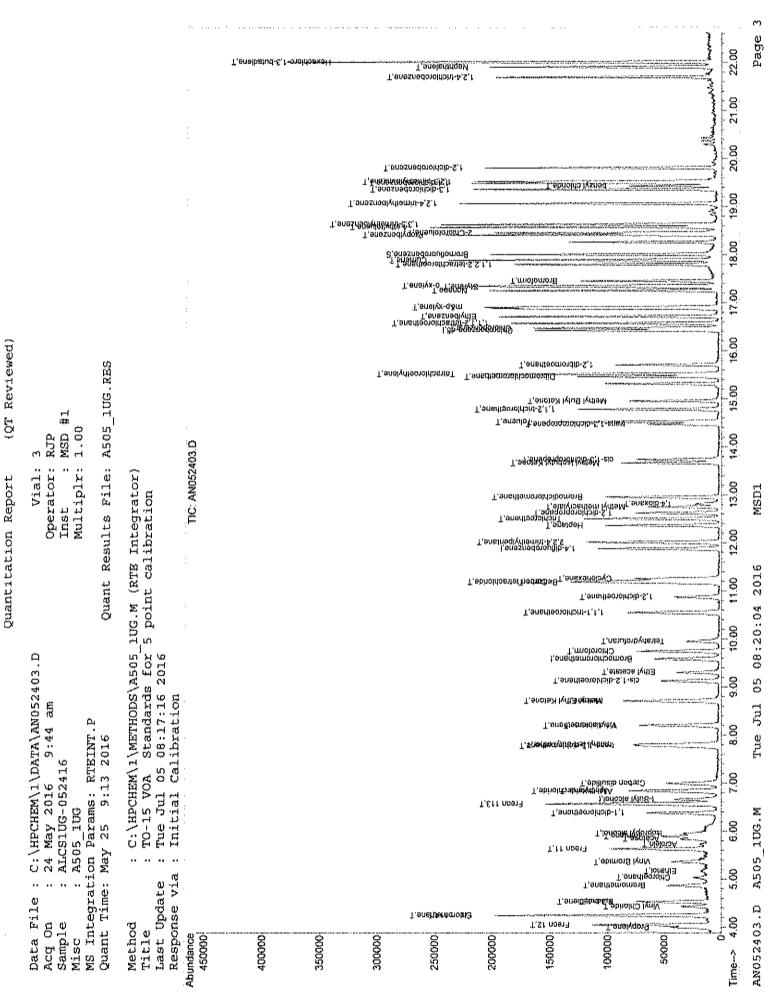
MS Integration Params: RTEINT.P

Quant Time: May 25 08:59:44 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.95	83	83341	1.08 ppb	96
47)	cis-1,3-dichloropropene	13.73	75	54385	0.90 ppb	89
48)		14.47	75	48694	0.88 ppb	82
49)	1,1,2-trichloroethane	14.78	97	48705	1.05 ppb	96
51)	Toluene	14.52	92	75496 a	0.99 ppb	100
52)	Methyl Isobutyl Ketone	13.66	43	59447m √i	1.29 ppb	
53)	Dibromochloromethane	15.46	129	81099m /	0.92 ppb	
54)	Methyl Butyl Ketone	14.95	43	51522m 🎶	1.55 ppb	
55)	1,2-dibromoethane	15.70	107	76812	1.00 ppb	93
56)	Tetrachloroethylene	15.51	164	55978	1.04 ppb	91
57)	Chlorobenzene	16.47	112	108424	1.00 ppb	98
58)	1,1,1,2-tetrachloroethane	16.57	131	56783	0.91 ppb	94
59)	4	16.71	91	163839	0.96 ppb	93
60)	m&p-xylene	16.90	91	264857	2.01 ppb	97
61)	Nonane	17.25	43	67915	0.92 ppb	95
62)	Styrene	17.32	104	96722	0.93 ppb	92
63)	Bromoform	17.45	173	66577	0.90 ppb	99
64)	o-xylene	17.35	91	151046	1.11 ppb	94
65)	Cumene	17.88	105	174917	0.93 ppb	94
67)	1,1,2,2-tetrachloroethane	17.79	83	95281 /	dgg 88.0	98
68)	Propylbenzene	18.40	91	215608m 🎢	0.96 ppb	
69)		18.45	91	120675m	0.92 ppb	
70)		18.56	105	179831m	0.99 ppb	
71)	1,3,5-trimethylbenzene	18.62	105	157485m	0.99 ppb	
72)	1,2,4-trimethylbenzene	19.06	105	143742	0.96 ppb	95
73)	1,3-dichlorobenzene	19.35	146	109379	1.04 ppb	92
74)	benzyl chloride	19.43	91	104427m 🛂	0.76 დდბ	
75)	1,4-dichlorobenzene	19.49	146	107293	1.02 ppb	98
76)		19.52	105	134797	0.93 ppb	88
	1,2-dichlorobenzene	19.80	146	99192	1.00 ppb	96
	1,2,4-trichlorobenzene	21.69	180	71188	1.01 ppb	93
79)	Naphthalene	21.90	128	190399	1.19 ppb	95
80)	Hexachloro-1,3-butadiene	22.00	225	81271	1.17 ppb	90



Page 171 of 223

(QT Reviewed) Quantitation Report

Vial: 3 Data File : C:\HPCHEM\1\DATA\AN052503.D : 25 May 2016 10:34 am Operator: RJP Sample : ALCS1UG-052516 Misc : A505_1UG Inst : MSD #1 Multiplx: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A505_1UG.RES Quant Time: May 26 10:07:59 2016

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

DataAcq Meth : 1UG_RUN

Inte	rnal Standards		QIon		Conc U	aits	Dev	(Min)
→ \	Bromochloromethane	9.59 11.87	128	32260 144109	1.00	ppb		-0.03
35)	1,4-difluorobenzene	11.87	114	144109	1.00	dqq		-0.03
50)	Chlorobenzene-d5	16.42	117	128882	1.00	ppp		-0.01
	em Monitoring Compounds							
	Bromofluorobenzene	18.00	95					
Sp	iked Amount 1.000	Range 70	- 130	Recover	λ m	95	.00%	
Targ	et Compounds						Qv	alue
2)	Propylene	3.99	41	36596 /	1.19			94
3)	Freon 12	4.05	85	168390m /	1.25	dqq		
4)	Chloromethane	4,24	50	37353	1.22			93
5)	Freon 114	4.24	85	118681	1.26			96
6)	Vinyl Chloride	4.43	62	35196 42796	1.18			95
	Butane	4.52	43	42796	1.17			97
8)	1,3-butadiene	4.53	39 94	28797 P	1.03	dqq		99
	Bromomethane	4.87	94	# O ⊃ ⊃ T ##	1.26	bbp		
10)	Chloroethane	5.03	64	14881	1.19			64
11.)	Ethanol	5.16	45	12186	1.25			93
12)	Acrolein	5.72	56	8813 40845 //	0.97			71
13)	Vinyl Bromide	5.37	106	40845	1.28			99
	Freon 11	5.63	101	117923m /	1.36			
15)	Acetone	5.84	58	13418	1.05			<u>1</u>
16)	Pentane	5.89	42	29180	1,25			20
17)	Isopropyl alcohol	5.94	4.5	33100	0.86			100
18)	1,1-dichloroethene	6.37	96	46668	1.05			90
19)	Freon 113	6.56	101	106205	1.13			87
20)	t-Butyl alcohol	6.65	59	59404	0.76			93
21)	Methylene chloride	6.85	84	45486	1.13			94
	Allyl chloride	6.82		42683	0.89			91
23)	Carbon disulfide	6.99		120691	1.03	bbp		100
	trans-1,2-dichloroethene			55649	1.02			81
25)	methyl tert-butyl ether	7.81			0.97			93
26)	1,1-dichloroethane	8.20	63 43 72	76376	1.08			97
27)	Vinyl acetate	8.19	43	76591	0.84			95
28)	Methyl Ethyl Ketone	8.73	72	17431	0.97			31
29)	cis-1,2-dichloroethene	9.13		54059	1.04			76
30)	Hexane	8.71		56393	0.93			88
	Ethyl acetate	9.31	43	69932	1.03			91
32)	Chloroform	9,74			1.04			95
33)	Tetrahydrofuran	9.95	42	30883	0.83	qqq		93
34)	1,2-dichloroethane	10.87	62	58115	1.07	ppb		89
36)	1,1,1-trichloroethane	10.55	97	96025	1.01			99
37)	Cyclohexane	11.25	56	54641	0.99			63
38)	Carbon tetrachloride	11.20	117	103642	1.05			88
39)	Benzene	11.17	78	126329	1.06	dag		98
40)	Methyl methacrylate	12.75	41	39184	0.94			89
	1,4-dioxane	12.81	88	17262	0.81			80
	2,2,4-trimethylpentane	12.01	57	169257	1.03			91
43)	Heptane	12.36		55135	0.90			88
	Trichloroethene	12.50	130	64337	1.09	dqq		93
44)				44758	1.04			95

^{(#) =} qualifier out of range (m) = manual integration

⊉age 1

Ouantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: May 26 10:07:59 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016

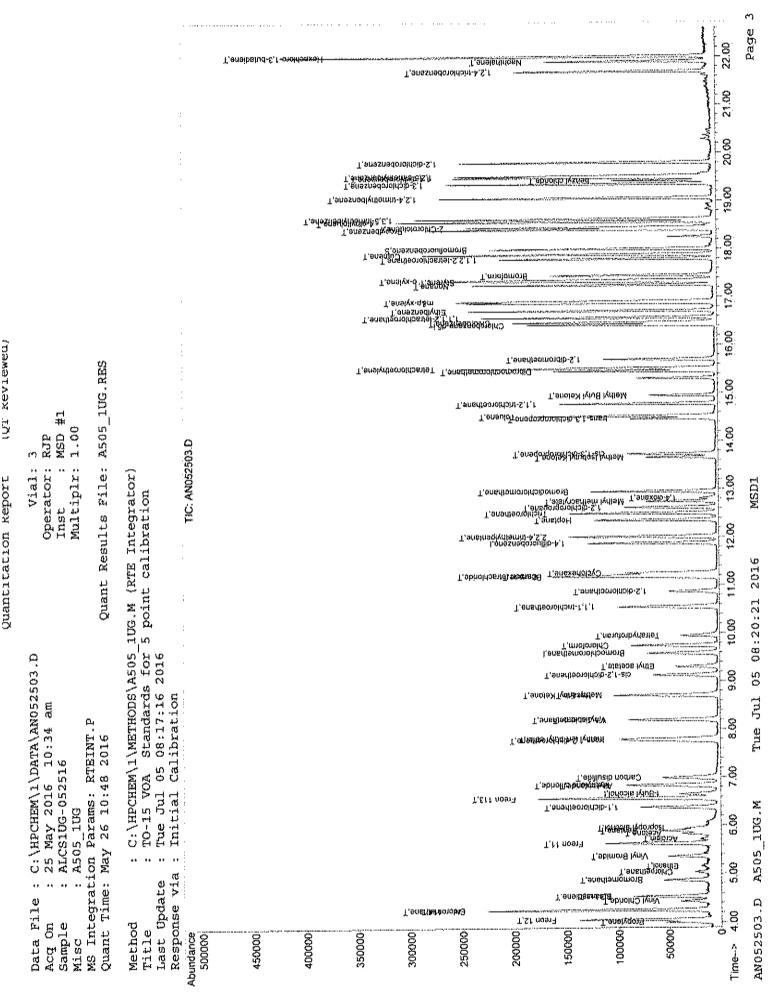
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.95	83	102187	1.12 ppb	96
	cis-1,3-dichloropropene	13.73	75	67594	0.94 ppb	91
	trans-1,3-dichloropropene	14.47	75	60136	0.92 ppb	81.
48)		14.78	97	58130	1.06 ppb	99
49)	1,1,2-trichloroethane	14.53	92	93250	1.04 ppb	100
51)	Toluene Methyl Isobutyl Ketone	13.66	43	54115 /) 1.01 ppb	92
52)	Dibromochloromethane	15.46	129	99913m /		+ -
53)	Methyl Butyl Ketone	14.95	43	48272	1.24 ppb	97
54)		15.70		92672	1.03 ppb	96
55)		15.52	164	69017	1.10 ppb	94
56)	Tetrachloroethylene Chlorobenzene	16.47	112	132001	1.05 ppb	96
57)		16.57		70973	0.97 ppb	96
58)	1,1,1,2-tetrachloroethane	16.71	91	202463	1.02 ppb	95
59)	Ethylbenzene	16.90	91	317066	2.06 ppb	99
60)	m&p-xylene	17.25		83485	0.97 ppb	95
61)	Nonane	17.23		119289	0.99 ppb	93
62)	Styrene	17.45		86687	1.00 ppb	98
63)		17.35		182993	1.16 ppb	94
64)	o-xylene	17.88		212770	0.97 ppb	94
65)	Cumene	17.79		222261	a a na mana	98
67)	1,1,2,2-tetrachloroethane	18.40	91	248627m #	0.95 ppb	
68)	Propylbenzene	18.45	91	163947m	1.07 ppb	
69)		18.57		222218m	1.05 ppb	
70)		18.63		186142m	1.00 ppb	
	1,3,5-trimethylbenzene	19.06		172139	0.99 ppb	94
72)		19.36		132357	1.08 ppb	91
73)		19.43		124835m		
74)	benzyl chloride	19.49		127686	1.04 ppb	94
75)	1,4-dichlorobenzene	19.52	105	165752	0.98 ppb	89
76)		19.80		119978	1.03 ppb	95
77)		21.69		71109	0.86 ppb	95
78)		21.09		157074	0.84 ppb	96
79)	Naphthalene		225	90243	1.11 ppb	91
80)	Hexachloro-1,3-butadiene	22.01	225	コンシュラ	T - W W To Frank	

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

хеулежец

17.1



Page 174 of 223

(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\AN052606.D Vial: 6 Acq On : 26 May 2016 1:15 pm Operator: RJP : ALCS1ŪG-052616 Inst : MSD #1 Sample Misc : A505_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A505_1UG.RES Quant Time: May 26 15:53:36 2016

Quant Method: C:\HPCHEM\1\METHODS\A505 1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

Last Update : Thu May 26 10:56:15 2016 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc U	nits	Dev	(Min)
	A ANY 2007 215 ANY 150 MAY 102 MAY 100 A						
 Bromochloromethane 	9.60			1.00			-0.01
35) 1,4-difluorobenzene	11.89						0.00
50) Chlorobenzene-d5	16.42	117	142992	1.00	ppb		0.00
System Monitoring Compounds					_		
66) Bromofluorobenzene	18.00						0.00
Spiked Amount 1.000	Range 70	- 130	Recover	λ ~=	96	.00%	
Target Compounds					_	QV	alue
Propylene	4.01	41	35450	1.09			98
3) Freon 12	4.06	85	174787	1.24			98
4) Chloromethane	4.25	50	174787 40978m	1.27	ppb		
5) Freon 114	4.26	85	125488m }	un 44 /			
6) Vinyl Chloride	4.45	62	40190		dqq		94
7) Butane	4.55	43 39	47769m		ppb		
8) 1,3-butadiene	4.54	39	33866	1.15			95
9) Bromomethane	4.88	94			ppb		
10) Chloroethane	5.06	64	15767m		qqq		
11) Ethanol	5.19	45	11840 9462	1.16			87
12) Acrolein	5.74			0.99		#	51
13) Vinyl Bromide	5.38	106	41596m	1.24			
14) Freon 11	5.65	101	124284m ³	1.37			
15) Acetone	5.86	58	15399	1.14			1
16) Pentane	5.90	42	27987	1.14	ppp		1.
17) Isopropyl alcohol	5.96	45	33777	0.84	dqq	#	100
18) 1,1-dichloroethene	6.39	96	48795	1.04	ppb		89
19) Freon 1.13	6.58	101	112999	1.15	ppb		87
20) t-Butyl alcohol	6.68	59	46685	0.57	ppb	#	92
21) Methylene chloride	6.86	84	44624	1.06	ppb		90
22) Allyl chloride	6.84	41	43289	0.86	ppb		93
23) Carbon disulfide	7.00	76	124947	1.02			99
24) trans-1,2-dichloroethene	7.78	61	57104	0.99	daa	#	78
25) methyl tert-butyl ether	7.82	73	115499				94
26) 1,1-dichloroethane	8.21	63	77076	1.04	qqq		95
27) Vinyl acetate	8.20	43	78575	0.82	ppb		93
28) Methyl Ethyl Ketone	8.74	72	18582	0.98	ppb	#	36
29) cis-1,2-dichloroethene	9.14	61 57	55031	1.00	ppb	#	70
30) Hexane	8.72	57	59145	0.93	ppb		88
31) Ethyl acetate	9.32	43	71038	0.99	dqq		88
32) Chloroform	9.76	83	103490	1.05	dqq		96
33) Tetrahydrofuran	9.96	42	31320	0.80	ppb		95
34) 1,2-dichloroethane	10.88	62	59402	1.04			89
36) 1,1,1-trichloroethane	10.57	97	100364		ppb		99
37) Cyclohexane	11.26	56	56404		dqq	#	61
38) Carbon tetrachloride	11.21	117	110110		dqq		87
39) Benzene	11.19	78	134741		ppb		97
40) Methyl methacrylate	12.76	41	42547	0.92	dqq	#	91
41) 1,4-dioxane	12.83	88	15620m 🖊	0.66	ppb		
42) 2,2,4-trimethylpentane	12.02	57	180733		dqq		89
43) Heptane	12.36	43	59014		ppb		89
44) Trichloroethene	12.51	130	70421	1.07			93
45) 1,2-dichloropropane	12.63	63	46847	0.98			97

^{(#) =} qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: May 26 15:53:36 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

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

Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.96	83	106771	1.05 ppb	97
47)	cis-1,3-dichloropropene	13.74	75	72785	0.91 ppb	91
48)	trans-1,3-dichloropropene	14.48	75	63319	0.87 ppb	80
49)	1,1,2-trichloroethane	14.79	97	63259	1.03 ppb	98
51)	Toluene	14.53	92	101927	1.03 ppb	99
52)	Methyl Isobutyl Ketone	13.67	43	45243 🎸	0.76 ppb	93
53)	Dibromochloromethane	15.46	129	111087m /	0.98 ppb	
54)	Methyl Butyl Ketone	14.96	43	50655m 🖔	1.18 ppb	
55)	1,2-dibromoethane	15.71	107	100910	1.01 ppb	94
56)	Tetrachloroethylene	15.52	164	74198	1.06 ppb	91
57)		16.47	112	139951	1.00 ppb	97
58)	1,1,1,2-tetrachloroethane	16.57	131	78358	0.97 ppb	95
59)	Ethylbenzene	16.72	91	222432	1.01 ppb	94
60)	m&p-xylene	16.91	91	349785	2.05 ppb	100
61)	Nonane	17.25	43	90055	0.94 დდბ	95
62)	Styrene	17.33	104	132200	0.98 ppb	94
63)	Bromoform	17.46	173	99573	1.04 ppb	99
64)	o-xylene	17.36	91	180299	1.03 ppb	85
65)	Cumene	17.89	105	240322	0.98 ppb	93
67)	1,1,2,2-tetrachloroethane	17.80	£ 8	126183 /	1.01 ppb	96
68)	Propylbenzene	18.41	91	282680m ¶	0.97 ppb	
69)	2-Chlorotoluene	18.45	91	176933m	1.04 ppb	
70)		18.57	105	243636m	1.04 ppb	
71)	1,3,5-trimethylbenzene	18.63	105	204057m	0.99 ppb	
72)	1,2,4-trimethylbenzene	19.06	105	191779 /	0.99 ppb	94
73)	1,3-dichlorobenzene	19.36	146	142815 \	1.05 ppb	90
74)	benzyl chloride	19.43	91	135861m 🤟	0.76 ppb	
75)	1,4-dichlorobenzene	19.49	146	140628	1.03 ppb	94
76)		19.52	105	185113	વવુવુ 80.0	90
	1,2-dichlorobenzene	19.81	146	131978	1.03 ppb	96
	1,2,4-trichlorobenzene	21.70	180	77266	0.84 ppb	94
79)		21.91	128	151612	0.73 ppb	95
80)	Hexachloro-1,3-butadiene	22.01	225	95974	1.07 ppb	91

Reviewed)

ΙŎΙ

Quantitation Report

Page 177 of 223

TestCode: 0.25CT-TCE-VC

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 05-Jul-16

LaBella Associates, P.C. CLIENT:

C1605057 Work Order: Emerson Landfill Project:

Qual 8888888888 **RPDLimit** SeqNo: 128926 RunNo: 10999 %RPD 5.13 59 4.93 8.45 6.64 5.5 1.25 0.99 1.02 1.14 1.04 LowLimit HighLimit RPD Ref Val Analysis Date: 5/25/2016 8 Prep Date; 22222222 %REC 60 120 127 104 111 365 4... TestCode: 0.25CT-TCE- Units: ppbV **بر**ت \Leftrightarrow ථ SPK Ref Val SPK value TestNo: TO-15 0.15 0.15 0.15 0.15 0.15 0.15 젌 Batch ID: R10999 1.110 1.090 1.200 1.270 1.040 1.110 Result 1.080 Sample ID ALCS1UGD-052416 SampType: LCSD cis-1,2-Dichloroethene 1,1,1-Trichloroethane Tetrachloroethylene 1, t-Dichloroethene Client ID: ZZZZ 1,1-Dichloroethane Chloromethane Chloroethane Analyte

6.90

0.98

4.65

1.05

122

0.15

1.050 1.100

trans-1,2-Dichloroethene

Trichloroethene

Vinyl chloride

0.040 0.040

Sample 10 ALCS1UGD-052516 SampType: LCSD	052516	SampType: LCSD	TestCode:	0.25CT-TCE	TestCode: 0.25CT-TCE- Units: ppbV		Prep Date:	ģį		RunNo: 11000	300	
Client ID: ZZZZZ		Batch ID: R11000	TestNo: TO-15	TO-15		~	4nalysis Dal	Analysis Date: 5/26/2016	16	SeqNo: 128945	3945	
Analyte		Result	PQLS	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
1,1,1-Trichloroethane		1.110	0.15	+	0	111	70	130	1.01	9.43	30	
1,1-Dichloroethane		1,090	0.15	~ -	0	109	70	130	1.08	0.922	30	
1,1-Dichloroethene		1.080	0.15	***	O	108	70	130	1.05	2.82	30	
Chloroethane		1.230	0.15	4-v	Ö	123	55	130	1.19	3.31	30	
Chloromethane		1,160	0.15	q	0	116	70	130	1.22	5.04	30	
cis-1,2-Dichloroethene		1,030	0.15	Aur	Φ	‡03	22	130	1.04	0.966	30	
Tetrachloroethylene		1.120	0.15	•	٥	112	70	130	Ţ	1.80	30	
trans-1,2-Dichlomethene		1.040	0.15	₹m	Q	104	5	130	1.02	1.94	30	
Trichloroethene		1.140	0.040	V ····	٥	ь. Д	70	130	1.09	4.48	30	
Qualifiers: Result	lts reporte	Results reported are not blank corrected		E Estimat	Estimated Value above quantitation range	titation rang	S4 .	7.	Holding times for preparation or analysis exceeded	preparation or p	malysis exceed	- Po
J Analy	yte detecti	Analyte detected below quantitation limit	Α-1	ND Not De	Not Detected at the Limit of Detection	Detection		~	RPD outside accepted recovery limits	pted recovery lin	mits	
S Spike	e Recovery	Spike Recovery autside accepted recovery limits	mits								G,	Page 1 of 3

Qualifiers:

Work Order: Project:	C1605057 Emerson Landfill	ndfill							[TestCode: 0.25CT-TCE-VC	25CT-TCI	5.VC	
Sample ID ALCS1UGD-052516 SampType: LCSD	1UGD-052516	SampType:	CSD	TestCoc	e: 0,25CT-TC	TestCode: 0.25CT-TCE- Units: ppbV	ρΛ	Prep Date:	60		RunNo: 11000	90	
Client ID: ZZZZZ	2	Batch ID: R11000	R11000	Testh	TestNo: TO-15			Analysis Date: 5/26/2016	e: 5/26/2 0	16	SeqNo: 128945	945	
Analyte			Resuft	bo	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLinit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Vinvl chloride			1.230	0.040	4	0	123	70	70 130	1,18	4,15	30	

LaBella Associates, P.C.

CLIENT:

TestCode: 1ugM3_TO15

Sample ID ALCS1UGD-052616 SampType: LCSD	SampType: LCSD	TestCo	de: fugM3_T	TestCode: 1ugM3_TO15 Units: ppbV		Prep Date:	ě		RunNo: 11001	904	
Client ID: ZZZZZ	Batch ID: R11001	Test	TesiNo: TO-15			Analysis Dale:	le: 5/27/2016	16	SeqNo: 128977	8977	
Analyte	Result	전	SPK value	SPK Ref Val	%REC	LowLimit	HighLimil	LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
1,1,1-Trichloroethane	0.9800	0.15	, ,,,	0	98.0	70	130	0.95	3.11	30	
1,1-Dichloroethane	1.080	0.15	***	٥	108	67	130	1.04	3.77	30	
1,1-Dichloraethene	1.070	0.15	•	O	107	70	13	1.04	2.84	30	
Chloroethane	1.170	0.15	-	0	117	7	133	1.2	2.53	8	
Chloromethane	1.210	0.15	-	0	121	70	8	1.27	4.84	30	
cis-1,2-Dichloroethene	1,020	0.15	-	0	102	70	8	-	1.98	30	
Tetrachloroethylene	1.060	0.15	_	0	106	70	130	1.06	O	30	
trans-1,2-Dichloroethene	1.020	0.15	-	0	102	70	130	0.99	2.99	30	
Trichloroethene	1.080	0.15	-	0	108	20	130	1.07	0.930	30	
Vinyl chloride	1.140	0.15	-	0	114	70	130	1.28	11.6	30	

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

LaBella Associates, P.C.

C1605057 Emerson Landfill

CLIENT; Work Order;

Project:

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\I\DATA\AN052424.D Vial: 24 Acq On : 25 May 2016 4:05 am Operator: RJP Sample : ALCS1UGD-052416 Inst : MSD #1 Misc : A505 1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 25 09:00:05 2016 Quant Results File: A505 1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016 Response via : Initial Calibration DataAcq Meth : 1UG_RUN

Internal Standards	ית כו	OTon	Daenance	Conc Units	Desc(Min)
Internal Standards		QIon	sponse		Dev (MIII)
1) Bromochloromethane	9.59				-0.02
35) 1,4-difluorobenzene	11.88	114	136888		
50) Chlorobenzene-d5	16.42	117	122919	1.00 ppb	-0.01
System Monitoring Compounds				· · · · · · · · · · · · · · · · ·	
66) Bromofluorobenzene	18.00	95			
Spiked Amount 1.000	Range 70	~ 130	Recove:	ry = 98	.00%
Target Compounds					Qvalue
2) Propylene	3,99	41	37202	η 1.26 ppb	100
3) Freon 12	4,05	85	165998m 🗸		
4) Chloromethane	4.25	50	37180	1.27 ppb	93
5) Freon 114	4.25	85	107209m		
6) Vinyl Chloride	4.43	62	34834	1.22 ppb	
7) Butane	4.53	43 39	44715	1.28 ppb	
8) 1,3-butadiene	4.53	39	30464	1.13 ppb	
Bromomethane	4.88	94	39902m	,	
10) Chloroethane	5.04	64	14260m 11762m 9549	1.20 ppb	
11) Ethanol	5.16	45	11762m	1.26 ppb	
12) Acrolein	5.72	56	9549	1.10 ppb	79
13) Vinyl Bromide	5.37	106			#IL =#V=
14) Freon 11	5.63	101	138515	1.67 ppb	
15) Acetone	5.84	58	14934 21288m	1.22 ppb	# 1
16) Pentane	5.90			¿ miw	
17) Isopropyl alcohol	5.95 6.39		44777m	1.22 ppb	92
18) 1,1-dichloroethene 19) Freon 113	6.57	96 101	46416 105994	1.09 ppb	
20) t-Butyl alcohol	6.66	59	83023	1.18 ppb 1.10 ppb	
21) Methylene chloride		84	41050	1.07 ppb	
22) Allyl chloride	6.82	41			
23) Carbon disulfide	6.99	76	41608 118864	1.06 ppb	
24) trans-1,2-dichloroethene		61	54858	1.05 ppb	
25) methyl tert-butyl ether		73	111056	1.02 ppb	
26) 1,1-dichloroethane	8.20	63	74597	1.11 ppb	
27) Vinyl acetate	8.20	4.3	76089	0.87 ppb	
28) Methyl Ethyl Ketone	8.72	72	20197	1.17 ppb	
29) cis-1,2-dichloroethene	9.13	61 57	51926 56292	1.04 ppb	
30) Hexane	8.71	57	56292	dqq 76.0	90
31) Ethyl acetate	9.31	43			90
32) Chloroform	9.75	83	99219	1.10 ppb	98
33) Tetrahydrofuran		42		0.91 ppb	94
34) 1,2-dichloroethane	10.87	62	57919	1.12 ppb	91
36) 1,1,1-trichloroethane	10.55	97	97974	1.08 ppb	
37) Cyclohexane	11.26	56	51566	0.98 ppb	# 59
38) Carbon tetrachloride	11.21	117	102873	1.10 ppb	89
39) Benzene	11.17	78 4 1	122694	1.09 ppb	99 98
40) Methyl methacrylate	12.74	41	44658 23963m	0 1.13 ppb	20
41) 1,4-dioxane 42) 2,2,4-trimethylpentane	12.80 12.01	88 57	165699	1.19 ppb 1.06 ppb	90
43) Heptane	12.36	43	54890	0.94 ppb	92
44) Trichloroethene	12.50		62082	1.10 ppb	92
45) 1,2-dichloropropane	12.50	63	44249	1.08 ppb	96

(#) = qualifier out of range (m) = manual integration AN052424.D A505 1UG.M Tue Jul 05 08:20:09 2016

Quantitation Report (QT Reviewed)

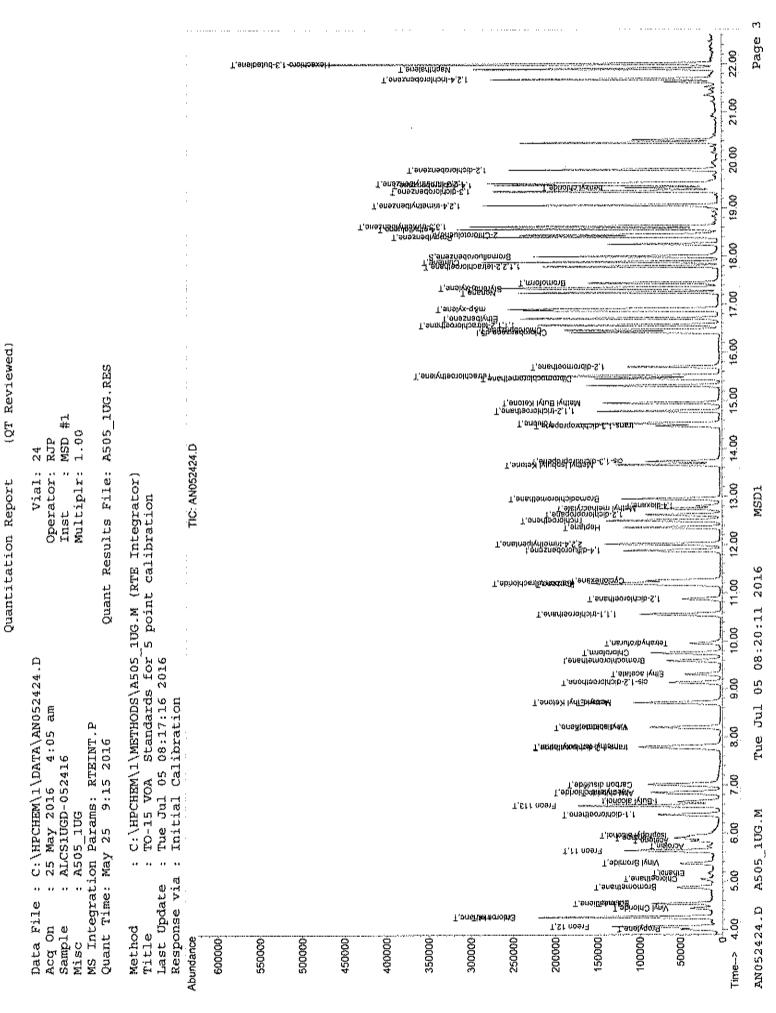
Data File : C:\HPCHEM\1\DATA\AN052424.D Vial: 24 Operator: RJP : 25 May 2016 4:05 am Acq On Inst : MSD #1 : ALCS1UGD-052416 Sample Misc : A505 lUG Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Results File: A505_1UG.RES Quant Time: May 25 09:00:05 2016

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

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.96	83	99895	1.15 ppb	96
47)	cis-1,3-dichloropropene	13.73	75	65154	0.95 ppb	91
48)	trans-1,3-dichloropropene	14.47	75	58407	0.94 ppb	80
49)	1,1,2-trichloroethane	14.79	97	57430	1.10 ppb	98
51)	Toluene	14.52	92	90798	1.07 ppb	99
52)	Methyl Isobutyl Ketone	13.66	43	100379 🛆		94
53)		15.46	129	100379 100316m	1.03 ppb	
54)	Methyl Butyl Ketone	14.95	43	104059	2.81 ppb	96
55)	1,2-dibromoethane	15.70	107	90387	1.06 ppb	96
56)	Tetrachloroethylene	15.52	164	66396	1.11 ppb	92
57)		16.47	112	127244	1.06 ppb	96
58)	1,1,1,2-tetrachloroethane	16.57	131	69372	1.00 ppb	95
59)		16.71	91	200706	1.06 ppb	94
60)	-	16.91	91	314547	2.15 ppb	99
61)		17.25	43	83793	1.02 ppb	96
62)		17.33	104	117273	1.02 ppb	92
63)	m -	17.45	173	89554	1.08 ppb	99
64)	_	17.35	91	178548	1.18 ppb	92
65)		17.88	105	211407	1.01 ppb	94
67)	1,1,2,2-tetrachloroethane	17.79	83	118232 [1.10 ppb	97
68)	Propylbenzene	18.40	91	273082m i	dqq 01.1	
69)	2-Chlorotoluene	18.45	91	144574m	0.99 ppb	
70)		18.57	105	222947m	1.11 ppb	
71)		18.62	105	193428m 🎝		
72)		19.06	105	180098	1.08 ppb	93
73)	1,3-dichlorobenzene	19.35	146	134307	1.15 ppb	91
74)	benzyl chloride	19.43	91	113755	0.74 ppb	95
75)		19.49	146	129474	1.11 ppb	94
76)	1,2,3-trimethylbenzene	19.52	105	179719	1.11 ppb	88
77)	1,2-dichlorobenzene	19.80	146	125395	1.13 ppb	96
78)	1,2,4-trichlorobenzene	21.69		98901	1.25 ppb	93
79)		21.90		284483	1.60 ppb	95
80)	Hexachloro-1,3-butadiene	22.01	225	113474	1.47 ppb	92

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AN052424.D A505_1UG.M Tue Jul 05 08:20:10 2016 MSD1



Page 183 of 223

(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\AN052526.D Vial: 24 Acq On : 26 May 2016 1:17 am Operator: RJP Sample : ALCS1UGD-052516 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 26 10:08:22 2016 Quant Results File: A505_1UG.RES

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

Inte	rnal Standards	R.T.	QIon	Response	Con	c U	nits	Dev	(Min)
							ev ee m. m		
1.)	Bromochloromethane	9.59	128	28173	1	.00	bbp	•	0.02
	1,4-difluorobenzene		114	119863	1	.00	dqq	-	-0.02
50)	Chlorobenzene-d5	16.42	117	110297	1,	.00	ppb		0.00
Syst	em Monitoring Compounds								
66)	Bromofluorobenzene	18.00			0	.98	ББр		0.00
Sp	iked Amount 1.000	Range 70	- 130	Recove:	ŗУ	mr	98	.00%	
Targ	et Compounds							Ova	alue
	Propylene	4.00	41	32782	\ 1	. 22	dqq		92
	Freon 12	4.05	85	147939m) [dqq		
	Chloromethane	4.24	50	31122m			ppb		
	Freon 114	4.25	85	100622m			ppb		
	Vinyl Chloride	4.43	62	32113		.23	dqq		98
	Butane	4.54				.24	ppb		
	1,3-butadiene	4.53	43 39 94	28187			dqq		100
	Bromomethane	4.87	94	37866m	1	. 35	ppb		
	Chloroethane	5.04		13392m			ppb		
	Ethanol	5.17	45	10119			dqq		98
	Acrolein	5.72	56	10119 8048	1	.01	ppb	#	70
	Vinyl Bromide	5.37	106	34207m			dqq		
	Freon 11	5.63	101	124405			ppb		98
-	Acetone	5.84					dqq		1
	Pentane	5.89		25004m	1		dqq		
	Isopropyl alcohol	5.96	45	28399			ddd		100
	1,1-dichloroethene	6.38	96	41858			ppb		91
	Freon 113	6.57	96 101 59	98535			ppb		91
	t-Butyl alcohol	6.66	59	34122			ppb		88
	Methylene chloride	6.85	84	37040			ppb		94
	Allyl chloride	6.82	41	37057			ɗgg		89
	Carbon disulfide	6.99		106430			ppb		98
	trans-1,2-dichloroethene			49587			dqq		83
	methyl tert-butyl ether		73	91024			ppb		90
	1,1-dichloroethane	8,21		67212			ppb		96
	Vinyl acetate	8.20	43	63822			dqq		94
	Methyl Ethyl Ketone	8.72	63 43 72	13830			ppb		18
	cis-1,2-dichloroethene	9.14		46853			dqq		75
	Hexane	8.71	57	46118			ppb		92
31)	Ethyl acetate	9.31	43	55564	0	.94	dqq		88
	Chloroform	9.75	83	90315	1	.IO	dqq		96
33)	Tetrahydrofuran	9.95	42	25273	0	.78	ppp		94
	1,2-dichloroethane	10.87	62	53714			dqq		88
36)	1,1,1-trichloroethane	10.56	97	88208	1	.11	ppb		96
37)	Cyclohexane	11.26	56	44484	Ö	.97	dqq	#	5 6
38)	Carbon tetrachloride	11.20	117	94021	1	.14	ppb		86
39)	Benzene	11.18	78	111127			bbp		99
40)	Methyl methacrylate	12.75	41.	32968			dag		98
	1,4-dioxane	12.81	88	10284m /			ppb		
	2,2,4-trimethylpentane	12.02	57	146937			dąą		92
	Heptane	12.37	43	48445	O	.95	ppb		94
	Trichloroethene	12.51	130	56072	1	.14	dqq		93
	1,2-dichloropropane	12.62	63	39119	1	.09	ppb		97
							~ ~ ~ ~		

^{(#) =} qualifier out of range (m) = manual integration AN052526.D AS05_1UG.M Tue Jul 05 08:20:26 2016

Page 1

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: May 26 10:08:22 2016 Quant Results File: A505_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri May 06 07:26:12 2016

Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.95	83	92125	1.22 ppb	98
47)	cis-1,3-dichloropropene	13.74	75	57159	0.96 ppb	91
48)		14.47	75	51494	0.95 ppb	81
49)	1,1,2-trichloroethane	14.78	97	51518	1.13 ppb	98
51)	Toluene	14.53	92	78927 D	1.03 ppb	99
52)	Methyl Isobutyl Ketone	13.67	43	35013m	0.76 ppb	
53)	Dibromochloromethane	15.46	129	93635m (1.07 ppb	
54)	Methyl Butyl Ketone	14.95	43	25455	0.77 ppb	94
55)	1,2-dibromoethane	15.71	107	81304	1.06 ppb	95
56)	Tetrachloroethylene	15.52	164	60463	1.12 ppb	91
57)		16.48	112	112134	1.04 ppb	97
58)	1,1,1,2-tetrachloroethane	16.57	131	63530	1.02 ppb	97
-	Ethylbenzene	16.72	91	172110	1.01 ppb	94
60)	-	16.91	91	275071	2.09 ppb	99
61)		17.25	4.3	71913	0.97 ppb	97
62)		17.33	104	100744	0.97 ppb	92
63)		17.45	173	80394	1.08 ppb	99
64)	o-xylene	17.35	91	144882	1.07 ppb	84
65)	Cumene	17.89	105	184170	0.98 ppb	95
67)	1,1,2,2-tetrachloroethane	17.79	83	101444 /	1.05 ppb	97
68)	Propylbenzene	18.41	91	219804m 🧗	0.98 ppb	
69)	2-Chlorotoluene	18.45	91	126739m	0.96 ppb	
70)	4-ethyltoluene	18.57	105	188422m	1.04 ppb	
71)	1,3,5-trimethylbenzene	18.63	105	162565m	1.02 ppb	
	1,2,4-trimethylbenzene	19.06	105	144298	0.97 ppb	94
73)	1,3-dichlorobenzene	19.35	146	113090	1.08 ppb	91
74)	benzyl chloride	19.43	91.	103584m 🖟	0.75 ppb	
75)		19.49	146	110026	1.05 ppb	93
76)	1,2,3-trimethylbenzene	19.52	105	142747	0.98 ppb	90
77)	1,2-dichlorobenzene	19.80	146	101953	1.03 ppb	97
78)	1,2,4-trichlorobenzene	21.69	180	54617	0.77 ppb	94
79)	Naphthalene	21.91	128	94829	dqq 82.0	96
80)	Hexachloro-1,3-butadiene	22.01	225	73293	1.06 ppb	91

(OT Reviewed)

Quantitation Report

Page 186 of 223

Quantitation Report (QT Reviewed)

Vial: 20 Data File : C:\HPCHEM\1\DATA\AN052628.D Operator: RJP Acq On : 27 May 2016 4:04 am Sample : ALCS1UGD-052616 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: May 27 09:32:50 2016 Quant Results File: ASO5_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AS05_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu May 26 10:56:15 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Inte	rnal Standards	R.T.	QIon	Response	Conc Ur	nits	Dev	(Min)
				00000	1.00			0.02
7.7	Bromochloromethane 1,4-difluorobenzene Chlorobenzene-d5	7.77	374	33398 153762	1.00	DDP PDD	_	0.01
30)	T,4 - CLILICOTODENZENE	16.42	377	138123	1.00	ppb		0.00
507	CHIOZODEHZeke-43	10.42	11,	20020	1100	PPR		
	em Monitoring Compounds			0000	0.05	In		0 00
	Bromofluorobenzene	18.00					.00%	0.00
Sp:	iked Amount 1.000	Range 70	T-3O	Recover	λ =	35	. 00-6	
Tarq	et Compounds						Qva	ılue
	Propylene	4.00	41	36660	1.15	dqq		99
	Freon 12	4.05	85	177354	1.28			98
,	Chloromethane	4.25		38208	1.21	dqq		94
	Freon 114	4.25	85	38208 118541	1.21			94
	Vinyl Chloride	4.43	62	35410	1.14			98
	Butane	4.53	43	43647	1.15	ppb		97
	1,3-butadiene		39	29194 🚜				91
	Bromomethane	4.53 4.88	94	43647 29194 42795m/	1.29			
	Chloroethane	5.04	64	15116				41
	Ethanol	5.17	45	11890	1.18			89
	Acrolein	5.72	56	8774	0.93			35
	Vinyl Bromide	5.37	106	40803 113741m#	1.24			1.00
	Freon 11	5.63	101	113741m#	1.27	dqq		
	Acetone	5.84	58	12905 26134 31156	0.97	ppb	#	1,
	Pentane	5.90	42	26134	1.08			13
	Isopropyl alcohol	5.95	45	31156	0.78			100
	1,1-dichloroethene	6.39	96	49417	1.07			88
	Freon 113	6.57	101	111309	1.15			87
	t-Butyl alcohol	6.67	59	111309 39032	0.48			79
	Methylene chloride	6.86		45457	1.09			90
22)	Allyl chloride	6.83		42671				92
23)	Carbon disulfide	7.00	76	124917 57633	1.03	ppb		100
24)	trans-1.2-dichloroethene	7.00 7.77	61	57633	1,02	ppb		80
25)	methyl tert-butyl ether	7.81	73	* * * 4 5 5 5	0.55	ppb		93
26)	1,1-dichloroethane	8.21	63	79034	1.08			96
27)	Vinvl acetate	8.20	43	76068	0.80	ppb		93
28)	Methyl Ethyl Ketone	8.73	72	79034 76068 17425	0.94	dqq		
29)	cis-1,2-dichloroethene	9.14	61	54995	1.02	ppb	#	71
	Hexane	8.71	57	58098	0.92	dag		88
	Ethyl acetate	9.31	43	58098 65612	0.93			88
	Chloroform	9.75	83	102442	1.05			97
	Tetrahydrofuran	9.96	42	30955	0.80	ppb		93
34)	1,2-dichloroethane	10.88	62	60176	1.07	dqq		91
	1,1,1-trichloroethane	10.55	97	99123	0.98	ppb		97
	Cyclohexane	11.26	56	55771	0.94	daa	#	62
	Carbon tetrachloride	11.20	117	109181	1.03	dqq		89
	Benzene	11.18	78	135371	1.07			97
	Methyl methacrylate	12.75	41	57874	1.30	dqq	Ħ	80
	1,4-dioxane	12.82	88	10697	0.47	ppb		71
	2,2,4-trimethylpentane	12.02	57	181867	1.04			89
	Heptane	12.37	43	57490	0.88			89
	Trichloroethene	12.50	130	68111	1.08	dqq		93
45)	1.2-dichloropropane	12.63	63	46420	1.01	dgg		96
,						~		

^{(#) =} qualifier out of range (m) ∞ manual integration

AN052628.D A505_1UG.M Wed Jul 06 09:41:38 2016

Quantitation Report (QT Reviewed)

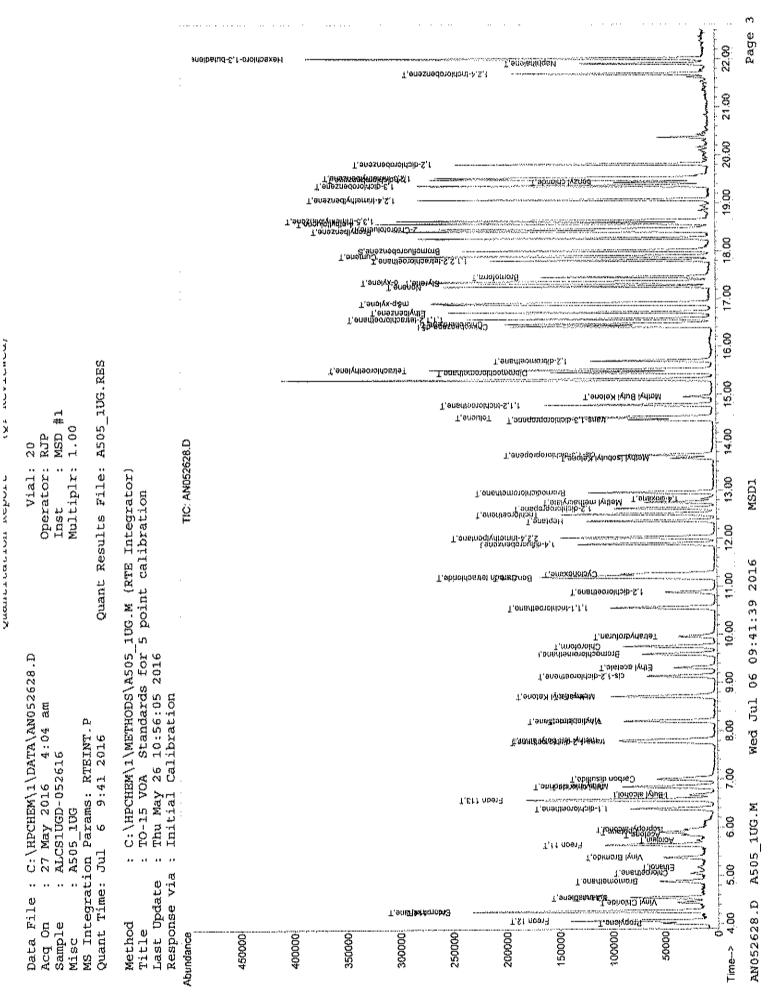
Data File : C:\HPCHEM\1\DATA\AN052628.D Vial: 20 Acq On : 27 May 2016 4:04 am Operator: RJP Sample : ALCS1UGD-052616 Misc : A505_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A505_1UG.RES Quant Time: May 27 09:32:50 2016

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

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.96	83	102734	1.06 ppb	94
47)	cis-1,3-dichloropropene	13.74	75	70091	0.91 ppb	90
48)	trans-1,3-dichloropropene	14.47	75	60860	0.87 ppb	80
49)	1,1,2-trichloroethane	14.79	97	61396	1.05 ppb	99
51)	Toluene	14.53	92	100582	1.05 ppb	98
52)	Methyl Isobutyl Ketone	13.67	43	30478 A	0.53 ppb	93
53)	Dibromochloromethane	15.46	129	30478 A 108862m 21697	0.99 ppb	
54)	Methyl Butyl Ketone	14.96	43	21697	O + D #0 E E E -	96
55)	1,2-dibromoethane	15.71	107	97916	1.02 ppb	96
56)	Tetrachloroethylene	15.52	164	71707	1.06 ppb	86
57)	Chlorobenzene	16,47	112	135331	1.00 ppb	96
58)	1,1,1,2-tetrachloroethane	16.57	131	75595	0.97 ppb	95
59)	Ethylbenzene	16.72	91	215245	1.01 ppb	96
60)	m&p-xylene	16.91	91	338253	2.05 ppb	99
61)	Nonane	17.25	43	86423	0.94 ppb	93
62)	Styrene	17.33	104	125598	0.97 ppb	94
63)	Bromoform	17.46	1.73	91668	dqq ee.0	97
64)	o-xylene	17.35	91	173143	1.02 ppb	85
65)	Cumene	17.89	1.05	226496	dqq 30.0	92
67)	1,1,2,2-tetrachloroethane	17.80	83	118419 /) 0.98 ppb	98
68)	Propylbenzene	18.41	91	262090m 🗗	n m	
69)	2-Chlorotoluene	18.45	91.	165410m	1.00 ppb	
70)	4-ethyltoluene	18.57	105	233453m	dqq 80.1	
71)	1,3,5-trimethylbenzene	18.63	1.05	193108m	0.97 ppb	
72)	1,2,4-trimethylbenzene	19.06	105	179013	0.96 ppb	94
73)	1,3-dichlorobenzene	19.36	146	136178 , [1.03 ppb	91
74)	benzyl chloride	19.43	91	97562m∨		
75)	1,4-dichlorobenzene	19.49		132385	1.01 ppb	95
76)	1,2,3-trimethylbenzene	19.52		166825	0.92 ppb	88
77)		19.80		119990	0.97 ppb	96
78)	1,2,4-trichlorobenzene	21.70		70782	0.80 ppb	93
79)	Naphthalene	21.91		115664	0.58 ppb	95
80)	Hexachloro-1,3~butadiene	22.01	225	87260	1.00 ppb	92



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 INJECTION LOG

16	Directory: C:\HPCHEM\1\DATA2			Injection Log Injection Log Infermal Standard Stock # A(43) Clandard Stock # 1432 LOS Stock # 1433 Miscontinuo Ref: EPA TO-15 / Injection 1999				
6789012345	5 6 7 8 9 10 11 12 13 14	An052310.d An052311.d An052312.d An052313.d An052314.d An052315.d An052316.d An052317.d An052318.d An052319.d	1. 1. 1. 1. 1. 1. 1.	C1605046-001A 9X C1605046-001A 90X C1605046-002A 20X C1605046-003A 10X C1605046 C1605046-004A 10X C1605045-001A 90X C1605045-002A 270X C1605043-001A 810X C1605043-002A 90X		A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG	-003A 20X	23 May 2016 15:40 23 May 2016 16:17 23 May 2016 16:54 23 May 2016 17:30 23 May 2016 18:07 23 May 2016 18:43 23 May 2016 19:20 23 May 2016 19:57 23 May 2016 20:33 23 May 2016 21:10
6789012345	15 16 17 18 1 2 3 4 5	An052320.d An052321.d An052322.d An052323.d An052324.d An052401.d An052403.d An052403.d An052404.d An052405.d	1. 1. 1. 1. 1. 1. 1.	C1605040-001A 270X C1605040-002A 90X C1605040-003A 90X ALCS1UGD-052316 No MS or GC data pre BFB1UG A1UG_1.0 ALCS1UG-052416 AMB1UG-052416 C1605056-003A		A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG		23 May 2016 21:46 23 May 2016 22:23 23 May 2016 22:59 23 May 2016 23:38 24 May 2016 08:19 24 May 2016 09:01 24 May 2016 09:44 24 May 2016 10:20 24 May 2016 11:04
6789012345	6 7 8 9 10 11 12 13 14	An052406.d An052407.d An052409.d An052410.d An052411.d An052412.d An052413.d An052414.d An052415.d	1. 1. 1. 1. 1. 1. 1.	C1605056-001A C1605056-002A C1605056-003A 10X C1605056-001A 9X C1605056-001A 90X C1605056-002A 9X C1605056-002A 90X C1605054-002A C1605054-004A C1605054-006A		A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG		24 May 2016 11:48 24 May 2016 12:29 24 May 2016 13:06 24 May 2016 13:46 24 May 2016 14:23 24 May 2016 15:03 24 May 2016 15:40 24 May 2016 20:27 24 May 2016 21:08 24 May 2016 21:51
6789012345	16 17 18 19 20 21 22 23 24 25	An052416.d An052417.d An052418.d An052419.d An052420.d An052421.d An052422.d An052423.d An052424.d An052424.d	1. 1. 1. 1. 1. 1. 1.	C1605054-008A C1605054-010A C1605055-002A C1605055-004A C1605055-006A C1605055-008A C1605055 ALCS1UGD-052416 C1605057-002A		A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG		24 May 2016 22:33 24 May 2016 23:15 24 May 2016 23:57 25 May 2016 00:39 25 May 2016 01:21 25 May 2016 02:02 25 May 2016 02:43 25 May 2016 03:26 25 May 2016 04:05 25 May 2016 04:47
6789012345	26 27 28 29 30 1 2	An052426.d An052427.d An052428.d An052429.d An052431.d An052501.d An052502.d An052503.d An052504.d	1. 1. 1. 1. 1. 1. 1.	C1605057-004A C1605057-006A C1605057-007A C1605057-007A MS C1605057-007A MSD No MS or GC data pre- BFB1UG A1UG_1.0 ALCS1UG-052516 AMB1UG-052516	sent	A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG		25 May 2016 05:28 25 May 2016 06:10 25 May 2016 06:51 25 May 2016 07:37 25 May 2016 08:23 25 May 2016 09:06 25 May 2016 09:49 25 May 2016 10:34 25 May 2016 11:10
6789D	5 6 7 8 9	An052505.d An052506.d An052507.d An052508.d An052509.d	1. 1. 1. 1. 1.	WAC052516A WAC052516B WAC052516C WAC052516D WAC052516E		A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG		25 May 2016 11:47 25 May 2016 12:25 25 May 2016 13:02 25 May 2016 13:46 25 May 2016 14:24

Page 6 06 Jul 2016 12:05

				, -			
	l	Directory:	C:\HPCHEN	1\1\DATA2	Injection Log	Stand :	1432 1433
тe	Via	l FileName	Multiplier	SampleName		Misc Info ^{Methol.}	Anjéctetun. 1
1234567890	10 11 12 13 12 13 14 15 16 17	An052510.d An052511.d An052512.d An052513.d An052514.d An052516.d An052517.d An052518.d An052519.d	1 1. 1 1. 1 1. 1 1. 1 1. 1 1.	WAC052516F C1605057-008A C1605055-010A C1605055-011A C1605054-002A 10X C1605054-004A 10X C1605054-006A 10X C1605054-010A 10X C1605054-011A 10X		A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG	25 May 2016 15:02 25 May 2016 15:45 25 May 2016 16:27 25 May 2016 17:10 25 May 2016 17:48 25 May 2016 18:25 25 May 2016 19:02 25 May 2016 19:39 25 May 2016 20:16 25 May 2016 20:54
1234567890	18 19 20 21 22 23 24 25 26 27	An052520.d An052521.d An052522.d An052523.d An052524.d An052525.d An052526.d An052527.d An052528.d An052529.d	1. 1. 1. 1. 1. 1.	C1605055-002A 10X C1605055-004A 10X C1605055-006A 10X C1605055-008A 10X C1605055-010A 10X C1605055-011A 10X ALCS1UGD-052516 C1605054-001A C1605054-003A C1605054-005A		A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG	25 May 2016 21:31 25 May 2016 22:08 25 May 2016 22:45 25 May 2016 23:22 25 May 2016 23:59 26 May 2016 00:38 26 May 2016 01:17 26 May 2016 02:00 26 May 2016 02:42 26 May 2016 03:25
1 2 3 4 5 6 7 8 9 0	28 29 30 31 32 33 34 35	An052530.d An052531.d An052533.d An052533.d An052534.d An052535.d An052536.d An052537.d An052538.d An052501.d	1. 1.	C1605054-007A C1605054-009A C1605055-001A C1605055-003A C1605055-005A C1605055-007A C1605055-009A C1605057-001A No MS or GC data pres	sent	A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG	26 May 2016 04:07 26 May 2016 04:48 26 May 2016 05:31 26 May 2016 06:13 26 May 2016 06:56 26 May 2016 07:37 26 May 2016 08:20 26 May 2016 09:02
123456789D	2 3 4 5 6 7 8 1 2 3	An052602.d An052603.d An052604.d An052605.d An052607.d An052608.d An052609.d An052610.d An052611.d	1. 1. 1. 1. 1. 1. 1.	A1UG A1UG_1.0 ALCS1UG AMB1UG-052616 ALCS1UG-052616 C1605057-003A C1605057-005A C1605055-011A 40X C1605054-001A 9X C1605054-001A 90X		A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG	26 May 2016 10:40 26 May 2016 11:20 26 May 2016 11:59 26 May 2016 12:35 26 May 2016 13:15 26 May 2016 13:56 26 May 2016 14:36 26 May 2016 16:03 26 May 2016 16:43 26 May 2016 17:20
1234557390	11 12	An052612.d An052613.d An052614.d An052615.d An052616.d An052617.d An052619.d An052620.d An052621.d	1. 1. 1. 1. 1. 1. 1.	C1605054-003A 20X C1605054-005A 10X C1605054-005A 40X C1605054-007A 20X C1605054-009A 20X C1605055-001A 10X C1605055-003A 9X C1605055-003A 90X C1605055-003A 180X C1605055-005A 9X		A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG	26 May 2016 17:57 26 May 2016 18:34 26 May 2016 19:11 26 May 2016 19:48 26 May 2016 20:24 26 May 2016 21:02 26 May 2016 21:42 26 May 2016 22:19 26 May 2016 22:56 26 May 2016 23:37
1 2 3 4 5	15 16 17	An052622.d An052623.d An052624.d An052625.d An052626.d	1. 1. 1. 1.	C1605055-005A 90X C1605055-007A 9X C1605055-007A 90X C1605055-007A 180X C1605055-009A 10X		A505_1UG A505_1UG A505_1UG A505_1UG A505_1UG	27 May 2016 00:14 27 May 2016 00:54 27 May 2016 01:31 27 May 2016 02:07 27 May 2016 02:44

Instrume A/431 Internal Sta. Injection Log Standard 🦠 Directory: C:\HPCHEM\1\DATA2 1432 LOS Singe Merivori . າກ, 1999 ne Vial FileName Multiplier Misc Info Injected SampleName 20 An052627.d 1. C1605057-003A 2X A505 1UG 27 May 2016 03:24 6 7 20 27 May 2016 04:04 An052628.d 1. ALCS1UGD-052616 A505_1UG 27 May 2016 04:44 8 21 An052629.d 1. C1605064-001A A505 1UG 1. A505 1UG 27 May 2016 05:25 9 22 An052630.d C1605065-001A A505 1UG 27 May 2016 06:05 0 23 An052631.d C1605051-005A 1. A505 1UG 27 May 2016 06:46 24 1 An052632.d 1. C1605051-001A A505_1UG 27 May 2016 07:27 2 25 An052633.d C1605051-002A 1. 3 27 May 2016 08:07 26 C1605051-003A A505_1UG An052634.d 1. No MS or GC data present 4 An052635.d 1. 5 27 May 2016 08:50 A505_1UG 1 An052701.d 1. BFB1UG 27 May 2016 09:47 2 A505 1UG 6 An052702.d 1. A1UG_1.0 27 May 2016 10:26 7 ALCS1UG A505_1UG 3 An052703.d 1. A505 1UG 27 May 2016 11:05 8 ALCS1UG-052716 4 An052704.d 1. 27 May 2016 11:41 A505_1UG 9 AMB1UG-052716 4 An052705.d 1. A505_1UG 27 May 2016 12:24 0 5 C1605053-001A An052706.d 1. A505_1UG 27 May 2016 13:07 6 1 An052707.d 1. C1605053-002A A505_1UG 27 May 2016 14:24 2 7 An052708.d 1. C1605051-004A 27 May 2016 15:06 8 A505 1UG 3 An052709.d 1. C1605059-001A A505 1UG 27 May 2016 15:49 4 9 An052710.d 1. C1605059-002A A505_1UG 27 May 2016 16:31 5 10 An052711.d 1. C1605061-001A A505_1UG 27 May 2016 17:12 An052712.d 1. C1605061-002A 6 11 A505_1UG 27 May 2016 17:50 C1605053-001A 10X 7 12 An052713.d 1. A505_1UG 27 May 2016 18:27 C1605053-001A 40X 8 13 1. An052714.d 27 May 2016 19:04 A505_1UG C1605053-002A 10X 9 14 An052715.d 1. 27 May 2016 19:41 C1605053 A505_1UG -002A 40X 0 15 An052716.d 1. 27 May 2016 20:20 A505 1UG C1605068-001A 1 16 An052717.d 1. 27 May 2016 21:02 A505_1UG 2 C1605068-002A 17 An052718.d 1. A505_1UG 27 May 2016 21:43 3 18 An052719.d 1. C1605068-003A A505_1UG 27 May 2016 22:23 ALCS1UGD-052716 4 19 An052720.d 1. 27 May 2016 23:05 A505_1UG 5 20 C1605070-001A An052721.d 1. A505_1UG 27 May 2016 23:48 21 C1605070-002A 6 An052722.d 1. 28 May 2016 00:28 A505_1UG 7 22 An052723.d 1. C1605070-003A 28 May 2016 01:09 A505_1UG 8 23 An052724.d 1. C1605070-004A 28 May 2016 01:52 A505 1UG C1605070-005A 9 24 An052725.d 1. 28 May 2016 02:35 A505_1UG Ö 25 An052726.d 1. C1605070-006A A505_1UG 28 May 2016 03:16 1 26 An052727.d 1. C1605070-007A 28 May 2016 03:58 A505_1UG 2 27 An052728.d 1. C1605070-008A 28 May 2016 04:36 A505_1UG C1605051-005A 5X 3 28 An052729.d 1. 28 May 2016 05:13 A505_1UG -001A 10X 4 29 An052730.d 1. C1605051 28 May 2016 05:49 5 A505_1UG 30 An052731.d 1. C1605051-002A 10X 28 May 2016 06:26 A505 1UG -002A 40X C1605051 6 31 An052732.d 1. A505_1UG 28 May 2016 07:06 C1605051-003A 9X 7 32 An052733.d 1. A505 1UG 28 May 2016 07:43 8 33 An052734.d C1605051-003A 90X 1. 28 May 2016 08:20 A505_1UG -003A ... 9 34 C1605051 An052735.d 1. 0 1. No MS or GC data present An052736.d 28 May 2016 08:57 A505_1UG 37 BFB1UG 1 An052801.d 1. 28 May 2016 09:38 A505_1UG 2 An052802.d A1UG 1.0 38 1. 28 May 2016 10:18 ALCS1UG-052816 A505_1UG 3 39 An052803.d 1. 28 May 2016 11:21 AMB1UG-052816 A505_1UG 1 An052804.d 1. 4 A505_1UG -001A 10X 28 May 2016 11:58 2 C1605070 5 An052805.d 1. 28 May 2016 12:38 A505_1UG 3 C1605070-002A 9X 6 An052806.d 1. A505_1UG -002A 90X 28 May 2016 13:15 4 C1605070 7 An052807.d 1. 28 May 2016 13:52 A505_1UG -003A 10X 5 8 An052808.d 1. C1605070

28 May 2016 14:29

28 May 2016 15:06

-003A 40X

A505_1UG

A505_1UG

1.

1.

C1605070

C1605070-004A 10X

An052809.d

An052810.d

9 6

0 7

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15
STANDARDS LOG

Centek Laboratories, LLC 3 Stock Conc Initial Vol (psig) Finial Vol (psia) Final Conc (ppb) Ø 0.80 500 50 50 20 S Ŋ 7.200 pslig $\overline{}$ 8 1000 Piles 디인 30 ま 3 5 30 8 7 8 ر ان NOW INDE msA 0.25 Ņ ĮŠ. 8 3.0 6.0 7 10 975229 uddi 20000S 8.9 pm lo pem So per 1 ppm 20 Pp 50 pp 8 2600Ay FESTIO **Aos48** Aozzo A0537 **Pes34** FERMSO 9520 AU543 Stock # ST) POSSO 1850 1850 Aos47 9/667 A 9534 4PCHS 190552 IS A0549 655 LCS AbSS STA LCS TOIS TOIS ING LCS H25 Slox SULF お子 les (2) HYDROGEN SE Description 4 <u>あ</u>う 7015 7015 TNO 5/12/15 12 5 1 12/15/14 12/25/14 12/8/14 Date Exp 7 Date Prep 15/14 गिरिटा 11/2/ 12 4 4.6549 a- 054 B A-05 62 4.055b 4-0547 0555 0557 4-0546 8553 A-0553 4. 0557 4.0559 A-0563 4-0564 A. 055 A-0558 A-056 4. 0552 4.05kb Std #

FORM 153

A-0-564

A-0566

27

Page#_

 \sim

0

50000

A 05355

A 25 16

4PC#

GC/MS Calibration Standards Logbook

ORGUSES.

Centek Laboratories, LLC

	Cen	tek	Lab	orat	orie	s, L	LÇ														
Chkd by																					
Prep by	DJ.	Ļ	M	7.2	mo												73	_			->
Final Conc (ppb)	60	,	i Qon	(Sty 0.01m	5000A	-				-	500,000	50 000	6000	1 608		-,4	50 pp			⇒	12
Stock Conc Initial Vol (psig Finial Vol (psia)	30	45	IS MIX	T MON S	30			45	30			30		45	-	-ب	30	-		>	30
Initial Vol (psig)	1.5	0.9	T ZOWIT	1 STD:	1.5		}	0.30	3.0	1.5	-1	1.5	3.0	5.0		-په	.s.			\rightarrow	3,0
Stock Conc	l ppm	4000B	Waro!	A6534	1 0.00		}	11.SAPM	MORS / 500408	(pou	10,0m	i pen	5000B	-		->	I DOM			\Rightarrow	1502x
Stock#	Aiiss	A1201	٤	رر	AUJY	AIZOH	AILBB	Ao97₩	MISTAL	AO276	A0265	9519	ALLIA	A1205	Auson	A1206	Anny	Anaz	AIZOY	4519	91220
Description	TOIS MA	TOISIUG APH	TOIS MIK	1/18/16/1/18/17/LCS TO 15	TO IS ITS	1,557	\downarrow $57D$	TOIS FORM	1 51LOX	SULE	+ H25	Tois 4PCH	+ YPC45	Polsius Is		4 14.5	7015 IS	STO	20.5	おみ	UPOTS
Date Exp	1/22/16		III (SIII)	L. x	1/22/16									•		- ,	125/16 dill6				1
Date Prep Date Exp	11/3/16)	11/18/16	1/18/16	91/81/1			***								-)	1/25/16				1
\$td#	A- i 20 i	A-1303	A-1203	A- 1204	A-1205	A-1206	A-120]	A-1208	A-1265	4-1210	A-1211	A-1212	A-12B	A-1214	A-1215	12.16	A-1217	A-1218	A-1219	A. 1220	A-122)

FORM 153

Page 197 of 223

Std#	Date Prep	Date Exp	Description	Stock #	Stock Conc	Salat Viol (milia)	Fig. 1. A. C. C.	i i		
75851-4	2/29/11	311/18	È	-	Ottore Collect	minal voi (psig)	rimai voi (psia)	Coch Corres milital vol (psia) Final Conc (ppb)	Prep by	Chkd by
A. 1286		-	-	 -	5 K	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	350	500	(3)	
138			SHI CO!		000°	5.0	f	7		
A-160/			ST	ST #1278	_					
A. 1288	<u>-</u>	7	オート	45 A1279	>		→	->		
A. 1285	31116	3/1/17	TOIS IS	PF-4969	N I	<u> </u>	2100,001	2,44	1/3	
A-1290	3/7/16	3/7/16 3/14/16	7015	4 1284	mag 1	15.1	30	5	1/	ries
A-129			57)	3	
A- 1292			203				·			
A-1293			4.064	4 4519	 	7		->		
4-1294			4Peth5		रिट्ट ठेड	3.0	30	\		
A-1255			FoR	Form Hoary	11.5 pam	0,73	1	6		
A-1256			a)/S	5160x A1089	dec 062	3.0	37	15		
A.1297			500	F A3270	-	15.7	30	3 67		
A-1298			V HZS		lo som	15.	30	3, 5		
A-1299			7015 146 IS	CP21 A 2	52.30	5.0	1/2	2		
A-1300			(m/s	A Area			_	,		
A- 130 (>	>	227		->		->			
A-1302	3/14/16	3/21/16	7015 IS		1 0 m	١٨	30	(;	163	
A-1363			RS 1	· · · ·					3 -	
A. 1304			527							
A-1305	>>	->	that 1	4 9519	 	>	 ->	 ->	 	
FORM 153										

FORM 153

2	1	7			T	T	T	T	T	T	T	1	7		7	7	1			T	<u> </u>
Chkdt																	<u> </u>				
Prep by Chkd by	1/3									_		/3 3	_								>
Final Conc (ppb)	ij)	->) 15	50	50	S	500	4		>	52			-	اد	52	55	CS	25	4
Stock Conc Initial Vol (psig Finial Vol (psia) Final Conc (ppb)	30		->	30	45	30	3.0	32	12		>	30	_		>	35	45	30	ઝજ	33	3
Initial Vol (psig)	10.		>	5.0	0.20	3.0	15	13.	5.0		>	1,5	,		>	3.0	æ.ø	3.0	5'1	151	6.0
Stock Conc	m(,0,1		<u> </u>	50,02	11,5°11	Š	الرديرا	mcg 01	20, July	_	>	hwc.c.!			>	20pp	11.5 ppm	900005	mc(d.)	mor of	50,00
Stock #	Aires	AIZOH	9519	A1413	F877	51 Lex A 1088	Aosza	4026A	A 1410	5万 千川)	AITIZ	43214	firm3	Alway	9156	AHYZS	Acr.74	5720X H1088	A0270	4920H	A1422
otion	57.	7	4PCH	LPGH2	PoRm) X(07) (SOLF	H25 A02	75	575	537	SI	57			YPCHS ATYZS	TORM ROSTY	Shux	SouF	H25 A02	6 IS
Description	TOIS							>	TO15 146		->	7015								⇒	TOIS 146 IS A14
Date Exp	5/13/16										⇒	5/30/16	_								\Rightarrow
Date Prep	5/16/16										4	5/23/16									\Rightarrow
Std #	A- [41]	A-1412	A.1413	A- 1414	A-1415	A. 1416	A. 1417	A.1418	4-1419	4.14m	14 TA		A. 1433	4- 1424	A. 1425	4.1436	A-1427	A-1428	A. 1429	4. 143D	A-1431

FORM 153

	•••		Lai			.															
Chkd by																					
Prep by Chkd by	₹3	->	23											\Rightarrow							
Stock Conc Initial Vol (psig Finial Vol (psia) Final Conc (ppb)	4	->	50			→	b	દર	25	S	838	4		→							
Finial Vol (psia)	45	う	35			\rightarrow	30	45	30	QS	30	45		^			AM NA 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3				
Initial Vol (psig)	٥.٩	ዯ	1.5			→	3.0	Q.0		15.	ζ,	6.0		<i>></i>							
Stock Conc	र्वे २५	· ^	l taim			->	da 02	1.5		1000	10 por	52 24	_	\rightarrow							
Stock #	AH 23		Anss	ह ळाम्	AIZUH	9519	7	子でが	51.UX (A1088)	A0270	A0265	1 €h:₹	F X	A-1436							***************************************
Description	144 5मे	ì	IS	STD	ऽज्ञ	HACH	4835	MFOFM	X01.75	306	425	TOIS 146 IS H134	E	4 to							
SeQ	TO15 144	\rightarrow	TASS.								P	TOIS	-								
Date Exp	Sballb	->	911-19											>							
Date Prep Date Exp	5/23/16 5balle	7	5/3/16/6/7/16											\rightarrow							
Std #	A. 1432	A. 1433	A. 1434	A-1435	A-1436	A. 1437	4-1438	A.1439	4-14p	144	2hh1.4	A. 11443	4. 14 th	A- 1445	Ą.	4	Α-	4	4	Α-	A.

Page 199 of 223

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15
CANISTER CLEANING LOG

Centek Laboratories, LLC

Instrument: Entech 3100

Canister Number	Canister Number QC Can Number Number of Cy	Number of Cycles	s Date	QC Batch Number	Detection Limits Leak Test 24hr (psig stirstp)	Leak Test 24	4hr (psig str/st
1259	552	ગ્દ	03/28/11	1/AC032816A	1115 m3+0125	÷ 3ô	+ 30
350				u va		+	+
						+	+
Ч75						+	+
799	^			^		+	+
42	370			WACO3281LP		+	+
11.76	,	·				+	+
L8						+	+
347						+	+
320	*			1		+	+
08	545			1,/AC0328/LC		-	+
137	, 40-rail-p ^a			-		+	+
56						+	+
353						+	+
かれ	÷			→		+	+
482 LAL	1201			WAC0328 16 D		+	4
1208	•					+	4-
26						+	4
209						4	4
1201	>	→	>	>	>	→	→
						nja.	+
						+	+
						· 4 ·	4
						4-	4-
						4	+
-			23.0		07) #000	C	
Cleaned by:			_ Form C151		rage #		

Centek Laboratories, LLC

Instrument: Entech 3100

<u>.</u>																										
ig str/st	30				-9				30		,							_								
4hr (ps	_+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	.+	+	
k Test 2	30				9				<u></u> ود									و_								
eal	+	+	+	+	+	*	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Detection Limits Leak Test 24hr (psig str/stp.)	texto 25						:		×0.25																	711 "
Dete	100	2,			7				1	10								9								Dage #
QC Batch Number	rie F								16.A				١.	A												
atch Nu	WACOHASI6 F								WPC043016									-3								
90°	かなり				7				MAC									Ŋ								
Date	4/28/4								4/30/14									_								Form C151
	413				8				///	1								•••					٠.			F. C.
Cycles																										
mber of	70	_			9				22									و								
₽ Te																									<u> </u>	
QC:Can Number Number of Cycles	95			`	>				ት\2			·	>	7.				>								3
30.00	O													12												1
mber	. ,								E18 (M)	-	/				83	.9	8	بـ ا ہـ								
Canister Number	222	358	1133	552	59				218	0	Sh	18	412	130	8611	5	892 	212								
ğ						<u> </u>																				

(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA2\2016MAR\AN032808.D Vial: 8 Acq On : 28 Mar 2016 6:11 pm Sample : WAC032816D Misc : A316 1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

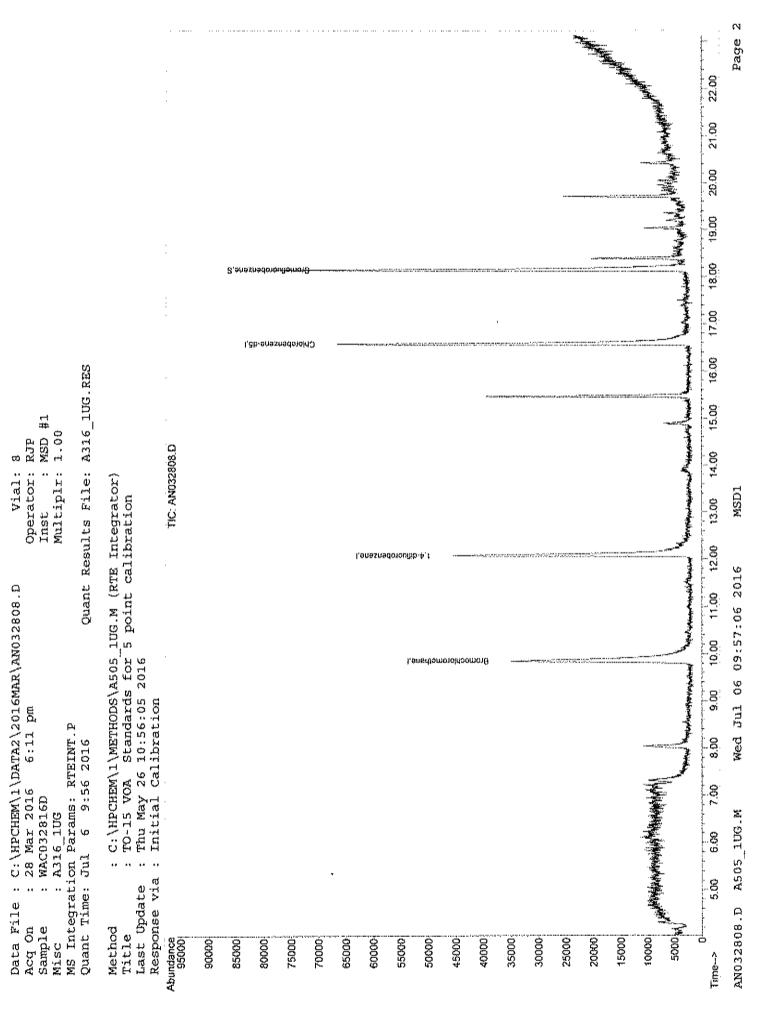
Quant Results File: A316_1UG.RES Quant Time: May 12 15:00:47 2016

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed May 11 08:43:39 2016
Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Internal Standards	R.T. QIon	Response	Conc Units Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.85 128 12.09 114 16.58 117	66396	1.00 ppb 0.03 1.00 ppb 0.03 1.00 ppb 0.02
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	18.14 95 Range 70 - 13		1.06 ppb 0.00 ry ≂ 106.00%

Ovalue Target Compounds



Page 205 of 223

זאַז

arodan maranaraman

Quantitation Report

(QT Reviewed)

Data File : C:\MSDCHEM\DATA2\2016APR\BL042811.D Vial: 31

Acq On : 28 Apr 2016 8:28 pm Operator: LL

Sample : WAC042816A Inst : MSD #2

Misc : B02041UG.M QC Can Multiplr: 1.00

MS Integration Params: RTEINT,P

Quant Time: Apr 29 09:34:16 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Apr 12 13:49:09 2016

Response via : Initial Calibration

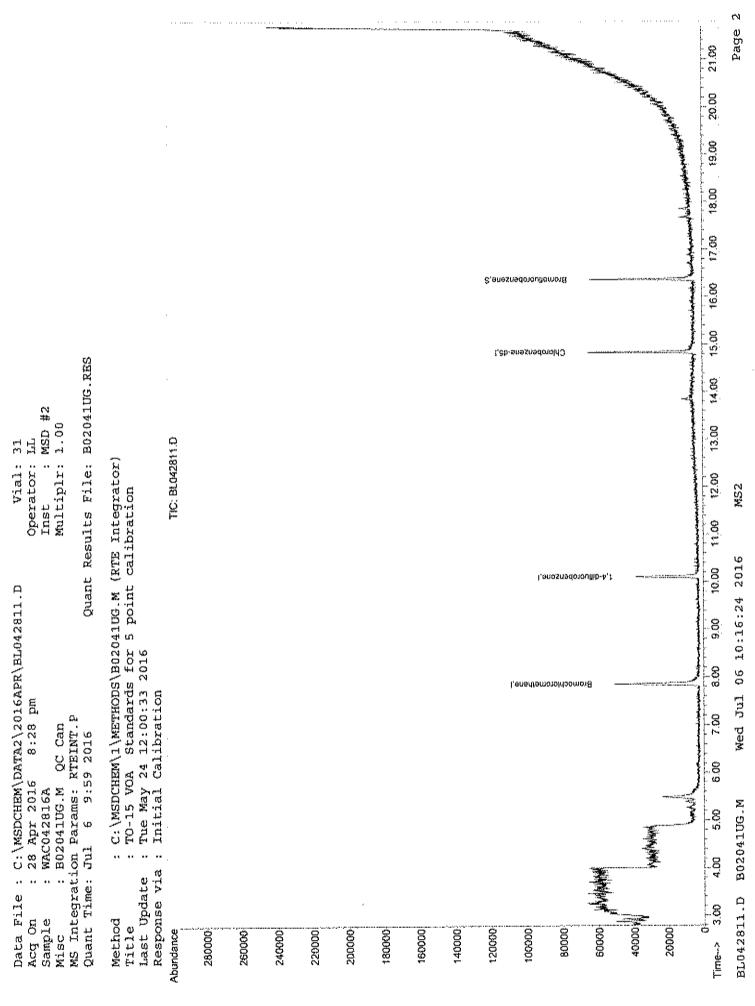
DataAcq Meth : 1UGRUN2

Internal Standards	к.т. с	lon	Response C	onc Units De	v(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.10	128 114 117	14384 34834 34634	1.00 ppb 1.00 ppb 1.00 ppb	0.03 0.02 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	16.36 Range 70 -	95 - 130	16826 Recovery	0.76 ppb = 76.00	
					7

Target Compounds

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed BL042811.D B02041UG.M Wed Jul 06 10:16:23 2016 MS2

אממוורדימודיתוו שרבתוו



Page 207 of 223

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\DATA2\2016APR\BL042812.D Vial: 32 Acq On : 28 Apr 2016 9:06 pm Sample : WAC042816B Misc : B02041UG.M QC Can Operator: LL

Inst : MSD #2 Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Time: Apr 29 09:00:24 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Apr 12 13:49:09 2016 Response via : Initial Calibration

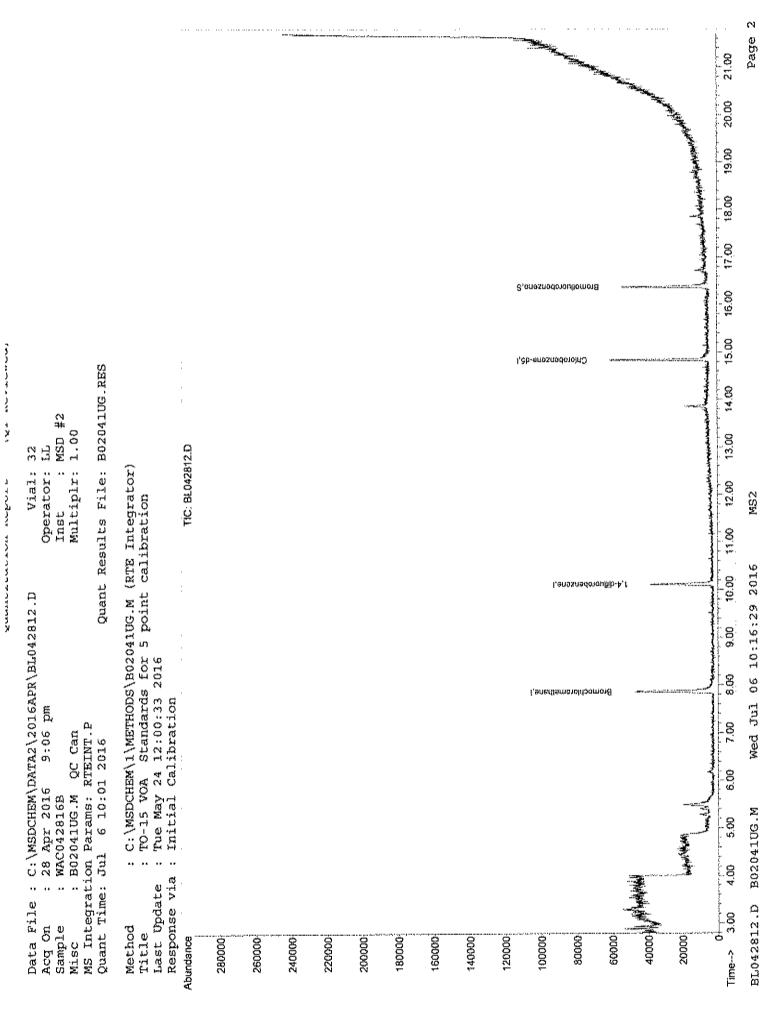
DataAcq Meth : 1UGRUN2

Internal Standards	R.T. QIO	n Response C	onc Units Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	7.86 12: 10.11 11: 14.83 11	4 33231	1.00 ppb 0.04 1.00 ppb 0.03 1.00 ppb 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	16.36 99 Range 70 - 1	•	0.78 ppb 0.00 = 78.00%

Target Compounds

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed BL042812.D B02041UG.M Wed Jul 06 10:16:28 2016 MS2

TAN +X:



Page 209 of 223

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\DATA2\2016APR\BL042813.D Vial: 33 Acq On : 28 Apr 2016 9:44 pm Sample : WAC042816C Misc : B02041UG.M QC Can Operator: LL Inst : MSD #2 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Apr 29 09:00:32 2016 Quant Results File: B02041UG.RES

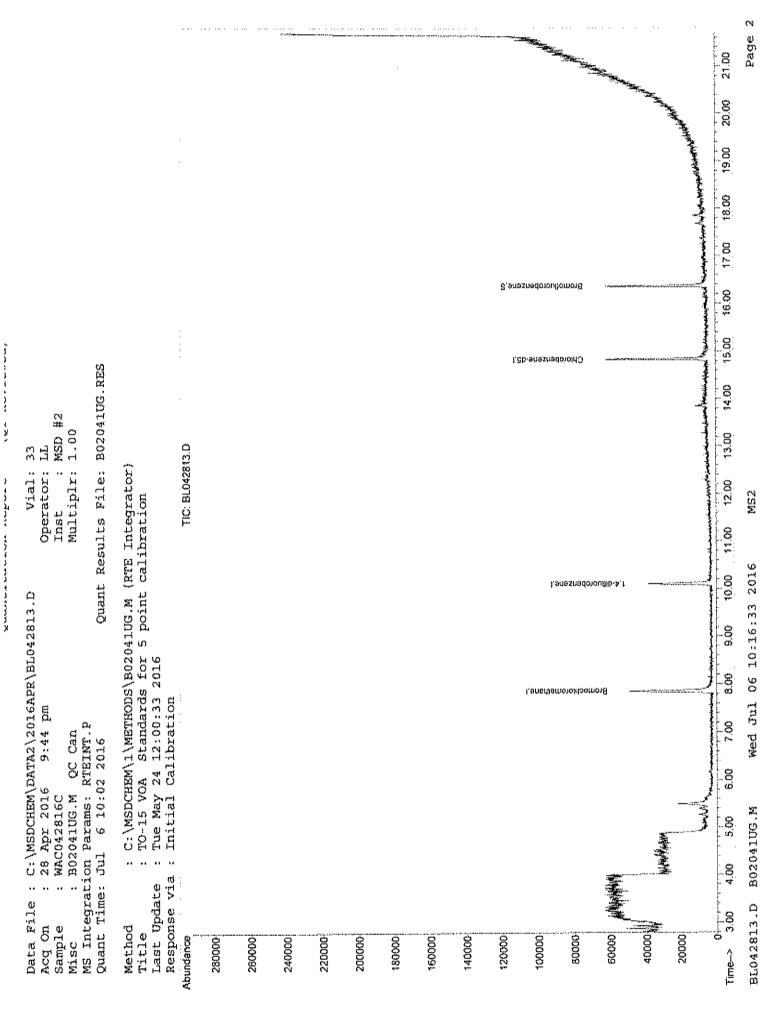
Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Tue Apr 12 13:49:09 2016 Response via : Initial Calibration

DataAcq Meth : 1UGRUN2

Internal Standards	R.T. QIon	Response C	Conc Units Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	7.86 128 10.11 114 14.83 117	16771 35413 34880	1.00 ppb 0.04 1.00 ppb 0.03 1.00 ppb 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	16.36 95 Range 70 - 130	17418 Recovery	0.79 ppb 0.00 v = 79.00%

Target Compounds

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed BL042813.D B02041UG.M Wed Jul 06 10:16:32 2016 MS2



Page 211 of 223

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\DATA2\2016APR\BL042814.D Vial: 34 Operator: LL

Acq On : 28 Apr 2016 10:22 pm Sample : WAC042816D Misc : B02041UG.M QC Can Inst : MSD #2 Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Results File: B02041UG.RES Quant Time: Apr 29 09:00:43 2016

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Apr 12 13:49:09 2016

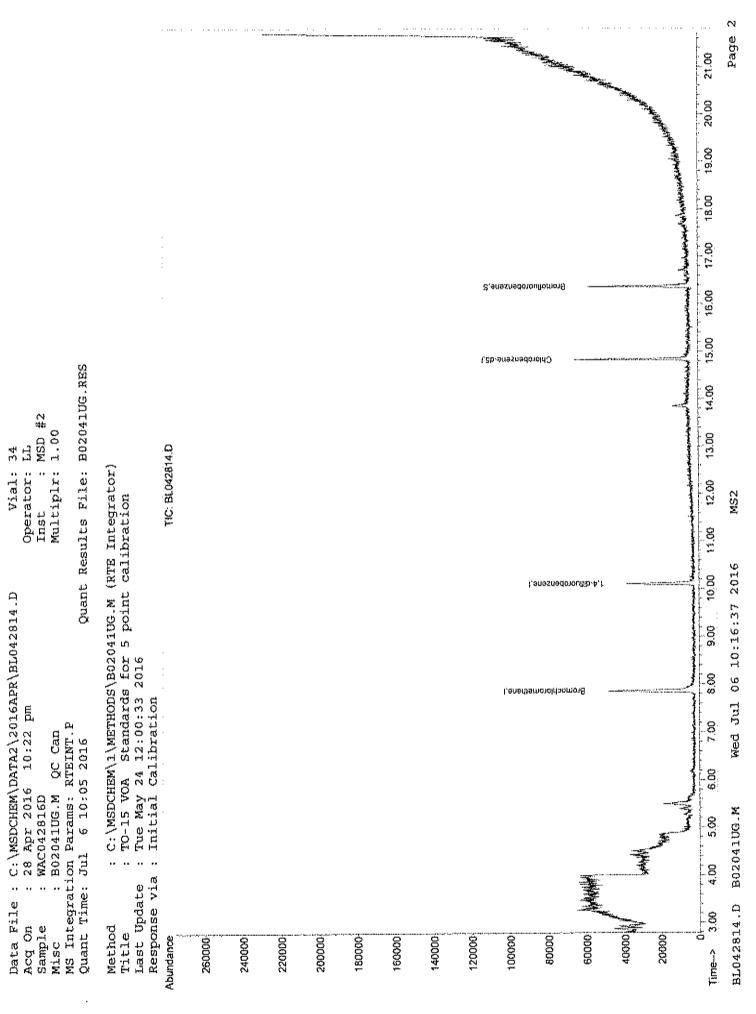
Response via : Initial Calibration

DataAcq Meth : 1UGRUN2

Internal Standards	R.T. (QIon	Response C	onc U	nits Dev	(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	7.86 10.11 14.83	128 114 117	15403 34212 32652	1.00 1.00 1.00	ppb	0.04 0.03 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	16.36 Range 70	95 - 130	17001 Recovery	0.82	ppb 82.00%	0.00

Target Compounds

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed BL042814.D B02041UG.M Wed Jul 06 10:16:36 2016



Page 213 of 223

(QT Reviewed) Quantitation Report

Data File : C:\MSDCHEM\DATA2\2016APR\BL042815.D

Vial: 35 Acq On : 28 Apr 2016 11:00 pm Sample : WAC042816E Misc : B02041UG.M QC Can Operator: LL Inst : MSD #2 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Apr 29 09:01:42 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

Last Update : Tue Apr 12 13:49:09 2016 Response via : Initial Calibration

DataAcq Meth : 1UGRUN2

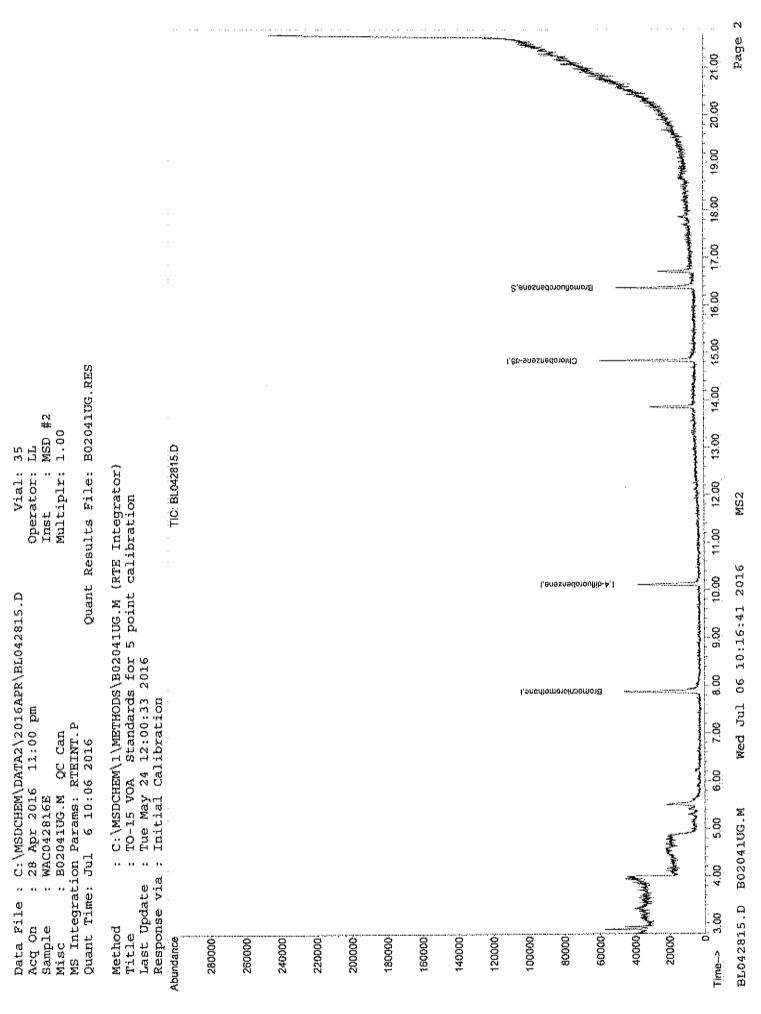
Internal Standards	R.T.	QIon	Response C	onc Unite	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	7.88 10.11 14.84	128 114 117	14932 33372 32326	1.00 ppk 1.00 ppk 1.00 ppk	0.04
System Monitoring Compou 65) Bromofluorobenzene Spiked Amount 1.0	16.36		15217 Recovery	0.74 ppt	

Target Compounds

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed BL042815.D B02041UG.M Wed Jul 06 10:16:40 2016 MS2

INCHARACT TXI

Annatacerton nepota



Page 215 of 223

(QT Reviewed) Quantitation Report

Data File : C:\MSDCHEM\DATA2\2016APR\BL042816.D Acq On : 28 Apr 2016 11:38 pm Sample : WAC042816F Misc : B02041UG.M QC Can Vial: 36 Operator: LL Inst : MSD #2

Multiply: 1.00

MS Integration Params: RTEINT.P

Quant Time: Apr 29 09:06:09 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Tue Apr 12 13:49:09 2016 Response via : Initial Calibration

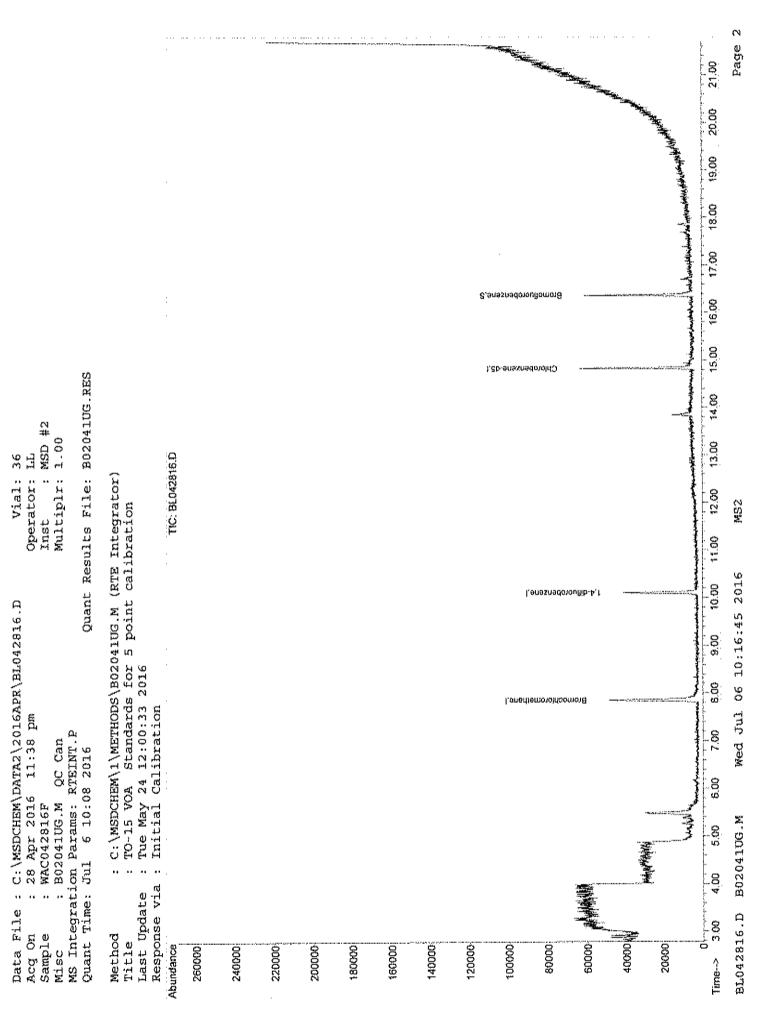
DataAcq Meth : 1UGRUN2

Internal Standards	R.T. Q	Olon Response	Conc Units Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.11	128 16730 114 33794 117 33221	1.00 ppb 0.02 1.00 ppb 0.03 1.00 ppb 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	16.36 Range 70 -	95 16688 130 Recove	0.79 ppb 0.00 xy ~ 79.00%
Mayret Compounds			Ovalue

Target Compounds

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed BL042816.D B02041UG.M Wed Jul 06 10:16:44 2016 MS2

aradan matanatamak



Page 217 of 223

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\DATA2\2016APR\BL042817.D Vial: 37 Acq On : 29 Apr 2016 12:16 am Sample : WAC042816G Misc : B02041UG.M QC Can Operator: LL Inst : MSD #2 Multiplr: 1.00

MS Integration Params: RTEINT.P

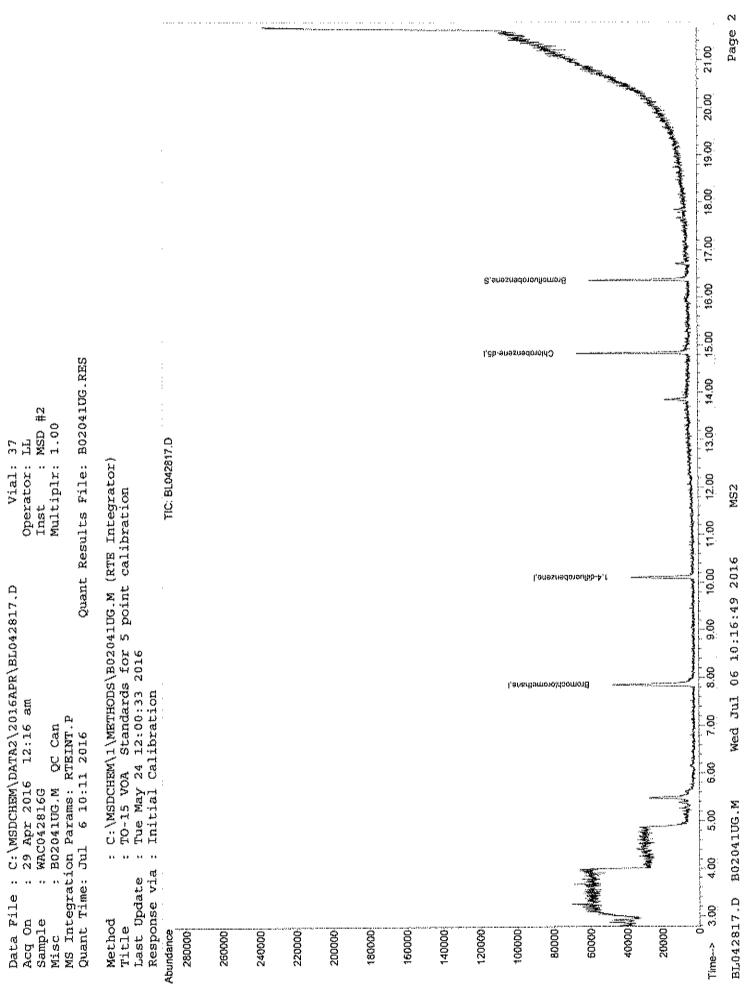
Quant Time: Apr 29 09:06:21 2016 Quant Results File: B02041UG.RES

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Tue Apr 12 13:49:09 2016

Response via : Initial Calibration

DataAcq Meth : 1UGRUN2

Internal Standards	R.T.	QIon	Response (Conc U	nits Dev	(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	7.85 10.10 14.83	128 114 117	15869 33160 32064	1.00 1.00 1.00	dqq	0.03 0.03 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	16.36 Range 70	95 - 130	16334 Recovery	0.80		0.00
Target Compounds					Qv	alue



Page 219 of 223

Autorious moranatairank

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\DATA2\2016APR\BL042818.D Vial: 38 Acq On : 29 Apr 2016 12:54 am Sample : WAC042816H Misc : B02041UG.M QC Can Operator: LL Inst : MSD #2 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: B02041UG.RES Quant Time: Apr 29 09:06:35 2016

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 12 13:49:09 2016
Response via : Initial Calibration

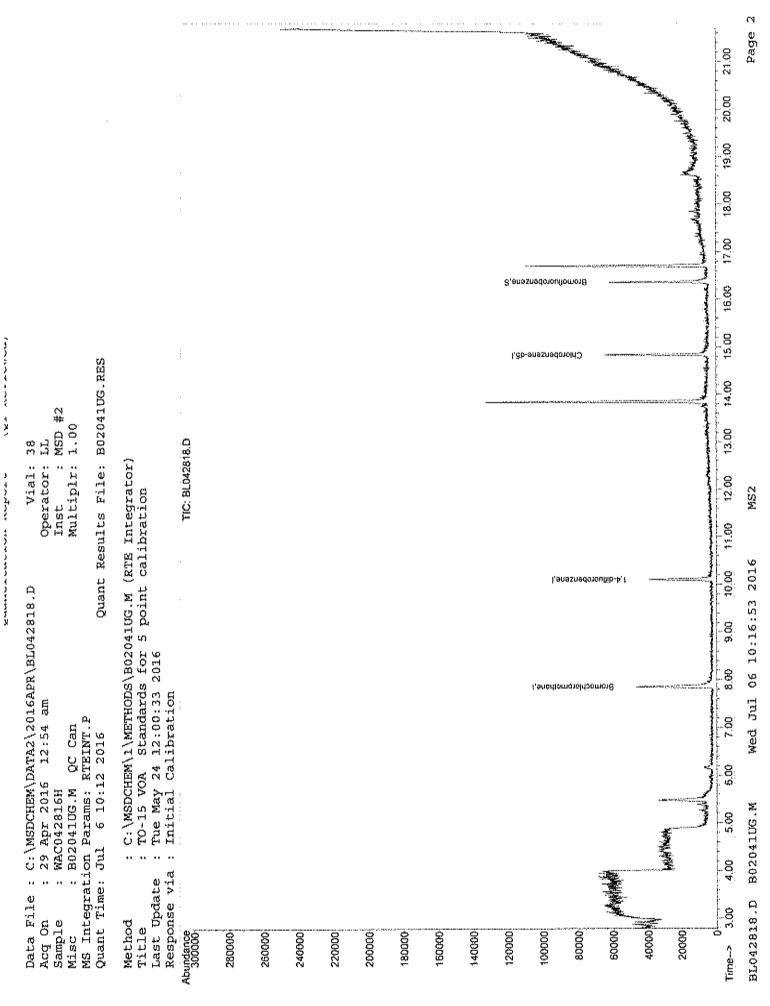
DataAcq Meth : 1UGRUN2

Internal Standards	R.T.	QIon	Response	Conc U	nits De	ev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	7.85 10.11 14.83	128 114 117	14911 34624 33831	1.00 1.00 1.00	dqq	0.03 0.03 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	16.36 Range 70	95 - 130	16866 Recover	0.78 Y ≖		0.00)*

Target Compounds

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed BL042818.D B02041UG.M Wed Jul 06 10:16:52 2016 MS2

PARTICIPATION TXI



Page 221 of 223

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\DATA2\2016APR\BL042819.D Vial: 39 Acq On : 29 Apr 2016 1:32 am Operator: LL Sample : WAC042816I Misc : B02041UG.M QC Can Inst : MSD #2 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: B02041UG.RES Quant Time: Apr 29 09:06:46 2016

Quant Method : C:\MSDCHEM\1\METHODS\B02041UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 12 13:49:09 2016
Response Via : Initial Calibration
DataAcq Meth : 1UGRUN2

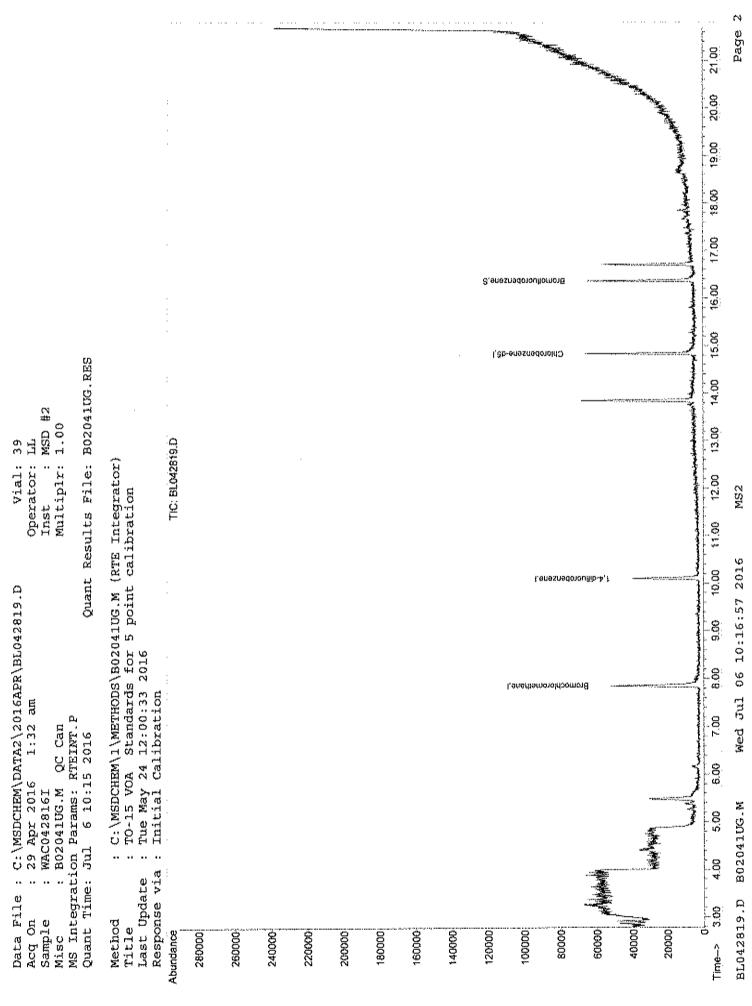
Internal Standards	R.T. Q	Ion Response	Conc Units Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.10	128 16400 114 33589 117 33371	1.00 ppb 0.03 1.00 ppb 0.03 1.00 ppb 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	16.36 Range 70 -	95 15924 130 Recover	0.75 ppb 0.00 ry = 75.00%

Target Compounds

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed BL042819.D B02041UG.M Wed Jul 06 10:16:56 2016 MS2

ואי זיראידרמרידו

Anamereasian mekare



Page 223 of 223

TO-15 Package Review Checklist Project: 1740 Emerson SDG: 016/1040 YES NΑ Present and Complete Analytical Results Present and Complete TIC's present Holding Times Met Comments: Present and Complete Chain-of-Custody Present and Complete Surrogate Recovery Recoveries within limits Sample(s) reanalyzed Present and Complete Internal Standards Recovery Recoveries within limits Sample(s) reanalyzed Comments: Present and Complete Lab Control Sample (LCS) Recoveries within limits Lab Control Sample Dupe (LCSD) Present and Complete Recoveries within limits Present and Complete MS/MSD Recoveries within limits 4 SEE CASE NARRATIVE Comments: Present and Complete Sample Raw Data Spectra present for all samples Comments:

Centek Laboratories, LLC

Private and Confidential

Page I of 2

TO-15 Package Review Checklist

Client: La Bella	Project: 1740 EMERSON	SDG:	<u> Cl6/,</u>	<u> 1040 </u>
		YES	NO	NA
Standards Data		777	140	7477
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	_		ULL II III ANA
Comments:	NAMES OF THE PROPERTY OF THE P			
				· · · · · · · · · · · · · · · · · · ·
				- THERE I THE
Raw Quality Control Data		_		
Tune Criteria Report	Present and Complete	_		THATTANATA
Method Blank Data	MB Results < PQL			UK-LEU-LINE
	Associated results flagged "B"			7
LCS sample data	Present and Complete			
LCSD sample data	Present and Complete			
MS/MSD sample data	Present and Complete			
Comments:				
THE THE RESERVE THE SHAPE OF THE THE THE THE THE THE THE THE THE THE				
Logbooks				
Injection Log	Present and Complete			
Standards Log	Present and Complete		*****	
Can Cleaning Log	Present and Complete			
	Raw Data Present	_		TATALOG SERVICE SERVIC
Calculation sheet	Present and Complete			
IDL's	Present and Complete			
Bottle Order Form	Present and Complete			
Sample Tracking Form	Present and Complete		ATTERNATION OF THE PARTY OF THE	
Additional Comments:	·			

,				***************************************
Section Supervisor: Will Dal	L	3-17	n a	
QC Supervisor:	Date: //	3//		TPMPARMIAPIN'-III-TP-IIII-PA
Contract Statements XXC	No recognition of the second of			D 0 62

Centek Laboratories, LLC

Private and Confidential

Page 2 of 2



Analytical Report

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

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

RE: 1740 Emerson Street

Dear Ann Aquilina:

Tuesday, November 29, 2016 Order No.: C1611040

Centek Laboratories, LLC received 8 sample(s) on 11/23/2016 for the analyses presented in the following report.

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

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

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

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

Centek Laboratories SOP TS-80

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

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

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

Sincerely,

William Dobbin

Lead Technical Director

well doll

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.

ASP CAT B DELIVERABLE PACKAGE Table of Contents

- 1. Package Review Check List
- 2. Case Narrative
- a. Corrective actions
- 3. Sample Summary Form
- 4. Sample Tracking Form
- 5. Bottle Order
- 6. Analytical Results
- a. Form 1
- 7. Quality Control Summary
- a. Qc Summary Report
- b. IS Summary Report
- c. MB Summary Report
- d. LCS Summary Report
- e. MSD Summary Report
- f. IDL's
- g. Calculation
- 8. Sample Data
 - a. Form 1 (if requested) TIC's
 - b. Quantitation Report with Spectra
- 9. Standards Data
 - a. Initial Calibration with Quant Report
 - b. Continuing Calibration with Quant Report
- 10. Raw Data
 - a. Tuning Data
- II. Raw QC Data
 - a. Method Blank
 - b. LCS
 - c. MS/MSD
- 12. Log Books
 - a. Injection Log Book
 - b. Standards Log Book
 - c. QC Canister Log Book



Date: 03-Jan-17

CLIENT:

LaBella Associates, P.C.

Project:

1740 Emerson Street

Lab Order:

C1611040

CASE NARRATIVE

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

Centek Laboratories, LLC SOP TS-80

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

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

NYSDEC ASP samples:

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

See Corrective Action: [3442] MS/MSD did not meet criteria.

Corrective Action Report

Date Initiated: 27-Nov-16 Corrective Action Report ID: 3442

Initiated By: Russell Pellegrino Department: MSVOA

Corrective Action Description

CAR Summary: MS/MSD did not meet criteria.

Description of Nonconformance

MS/MSD did not meet criteria for a several compounds for samples C1611040-003A MS/MSD. Based on the chromatographic evidence this is most likely due to servere

Root/Cause(s): matrix interference.

Description of Corrective Action w/Proposed C.A.:

Since MS/MSD show similar results at this time no further corrective action taken. All other QC meets criteria. The samples show many hits in the matrix which will interfere

with spike results. All sets of data submitted

Performed By: Russell Pellegrino Completion Date: 28-Nov-16

Client Notification

Client Notification Required: No Notified By:

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action Monitor all quality control for sample matrix interference. At this time no further corrective

required by QA; action taken. All sets of data submitted

Approval and Closure

Technical Director /

Deputy Tech. Dir.:

Well Doll

Close Date: 01-Dec-16

QA Officer Approval:

William Dobbin

QA Date: 01-Dec-16

Last Updated BY russ

Updated:

03-Jan-2017 2:40 PM

Reported: 03-Jan-2017 2:40 PM

				<u>,, , , , , , , , , , , , , , , , , , ,</u>				1		······································			······································	·1	T	i			······································	—т	1	····· 1			·····]		····· 1		
Report Level	Level	Cat "B" Like					Comments																				Pickup/Dropoff		101101108
Detection Limit	yqddg j	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	e.	\$			Labs Vacuum"* RecV/Analysis	17-	131	- 5.	1 2 2	-31	1 /-	-7 l	72	•	I	1			*****	L		•••	***	Courier: CIRCLE ONE	RedEx) UPS Pick	"For LAB USE ONLY	Work Order #
meumen 15 oo	40 Street	8819	Company: Check Here if Same.	Invoice to: Address: City, State, Zip	Email:	Phone:	Field Vacuum Start / Stop	5012	32:14	30+16	29.514	30+14	3015	29.8139	3512	***************************************			1	L-10.		-	***	74-4	1	Date/Time	11/22/16/2500	1/25/1/4 0852	1/23/16
Site Name: Framer Engrand	1 11 1.1	PO#: 2/ 0 / 7 3 Quote # Q- SN / 60 Canister Order #: 5/ 1	A - ROCHESTER	1 77		114 DL. 62 ~	Analysis Request	Silved tost Tours Me							,												REA		Received at Lab by: R. PELLES/LVO NYLL
		140	A8ELU	300 Rolling	000	40 Lagues	Regulator Number		RGM		337	342	344	259	343											Signature		The state of the s	12/1/2
iain of Cus		Vapor intrusion &	Company:	Report to: Address: City, State, Zip	Email() Q QLY 12	Phone: 58K	Canister		193	483	891	243	17(542	1190										}				00
Centek Labs - Chain of Custody	143 Midler Park Drive	Syracuse, NY 13206 315-431-9730 www.CentekLabs.com	Rush TAT Due Surcharge % Date:		100%	150% 200%	Notify Lab Date Sampled	11/22/16	**************************************				Ţ		•									,		Print Name	Alex Roct	The Brest	PELLEGIUM
	S S		Check	DOO			TAT Please	4	7	ż	-2	3	-\$	Por Att	dus.														~
	Centek Leborolanes		TAT Turnaround Time:	5 Business Days 4 Business Days 3 Business Days	2 Business Days *Next Day by 5pm	Next Day by Noon *Same Day	*For Same and Next Day TAT Please Notify Lab	Ł١	17-10-TARE-1	1740-5vE-1	1710-IAO.	ł	1240 - ING	1740- Owldon	1740-1812adda											Chain of Custody	Sampled by:	Relinquished by:	Received at Lab by:



Date: 03-Jan-17

CLIENT:

LaBella Associates, P.C.

Project:

1740 Emerson Street

Lab Order:

C1611040

Work Order Sample Summary

Zab cruçi.	0.0071040			
Lab Sample 1D C1611040-001A	Client Sample ID 1740-SVI-1	Tag Number 419,343	Collection Date	Date Received 11/23/2016
C1611040-002A	1740-IAQ-1	193,267	11/22/2016	11/23/2016
C1611040-003A	1740-SVI-2	483,249	11/22/2016	11/23/2016
C1611040-004A	1740-IAQ-2	168,337	11/22/2016	11/23/2016
C1611040-005A	1740-SVI-3	243,342	11/22/2016	11/23/2016
C1611040-006A	1740-1AQ-3	171,344	11/22/2016	11/23/2016
C1611040-007A	1740-Outdoor Air	542,259	11/22/2016	11/23/2016

CLIENT: LaBella Associates, P.C.

Project: 1740 Emerson Street

Lab Order: C1611040 Work Order Sample Summary

Lab Sample ID Client Sample ID Tag Number Collection Date Date Received C1611040-008A 1740-Blind Dup 1190,343

11/22/2016 11/23/2016

CENTEK LABORATOR	RIES, LLC				Sample Re	ceipt	: Checklist	
Client Name LABELLA - ROCHESTER	/ /		Date	and Tir	ne Receive		11/23/2016	
Work Order Numbe C1611040	1 0			aived by				
	$d \mid l \mid$	//-:	23-1				a }	
Checklist completed by	Ocale			ewed by		_	11/23/16	_
Signature Matrix:	Carrier name	FedEx Grou	nd		alsiifut		Date	
Shipping container/cooler in good condition?		Yes 🗹	No [Not Presen			
Custody seals intact on shippping container/cool	er?	Yes 🗔	No [Not Presen			
Custody seals intact on sample bottles?		Yes 🗀	No [Not Presen	V		
Chain of custody present?		Yes 🔽	No [
Chain of custody signed when relinquished and r	eceived?	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 complianc	e?	Yes 🔽	No Ĉ					
Water - VOA vials have zero headspace?	No VOA vials subm	nitted 🗹	`	res 🗔	No 🗆			
Water - pH acceptable upon receipt?		Yes	No b	<u>Z</u> !				
	Adjusted?		Checked b	a conflict (all but	······································	_		
Any No and/or NA (not applicable) response mus	t be detailed in the co	omments sec	tion be	·	A MANA AND AND AND AND AND AND AND AND AND	-;- <u></u>		= =
Client contacted	Date contacted:	·		Pers	on contacted			_
Contacted by:	Regarding:	1 - 7 - 2 - 26 - 15 de - 7 - 10 de de la compans a mais						
Comments:	amen's No. 2007 I State Valuable and addition of the Control of State Cont	ala a Araba da Labara da Para Para Ref	PO POST-VITA DE SALVA MANAGORIA					rv.
Corrective Action			e i ali waka akaa mullifi	and the state of t				_
IN A SOUTH LONG TO A WAY TO THE SOUTH A WAY THE SOUTH A WAY THE SOUTH			Parking And adds to a Andrean a	,,				

S
aboratories,
_
Centek]
~~

Lab Order: Client: Project:	C1611040 LaBella Associates, P.C. 1740 Emerson Street				DATES REPORT	
Sample ID	Client Sample 1D	Collection Date	Matrix	Test Name	TCLP Date Prep Date	Analysis Date
C1611040-001A	1740-SVL1	11/22/2016	Air	lag/M3 by Method TO15		11/28/2016
C1611040-002A	1740-14Q-1			tag/m3 w/ 0.25ag/M3 CT-TCE-VC		11527/2016
C1611040-003A	1740-SVE2			lug/M3 by Method TO15		11282016
				tug/M3 by Method TO15		11/28/2016
C1611040-004A	1740-1AQ-2			Fug/m3 w/ 0.25ug/M3 CT-TCE-VC		11/27/2016
C1611040-005A	1740-SVL3			Fug/M3 by Method TO15		11.28.2016
C1611040-006A	1740-LAQ-3			hig/m3 w/ 0.25tig/M3 CT-TCE-VC		11/27/2016
C1611040-007A	1740-Outdoor Air			hag/m3 w/ 0.25ug/At3 CT-TCE-VC		11/28/2016
C1611040-008A	1740-Blind Dup			tug/M3 by Method TO15		11/28/2016



CANISTER ORDER

Air Quality Testing. At's a Gas

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

6188

03-Jan-17

SHIPPED TO:

Company: LaBella Associates, P.C.

Contact:

Ann Aquilina

Address:

300 State Street, Suite 201

Description

Rochester, NY 14614

Phone: (585) 454-6110

Quote ID:

Project:

Can / Reg ID

PO:

Submitted By:

Made8y:

NM

Ship Date: 11/18/2016

VIA: FedEx Ground

Due Date: 11/21/2016

Bottle Code	Bottle Type	TEST(s)	QTY
MC1400CC	1.4L Mini-Can	1ug/M3 by Method TO15	1
	I Willing an	tug/M3 by Method TO15	

168	1L Mini-Can - 1138 VI
171	1L Mini-Çan - 1142 VI
193	1L Mini-Can - 1148 VI
243	1L Mini-Can - 1175 VI
249	Time-Set Reg - 687 VI
259	Time-Set Reg - 697 VI
267	Time-Set Reg - 705 VI
337	Time-Set Reg - 734 VI
342	Time-Set Reg - 739 VI
343	Time-Set Reg - 740 VI
344	Time-Set Reg - 741 VI
419	1L Mini-Can - 1343 VI
483	1.4L Mini-Can - 1365 VI
542	1L Mini-Can - 110 VI
1190	1L Mini-Can - 1257 VI

Comments: (7) IL @ 6hrs, (1) 1.4L MS/MSD @ 6hrs + T for dupe (Select List see email)WAC 110316C-G

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 ANALYTICAL RESULTS

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-001A

Date: 28-Dec-16

Client Sample ID: 1740-SVI-1

Tag Number: 419,343

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qu	al Units	DF	Date Analyzed
FIELD PARAMETERS	11 11 11 11 11 11 11 11 11 11 11 11 11	FLO		***************************************	Analyst:
Lab Vacuum In	-2		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	ppb∨	1	11/28/2016 12:40:00 AM
1,1-Dichloroethane	< 0.15	0.15	ppbV	1	11/28/2016 12:40:00 AM
1,1-Dichloroethene	< 0.15	0.15	Vdqq	1	11/28/2016 12:40:00 AM
Chloroethane	< 0.15	0.15	ppb∨	1	11/28/2016 12:40:00 AM
Chloromethane	< 0.15	0.15	∨dqq	1	11/28/2016 12:40:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	11/28/2016 12:40:00 AM
Tetrachloroethylene	0.58	0.15	Vdqq	1	11/28/2016 12:40:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15	Vdqq	1	11/28/2016 12:40:00 AM
Trichloroethene	0.19	0.15	Vdqq	1	11/28/2016 12:40:00 AM
Vinyl chloride	< 0.15	0.15	Vdqq	1	11/28/2016 12:40:00 AM
Surr; Bromofluorobenzene	89.0	70-130	%REC	1	11/28/2016 12:40:00 AM

Qualifiers:

- Quantitation Limit
- В Analyte detected in the associated Method Blank
- 14 Holding times for preparation or analysis exceeded
- JN Non-routine analyte. Quantitation estimated.
- Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- £3 Estimated Value above quantitation range
- Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Page | of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C

C1611040

Project: 1740 Emerson Street

Lab JD: C1611040-001A

Date: 28-Dec-16

Client Sample ID: 1740-SVI-1

Tag Number: 419,343

Collection Date: 11/22/2016

Matrix: AlR

Analyses	Result	**Limit Qu	al Units	ÐF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	სg/m3	1	11/28/2016 12:40:00 AM
1,1-Dichloroethane	< 0.61	0.61	սց/m3	1	11/28/2016 12:40:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:40:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	11/28/2016 12:40:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	11/28/2016 12:40:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:40:00 AM
Tetrachioroethylene	3.9	1.0	ug/m3	1	11/28/2016 12:40:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:40:00 AM
Trichloroethene	1.0	0.81	ug/m3	1	11/28/2016 12:40:00 AM
Vinyl chloride	< 0.38	0.38	ug/m3	1	11/28/2016 12:40:00 AM

Qualifiers:

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

Page 1 of 8

atories, LLC Date: 28-Dec-16

CLIENT: LaBella Associates, P.C. Client Sample ID: 1740-1AQ-1 Lab Order: C1611040 Tag Number: 193,267

Project: 1740 Emerson Street Collection Date: 11/22/2016

Lab ID: C1611040-002A Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum in .	-3		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	₽₽b∨	1	11/27/2016 10:04:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	1	11/27/2016 10:04:00 PM
1,1-Dichloroethene	< 0.15	0.15	Vdqg	1	11/27/2016 10:04:00 PM
Chloroethane	< 0.15	0.15	ppb∨	1	11/27/2016 10:04:00 PM
Chloromethane	0.70	0.15	Vdqq	1	11/27/2016 10:04:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	11/27/2016 10:04:00 PM
Tetrachloroethylene	0.38	0.15	ppbV	1	11/27/2016 10:04:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	t	11/27/2016 10:04:00 PM
Trichloroethene	0.14	0.040	ppb∨	1	11/27/2016 10:04:00 PM
Vinyl chloride	< 0.040	0.040	₽₽bV	1	11/27/2016 10:04:00 PM
Surr: Bromofluorobenzene	95.0	70-130	%REC	1	11/27/2016 10:04:00 PM

Qualifiers:

** Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte, Quantitation estimated.

S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 2 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1611040

Project: 1740 Emerson Street

Lab iD:

C1611040-002A

Date: 28-Dec-16

CLIENT: LoPolle Accopiese D.C.

Client Sample ID: 1740-IAQ-I

Tag Number: 193,267 Collection Date: 11/22/2016

Matrix: AlR

Analyses	Result	**Limit Qual	Units	ÐF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/27/2016 10:04:00 PM
1,1-Dichtoroethane	< 0.61	0.61	ug/m3	1	11/27/2016 10:04:00 PM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:04:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	11/27/2016 10:04:00 PM
Chloromethane	1.4	0.31	ug/m3	1	11/27/2016 10:04:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:04:00 PM
Tetrachloroethylene	2.6	1.0	ug/m3	1	11/27/2016 10:04:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:04:00 PM
Trichloroethene	0.75	0.21	ug/m3	1	11/27/2016 10:04:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	11/27/2016 10:04:00 PM

Qualifiers:

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

Page 2 of 8

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID:

C1611040-003A

Date: 28-Dec-16

Client Sample ID: 1740-SVI-2

Tag Number: 483,249

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		****	Analyst;
Lab Vacuum in	-4		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 BY METHOD TO15		TO-15	i		Analyst: RJP
1,1,1-Trichloroethane	0.20	0.15	₽₽b∨	1	11/28/2016 11:42:00 AM
1,1-Dichloroethane	0.35	0.15	Vdqq	1	11/28/2016 11:42:00 AM
1,1-Dichloroethene	< 0.15	0.15	Vdqq	1	11/28/2015 11:42:00 AM
Chloroethane	< 0.15	0.15	Vdqq	· i	11/28/2016 11:42:00 AM
Chloromethane	< 0.15	0.15	Vdqq	1	11/28/2016 11:42:00 AM
cis-1,2-Dichloroethene	4.4	1.5	ppbV	10	11/28/2016 9:54:00 PM
Tetrachloroethylene	22	1.5	Vdqq	10	11/28/2016 9:54:00 PM
trans-1,2-Dichloroethene	0.27	0.15	Vdqq	10	11/28/2016 11:42:00 AM
Trichloroethene	17	1.5	ppbV	10	
Vinyl chloride	< 0.15	0.15	Vdqq	1	11/28/2016 9:54:00 PM
Surr: Bromofluorobenzene	95.0	70-130	%REC	1	11/28/2016 11:42:00 AM 11/28/2016 11:42:00 AM

Qua	Hľ	iers:
-----	----	-------

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

Page 3 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-003A

Date: 28-Dec-16

Client Sample ID: 1740-SVI-2

Tag Number: 483,249

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qi	ial Units	DF	Date Analyzed
IUG/M3 BY METHOD TO15		TO-15		***************************************	A(1
1,1,1-Trichloroethane	1.1	0.82	ug/m3	1	Analyst: RJP 11/28/2016 11:42:00 AM
1,1-Dichloroethane	1.4	0.61	ug/m3	,	
1,1-Dichloroethene	< 0.59	0.59	•		11/28/2016 11:42:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	11/28/2016 11:42:00 AM
Chloromethane	< 0.31		ug/m3	1	11/28/2016 11:42:00 AM
cis-1,2-Dichlorgethene		0.31	ug/m3	1	11/28/2016 11:42:00 AM
	17	5.9	ug/m3	10	11/28/2016 9:54:00 PM
Tetrachloroethylene	150	10	ug/m3	10	11/28/2016 9:54:00 PM
trans-1,2-Dichloroethene	1,1	0.59	ug/m3	1	11/28/2016 11:42:00 AM
Trichloroethene	92	8.1	ug/m3	10	11/28/2016 9:54:00 PM
Vinyl chloride	< 0.38	0.38	ug/m3	1	11/28/2016 11:42:00 AM

Qualifiers:

** Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte, Quantitation estimated.

S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 3 of 8

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID:

C1611040-004A

Date: 28-Dec-16

Client Sample ID: 1740-1AQ-2

Tag Number: 168,337

Collection Date: 11/22/2016

Matrix: AlR

Analyses	Result	**Limit Qua	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-3		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	1	11/27/2016 10:43:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	1	11/27/2016 10:43:00 PM
1,1-Dichloroethene	< 0.15	0.15	ppb∨	1	11/27/2016 10:43:00 PM
Chloroethane	< 0.15	0.15	ppbV	1	11/27/2016 10:43:00 PM
Chloromethane	< 0.15	0.15	ppbV	1	11/27/2016 10:43:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	11/27/2016 10:43:00 PM
Tetrachloroethylene	0.37	0.15	ppb∨	1	11/27/2016 10:43:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	11/27/2016 10:43:00 PM
Trichtoroethene	0.19	0.040	ppb∨	1	11/27/2016 10:43:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	1	11/27/2016 10:43:00 PM
Surr: Bromofluorobenzene	95.0	70-130	%REC	1	11/27/2016 10:43:00 PM

Qυ	m	ifi	ers

- Quantitation Limit
- 13 Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- JN Non-routine analyte. Quantitation estimated.
- Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- 12 Estimated Value above quantitation range
- Analyte detected below quantitation limit J

NO Not Detected at the Limit of Detection

Page 4 of 8

ories, LLC Date: 28-Dec-16

CLIENT: LaBella Associates, P.C. Client Sample ID: 1740-IAQ-2

 Lab Order:
 C1611040
 Tag Number: 168,337

 Project:
 1740 Emerson Street
 Collection Date: 11/22/2016

Lab ID: C1611040-004A Matrix: AIR

Analyses	Result	**Limit Qu	al Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1.1.1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/27/2016 10:43:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/27/2016 10:43:00 PM
1,1-Dichloraethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:43:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	11/27/2016 10:43:00 PM
Chloromethane	< 0.31	0.31	ug/m3	1	11/27/2016 10:43:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:43:00 PM
Tetrachloroethylene	2.5	1.0	ug/m3	1	11/27/2016 10:43:00 PM
trans-1,2-Dichloroethene	< 0.59	0,59	ug/m3	1	11/27/2016 10:43:00 PM
Trichloroethene	1.0	0.21	ug/m3	1	11/27/2016 10:43:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	11/27/2016 10:43:00 PM

Qualifiers:

Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte. Quantitation estimated.

S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 4 of 8

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

1740 Emerson Street

Project: Lab ID:

C1611040-005A

Date: 28-Dec-16

Client Sample ID: 1740-SVI-3

Tag Number: 243,342 Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qu	al Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		" '	Analyst:
Lab Vacuum In	-3		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichtoroethane	< 0.15	0.15	Vdgq	1	11/28/2016 3:31:00 AM
1,1-Dichloroethane	< 0.15	0.15	∨dqq	1	11/28/2016 3:31:00 AM
1,1-Dichloroethene	< 0.15	0.15	ppbV	1	11/28/2016 3:31:00 AM
Chloroethane	< 0.15	0.15	Vdqq	1	11/28/2016 3:31:00 AM
Chloromethane	< 0.15	0.15	Vdqq	1	11/28/2016 3:31:00 AM
cis-1,2-Dichtoroethene	< 0.15	0.15	ppbV	1	11/28/2016 3:31:00 AM
Tetrachloroethylene	< 0.15	0.15	Vdqq	1	11/28/2016 3:31:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15	Vdqq	1	11/28/2016 3:31:00 AM
Trichloroethene	1.9	0.15	ppbV	1	11/28/2016 3:31:00 AM
Vinyl chloride	< 0.15	0.15	Vďqq	1	11/28/2016 3:31:00 AM
Surr: Bromofluorobenzene	114	70-130	%REC	1	11/28/2016 3:31:00 AM

Qualifiers:

Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte. Quantitation estimated.

S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 5 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1611040

Project: 1740 Emerson Street

Lab ID: C16

C1611040-005A

Date: 28-Dec-16

Client Sample ID: 1740-SVI-3

Tag Number: 243,342

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15	1007	TO-15	;	***************************************	Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/28/2016 3:31:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/28/2016 3:31:00 AM
1,1-Dichtoroethene	< 0.59	0.59	ug/m3	1	11/28/2016 3:31:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	11/28/2016 3:31:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	11/28/2016 3:31:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 3:31:00 AM
Tetrachloroethylene	< 1.0	1.0	ug/m3	·	11/28/2016 3:31:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 3:31:00 AM
Trichloroethene	10	0.81	ug/m3	,	11/28/2016 3:31:00 AM
Vinyl chloride	< 0.38	0.38	ug/m3	1	11/28/2016 3:31:00 AM

Qualifiers:

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

Page 5 of 8

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-006A

Date: 28-Dec-16

Client Sample ID: 1740-1AQ-3

Tag Number: 171,344 Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	ÐF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-4		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	Vdqq	1	11/27/2016 11:22:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	1	11/27/2016 11:22:00 PM
1,1-Dichloroethene	< 0.15	0.15	Vdqq	1	11/27/2016 11:22:00 PM
Chloroethane	< 0.15	0.15	Vdqq	1	11/27/2016 11:22:00 PM
Chloromethane	< 0.15	0.15	Vdqq	1	11/27/2016 11:22:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15	Vdqq	1	11/27/2016 11:22:00 PM
Tetrachloroethylene	0.18	0.15	ppbV	1	11/27/2016 11:22:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	Vdqq	1	11/27/2016 11:22:00 PM
Trichioroethene	0.15	0.040	ppbV	1	11/27/2016 11:22:00 PM
Vinyl chloride	< 0.040	0.040	Vdqq	1	11/27/2016 11:22:00 PM
Surr: Bromofluorobenzene	95.0	70-130	%REC	1	11/27/2016 11:22:00 PM

Qualifiers:

- Quantitation Limit
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ИĻ Non-routine analyte. Quantitation estimated.
- Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- Estimated Value above quantitation range 15
- 1 Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 6 of 8

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID:

C1611040-006A

Date: 28-Dec-16

Client Sample ID: 1740-IAQ-3

Tag Number: 171,344

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Quai	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/27/2016 11:22:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/27/2016 11:22:00 PM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 11:22:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	11/27/2016 11:22:00 PM
Chloromethane	< 0.31	0.31	ug/m3	1	11/27/2016 11:22:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59	นg/กา3	1	11/27/2016 11:22:00 PM
Tetrachioroethylene	1.2	1.0	սց/m3	1	11/27/2016 11:22:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 11:22:00 PM
Trichloroethene	0.81	0.21	ug/m3	1	11/27/2016 11:22:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	11/27/2016 11:22:00 PM

Qualifiers:

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

Page 6 of 8

CLIENT: LaBella Associates, P.C. Client Sample ID: 1740-Outdoor Air

Lab Order: C1611040 Tag Number: 542,259
Project: 1740 Emerson Street Collection Date: 11/22/2016

Lab ID: C1611040-007A Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
FIELD PARAMETERS	,	FLD		-	Analyst:
Lab Vacuum in	-2		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	1	11/28/2016 12:01:00 AM
1,1-Dichloroethane	< 0.15	0.15	ppb∨	1	11/28/2016 12:01:00 AM
1,1-Dichloroethene	< 0.15	0.15	ppbV	1	11/28/2016 12:01:00 AM
Chloroethane	< 0.15	0.15	Vdqq	1	11/28/2016 12:01:00 AM
Chloromethane	0.48	0.15	ppbV	1	11/28/2016 12:01:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	11/28/2016 12:01:00 AM
Tetrachloroethylens	< 0.15	0.15	ppbV	1	11/28/2016 12:01:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	11/28/2016 12:01:00 AM
Trichloroethene	< 0.040	0.040	ppbV	1	11/28/2016 12:01:00 AM
Vinyl chloride	< 0.040	0.040	ppbV	1	11/28/2016 12:01:00 AM
Surr: Bromofluorobenzene	94.0	70-130	%REC	1	11/28/2016 12:01:00 AM

Qualifiers:

Quantitation Limit

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

Date: 28-Dec-16

E Estimated Value above quantitation range

3 Analyte detected below quantitation fimit

ND Not Detected at the Limit of Detection

Page 7 of 8

CLIENT: LaBella Associates, P.C. Client Sample ID: 1740-Outdoor Air

Lab Order:C1611040Tag Number:542,259Project:1740 Emerson StreetCollection Date:11/22/2016

Lab ID: C1611040-007A Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		то	-15	, ,		Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	11/28/2016 12:01:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	t	11/28/2016 12:01:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Chloroethane	< 0.40	0.40		սց/m3	1	11/28/2016 12:01:00 AM
Chloromethane	0.99	0.31		ug/m3	1	11/28/2016 12:01:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/28/2016 12:01:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 12:01:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	11/28/2016 12:01:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	11/28/2016 12:01:00 AM

Qualifiers:

Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte. Quantitation estimated.

S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

Date: 28-Dec-16

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 7 of 8

The state of the s CLIENT: LaBella Associates, P.C.

Lab Order: C1611040

Project: 1740 Emerson Street

Matrix: AIR Lab ID: C1611040-008A

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-2		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichtoroethane	< 0.15	0.15	Vdqq	1	11/28/2016 4:10:00 AM
1,1-Dichtoroethane	< 0.15	0.15	ppbV	1	11/28/2016 4:10:00 AM
1,1-Dichloroethene	< 0.15	0.15	ppbV	1	11/28/2016 4:10:00 AM
Chloroethane	< 0.15	0.15	Vđạq	1	11/28/2016 4:10:00 AM
Chloromethane	< 0.15	0.15	ppbV	1	11/28/2016 4:10:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15	Vdqq	1	11/28/2016 4:10:00 AM
Tetrachloroethylene	0.49	0,15	ppbV	1	11/28/2016 4:10:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	11/28/2016 4:10:00 AM
Trichloroethene	0.17	0.15	ppbV	1	11/28/2016 4:10:00 AM
Vinyl chloride	< 0.15	0.15	ppbV	1	11/28/2016 4:10:00 AM
Surr: Bromofiuorobenzene	94.0	70-130	%REC	1	11/28/2016 4:10:00 AM

Qualifiers:

- Quantitation Limit
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- JN Non-routine analyte, Quantitation estimated.
- Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected

Date: 28-Dec-16

Client Sample 1D: 1740-Blind Dup

Tag Number: 1190,343 Collection Date: 11/22/2016

- \mathbf{E} Estimated Value above quantitation range
- Analyte detected below quantitation limit
- NO Not Detected at the Limit of Detection

Page 8 of 8

CLIENT: LaBella Associates, P.C.

Lab Order: C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-008A

Date: 28-Dec-16

Client Sample ID: 1740-Blind Dup

Tag Number: 1190,343

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Q		ÐF	Date Analyzed
IUG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/28/2016 4:10:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/28/2016 4:10:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 4:10:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	11/28/2016 4:10:00 AM
Chioromethane	< 0.31	0.31	ug/m3	,	11/28/2016 4:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 4:10:00 AM
Tetrachloroethylene	3.3	1.0	ug/m3	,	
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 4:10:00 AM
Trichtoroethene	0.91	0.81	-	1	11/28/2016 4:10:00 AM
Vinyl chloride			ug/m3	1	11/28/2016 4:10:00 AM
This which we	< 0.38	0.38	ងទូ/៣3	1	11/28/2016 4:10:00 AM

Qualifiers:

- Quantitation Limit
- 13
- Holding times for preparation or analysis exceeded H

Spike Recovery outside accepted recovery limits

- JN Non-routine analyte. Quantitation estimated,
- Analyte detected in the associated Method Blank
- Results reported are not blank corrected
- Estimated Value above quantitation range \mathbf{E} J Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Page 8 of 8

 \mathbf{S}

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 QUALITY CONTROL SUMMARY



Date: 28-Dec-16

QC SUMMARY REPORT SURROGATE RECOVERIES

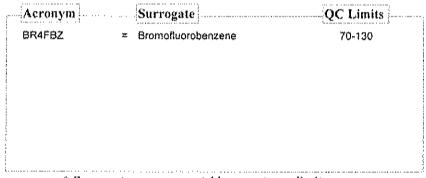
CLIENT: LaBella Associates, P.C.

Work Order: C1611040

Project: 1740 Emerson Street

Test No: TO-15 Matrix: A

Sample ID	BR4FBZ	
ALCSIUG-112716	98.0	
ALCSTUG-112816	96.0	
ALCSTUGD-112716	95.0	
ALCSTUGD-112816	101	
AMB1UG-112716	90.0	
AMB1UG-112816	91.0	
C1611040-001A	89.0	
C1611040-002A	95.0	
C1611040-003A	95.0	
C1611040-003A MS	98.0	
C1611040-003A MSD	96.0	
C1611040-004A	95.0	
C1611040-005A	114	
C1611040-006A	95.0	
C1611040-007A	94.0	
C1611040-008A	94.0	



* Surrogate recovery outside acceptance limits

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA2\AN112703.D Tune Time : 27 Nov 2016 1:55 pm

Daily Calibration File : C:\HPCHEM\1\DATA2\AN112703.D

(BFB)	(IS1)	(IS2)	(IS3)
	21225	142933	101015

				31325	142911	123835	
File	Sample	DL Surrogate Recove	ry %	Internal	Standard	Responses	
	ALCS1UG-112716	5 98		27668	127234	111596	
	AMB1UG-112716	90		27752	124751	107782	
AN112715.D	C1611040-002A	95		20444	94783	81389	
AN112716.D	C1611040-004A	95		21277	97087	85898	
AN112717.D	C1611040-006A	95		22463	99701	86559	
AN112718.D	C1611040-007A	94		20718	98544	81376	
AN112719.D	C1611040-001A	89		20374	92370	81682	
AN112723.D	C1611040-005A	114		22033	11.0343	103314	
AN112724.D	C1611040-008A	94		27945	125984	106358	
AN112725.D	ALCS1UGD-11271	6 95		26130	114607	99370	
				Pr			

t - fails 24hr time check * - fails criteria

Created: Wed Dec 28 15:49:57 2016 MSD #1/

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA2\AN112802.D Tune Time : 28 Nov 2016 9:30 am

Daily Calibration File : C:\HPCHEM\1\DATA2\AN112802.D

(BFB) (IS1) (IS2) (IS3)

						19537	89779	78295	
File	Sample	DL	Surrogate	Recovery	용	Internal	Standard	Responses	
AN112803.D	ALCS1UG-11281	.6	96			19643	87844	79321	
AN112804.D	AMB1UG-112816		91.	710 720 107 106 202 100 100 100		19032	84899	71392	
AN112805.D	C1611040-003A		95			17900	82328	74025	
AN112806.D	C1611040-003A	MS	98			19945	88940	83101	
AN112807.D	C1611040-003A	MSD	96			21009	91248	85630	
AN112808.D	C1611040-005A	. 9x	133*			20887	99038	89367	
AN112809.D	C1611040-005A	. 90x	96			21099	94551	79844	
	ALCS1UGD-1128		101			15560	71068	62512	
	C1611040-003A		90			15575	67352	59215	

t - fails 24hr time check * - fails criteria

Created: Wed Dec 28 15:51:20 2016 MSD #1/

TestCode: 0.25CT-TCE-VC

Spike Recovery unside accepted recovery finits



ANALYTICAL QC SUMMARY REPORT

Date: 28-Dec-16

LaBella Associates, P.C. CLIENT:

C1611040 Work Order: 1740 Emerson Street Project:

Sample ID ALCS1UG-112716	SampType: LCS	TestCox	TestCode: 0.25CT-TCE- Units: ppbV	Units: pobV		Prep Date:	io.		RunNo: 11704	2	
Cilent ID: ZZZZZ	Batch ID: R11704	Test	TestNo: TO-15	;	-	Analysis Dati	Analysis Date: 11/27/2016	16	SeqNo: 137004	004	
Analyte	Resul	PQL	SPK value SPK Ref Val	⊃K Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
f,1,1-Trichloroethane	0.9000	0.15	-	0	90.06	70	130				
f,1-Dichloroethane	0.9500	0.15	-	0	95.0	20	130				
1,1-Dichloroethene	0.9800	0.15	•	Q	98.0	70	130				
Chloroethane	0.9700	0.15	•	O	97.0	2	130				
Chloromethane	0.9800	0,15	•	0	98.0	02	139				
cis-1,2-Dichloroethere	0.9600	0.15	A	Û	98.0	20	130				
Tetrachloroethylene	1.010	0.15	-	O	101	30	130				
trans-1,2-Dichloroethene	0.9760	0.15	ų	ø	97.0	70	130				
Trichloroethene	0.9200	0.040	,-	Ď	92.0	<u>%</u>	130				
Vinyi chloride	0.9200	0.040	**	0	92.0	70	130				
Sample ID ALCS1UG-112816	SampType: LCS	TestCoc	TestCode: 0.25CT-TCE- Units: ppbV	Units: ppbV		Prep Date:	in in		RunMo: 11705		

Analyte	Result	Pal	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
1,1,1-Trichloroethane	0.9300	0.15	1	0	93.0	2	130				
1,1-Dichloroethane	1.010	0.15	-	0	101	70	130				
1,1-Dichloroethene	0.9600	0.15	•	¢;s	96.0	22	130				
Chiorcethane	1.070	0.15	***	0	107	7.0	130				
Chioromethane	1.070	0.15	* ***	0	107	20	130				
cis-1,2-Dichloroethene	0.9700	0.15	ζ	G	0.72	70	130				
Tetrachloroethylene	0.9900	0.15	ALL MAN	٥	99.0	70	130				
trans-1,2-Dichloroethene	1.000	0.15	ψω	0	100	70	130				
Trichloroethene	0.9500	0.040		0	95.0	70	130				
Qualifiers: Results reported an	Results reported are not blank corrected		E Esting	Estimated Value above quantitation range	antifation rang	ţ	Ξ	Holding times for preparation or analysis exceeded	epocrations of a	trations of analysis exceeded	79
J Analyte detect	Analyte detected below quantitation limit		ND Not D	Not Detected at the Limit of Detection	of Detection		æ	RPD outside accepted recovery limits	i d recovery lin	. ils	ļ.

SeqNo: 137026 RunMo: 11705

Analysis Date: 11/28/2016

Prep Date:

TestCode: 0.25CT-TCE- Units: ppbV

TesiNo: TO-15

Batch ID: R11705

77777

Client ID;

TestCode: 0.25CT-TCE-VC

\sim	SampType: LCS	TestCo	FestCode: 0.25CT-TCE-	Units: ppbV		Prep Date	 10		RunNo: 113	11705	
Client ID: ZZZZ	Batch ID: R11705	Test	TestNo: TO-15			Analysis Date:	e: 11/28/2016	2016	SeqNo: 137026	7026	
Analyte	Resuft	PQ.	SPK value SF	SPK Ref Val	%REC	LowLimit	HighLimil	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyt chloride	1.040	0.040	1	0	104	7.0	130				
Sample ID ALCS1UGD-112716	SampType: LCSD	TestCo	TesiCode: 0.25CT-TCE-	Units: ppbV		Prep Date	l as		RunNo: 11704	704	
Client ID: ZZZZZ	Batch ID; R11704	Test	TestNo: TO-45			Analysis Date:	3: 11/28/2016	2016	SeqNo: 137005	7005	
Analyte	Result	POL	SPK value SF	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPOLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	-	0	79.0	22	130	0.9	13.0	30	
1,1-Dichloroethane	0.9200	0.15		0	92.0	70	130	0.95	3.21	30	
1,1-Dichloroethene	0.9800	0.15		0	98.0	70	130	0.98	O	30	
Chioroethane	0.9500	0.15	•	Ф	95.0	20,	130	0.97	2.08	30	
Chloromethane	0.9200	0.15	₹	0	92.0	70	130	0.98	6.32	30	
cis-1,2-Dichloroethene	0.9500	0.15	-	¢	95.0	52	130	0.96	1.05	30	
Tetrachloroethylene	0.9600	0.15	£100°	Đ	96.0	70	130	1.04	5.08	30	
trans-1,2-Dichloroethene	0.9300	0.15	4 rr	û	93.0	22	133	0.97	4.21	33	
Trichloroethene	0.9100	0.040	ψu	0	91.0	70	130	0.92	1.09	30	
Vinyl chloride	0.9500	0.040	ų.	Φ	95.0	70	130	0.92	3.21	30	
Sample ID ALCS1UGD-112816	SampType: LCSD	TestCo	TestCode: 0.25CT-TCE-	Units: ppbV		Prep Date	, i		RunNo: 11705	705	
Client ID: ZZZZZ	Baich ID: R11705	est	TestNo: TO-15			Analysis Date:	3. 11/28/2016	.016	SeqNo: 137027	720	
Analyte	Resuit	POL	SPK value SF	SPK Ref Val	%REC	LowLimil	HighLimiŧ	RPD Ref Val	Od8%	RPDLimit	Qual
1,1,1-Trichforoethane	0.9300	0.15	₩.	0	93.0	7.0	\$30	0.93	0	30	
1,1-Dichlorcethane	1.040	0.15	***	O	± 104	33	\$30	1.01	2.93	30	
1,1-Dichloroethene	0.9500	0.15		O	95.0	55	130	96:0	1.05	30	
Chloroethane	1.120	0.15		Đ	112	70	130	1.07	4.57	30	
Chloromethane	1,150	0.15	₩.	Ð	115	70	\$30	1.07	7.21	36	
cis-1,2-Dichloroethene	1.010	0.15	***	o	101	70	130	16.0	4.04	30	
Tetrachloroethylene	1.020	0.15	,	Ð	102	70	130	0.99	2.99	30	
trans-1,2-Dichloroethene	1.030	0.15	Ψ.	0	103	70	130	-	2.96	33	
Trichloroethene	0.9500	0.040	-	0	95.0	70	130	0.95	0	30	
Qualifiers: Results report	Results reported are not blank corrected		E Estimated	Estimated Value above quantitation range	ifations cang	3	H	Holding times for preparation or analysis exceeded	preparation or a	nalysis exceed	£.
	Anakyte detected below quantitation limit		ND Not Detect	Not Detected at the Limit of Detection	Detection		Del.	RPD uniside accepted recovery limits	pled recovery lin	ıjts	
S Spike Recove	Spike Recovery outside accepted recovery limits	strits								d.	Page 2 of 3

LaBella Associates, P.C.

1740 Emerson Street

C1611040

Work Order; CLIENT:

Project:

ualifiers:		Results reported are not blank corrected	E Estimated Value above quantitation range	<u> </u>	Holding times for preparation or analysis exceeded
	m1),	Analyte detected below quantitation limit	4D Not Detected at the Linni of Detection	82	RPD outside accepted recovery limits
	v.	Soike Recovery passide accented recovery limits			

LaBella Associates, P.C.

C1611040

Work Order:

CLIENT:

TestCode: 0.25CT-TCE-VC

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 28-Dec-16

LaBella Associates, P.C. CLIENT:

C1611040 Work Order: 1740 Emerson Street Project:

Qual RPDLimit SeqNo: 137003 RunNo: 11704 %RPD LowLimit HighLimit RPD Ref Val Analysis Date: 11/27/2016 Prep Date: %REC Units: ppbV SPK Ref Val TestCode: 0.25CT-TCE-SPK value Testino: TO-15 0.15 0.15 점 Batch ID: R11704 Result < 0.15 < 0.15 SampType: MBLK Sample ID AMB1UG-112716 f.1,1-Trichforcethane Client ID: ZZZZZ ,1-Dichloroethane Analyte

0.15

< 0.15

f,1-Dichioroethene

0.15 0.15 0.15 0.15 0.15 0.040

< 0.15 < 0.15 < 0.15 < 0.15 < 0.15 < 0.040

frans-1,2-Dichloroethene

Frichloroethene

Tetrachioroethylene

cis-1,2-Dichloroethene

Chloromethane

Chloroethane

SeqNo: 137025 RunNo: 11705 Analysis Date: 11/28/2016 Prep Date: FestCode: 0.25CT-TCE- Units: ppbV TestNo: TO-15 0.040 < 0.040 Batch ID: R11705 SampType: MBLK Sample ID AMB1UG-112816 7777 Vinyl chioride Client ID:

Qual **RPDLimit** %RPD LowLimit HighLimit RPD Ref Vai %REC SPK Ref val SPK value 0.15 0.15 0.15 0.15 ద 0.15 Result < 0.15 < 0.15 < 0.15 < 0.15 < 0.15 < 0.15 cis-1,2-Dichloroethene 1, t. 1-Trichloroethane 1,1-Dichloroethene 1, t-Dichloroethane Chloromethane Chloroethane Analyte

<u>... 9</u> Results reported are not blank corrected Qualifiers:

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limit

ŝ

0.15

< 0.15 < 0.15

Frans-1,2-Dichloroethene

Trichloroethene

Tetrachloroethylene

0.040

0.040

Estimated Value above quantitation range Not Detected at the Limit of Detection

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits **≖** ∞

Page 1 of 2

CLIENT: Work Order:	LaBella As C1611040	LaBella Associates, P.C. C1611040							CLIENT: LaBella Associates, P.C. Work Order: C1611040	
Project:	1740 Eme	1740 Emerson Street					TestCo	ode; 0.	TestCode: 0.25CT-TCE-VC	
Sample ID AMB1UG-112816	10G-112816	SampType: MBLK	TestCode	:: 0.25CT-TC	TestCode: 0.25CT-TCE- Units: ppbV		Prep Date:		RunNo: 11705	
Client ID: ZZZZZ	2	Batch ID: R11705	TestMc	TestNo: TO-15		4	Analysis Date: 11/28/2016		SeqNo: 137025	
Analyte		Result	POL	SPK value	SPK value SPK Ref Val	%REC	%REC LowLimit HighLimit RPD Ref Val	Ref Val	%RPD RPDLimit Qual	Qual
Vinyl chtoride		< 0.040	O SMO							

H Bolding times for menatation or assekeis accounted	RPD natiside accepted recovery limits		CRO C dang
Holding times h	RPD netside aca		
	. <u>~</u>		
E Estimated Value above quantitation range	ND Not Detected at the Limit of Detection		
Results reported are not blank corrected	Analyte detected below quantitation limit	Spike Recovery outside accepted recovery limits	•
,	 ,	40	
Qualifiers:			

TestCode: 1ugM3_TO15

Spike Recovery outside accepted recovery limits

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 28-Dec-16

LaBella Associates, P.C. CLIENT:

C1611040 Work Order:

1740 Emerson Street Project:

Sample ID C1611040-003A MS SampType: MS	SampType: MS	TestCo	de: 1ugM3_TC	TestCode: 1ugM3_TO15 Units: ppbV		Prep Date:	نة	RunNo: 11705	
Client ID: 1740-SVI-2	Batch ID: R11705	Test	TestNo: TO-15		7	Analysis Dat	Analysis Date: 11/28/2016	SeqNo: 137035	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	f Val %RPO RPDLimit	Qua
1,1,1-Trichloroethane	1.150	0.15	-	0.2	95.0	70	130		
1,1-Dichloroethane	1.290	0.15	~	0.35	94.0	70	130		
1,1-Dichloroeithere	1.030	0.15	Υ-	0	103	52	130		
Chloroethane	1.120	0.15	-	0	112	02	130		
Chloromethane	1.140	0.15	-	0	4	5	£1		
cis-1,2-Dichloroethene	4.500	0.15	•	3.69	83.0	70	85		
Tetrachloroethylene	18.34	0.15	•	18.84	-50.0	55	130		S
trans-1,2-Dichloroethene	1.260	0.15	~	0.27	0.66	2	130		
Frichloroethene	14.22	0.15	-	13.76	46.0	70	130		S
Vinyl chloride	1.090	0.15	-	0	409	70	130		
Sample ID C1611040-003A MS SampType: MSD	SampType: MSD	TestCo	de: 1ugM3_TC	TestCode: 1ugM3_T015 Units: ppbV		Prep Date:	ái	RunNo: 11705	

Analyte	Result	Pol	SPK value	SPK value SPK Ref Val	%REC	LowLinit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qua
1,1,1-Trichloroethane	1,160	0.15	-	0.2	96.0	02	130	1,15	0.856	8	
1,1-Dichloroethane	1.240	0.15	•	0.35	89.0	70	130	1.29	3,95	30	
1,1-Dichloroethene	0.9800	0.15	_	0	98.0	52	130	1.03	4.98	30	
Chloroethane	1.030	0.15	-	0	103	5	130	1.12	8.37	30	
Chloromethane	1,050	0.15	-	0	105	20	130	4	8.22	30	
cis-1,2-Dichloroethene	4.070	0.15	-	3.69	38.0	0,	139	4.5	10.0	30	Ø
Tetrachiorcethylene	16.02	0.15	-	18.84	-282	55	130	18.34	13.5	30	S
trans-1,2-Dichloroethene	1.190	0.15	-	0.27	92.0	70	130	1.26	5.71	30	
Trichloroethene	12.78	0.15	-	13.75	-98.0	70	130	14.22	10.7	30	Ø
Qualifiers: Results repor	Results reported are not blank corrected		E Estim	Estimated Value above quantitation range	iantifation rang	25	7	Holding times for preparation or analysis exceeded	រច្សោះនៅម៉ាត ១៩ ខ	malysis exceed	ded.
3 Analyte detec	Analyte detected below quantitation limit		ND Not D	Not Detected at the Limit of Detection	of Detection		œ	RPD outside accepted recovery limits	ted recovery li	mits	

SeqNo: 137036

Analysis Date: 11/28/2016

TestMo: TO-15

Batch ID: R11705

Client ID: 1740-SVI-2

	Page 2 of 2
RPD outside accepted recovery limits	
~	
ND Not Detected at the Limit of Detection	

Holding times for preparation or analysis exceeded

=

Estimated Value above quantitation range

i:i

Results reported are not blank corrected Analyse detected below quantitation limit Spike Recovery outside accepted recovery limits

- s

Qualifiers:

Sample ID C1611040-003A MS SampType: MSD	40-003A MS	SampType: MSD	TestCo	TestCode: 1ugM3_TO15 Units:	O15 Units: ppbV		Prep Date:	œ.		RunNo: 11705	05	
Client ID: 1740-SVI-2	VI-2	Batch ID: R11705	Test	TestNo: TO-15		٠,	Analysis Date: 11/28/2016	e: 11/28/2	1016	SeqNo: 137036	036	
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimid	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
Vinyl chloride		0.9900	0.15	1	0	0.66	70	130	1,09	9.62	30	

TestCode: 1ugM3_T015

LaBella Associates, P.C.

1740 Emerson Street

C1611040

CLIENT: Work Order:

Project:

Method TO-15A Units=ppb

1ug/M3 Detection Limit January 2016

Name	Amount	101.#1	IDL#2	IDL#3	IDL#4	IDL#5	9#101	IDL#7	Average	StdDev	%Rec	걸
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, 4 5, 4	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 6	0.19	0.16	0,15	0,19	0.18	0.19	0.184	0.011	81.4	0.036
cinanol	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	0.45 50 :	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
sopropyl 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
r-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
Metnylene 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 distillide	0.15	0,2	0.17	0.19	0.19	0.2	0.18	0.19	0.189	0.011	79.5	0.034
(rans-1,2-dichiproethene	0.15	0.15	0.14	0.14	0.14	0.16	0.14	0.15	0.146	0.008	102.9	0.025
metnyl 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
I, I-dichloroemane	0.15	0.17	0.15	0.16	0,15	0.17	0.16	0.16	0.160	0.008	93.8	0.026
VIIIIyi acetale	5.75	0.14	0.13	0.14	0.13	0,13	0.13	0.12	0.131	0.007	114.1	0.022
vietnyi Etnyi Ketone	C.3	0,17	0.17	0.16	0.16	0.15	0.13	0.12	0.151	0.020	99,1	0.061
Us-1,2-uicilloroethene	5. c	0.15	0.14	0.16	0.15	0.16	0.15	0.14	0.150	0.008	100.0	0.026
Devalle Ethil cootes	C.75	0.12	0,14	0,13	0.13	0.13	0.12	0.12	0.127	0.008	118.0	0.024
Chiyi acelale	C. C.	0.16	0.17	0.14	0.15	0.14	0.16	0.13	0.150	0,014	100.0	0.044
Chologoliti Telebolitical	U.TS	0.16	0,16	0. 16	0.16	0.17	0.16	0.17	0.163	0.005	92.1	0.015
	U.75	0.15	0.13	0.15	0.15	0.15	0.15	0.14	0.146	0.008	102.9	0.025
1,2-dictionoeulane	0.15	0.16	0.15	0.16	0.16	0.17	0,16	0.17	0.161	0.007	92.9	0.022
Colorenane	0.15 0.43	0.17	0.16	0.17	0,17	0.16	0.17	0.17	0,167	0.005	89.7	0.015
Cyclonexane Carbon Literation	0,75 5 : 6	4.0	0.14	0.14	0. 35.	0.15	0.14	0.14	0,143	0.005	105.0	0.015
Calbon (effachiofide	0.75	0.13	0.15	0,15	0.15	0.15	0.15	0.16	0,149	600'0	101.0	0.028
Denzene Material materials	0,15 5,15	0,15	0.16	0.16	0.15	0.16	0.16	0.16	0.157	0.005	95.5	0.015
wetnyl metnachjate	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	ර. කි	0.19	0.18	0.15	0.17	0.12	0.167	0.024	89.7	0.076
Confidential											4/8	1/8/2016

Centek Laboratories				Įnć	lug/M3 Detection Limi	ion Limit					Method TO-15A	7-15A
					January 2016	016						Units=pob
Name	Amount	101#1	IDL#2	IDL#3	豆	IDI.#5	3F)	₽ 10 14 12	Average	StdDev	%Rec	<u> </u>
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
Trichloroethane	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-dichioropropane	0.15	0.16	0.17	0.17	0.16	0.17	0.16	0.16	0,164	0.005	91.3	0.017
Bromodicnioromethane	0.15	0.18	0.16	0.16	0.15	0.16	0,17	0.16	0,160	900'0	93.8	0.018
cis-1,3-dichloropropene	0.15	0 3	0.13	0.14	0.14	0,13	0.13	0.13	0.133	0.005	112.9	0.015
rans-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
	0.15	0.14	0.14	0.14	0.13	0.16	0.14	0,15	0.143	0.010	105.0	0.030
Wetnyl 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
Usbromochioromethane	0,15	0.16 i	0.16	0.17	0.18	0.16	0.17	0.18	0.169	0.009	89.0	0.028
Metnyl Butyl Retone	0,75 5,15	0.17	0.16	0,18	0.17	0.16	0.17	0.14	0.164	0.013	91.3	0.040
1,Z-dipromoethane	0,15	0.10	0.17	0,16	0.16	0.16	0.16	0.17	0.163	0.005	92.1	0.015
Ottombootee		5.0	0.17	0,16	0.16	0.16	0.17	0.17	0,164	0.005	91,3	0.017
* 1 1 2 Law Line	0.15	0.16	0.16	0.16	0.17	0.15	0.17	0.17	0.163	0.008	92.1	0,024
I, I, I, Z-letrachioroethane	0.15 1	0.17	0.17	0.17	0.18	0.16	0.18	0.17	0.171	0.007	87.5	0.022
Etnyloenzene	0.15	0,13	0.14	0.14	0.14	0.12	0.14	0.13	0.134	0.008	111,7	0.025
Name of the second seco	ი : ე ე	0.25	0.25	0.25	0.23	0.25	0.25	0.25	0.247	0.008	121.4	0.024
Chiron	0.15	0,11	0.11	0.1	0.11	0.1	0.1	0.11	0.107	0.005	140.0	0.015
Dividia	0.75	0.12	0.13	0.13	0.11	0.12	0.13	0.12	0,123	0.008	122.1	0.024
	0.75 5.15	5.5	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
	c	0.12	0.13	0.13	0.12	0.13	0.13	0.13	0.127	0.005	118.0	0.015
4 4 9 3 formations them	, \ (0.88	6.0	6'0	0.87	0.89	0.89	6.0	0.890	0.012	112.4	0.036
o, i, z, z-terradiiloroemane Dromithoosooo	 	0.16	0,16	0.17	0,16	0.17	0.17	0.16	0.164	0.005	91,3	0.017
	<u>.</u> .	5.3	0.12	0.13	0.13	0.11	0.13	0.11	0.123	0.010	122.1	0.030
		5.3	0.13	0.13	0.14	0.13	0.12	0.13	0.130	900'0	115.4	0.018
4 3 5 trimothulbonson	Ç. 5	= 5	0.12	0.12	0.12	0,73	0.13	o. ₩	0.120	0,008	125.0	0.026
	5 5 7	21.7	0.13	0.14	0.12	0.13	0,13	0.13	0.129	0.007	116.7	0.022
1.4. Trumenieniyloenzene 1.3. dieklemberrene	Ç. 5	77.0	C.13	0.12	0.12	0.13	0.12	0.12	0.123	0.005	122.1	0.015
	0.13	0.14	0.14	0.14	0.13	0.14	0,13	0.14	0.137	0.005	109.4	0.015
d disklambana		0.13	0.16	0.13	0.15	0.13	0.15	0.16	0.144	0.014	104.0	0.044
1,4-uicilloiopenzene	C.3	0.13	0,11	0,12	0.12	0,12	0.12	0.13	0.121	0.007	123.5	0.022
1.4.5-Illimethyloenzene	0.15	0,12	<u>.</u>	0.12	0.12	0.12	0.11	0,11	0.116	0.005	129.6	0.017
1,2-dicholopenzene	0,15 1,1	0.13	0.14	0.14	0.14	0.14	0.14	0.13	0.137	0.005	109.4	0.015
I,Z,4-(IICIIIOTODENZEIJE	0.15	0.1	0.1	0.1	0.11	0.11	0.12	0.1	0.107	0.008	140.0	0.024
Naphunalene	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

œ
444
400
7
w
7
.=
-
•
=
O
-

Centek Laboratories IDL Study	מ			0.25	.25ug/M3 Detection Lim January 2016	action Limit 2016					Method TO-15A Units≃ppb)-15A ₃≕ppb
Name	Amount	****			四番	DL#5	IDT#8	IDL#7	Average	StdDev	%Rec	ם
Vinyl Chloride	0,1	_	0.11	•	0.09	0.1	0.09	0,1	0.099	0.009	101.4	0.028
Carbon tetrachioride	0.1	1.0	0.13		0.09	60'0	0.09	0.03	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	0.00	0.09	0,1	0.09	0.09	0,099	0.012	101.4	0.038
Naphthalene	0.1	60.0	0.08	0.07	0.06	0.06	0.07	0.06	0.070	0.012	142.9	0.036

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

$$RRF = Ax * Cis$$
 $Ais * Cx$

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)

Percent Difference (%D)

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

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

Sample Calculations

$$\begin{array}{rcl}
\text{ppbv} &= & \underline{\text{Ax * Is * Df}} \\
& & \text{Ais * RRF}
\end{array}$$

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

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-001A

Date: 28-Dec-16

Client Sample ID: 1740-SVI-1

Tag Number: 419,343

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Resuit	**Limit Qu	al Units	DF	Date Analyzed
FIELD PARAMETERS	11.11.11.11.11.11.11.11.11.11.11.11.11.	FLD			Analyst:
Lab Vacuum in	-2		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethaπe	< 0.15	0.15	Vdqq	1	11/28/2016 12:40:00 AM
1,1-Dichloroethane	< 0.15	0.15	Vdqq	1	11/28/2016 12:40:00 AM
1,1-Dichloroethene	< 0.15	0.15	ppbV	1	11/28/2016 12:40:00 AM
Chloroethane	< 0.15	0.15	Vđạq	1	11/28/2016 12:40:00 AM
Chloromethane	< 0.15	0.15	ppbV	1	11/28/2016 12:40:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	11/28/2016 12:40:00 AM
Tetrachloroethylene	0.58	0.15	ppbV	1	11/28/2016 12:40:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15	∨dqq	1	11/28/2016 12:40:00 AM
Trichloroethene	0.19	0.15	ppb∨	1	11/28/2016 12:40:00 AM
Vinyl chloride	< 0.15	0.15	ppb∨	1	11/28/2016 12:40:00 AM
Surr: Bromofluorobenzene	89.0	70-130	%REC	1	11/28/2016 12:40:00 AM

Qualifiers:

- Quantitation Limit
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- JN Non-routine analyte, Quantitation estimated.
- Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- Estimated Value above quantitation range 6
- 1 Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Page 1 of 8

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-001A

Date: 28-Dec-16

C. Client Sample ID: 1740-SVi-1

Tag Number: 419,343

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Q	ial Units	ÐF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/28/2016 12:40:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/28/2016 12:40:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:40:00 AM
Chioroethane	< 0.40	0.40	ug/m3	1	11/28/2016 12:40:00 AM
Chloromethane	< 0.31	0.31	ug/ຄາ3	1	11/28/2016 12:40:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:40:00 AM
Tetrachloroethylene	3.9	1.0	ug/m3	1	11/28/2016 12:40:00 AM
trans-1,2-Dichtoroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:40:00 AM
Trichloroethene	1.0	0.81	ug/m3	1	11/28/2016 12:40:00 AM
Vinyl chloride	< 0.38	0.38	មg/m3	1	11/28/2016 12:40:00 AM

Qualifiers:

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

Page 1 of 8

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112719.D Vial: 5 Acq On : 28 Nov 2016 12:40 am Operator: RJP Sample : C1611040-001A Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

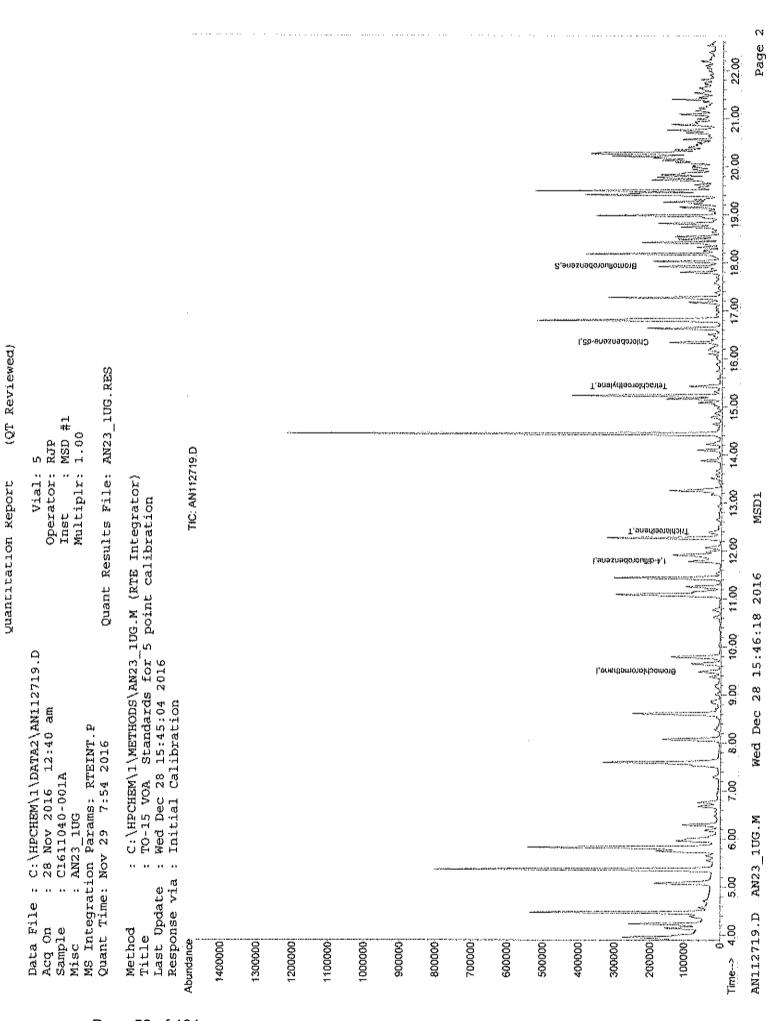
MS Integration Params: RTEINT,P

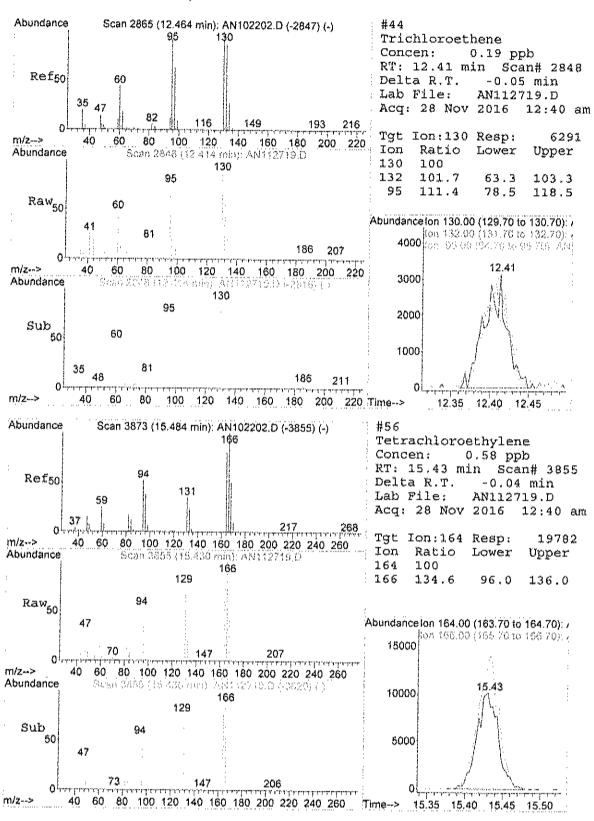
Quant Time: Nov 28 06:59:53 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	onc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.48 11.78 16.33	128 114 117	20374 92370 81682	1.00	qqq	-0.07 -0.06 -0.05
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70	95 - 130	55092 Recovery	0.89	ppb 89	
Target Compounds 44) Trichloroethene 56) Tetrachloroethylene	12.41 15.43	130 164	6291 19782	0.19 0.58		Qvalue 84 83





CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

1740 Emerson Street

Project: Lab ID:

C1611040-002A

Date: 28-Dec-16

Client Sample ID: 1740-IAQ-1

Tag Number: 193,267

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-3		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	1	11/27/2016 10:04:00 PM
1,1-Dichloroethane	< 0.15	0.15	Vdqq	1	11/27/2016 10:04:00 PM
1,1-Dichloroethene	< 0.15	0.15	ppbV	1	11/27/2016 10:04:00 PM
Chloroethane	< 0.15	0,15	Vdqq	1	11/27/2016 10:04:00 PM
Chloromethane	0.70	0.15	ppbV	1	11/27/2016 10:04:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15	Vdqq	1	11/27/2016 10:04:00 PM
Tetrachioroethylene	0.38	0.15	ppbV	1	11/27/2016 10:04:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	11/27/2016 10:04:00 PM
Trichloroethene	0.14	0.040	ppbV	1	11/27/2016 10:04:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	1	11/27/2016 10:04:00 PM
Surr: Bromofluorobenzene	95.0	70-130	%REC	1	11/27/2016 10:04:00 PM

Qualifiers:

Quantitation Limit

Analyte detected in the associated Method Blank

⁻¹ Holding times for preparation or analysis exceeded

JN Non-routine analyte. Quantitation estimated.

Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

Б Estimated Value above quantitation range

j Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

LaBella Associates, P.C.

Lab Order:

CLIENT:

C1611040

Project: 1740 Emerson Street

Lab ID: C1611040-002A Date: 28-Dec-16

Client Sample ID: 1740-IAQ-1

Tag Number: 193,267

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/27/2016 10:04:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/27/2016 10:04:00 PM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:04:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	11/27/2016 10:04:00 PM
Chloromethane	1.4	0.31	ug/m3	1	11/27/2016 10:04:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:04:00 PM
Tetrachloroethylene	2.6	1.0	սց/m3	1	11/27/2016 10:04:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:04:00 PM
Trichloroethene	0.75	0.21	ug/m3	1	11/27/2016 10:04:00 PM
Vinyt chloride	< 0.10	0.10	ug/m3	1	11/27/2016 10:04:00 PM

Qualifiers:

ND Not Detected at the Limit of Detection

Quantitation Limit

¹³ Analyte detected in the associated Method Blank

н Holding times for preparation or analysis exceeded

JN. Non-routine analyte. Quantitation estimated.

Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

Ľ. Estimated Value above quantitation range

^{,1} Analyte detected below quantitation limit

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112715.D Vial: 1 Acq On : 27 Nov 2016 10:04 pm Sample : C1611040-002A Misc : AN23_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

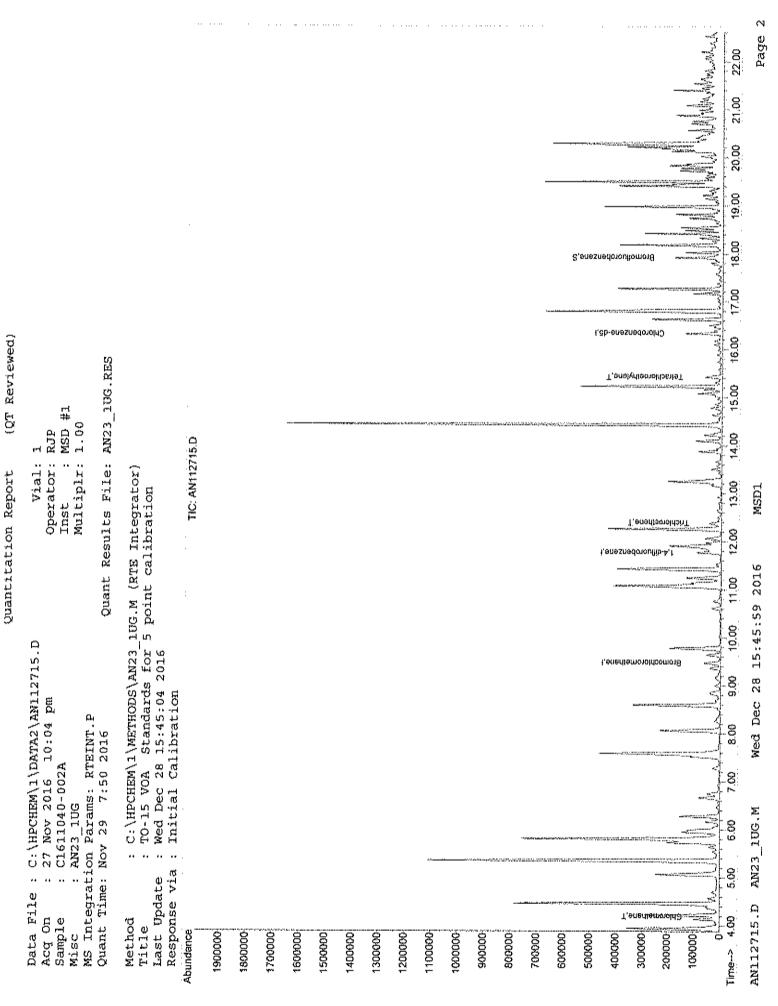
MS Integration Params: RTEINT, P

Quant Time: Nov 28 06:59:49 2016 Quant Results File: AN23_1UG.RES

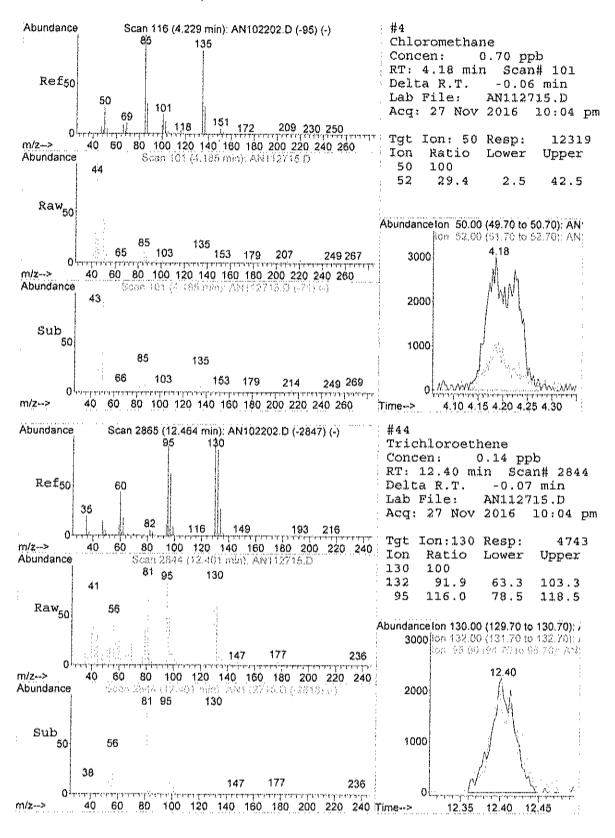
Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

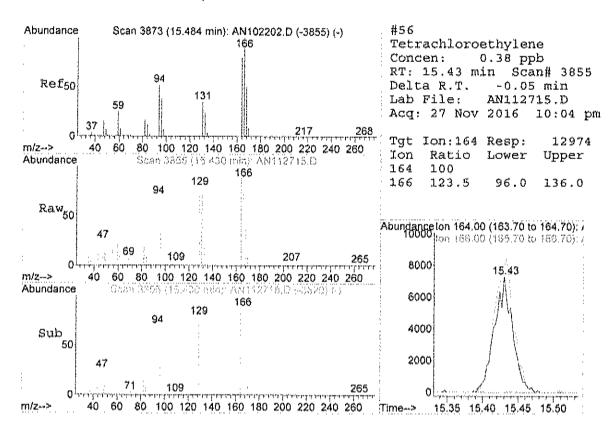
Internal Standards	R.T.	QIon	Response C	onc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.48 11.78 16.34	128 114 117	20444 94783 81389	1.00	dqq dqq dqq	-0.06
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.91 Range 70	95 - 130	58147 Recovery		ppb 95	-0.05 .00%
Target Compounds						Qvalue
4) Chloromethane	4.18	50	12319	0.70	ppb	86
44) Tríchloroethene	12.40	130	4743	0.14	dqq	86
56) Tetrachloroethylene	15.43	164	12974		dqq	93

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AN112715.D AN23_1UG.M Wed Dec 28 15:45:58 2016 MSD1



Page 57 of 191





Date: 28-Dec-16

CLIENT: Lab Order: LaBella Associates, P.C.

C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-003A

Client Sample ID: 1740-SVI-2

Tag Number: 483,249

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qu	ial Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-4		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.20	0.15	Vdqq	1	11/28/2016 11:42:00 AM
1,1-Dichloroethane	0.35	0.15	ppbV	1	11/28/2016 11:42:00 AM
1,1-Dichloroethene	< 0.15	0.15	ppb∨	1	11/28/2016 11:42:00 AM
Chloroethane	< 0.15	0.15	Vdqq	1	11/28/2016 11:42:00 AM
Chloromethane	< 0.15	0.15	ppbV	1	11/28/2016 11:42:00 AM
cis-1,2-Dichloroethene	4.4	1.5	Vdqq	10	11/28/2016 9:54:00 PM
Tetrachioroethylene	22	1.5	ppbV	10	11/28/2016 9:54:00 PM
trans-1,2-Dichloroethene	0.27	0.15	ppbV	1	11/28/2016 11:42:00 AM
Trichloroethene	17	1.5	ppb∨	10	11/28/2016 9:54:00 PM
Vinyl chloride	< 0.15	0.15	Vdqq	1	11/28/2016 11:42:00 AM
Surr: Bromofluorobenzene	95.0	70-130	%REC	1	11/28/2016 11:42:00 AM

Qualifiers:

Spike Recovery outside accepted recovery limits

Page 3 of 8

Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte, Quantitation estimated.

^{12 73...}

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

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID:

C1611040-003A

Date: 28-Dec-16

Client Sample ID: 1740-SVI-2

Tag Number: 483,249

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15	''		Analyst: RJP
1,1,1-Trichloroethane	1.1	0.82	ug/m3	1	11/28/2016 11:42:00 AM
1,1-Dichloroethane	1.4	0.61	ug/m3	1	11/28/2016 11:42:00 AM
1,1-Dichloroethene	< 0.59	0.59	ս ց/m3	1	11/28/2016 11:42:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	11/28/2016 11:42:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	11/28/2016 11:42:00 AM
cis-1,2-Dichloroethene	17	5.9	ug/m3	10	11/28/2016 9:54:00 PM
Tetrachloroethylene	150	10	ug/m3	10	11/28/2016 9:54:00 PM
trans-1,2-Dichloroethene	1.1	0.59	ug/m3	1	11/28/2016 11:42:00 AM
Trichloroethene	92	8.1	ug/m3	10	11/28/2016 9:54:00 PM
Vinyl chloride	< 0.38	0.38	ug/m3	1	11/28/2016 11:42:00 AM

Qualifiers:

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

Page 3 of 8

Quantitation Report

(QT Reviewed)

Vial: 5

Data File : C:\HPCHEM\1\DATA2\AN112805.D

Acq On : 28 Nov 2016 11:42 am

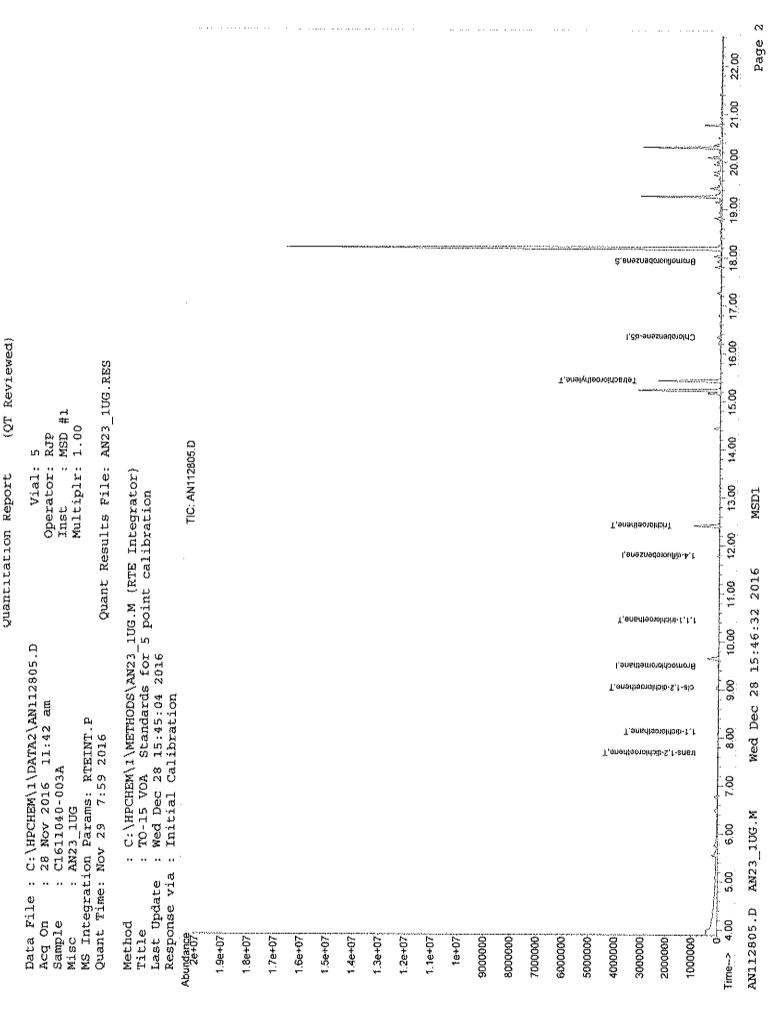
Operator: RJP Sample : C1611040-003A Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

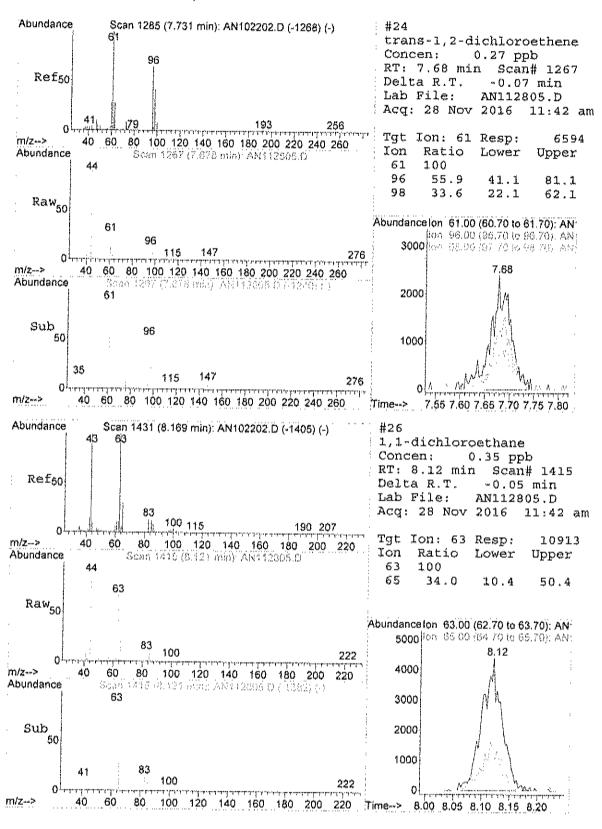
Quant Time: Nov 28 13:01:11 2016 Quant Results File: AN23_1UG.RES

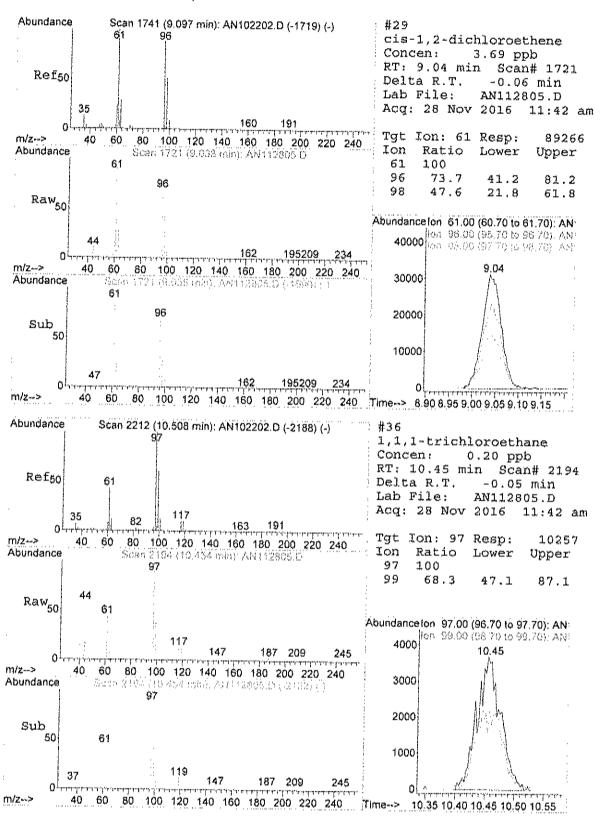
Quant Method : C:\HPCHEM\1\METHODS\AN23 1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

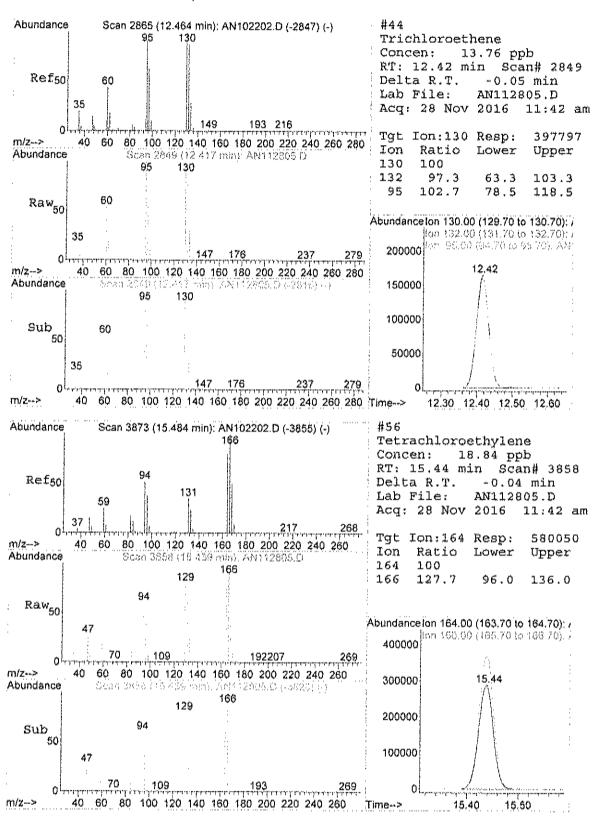
Internal Standards	R.T.	QIon	Response	Conc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-dS	9.49 11.79 16.34	128 114 117	17900 82328 74025	1.00	ppb	-0.04
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70	95 - 130	53168 Recove			-0.04 .00%
Target Compounds 24) trans-1,2-dichloroethene 26) 1,1-dichloroethane 29) cis-1,2-dichloroethene	7.68 8.12 9.04	61 63 61	6594 10913 89266	0.27 0.35 3.69	ppb	Qvalue 90 93 87
36) 1,1,1-trichloroethane 44) Trichloroethene 56) Tetrachloroethylene	10.45 12.42 15.44	97 130 164	10257 397797 580050	0.20 13.76 18.84	ppb	98 91. 89



Page 63 of 191







Date: 28-Dec-16

LaBella Associates, P.C. CLIENT:

Client Sample ID: 1740-JAQ-2

Lab Order:

C1611040

Tag Number: 168,337

1740 Emerson Street Project:

Collection Date: 11/22/2016

Lab ID:

C1611040-004A

Matrix: AIR

Analyses	Result	**Limit Qu	al Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-3		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	ppb∨	1	11/27/2016 10:43:00 PM
1,1-Dichloroethane	< 0.15	0.15	Vdqq	1	11/27/2016 10:43:00 PM
1.1-Dichloroethene	< 0.15	0.15	Vaqq	1	11/27/2016 10:43:00 PM
Chloroethane	< 0.15	0.15	Vdqq	1	11/27/2016 10:43:00 PM
Chloromethane	< 0.15	0.15	Vdqq	1	11/27/2016 10:43:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	11/27/2016 10:43:00 PM
Tetrachloroethylene	0.37	0.15	Vdqq	1	11/27/2016 10:43:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	Vdqq	1	11/27/2016 10:43:00 PM
Trichtoroethene	0.19	0.040	Vaqq	1	11/27/2016 10:43:00 PM
	< 0.040	0.040	ppbV	1	11/27/2016 10:43:00 PM
Vinyl chloride Surr: Bromofluorobenzene	95.0	70-130	%REC	1	11/27/2016 10:43:00 PM

Qualifiers:

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

SERVICE SERVIC LaBella Associates, P.C.

Lab Order: C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-004A

Date: 28-Dec-16

Client Sample ID: 1740-1AQ-2

Tag Number: 168,337

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15	········		Analyst Dip
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	Analyst: RJP 11/27/2016 10:43:00 PM
1,1-Dichtoroethane	< 0.61	0.61	นดู/m3	1	11/27/2016 10:43:00 PM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	i	
Chloroethane	< 0.40	0.40	ug/m3	,	11/27/2016 10:43:00 PM
Chloromethane	< 0.31	0.31	ug/m3		11/27/2016 10:43:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:43:00 PM
Tetrachioroethylene	2.5	1.0	•	3	11/27/2016 10:43:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:43:00 PM
Trichloroethene	1.0		ug/m3	1	11/27/2016 10:43:00 PM
Vinyl chloride		0.21	ug/m3	1	11/27/2016 10:43:00 PM
· · · · · · · · · · · · · · · · · · ·	< 0.10	0.10	ug/m3	1	11/27/2016 10:43:00 PM

Qualifiers:

Quantitation Limit

Analyte detected in the associated Method Blank В

Holding times for preparation or analysis exceeded 1-1

JN Non-routine analyte, Quantitation estimated.

Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

Analyte detected below quantitation limit j

ND Not Detected at the Limit of Detection

Page 4 of 8

Quantitation Report (QT Reviewed)

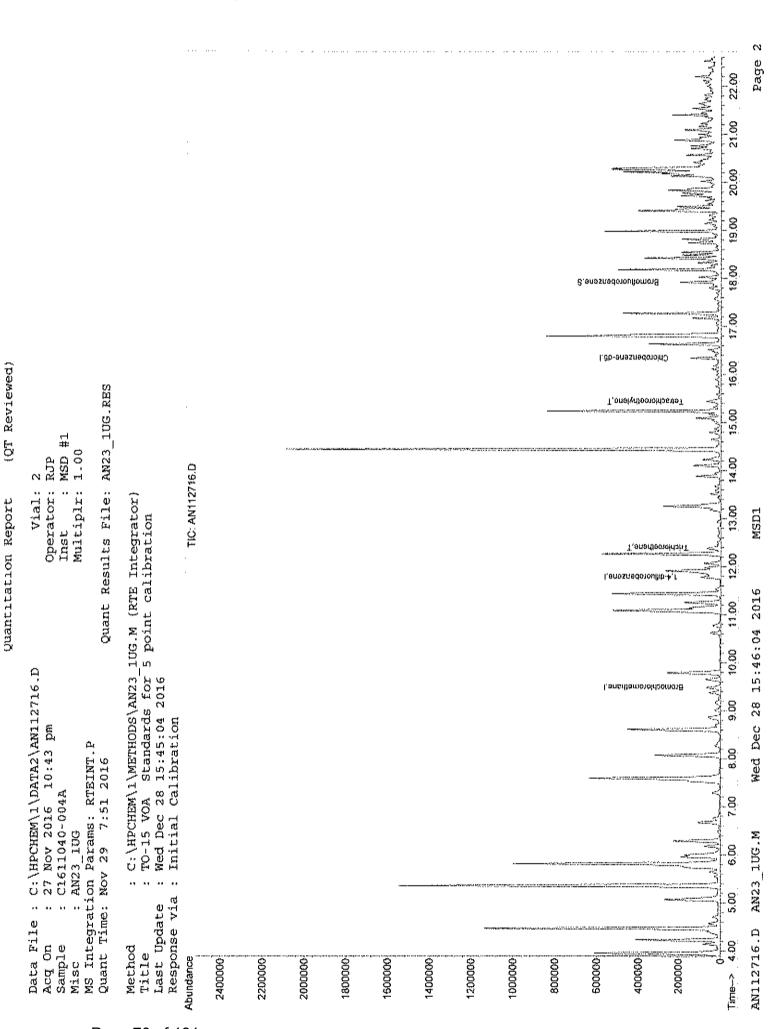
Data File : C:\HPCHEM\1\DATA2\AN112716.D Vial: 2 Acq On : 27 Nov 2016 10:43 pm Operator: RJP Sample : C1611040-004A Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

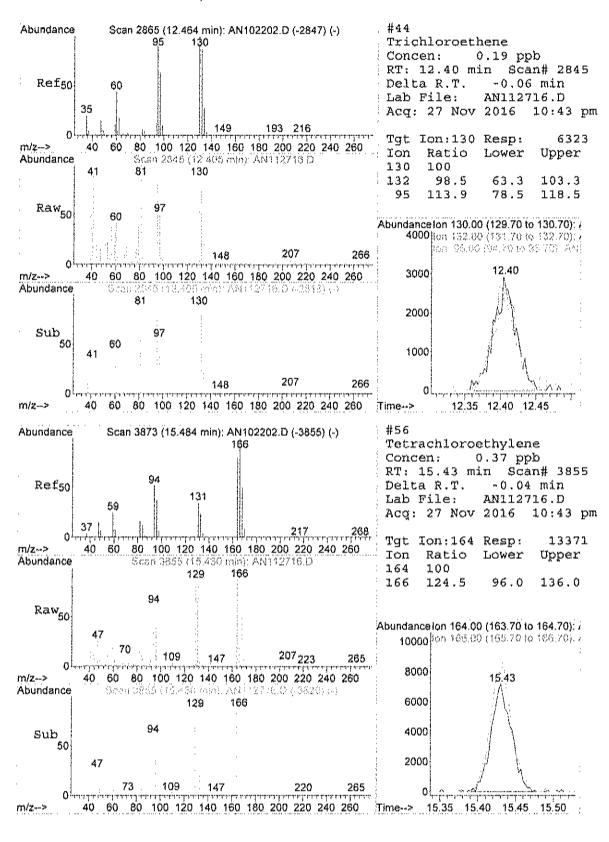
Quant Time: Nov 28 06:59:50 2016 Quant Results File: AN23 1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23 1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	onc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.48 11.78 16.33	128 114 117	21277 97087 85898	1.00	ppb	-0.07 -0.06 -0.05
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70		61642 Recovery		dqq 59	~0.04 .00%
Target Compounds 44) Trichloroethene 56) Tetrachloroethylene	12.40 15.43	130 164	6323 13371	0.19		



Page 70 of 191



CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-005A

Date: 28-Dec-16

Client Sample ID: 1740-SVI-3

Tag Number: 243,342

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qu	ial Units	ÐF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-3		"Hg		11/23/2016
Lab Vacuum Out	-30		"Hg		11/23/2016
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichtoroethane	< 0.15	0.15	Vdqq	1	11/28/2016 3:31:00 AM
1,1-Dichloroethane	< 0.15	0.15	ppb∨	1	11/28/2016 3:31:00 AM
1,1-Dichforoethene	< 0.15	0.15	ppbV	1	11/28/2016 3:31:00 AM
Chloroethane	< 0.15	0.15	∨dqq	1	11/28/2016 3:31:00 AM
Chloromethane	< 0.15	0.15	ppbV	1	11/28/2016 3:31:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	11/28/2016 3:31:00 AM
Tetrachloroethylene	< 0.15	0.15	ppb∨	1	11/28/2016 3:31:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	11/28/2016 3:31:00 AM
Trichloroethene	1.9	0.15	ppb∨	1	11/28/2016 3:31:00 AM
Vinyl chloride	< 0.15	0.15	Vdqq	1	11/28/2016 3:31:00 AM
Surr: Bromofluorobenzene	114	70-130	%REC	1	11/28/2016 3:31:00 AM

Qualifiers:

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

Page 5 of 8

.

CLIENT: LaBella Associates, P.C. Client Sample 1D: 1740-SVI-3

 Lab Order:
 C1611040
 Tag Number:
 243,342

 Project:
 1740 Emerson Street
 Collection Date:
 11/22/2016

Lab ID: C1611040-005A Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		то.	-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	11/28/2016 3:31:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	11/28/2016 3:31:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Chloroethane	< 0.40	0.40		цд/т3	1	11/28/2016 3:31:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	11/28/2016 3:31:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	11/28/2016 3:31:00 AM
trans-1,2-Dichtoroethene	< 0.59	0.59		ug/m3	1	11/28/2016 3:31:00 AM
Trichloroethene	10	0.81		ug/m3	1	11/28/2016 3:31:00 AM
Viny! chloride	< 0.38	0.38		ug/m3	1	11/28/2016 3:31:00 AM

200	- 4 -	_
()n:	ı lit	iers:

- Onantitation 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

Date: 28-Dec-16

- E Estimated Value above quantitation range
- J Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Page 5 of 8

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112723.D Vial: 7 Acq On : 28 Nov 2016 3:31 am Sample : C1611040-005A Misc : AN23_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

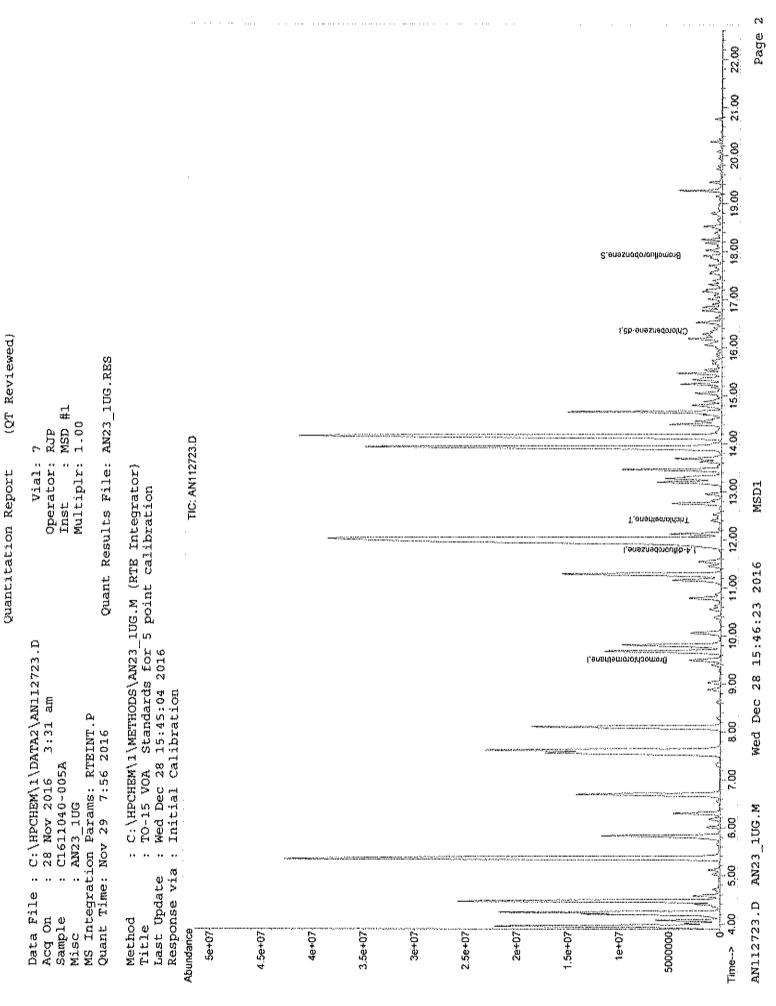
MS Integration Params: RTEINT.P

Quant Time: Nov 28 06:59:57 2016 Quant Results File: AN23_1UG.RES

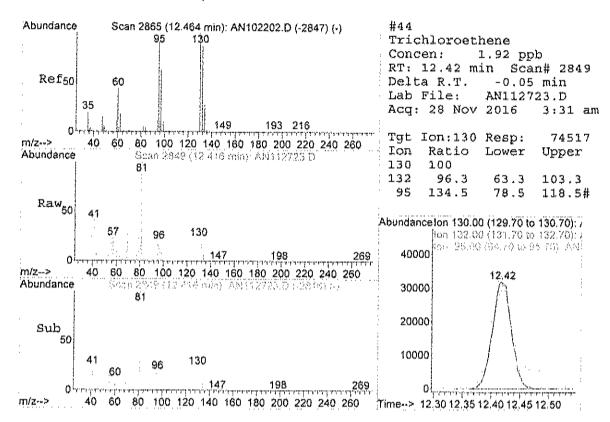
Quant Method : C:\HPCHEM\1\METHODS\AN23_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response Via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response (Conc	Units	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.49 11.79 16.34	128 114 117	22033 110343 103314	1.0	dqq 0 dqq 0	-0.05
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70	95 130	88801m ^{//} Recovery	1.1	4 ppb 114	-0.04 .00%
Target Compounds 44) Trichloroethene	12.42	130	74517	1.9	g ppb	Qvalue # 74

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AN112723.D AN23_1UG.M Wed Dec 28 15:46:22 2016 MSD1



Page 75 of 191



CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-006A

Date: 28-Dec-16

Client Sample ID: 1740-1AQ-3

Tag Number: 171,344

Collection Date: 11/22/2016

Matrix: AlR

Analyses	Result	**Limit Qual	Units	ÐF	Date Analyzed	
FIELD PARAMETERS	FLD				Analyst:	
Lab Vacuum In	-4	"Hg		11/23/2016		
Lab Vacuum Out	-30	"Hg		11/23/2016		
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC	TO-15			Analyst: RJP		
1,1,1-Trichtoroethane	< 0.15	0.15	ppbV	1	11/27/2016 11:22:00 PM	
1,1-Dichtoroethane	< 0.1 5	0.15	Vdqq	1	11/27/2016 11:22:00 PM	
1,1-Dichloroethene	< 0.15	0.15	₽₽bV	1	11/27/2016 11:22:00 PM	
Chloroethane	< 0.15	0.15	ppbV	1	11/27/2016 11:22:00 PM	
Chloromethane	< 0.15	0.15	ppbV	1	11/27/2016 11:22:00 PN	
cis-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	11/27/2016 11:22:00 PM	
Tetrachloroethylene	0.18	0.15	ppb∨	1	11/27/2016 11:22:00 PN	
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	3	11/27/2016 11:22:00 PM	
Trichlorgethene	0.15	0.040	ppbV	1	11/27/2016 11;22:00 PN	
Vinyl chloride	< 0.040	0.040	Vdqq	1	11/27/2016 11:22:00 PM	
Surr: Bromofluorobenzene	95.0	70-130	%REC	1	11/27/2016 11:22:00 PM	

Qualifiers:

S Spike Recovery outside accepted recovery limits

ND Not Detected at the Limit of Detection

Page 6 of 8

^{*} Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte. Quantitation estimated.

[.] Results reported are not blank corrected

E Estimated Value above quantitation range

³ Analyte detected below quantitation limit

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID:

C1611040-006A

Date: 28-Dec-16

Client Sample ID: 1740-IAQ-3

Tag Number: 171,344

Collection Date: 11/22/2016

Matrix: AlR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15		Analyst: RJP	
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/27/2016 11:22:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/27/2016 11:22:00 PM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 11:22:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	11/27/2016 11:22:00 PM
Chloromethane	< 0.31	0.31	ug/m3	1	11/27/2016 11:22:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 11:22:00 PM
Tetrachloroethylene	1.2	1,0	ug/m3	1	11/27/2016 11:22:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	i	11/27/2016 11:22:00 PM
Trichtoroethene	0.81	0.21	ug/m3	1	11/27/2016 11:22:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	11/27/2016 11:22:00 PM

Qualifiers:

- 13 Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- M Non-routine analyte. Quantitation estimated.
- Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- 12 Estimated Value above quantitation range
- Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Page 6 of 8

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112717.D
Acq On : 27 Nov 2016 11:22 pm
Sample : C1611040-006A
Misc : AN23_1UG
MS Integration Params: RTEINT.P Vial: 3 Operator: RJP Inst : MSD #1 Multiplr: 1.00

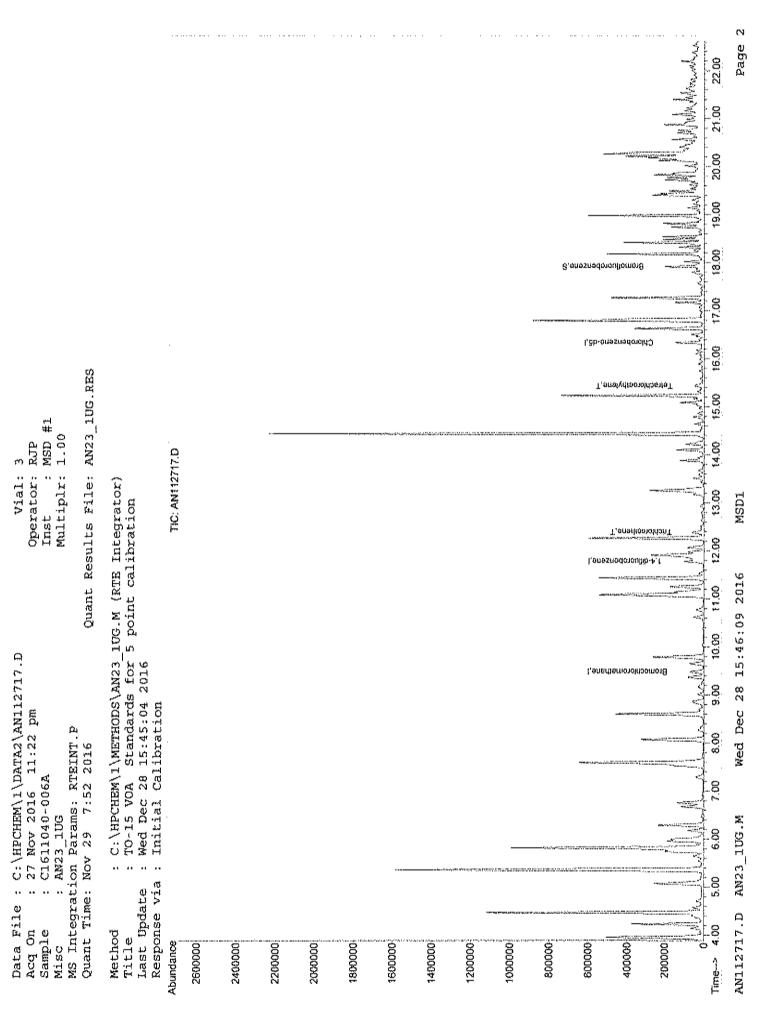
Quant Time: Nov 28 06:59:51 2016 Quant Results File: AN23 1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration

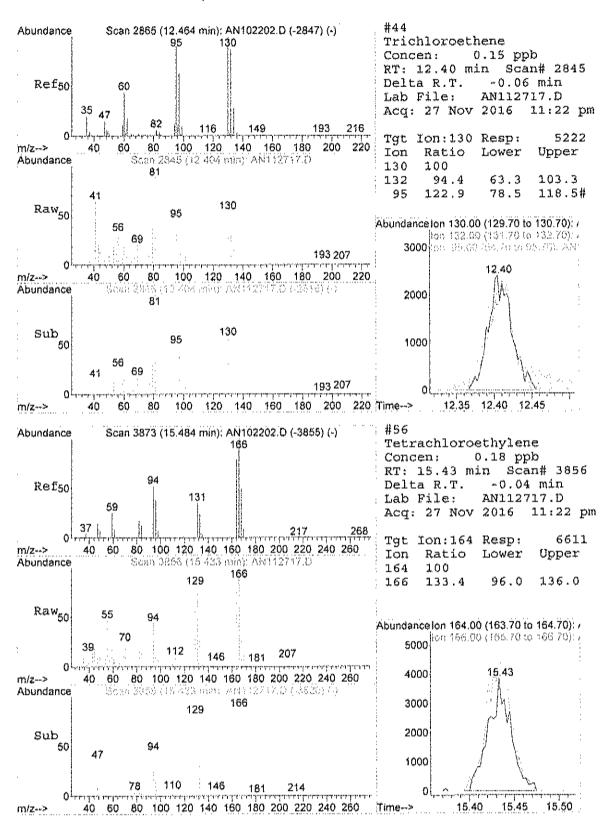
Internal Standards	R.T.	QIon	Response C	onc Ur	iits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.48 11.78 16.34	128 114 117	22463 99701 86559	1.00	dqq	-0.07 -0.06 -0.04
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70	95 - 130	62329 Recovery	0.95		~0.04 00%
Target Compounds 44) Trichloroethene 56) Tetrachloroethylene	12.40 15.43	130 164	5222 6611	0.15 0.18		Qvalue # 81 84

(V. Revlewed)

Unantitation Report



Page 80 of 191



CLIENT: LaBella Associates, P.C.

Lab Order: C

C1611040

1740 Emerson Street

Commission with the control of the c

Project: Lab ID:

C1611040-007A

Date: 28-Dec-16

Client Sample ID: 1740-Outdoor Air

Tag Number: 542,259

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed		
FIELD PARAMETERS		FLD			Analyst:		
Lab Vacuum In	-2		"Hg		11/23/2016		
Lab Vacuum Out	-30		"Hg		11/23/2016		
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	1	11/28/2016 12:01:00 AM		
1,1-Dichloroethane	< 0.15	0.15	ppb∨	1	11/28/2016 12:01:00 AM		
1,1-Dichloroethene	< 0.15	0.15	ppbV	1	11/28/2016 12:01:00 AM		
Chloroethane	< 0.15	0.15	ppbV	1	11/28/2016 12:01:00 AM		
Chloromethane	0.48	0.15	ppbV	1	11/28/2016 12:01:00 AM		
cis-1,2-Dichloroethene	< 0.15	0.15	Vdqq	1	11/28/2016 12:01:00 AM		
Tetrachloroethylene	< 0.15	0.15	Vdqq	1	11/28/2016 12:01:00 AM		
trans-1,2-Dichloroethene	< 0.15	0.15	Vdqq	1	11/28/2016 12:01:00 AM		
Trichloroethene	< 0.040	0.040	Vdqq	1	11/28/2016 12:01:00 AM		
Vinyl chloride	< 0.040	0.040	Vdqq	1	11/28/2016 12:01:00 AM		
Surr: Bromofluorobenzene	94.0	70-130	%REC	1	11/28/2016 12:01:00 AM		

Qualifiers:

Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte, Quantitation estimated.

S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 7 of 8

CLIENT: LaBelia Associates, P.C. Client Sample ID: 1740-Outdoor Air

Lab Order: C1611040 Cheff Sample 1D: 1740-Outdoor At

 Lab Order:
 C1611040
 Tag Number:
 542,259

 Project:
 1740 Emerson Street
 Collection Date:
 11/22/2016

Lab ID: C1611040-007A Matrix: AIR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-1	5		Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/28/2016 12:01:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/28/2016 12:01:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:01:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	11/28/2016 12:01:00 AM
Chioromethane	0.99	0.31	ug/m3	1	11/28/2016 12:01:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/n:3	1	11/28/2016 12:01:00 AM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	11/28/2016 12:01:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:01:00 AM
Trichloroethene	< 0.21	0.21	นg/m3	1	11/28/2016 12:01:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	11/28/2016 12:01:00 AM

- * Quantitation Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- JN Non-routine analyte. Quantitation estimated.
- S Spike Recovery outside accepted recovery limits
- . Results reported are not blank corrected

Date: 28-Dec-16

- E Estimated Value above quantitation range
- J Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Page 7 of 8

Quantitation Report (QT Reviewed)

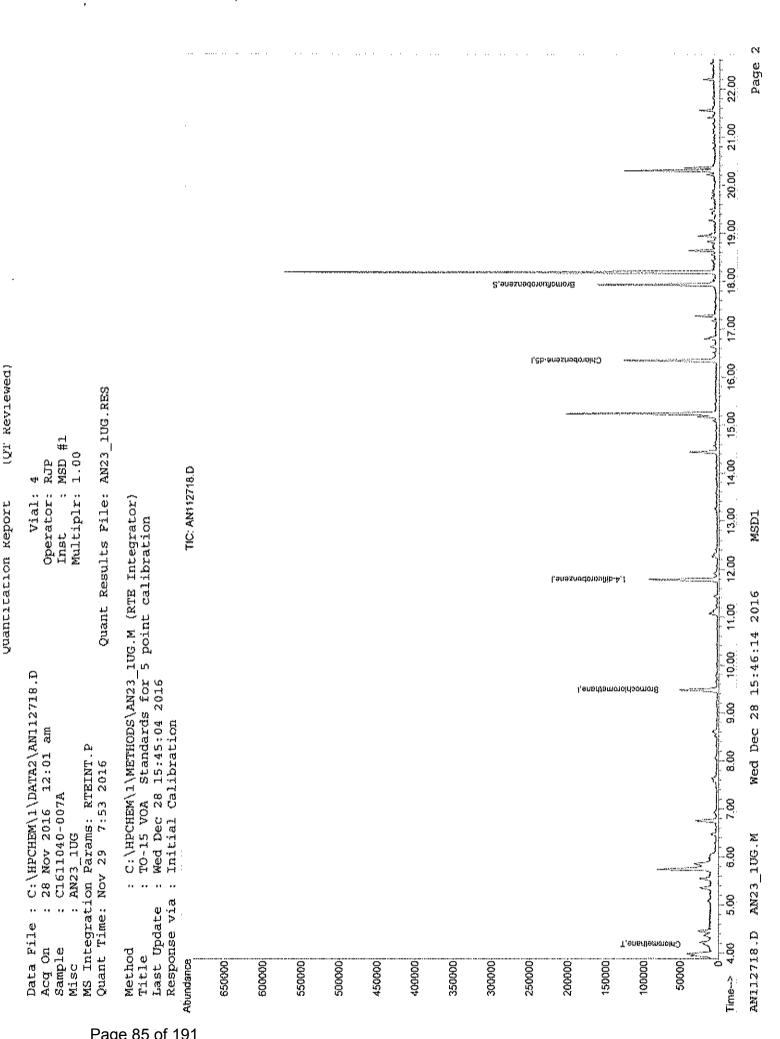
Data File : C:\HPCHEM\1\DATA2\AN112718.D Vial: 4 Acq On : 28 Nov 2016 12:01 am Operator: RJP Sample : C1611040-007A Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

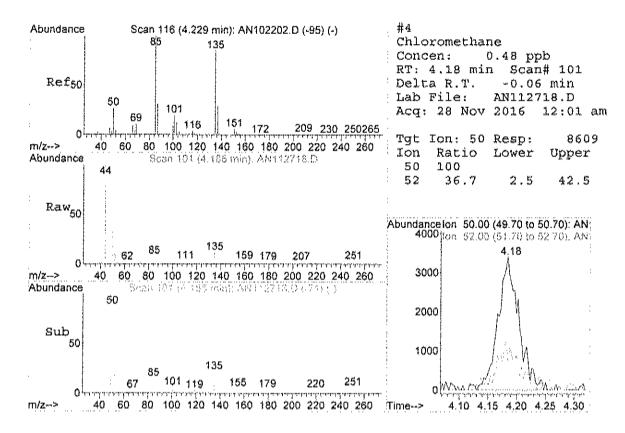
MS Integration Params: RTEINT.P

Quant Time: Nov 28 06:59:52 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	onc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.48 11.78 16.33	128 114 117	20718 98544 81376	1.00	dqq	-0.08 -0.06 -0.05
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70	95 - 130	57553 Recovery		ppb 94.	
Target Compounds 4) Chloromethane	4.18	50	8609	0.48	ppb	Qvalue 70





LaBella Associates, P.C.

Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID:

CLIENT:

C1611040-008A

Date: 28-Dec-16

Client Sample ID: 1740-Blind Dup

Tag Number: 1190,343

Collection Date: 11/22/2016

Matrix: AIR

A I		***************************************	*!!*	Vs. YS	Y4 - 4 - 4 - 4 1
Analyses	Result	**Limit Qu	iai Cons	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-2	-2 "Hg			11/23/2016
Lab Vacuum Out	-30	"Hg			11/23/2016
IUG/M3 BY METHOD TO15		TO-15			Analysi: RJP
1,1,1-Trichloroethane	< 0.15	0.15	∨dqq	1	11/28/2016 4:10:00 AM
1,1-Dichloroethane	< 0.15	0.15	∨dgq	1	11/28/2016 4:10:00 AM
1,1-Dichloroethene	< 0.15	0.15	ppb∨	1	11/28/2016 4:10:00 AM
Chloroethane	< 0.15	0.15	₽₽bV	1	11/28/2016 4:10:00 AM
Chloromethane	< 0.15	0.15	∨dqq	1	11/28/2016 4:10:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	11/28/2016 4:10:00 AM
Tetrachioroethylene	0.49	0.15	∨dqq	1	11/28/2016 4:10:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	11/28/2016 4:10:00 AM
Trichloroethene	0.17	0.15	ppb∨	1	11/28/2016 4:10:00 AM
Vinyl chłoride	< 0.15	0.15	Vdqq	1	11/28/2016 4:10:00 AM
Surr: Bromofluorobenzene	94.0	70-130	%REC	1	11/28/2016 4:10:00 AM

Qualifiers:

- Quantitation Limit
- 13 Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- JN Non-routine analyte. Quantitation estimated.
- Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- E Estimated Value above quantitation range
- Analyte detected below quantitation limit 3
- ND Not Detected at the Limit of Detection

Page 8 of 8

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-008A

Date: 28-Dec-16

Client Sample ID: 1740-Blind Dup

Tag Number: 1190,343

Collection Date: 11/22/2016

Matrix: AlR

Analyses	Result	**Limit Qu	al Units	ÐF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichtoroethane	< 0.82	0.82	ug/m3	1	11/28/2016 4:10:00 AM
1,1-Dichloroethane	< 0.61	0,61	ug/m3	1	11/28/2016 4:10:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 4:10:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	11/28/2016 4:10:00 AM
Chloromethane	< 0.31	0.31	ug/m3	· 1	11/28/2016 4:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 4:10:00 AM
Tetrachloroethylene	3.3	1.0	ug/กา3	1	11/28/2016 4:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 4:10:00 AM
Trichtoroethene	0.91	0.81	ug/m3	1	11/28/2016 4:10:00 AM
Vinyl chloride	< 0.38	0.38	սց/m3	1	11/28/2016 4:10:00 AM

Qualifiers:

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

Page 8 of 8

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112724.D Vial: 8
Acq On : 28 Nov 2016 4:10 am Operator: RJP
Sample : C1611040-008A Inst : MSD #1
Misc : AN23_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Time: Nov 28 06:59:58 2016

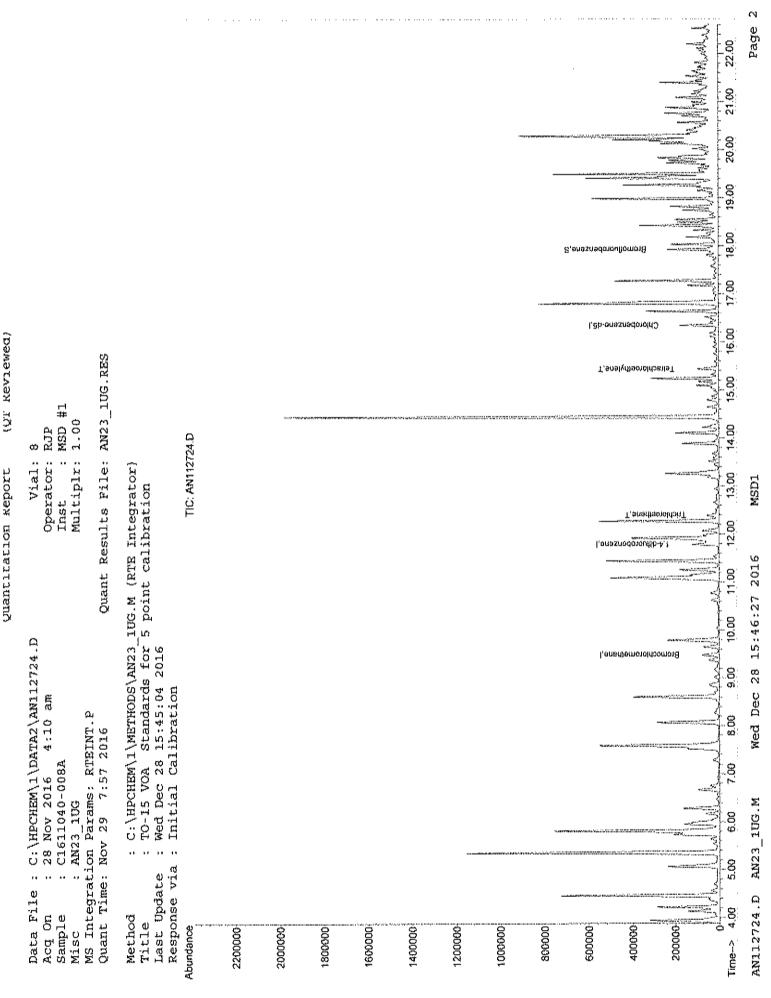
Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

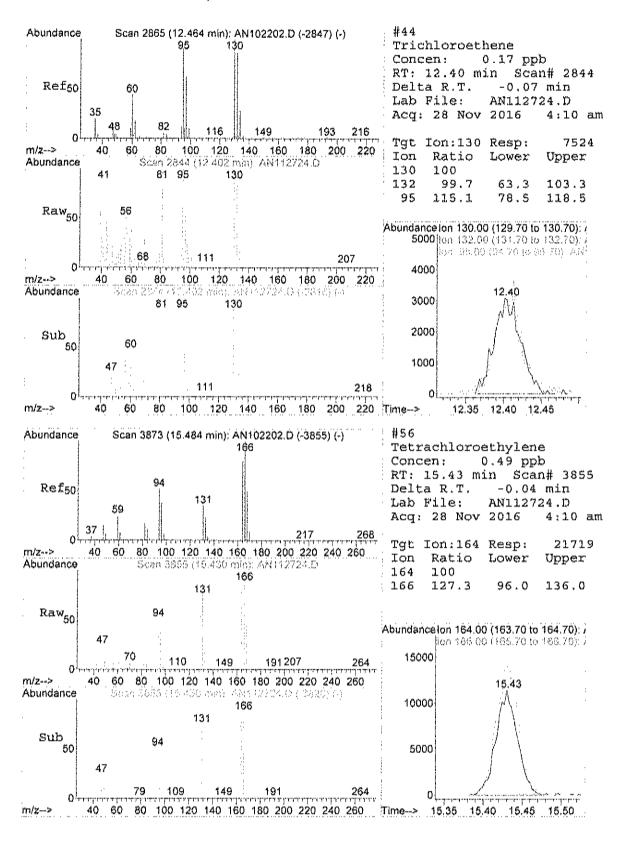
Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

Internal Standards	к.т.	QIon	Response Co	one U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.48 11.78 16.34	128 114 117	27945 125984 106358	1.00 1.00 1.00	ppb	-0.08 -0.06 -0.04
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70	95 - 130	75621 Recovery	0.94		-0.04 00%
Target Compounds 44) Trichloroethene 56) Tetrachloroethylene	12.40 15.43	130 164	7524 21719	0.17	***	Qvalue 83 90



Page 90 of 191



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 STANDARDS DATA

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 INITIAL CALIBRATION

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

Calibration Files

=AN112315.D 0.10 =AN112314.D 0.15 =AN112313.D 0.30 =AN112312.D 0.50 =AN112311.D 0.75 =AN112310.D

		Compound	.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
1)	I	Bromochloromethar Propylene Freon 12 Chloromethane Freon 114	ne -			IST	D			
2)	\mathbf{r}	Propylene			0.791	0.769	0.852	0.663	0.723	11.02
3)	${f T}$	Freon 12			4.601	3.859	3.825	3.701	3.741	10.42
4)	\mathbf{T}	Chloromethane			1.032	0.945	0.909	0.802	0.859	11.11
5)	${f T}$	Freon 114			3.103	2,784	2.515	2.451	2.500	12.07
6)	T	Vinyl Chloride Butane	1.062	0.812	0.943	0.796	0.723	0.689	0.770	17.84
7)	T	Butane			1.050	1.134	1.033	0.869	0.966	10.08
8)	T	T'2-DOCAUTERIG			0.914	0.80%	0.878	0.708	0.755	13.08
9)	T	Bromomethane			1.017	0.997	0.964	0.875	0.879	11.67
10)	T T	Chloroethane			0.419	0.341	0.308	0.319 0.340	0.318	14.50
11) 12)	T	Ethanol Acrolein			0.388	0.343	0.298	0.340	0.317	12.49
13)	Ť	Vinyl Bromide			1 172	1 024	0.317	0.243	0.200	15.51 13.41
14)	Ť	Freon 11			3 440	3 227	3 008	2 823	2 896	11.00
15)	Ť	Acetone			0.922	0 724	0.639	0 571	0 614	24.11
16)	T	Pentane			0.732	1.001	0.907	0.814	0.808	13.19
17)	\mathbf{T}	Isopropyl alcoh			1.476	1.394	1.152	1.155	1.213	12.07
18)	${f T}$	1,1-dichloroeth			1.087	1.007	0.928	0.922	0.952	12.07 7.08
19)	$^{\prime}\Gamma$	Freon 113			2.577	2.380	2,287	2.176	2.251	7.15
	t_	t-Butyl alcohol			2.920	2.550	2.288	2.062	2.332	11.87
21)	\mathbf{r}				2.954	2.614	2.143	2.030 1.018	2.093	22.34
22)	${f T}$	Allyl chloride			1.548	1.140	1.059	1.018	1.103	16.88
23)	T	Carbon disulfid								7.46
	T	trans-1,2-dichl			1.466	1.428	1.396	1.366	1.378	3.70
25)	T	methyl tert-but			3.820	3.253	3.058	2.982	3.119	9.73 5.27
26)	Ţ	1,1-dichloroeth			1.905	1.828	1.751	1.721	1.736	5.27
27) 28)	T T	Vinyl acetate								3.47
29)	Ť	Methyl Ethyl Ke cis-1,2-dichlor			7 576	7 390	1 225	0.382	1 250	3.62
30)	Ŧ	Hexane			1.576	1 345	1 360	7.375	1.350	7.40 4.82
31)	$\dot{ ilde{ au}}$	Ethyl acetate			1.786	1 760	1 754	1 636	1 722	3.20
	T	Chloroform			2.897	2 667	2 561	2 438	7 - 7 - A	6 88
33)	T	Tetrahydrofuran			0.960	0.851	0.820	0.828	0.832	6.87
34)	T	1,2-dichloroeth			2.074	1.908	1.852	1.813	1.824	6.88 6.87 6.96
·	_									
35)		1,4-difluorobenze	ne -							
36) 37)	T T	1,1,1-trichloro Cyclohexane			0.654	0.592	0.613	0.626	0.616	3.00
38)	T				0.347	0.285	0.289	0.201	0.286	8.99
39)	$\dot{\mathbf{r}}$	Carbon tetrachl Benzene	0.569	0.509	0.547	0.475	0.333	0.585	0.558	6.37
40)	Ť	Methyl methacry						0.249		2.22
41.)	Ť	1,4-dioxane						0.123		12.75
42)	Ť	2,2,4-trimethyl						0.856		6.04
43)	Ť	Heptane						0.318		8.01
44)	$\bar{\mathbf{T}}$	Trichloroethene	0.513	0.390						18.11
45)	T	1,2-dichloropro						0.212		4.53
	Т	Bromodichlorome						0.509		3.90
	\mathbf{T}	cis-1,3-dichlor						0.353		2.37
48)	${f T}$	trans-1,3-dichl						0.354		4,99
49)	T	1,1,2-trichloro						0.275		5.89
T 0 \		811- 1 1								
50)	Ι	Chlorobenzene-d5								
51)	T.	Toluene			0.592	0.532	0.518	0.507	0.518	6.30

^{(#) =} Out of Range ### Number of calibration levels exceeded format ### AN23 1UG.M Wed Dec 28 15:43:34 2016

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

Calibration Files

.04 =AN112315.D 0.10 =AN112314.D 0.15 =AN112313.D 0.30 =AN112312.D 0.50 =AN112311.D 0.75 =AN112310.D

	Compound	.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
52) T	Methyl Isobutyl			0 676	0.531	0 484	0 453	0.498	1.5.40
53) T	Dibromochlorome						0.549		9.58
54) T	Methyl Butyl Ke						0.411		14.36
55) T	1,2-dibromoetha			0.567			0.517		3.52
56) T	Tetrachloroethy			0.460			0.408		5.07
57) T	Chlorobenzene							0.759	
58) T	1,1,1,2-tetrach							0.419	
59) T	Ethylbenzene							1.258	
60) T	m&p-xylene						1.003		5.95
61) T	Nonane						0.548		9,25
62) T	Styrene						0.706		3.30
63) T	Bromoform							0.487	
64) T	o-xylene			1,301	1.046	1.101	1.101	1.111	7.34
65) T	Cumene						1.388		5.18
66) S	Bromofluorobenz	0.749	0.728	0.759	0.741	0.741	0.753	0.754	2.06
67) T	1,1,2,2-tetrach			0.643	0.600	0.594	0.606	0.604	2.64
68) T	Propylbenzene			1.858	1.651	1.642	1.562	1.635	6.23
69) T	2-Chlorotoluene			1.235	1.182	1.110	0.988	1.057	10.65
70) T	4-ethyltoluene			1.440	1.308	1.306	1.307	1.312	4.33
71) T	1,3,5-trimethyl			1.480	1.261	1.225	1.195	1.238	8.30
72) T	1,2,4-trimethyl			1.314	1.181	1.144	1.145	1.156	5.87
73) T	1,3~dichloroben			0.844	0.774	0.764	0.763	0.769	4.27
74) T	benzyl chloride			0.883	0.805	0.816	0.726	0.800	6.19
75) T	1,4-dichloroben			0.868	0.793	0.755	0.732	0.763	6.19
76) T	1,2,3-trimethyl			1.239	1.151	1.095	1.113	1.111	5.40
77) T	1,2-dichloroben			0.803	0.738	0.734	0.710	0.720	5.41
78) T	1,2,4-trichloro			0.456	0.437	0.443	0.464	0.475	5.90
79) T	Naphthalene						1.275		6.03
80) T	Hexachloro-1,3-			0.694	0.645	0.623	0.632	0.642	3.54

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112306.D Vial: 6 Acq On : 23 Nov 2016 7:00 pm Sample : A1UG_2.0 Misc : AN23_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 23 21:47:01 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

DataAcq Meth : 1UG RUN

Internal Standards	R.T.			Conc U	nits	Dev (Min)
 Bromochloromethane 	9.50	128		1.00	ppb	· · ·	0.06
35) 1,4-difluorobenzene	11.79	114	188707	1.00	ppb	_	0.05
50) Chlorobenzene-d5	16.34	117	169426	1.00	dqq	-	0.04
System Monitoring Compounds							
66) Bromofluorobenzene	17.92	95	132406	1.01	nnh		0.04
	Range 70						0.01
Target Compounds				_		0	3
2) Propylene	3.94	4.3	C1707	7 06		Qva	lue
3) Freon 12		41	51702	1.86	ppp		78
4) Chloromethane	4.00 4.18	85 60	274471 64146m/	1.85	ppp		99
5) Freon 114			0414001/	1.82	ppp		
6) Vinyl Chloride	4.19	85	182209	1.87			98
	4.38	62 43 39	52816 79022m /	1.84			94
7) Butane	4.47	43	79022m •	2.08			
8) 1,3-butadiene	4.47	39	53477	1.67			96
9) Bromomethane	4.81	94 64 45	60832	1.77			83
10) Chloroethane	4.97	64	22298	1.75			66
11) Ethanol	5.08	45	23018	1.77			88
12) Acrolein	5.64	56		1.98		#	59
13) Vinyl Bromide	5.29	106	65926	1.85			98
14) Freon 11	5.55	1.01	204577	1.73	ppp		98
15) Acetone	5.75		40291m /		agg	,,	
16) Pentane	5.82	42	56124 /	1.78		#	25
17) Isopropyl alcohol	5.85	45	96565m	1.93			
18) 1,1-dichloroethene	6.30	96	71326	1.83			86
19) Freon 113	6.48	101	171339	1.89			82
20) t-Butyl alcohol	6.56	59	179702	1.91			93
21) Methylene chloride	6.76	84	134158m	1.70			
22) Allyl chloride	6.74	41	81049	1.86			84
23) Carbon disulfide	6.90	76	193796	1.92			95
24) trans-1,2-dichloroethene		61	107467	1.90			93
25) methyl tert-butyl ether		73	237559	1.92			95
26) 1,1-dichloroethane	8.11	63	133448	1.91			95
27) Vinyl acetate	8.10	43	179221	1.96			97
28) Methyl Ethyl Ketone	8.62	72	33315	1.99		#	1
29) cis-1,2-dichloroethene	9.03	61	102783	1.90			81
30) Hexane	8.61	57	106740	1.99			97
31) Ethyl acetate	9.21	43	138784	1.90			91
32) Chloroform	9.65	83	195624	1.89			96
33) Tetrahydrofuran	9.85	42	63466	1.86	bbp		95
34) 1,2-dichloroethane	10.77	62	138348	1.84			90
36) 1,1,1-trichloroethane	10.45	97	229387	2.01			97
37) Cyclohexane	11.15	56	102619	2,04		#	54
38) Carbon tetrachloride	11.10	117	230227	2.11			87
39) Benzene	11.07	78	217624	1.97			97
40) Methyl methacrylate	12.67	41	92800	1.99			93
41) 1,4-dioxane	12.72	88	48797	1.99			75
42) 2,2,4-trimethylpentane	11.92	57	313597	2.01			94
43) Heptane	12.27	43	112778	1.95			97
44) Trichloroethene	12.41	130	119214	2.03			92
45) 1,2-dichloropropane	12.53	63	76298	1.96	dqq		95

(#) = qualifier out of range (m) = manual integration AN112306.D AN23_1UG.M Wed Dec 28 15:44:01 2016

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112306.D Acq On : 23 Nov 2016 7:00 pm Vial: 6 Operator: RJP Sample : Alug_2.0 Misc : AN23_lug Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Time: Nov 23 21:47:01 2016

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Nov 23 21:45:43 2016

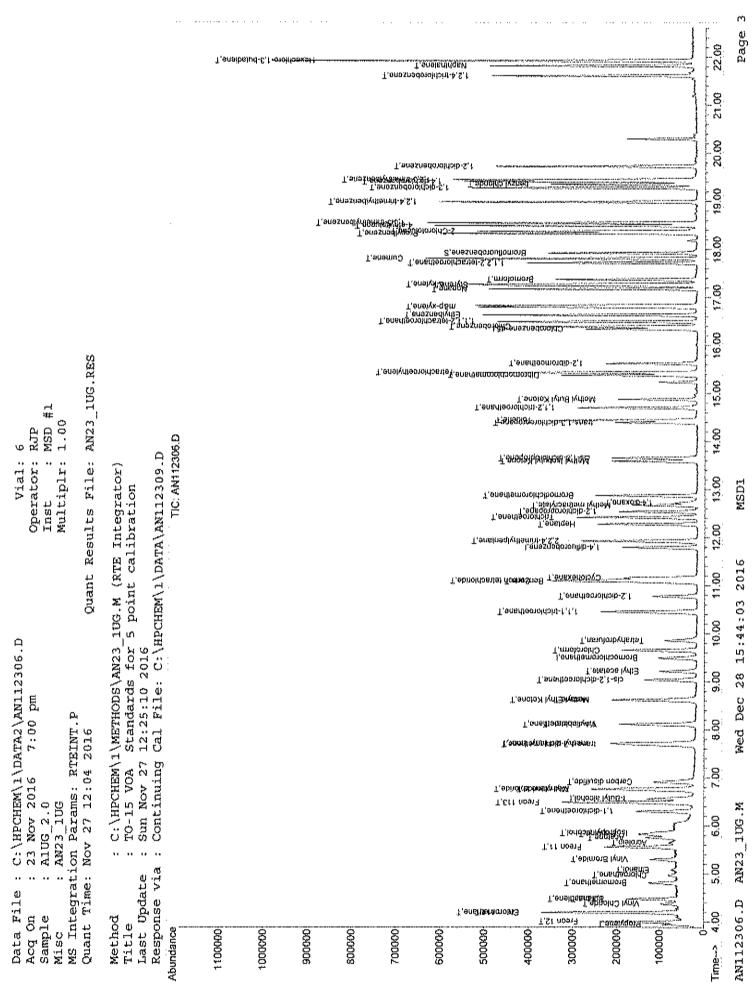
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.87	83	196375	2.07 ppb	96
47)	cis-1,3-dichloropropene	13.65	75	136412	2.01 ppb	91
48)	trans-1,3-dichloropropene	14.39	75	139992	2.07 ppb	82
49)	1,1,2-trichloroethane	14.70	97	102213	2.02 ppb	95
51)	Toluene	14.44	92	166255	1.93 ppb	99
52)	Methyl Isobutyl Ketone	13.58	43	155143	1.92 ppb	96
53)	Dibromochloromethane	15.38	129	210049m 🏳	2,21 ppb	
54)	Methyl Butyl Ketone	14.88	43	140368	1.87 ppb	93
55)	1,2-dibromoethane	15.62	107	172595	1.95 ppb	95
56)	Tetrachloroethylene	15.44	164	133130	1.91 ppb	90
57)	Chlorobenzene	16.39	112	245038	1.94 ppb	95
58)		16.49	1.31	149857	2.04 ppb	99
59)	Ethylbenzene	16.63	91	400154	1.93 ppb	94
60)	m&p-xylene	16.80	91	647394	3.80 ppb	95
61)	Nonane	17.18	43	168786	1.84 ppb	97
62)	Styrene	17.25	104	233257	1.92 ppb	81
63)	Bromoform	17.38	173	188602	2.19 ppb	99
64)	o-xylene	17.28	91	358587	1.89 ppb	96
65)	Cumene	17.81	105	459811	1.93 ppb	95
67)	1,1,2,2-tetrachloroethane	17.72	83	201708 ,	1.98 ppb	96
	Propylbenzene	18.33	91	516178m 🕴	1.93 ppb	
	2-Chlorotoluene	18.37	91	328073m	1.83 ppb	
	4-ethyltoluene	18.49	105	421330m	1.88 ppb	
	1,3,5-trimethylbenzene	18,55	105	395583m	1.92 ppb	
72)	1,2,4-trimethylbenzene	18.99	105	374337	1.96 ppb	96
73)	1,3-dichlorobenzene	19.28	146	252314	1.93 ppb	92
74)	benzyl chloride	19.35	91	283369m 🌃	2.22 ppb	
75)	1,4-dichlorobenzene	19.41	146	247827	1.95 ppb	93
76)		19.45	105	355733	1.92 ppb	90
77)	1,2-dichlorobenzene	19.73	146	230642	1.92 ppb	97
78)	1,2,4-trichlorobenzene	21.61	180	172746	2.08 ppb	93
79)	Naphthalene	21.82	128	445959	1.98 ppb	95
80)	Hexachloro-1,3-butadiene	21.92	225	211766	1.93 ppb	93

кеулемец

3

плобая коттаттить



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112307.D Vial: 7 Acq On : 23 Nov 2016 Sample : Alug 1.50 Misc : AN23_1UG Operator: RJP 7:40 pm Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 23 21:46:35 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

DataAcq Meth : 1UG_RUN

Internal Standards		QIon	Response (Conc Units	Dev(Min)
1) Bromochloromethane					0.06
35) 1,4-difluorobenzene	9.49	114	38501	1.00 ppb	
50) Chlorobenzene-d5	11.79 16.34	77.4	179791 160510	1.00 ppb 1.00 ppb	-0.05
50) Chioropensene ds	16.34	117	100310	1.00 550	-0.04
System Monitoring Compounds					
66) Bromofluorobenzene	17,93		121263	0.98 ppb	-0.04
Spiked Amount 1.000	Range 70	- 130	Recovery	y = 98	£00.
_					
Target Compounds					Qvalue
2) Propylene	3.96	41	43608	1.69 ppb	
3) Freon 12	4.00	85	201100	1.46 ppb	
4) Chloromethane	4.19	50	44310m / 132772	1.35 ppb	
5) Freon 114	4.19	85	132772		
6) Vinyl Chloride	4.37	62	38425	1.44 ppb	
7) Butane	4.47	43	51823	1.47 ppb	97
8) 1,3-butadiene	4.47	39	41696	1.56 ppb	94
9) Bromomethane	4.80	94	45928	1.43 ppb	
10) Chloroethane	4.97	64	17242m 🌓		
11) Ethanol	5.08	43 39 94 45 56	15593	1.29 ppb	
12) Acrolein	5.65	56	13878m √		
13) Vinyl Bromide	5.29	106	48716	1.46 ppb	
14) Freon 11	5.56	101	151025	1.37 ppb	
15) Acetone	5.75	58	28214 42038 61767	1.32 ppb	
16) Pentane	5.82	4.2	42038	1.44 ppb	
17) Isopropyl alcohol	5.86	45	01/0/		
18) 1,1-dichloroethene	6.30	96	53116	1.46 ppb	
19) Freon 113	6.48	101	125316	1.49 ppb	
20) t-Butyl alcohol	6.57	59	125662	1.43 ppb	
21) Methylene chloride	6.76	84	98399	1.34 ppb	
22) Allyl chloride	6.74	41	57582	1.42 ppb	
23) Carbon disulfide 24) trans-1,2-dichloroethene	6.90	76		1.48 ppb	
25) methyl tert-butyl ether		61 73	78201 171977	1.48 ppb	
26) 1,1-dichloroethane	8.11	73 63		1.49 ppb	
27) Vinyl acetate	8.10	43	97604 123074	1.50 ppb	
28) Methyl Ethyl Ketone	8.63	72	22963	1.44 ppb	
29) cis-1,2-dichloroethene		61		1.47 ppb 1.50 ppb	
30) Hexane	8.61	67	73537	1.47 ppb	
31) Ethyl acetate	9.21	43	73537 99286	1.46 ppb	
32) Chloroform	9.65	83	138997	1.44 ppb	
33) Tetrahydrofuran	9.86	42	46279	1.46 ppb	95
34) 1,2-dichloroethane	10.77	62	98398	1.41 ppb	88
36) 1,1,1-trichloroethane	10.45	97	164858	1.52 ppb	98
37) Cyclohexane	11.16	56	73810	1.54 ppb	# 56
38) Carbon tetrachloride	11.10	117	162899	1.57 ppb	86
39) Benzene	11,08	78	156997	1.49 ppb	97
40) Methyl methacrylate	12.67	41	66029	1.48 ppb	93
41) 1,4-dioxane	12.72	88	35436	1.52 ppb	76
42) 2,2,4-trimethylpentane	11.92	57	224887	1.51 ppb	95
43) Heptane	12.27	43	83127	1.51 ppb	98
44) Trichloroethene	12.41	130	86993	1.55 ppb	93
45) 1,2-dichloropropane	12.53	63	54156	1.46 ppb	95
					

^{(#) =} qualifier out of range (m) = manual integration AN112307.D AN23_1UG.M

MSD1

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

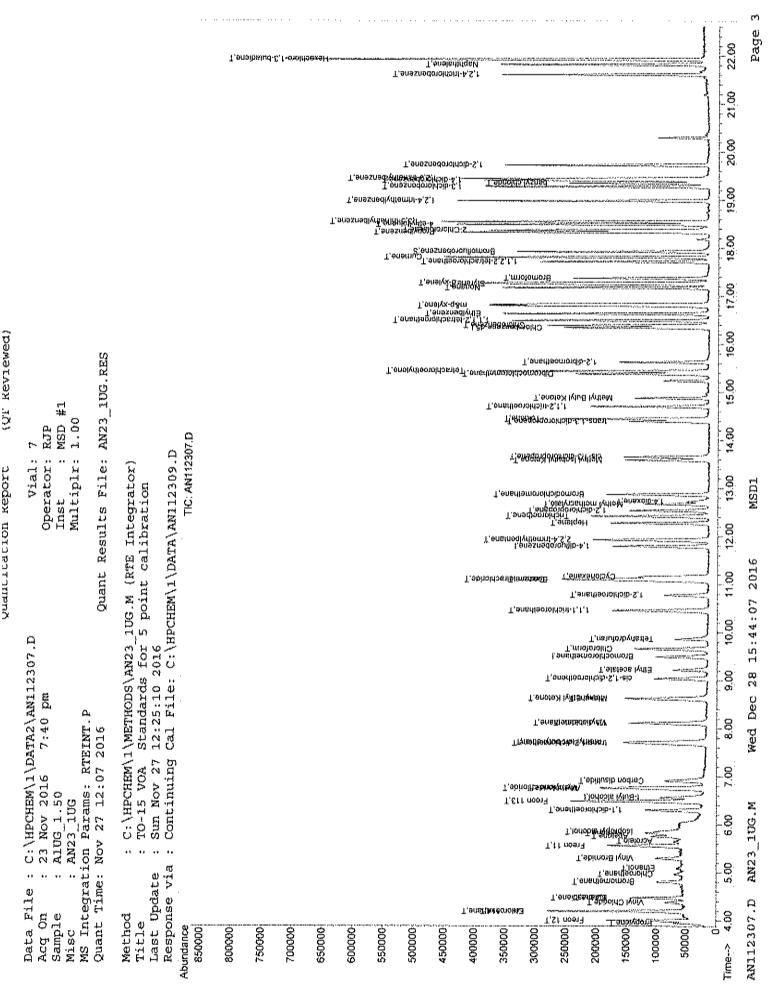
Quant Time: Nov 23 21:46:35 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.87	83	140702	1,56 ppb	96
47)	cis-1,3-dichloropropene	13.65	75	97121	1.50 ppb	92
48)	trans-1,3-dichloropropene	14.39	75	98197	1.52 ppb	80
49)	1,1,2-trichloroethane	14.70	97	74600	1.55 ppb	95
51)	Toluene	14.45	92	117833	1.45 ppb	98
52)	Methyl Isobutyl Ketone	13.58	43	108925	1.43 ppb	97
53)	Dibromochloromethane	15.38	129	144509m /	1.61 ppb	
54)	Methyl Butyl Ketone	14.88	43	102399	$1.44 \overline{ppb}$	91
55)	1,2-dibromoethane	15.62	107	125624	1.50 ppb	95
56)	Tetrachloroethylene	15.44	164	96188	1.46 ppb	89
-	Chlorobenzene	16.39	112	176903	1.48 ppb	94
58)	1,1,1,2-tetrachloroethane	16,49	131	106555	1.53 ppb	99
59)	Ethylbenzene	16.63	91	288947	1.47 ppb	92
60)	m&p-xylene	16.80	91	465799	2.88 ppb	95
61)	Nonane	17.18	43	1.21838	1.40 ppb	98
62)	Styrene	17.25	104	166442	1.44 ppb	81
63)	Bromoform	17.37	173	131110	1.60 ppb	98
64)	o-xylene	17.28	91	254347	1.42 ppb	95
65)	Cumene	17.81	105	328350	1.45 ppb	95
67)	1,1,2,2-tetrachloroethane	17.72	83	144312	1.50 ppb	96
68)	Propylbenzene	18.33	91	399990m 🛭	1.58 ppb	
69)	2-Chlorotoluene	18.37	91	219045m	1.29 ppb	
70)	4-ethyltoluene	18.49	105	307322m	1.44 ppb	
71)	1,3,5-trimethylbenzene	18.55	105	284886m	1.46 ppb	
72)	1,2,4-trimethylbenzene	18.99	1.05	268752	1.49 ppb	98
73)	1,3-dichlorobenzene	19.28	146	177308	1.43 ppb	91
74)	benzyl chloride	19.35	91	194504m 👃	1.61 ppb	
75)	1,4-dichlorobenzene	19.41	146	176840	1.47 ppb	94
	1,2,3-trimethylbenzene	19.45	105	258972	1.48 ppb	91
77)	1,2-dichlorobenzene	19.73	146	167088	1.47 ppb	97
78)	1,2,4-trichlorobenzene	21,62	180	121349	1.54 ppb	95
79)	Naphthalene	21.82	128	322714	1.52 ppb	96
80)	Hexachloro-1,3-butadiene	21.93	225	152710	1.47 ppb	94



Page 101 of 191

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112308.D Vial: 8 Acq On : 23 Nov 2016
Sample : A1UG_1.25
Misc : AN23_1UG mg 02:8 Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 23 21:46:10 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response C	one U	nits	Dev	(Min)
1) Danmach Languagh							
 Bromochloromethane 1,4-difluorobenzene 	9.48				ppb		-0.07
50) Chlorobenzene-d5	11.78		171140	1.00	dqq		-0.05
50/ CILLORODellaelle-d5	16.34	11,	150842	1.00	ppb		-0.04
System Monitoring Compounds							
66) Bromofluorobenzene	17.92	95	114992	0 99	dqq		-0.04
Spiked Amount 1.000	Range 70		Recovery			.00%	0.00
	<u> </u>						
Target Compounds						Qv.	alue
2) Propylene	3.95	41	30046	1.23	ББр		89
3) Freon 12	4.00	85	162157	1.24	dqq		100
 Chloromethane 	4.19	50	35850m/ ³	1.15	ppb		
5) Freon 114	4.19	85	104663	1.22	dag		98
6) Vinyl Chloride	4.37	62	30686		ppb		96
7) Butane	4.48	43	39513	1.18	ЪБр		95
8) 1,3-butadiene	4.47	39 94	30696 n	1.21	ದೆದ್ದದ್ದ		94
9) Bromomethane	4.80	94	30696 37240m /	1.23	ppb		
10) Chloroethane	4.97	64	12911M <i>f</i>	1.15	ppp		
11) Ethanol	5.09	45 56 106	13330 /		dqq	#	66
12) Acrolein	5.65	56	10180m √	1.17	ppb		
13) Vinyl Bromide	5.29	106	39174	1.24	ppb		97
14) Freon 11	5.55	101	124193	1.19	dqq		99
15) Acetone	5.75	58	23858	1.18	ppb		1
16) Pentane	5.82	42	38522	1.39	dqq	#	24
17) Isopropyl alcohol	5.86	4 S	49145	1.11	ppb	#	100
<pre>18) 1,1-dichloroethene</pre>	6.29	96	42978	1,25	ppb		89
19) Freon 113	6.49	101	98233	1.23	ppb		84
20) t-Butyl alcohol	6.57	59	100695		ppb	#	85
21) Methylene chloride	6.76	84	80738	1.16	dqq		96
22) Allyl chloride	6.74	41	46925	1.22	ppb		82
23) Carbon disulfide	6.91	76	107768		dqq		96
24) trans-1,2-dichloroethene		61	61539	1.23	ppb		93
25) methyl tert-butyl ether	7.72	73	136221	1.24	dqq		92
26) 1,1~dichloroethane	8.11	63	77112	1.25			98
27) Vinyl acetate	8.10	43	100946		ppb		98
28) Methyl Ethyl Ketone	8.63	72	18867		dqq	#	9
29) cis-1,2-dichloroethene		61	60699	1.27			86
30) Hexape	8.61	57 43	58784	1.24			91
31) Ethyl acetate	9.21			1.18			89
32) Chloroform	9.65	83	111375	1.22			97
33) Tetrahydrofuran	9.85	42	36706	1.22			93
34) 1,2-dichloroethane	10.77	62	79878	1.21			88
36) 1,1,1-trichloroethane	10.45	97	131670	1.27			96
37) Cyclohexane	11.15	56	58296	1.28		#	54
38) Carbon tetrachloride	11.10	117	127122	1.28			86
39) Benzene	11.07	78	123563	1.23			95
40) Methyl methacrylate	12.67	41	52630	1.24			91
41) 1,4-dioxane	12.73	88	26931	1.21			80
42) 2,2,4-trimethylpentane	11.92	57	176989	1.25			95
43) Heptane	12.27	43	65487	1.25			98
44) Trichloroethene	12.41	130	67987	1.27			92
45) 1,2-dichloropropane	12.53	63	43590	1.23	dąą		95

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

AN112308.D AN23_1UG.M Wed Dec 28 15:44:09 2016

MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112308.D Vial: 8 Acq On : 23 Nov 2016 8:20 pm Sample : Alug_1.25 Misc : AN23_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 23 21:46:10 2016 Quant Results File: AN23_1UG.RES

Quant Method: C:\HPCHEM\1\METHODS\AN23_lUG.M (RTE Integrator)
Title: TO-15 VOA Standards for 5 point calibration
Last Update: Wed Nov 23 21:45:43 2016
Response via: Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.87	83	108582	1.26 ppb	94
47)		13.65	7.5	76169	1.24 ppb	92
48)		14.39	75	79144	1.29 ppb	87
49)		14.70	97	56971	1.24 ppb	99
51)	Toluene	14.44	92	96016	1.25 ppb	99
52)	Methyl Isobutyl Ketone	13.58	43	85462	1.19 ppb	97
53)		15.38	129	114136m /	1.35 ppb	 ,
54)	Methyl Butyl Ketone	14.88	43	80430	1.20 ppb	91
55)	1,2-dibromoethane	15.62	107	96410	1.22 ppb	97
56)	Tetrachloroethylene	15.44	164	76855	1.24 ppb	92
	Chlorobenzene	16.39	112	137071	1.22 ppb	92
58)	1,1,1,2-tetrachloroethane	16.49	131	82866	1.27 ppb	99
59)		16.63	91	229567	1.24 ppb	94
60)	m&p-xylene	16.83	91	368240	2.43 ppb	96
61)	Nonane	17.18	43	94770	1.16 ppb	95
62)	Styrene	17.25	104	134923	1.25 ppb	81
63)	Bromoform	17.38	173	98245	1.28 ppb	98
64)	o-xylene	17.28	91	208133	1.23 ppb	98
	Cumene	17.81	105	258657	1.22 ppb	95
	1,1,2,2-tetrachloroethane	17.72	83	112413	1.24 ppb	96
	Propylbenzene	18.33	91	303882m <i>¶</i> ∤		
	2-Chlorotoluene	18.37	91	187562m	1.18 ppb	
	4-ethyltoluene	18.49	105	245045m /	1.23 ppb	
71)	1,3,5-trimethylbenzene	18.55	105	220609m	1.20 ppb	
72)	1,2,4-trimethylbenzene	18.99	105	210952	1.24 ppb	98
73)	1,3-dichlorobenzene	19.28	146	142572	1.23 ppb	92
74)	benzyl chloride	19.35	91	147189m 💯	1.30 ppb	
75)	1,4-dichlorobenzene	19.41	146	138864	1.22 ppb	94
	1,2,3-trimethylbenzene	19.45	105	202037	1.22 ppb	91
	1,2-dichlorobenzene	19.72	146	130578	1.22 ppb	97
	1,2,4-trichlorobenzene	21.61	180	92572	$1.25 \stackrel{\circ}{ppb}$	94
	Naphthalene	21.82	128	247776	1.24 ppb	96
80)	Hexachloro-1,3-butadiene	21.92	225	120127	1.23 ppb	94

Kevlewed]

5

Anametraeton Report

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: Nov 23 21:45:58 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

The common than	+ w.							
1) Bromochloromethane 9.49 128 34430 1.00 ppb -0.06 50 Chlorobenzene 11.78 114 161930 1.00 ppb -0.06 50 Chlorobenzene 16.34 117 140398 1.00 ppb -0.04 System Monitoring Compounds 66 Bromofluorobenzene 17.93 5 108167 1.00 ppb -0.04 Spiked Amount 1.000 Range 70 - 130 Recovery = 100.00* Target Compounds 2 2 2 2 2 2 2 2 2	Internal Standards	к.т.	QIon	Response				
35) 1,4-diffluorobenzene								
System Monitoring Compounds 66 Bromofluorobenzene 17.93		11.78	114	161930	1 00	ppb		
## System Monitoring Compounds 17.93 95 108167 1.00 ppb -0.04	50) Chlorobenzene-d5	16.34	7 7 7	140398	1.00	ppb	w	
## Spiked Amount	,		# # 7	T.#0330	++00	FY		.0.0%
## Spiked Amount	System Monitoring Compounds							
Target Compounds 2) Propylene 3.95 41 23105 1.00 ppb 89 4) Chloromethane 4.19 50 29417 1.00 ppb 97 5) Freon 114 4.19 85 81025 1.00 ppb 97 6) Vinyl Chloride 4.38 62 23933 1.00 ppb 97 7) Butane 4.47 43 31602 1.00 ppb 95 9) Bromomethane 4.80 94 28661 1.00 ppb 96 1) Chloroethane 4.98 64 10624 1.00 ppb 96 1) Chloroethane 4.98 64 10624 1.00 ppb 96 1) Chloroethane 4.98 64 10624 1.00 ppb 96 1) Chloroethane 5.10 45 11120m/ 1.03 ppb 85 11) Ethanol 5.10 45 11120m/ 1.03 ppb 96 13) Vinyl Bromide 5.30 106 29742 1.00 ppb 97 14) Freon 11 5.55 101 98337 1.00 ppb 97 15) Actone 5.75 58 19048 1.00 ppb 97 16) Pentame 5.82 42 26195 1.00 ppb 97 17) Isopropyl alcohol 5.86 45 41684 1.00 ppb 97 18) Idichloroethene 6.30 96 32526 1.00 ppb 97 19) Freon 113 6.48 101 75462 1.00 ppb 97 20) L-Butyl alcohol 6.76 84 65632 1.00 ppb 97 21) Methylene chloride 6.76 84 65632 1.00 ppb 97 22) Allyl chloride 6.74 41 36323 1.00 ppb 97 23) Carbon disulfide 6.90 76 84209 1.00 ppb 98 24) Trans-1,2-dichloroethene 8.11 43 76187 1.00 ppb 99 25) methyl tert-butyl ether 7.72 73 103277 1.00 ppb 99 26) 1,1-dichloroethane 8.61 57 44674 1.00 ppb 99 28) Methyl Ethyl Retone 8.62 72 13975 1.00 ppb 99 28) Methyl Ethyl Retone 8.62 72 13975 1.00 ppb 99 31) Ethyl acetate 9.21 43 60977 1.00 ppb 99 33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 99 34) Tetrahydrofuran 9.65 83 86031 1.00 ppb 99 35) Retrahydrofuran 9.65 83 86031 1.00 ppb 99 36) I.1,1-trichloroethane 10.45 97 97898 1.00 ppb 99 36) I.1,2-dichloroethane 10.45 97 97898 1.00 ppb 99 36) I.1,2-dichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.07 78 262536 1.00 ppb 98 38) Carbon tetrachloride 11.00 117 93613 1.00 ppb 98 39) Renzene 11.07 78 94896 1.00 ppb 98 39) Renzene 11.07 78 143895 1.00 ppb 98 39) Renzene 11.07 78 143895 1.00 ppb 98 31) Ithyl acetate 12.27 43 49664 1.00 ppb 98 34) I.1-dichloroethane 12.27 43 49664 1.00 ppb 98 34) I.1-dichloroethene 12.27 43 49664 1.00 ppb 98 34) I.1-dichloroethene 12.27 43 99664 1.00 ppb 98 34) I.1-dichloroethene 12.27 43 99664 1.00 ppb 98 34) Reptane 12.27 43 99664 1.00 p	66) Bromofluorobenzene	17.93	95	108167	1.00	daa	_	0.04
Propylene								
23 Propylene	"	3			4			
3 Freon 12							Qva	lue
A		3.95	41	23105	1,00	dqq		89
4) Chloromethane 4) 19 50 29417 1.00 ppb 87 5) Freon 114 4.19 85 81025 1.00 ppb 97 6) Vinyl Chloride 4.38 62 23933 1.00 ppb 94 8) 1,3-butadiene 4.47 43 31602 1.00 ppb 95 8) 1,3-butadiene 4.47 43 31602 1.00 ppb 96 9) Bromomethane 4.80 94 28661 1.00 ppb 84 10) Chloroethane 4.80 94 28661 1.00 ppb 84 11) Ethanol 5.10 45 11120m/ 1.03 ppb 85 11) Ethanol 5.64 56 8216 1.00 ppb 86 13) Vinyl Bromide 5.30 106 29742 1.00 ppb 96 14) Freon 11 5.55 101 98337 1.00 ppb 97 15) Acetone 5.75 58 19048 1.00 ppb 97 16) Pentane 5.82 42 26195 1.00 ppb 97 17) Isopropyl alcohol 5.86 45 41684 1.00 ppb 87 18) 1dichloroethene 6.30 96 32526 1.00 ppb 87 19) Freon 113 6.48 101 75462 1.00 ppb 87 20) Tebutyl alcohol 6.57 59 78494 1.00 ppb 97 21) Methylene chloride 6.76 84 65632 1.00 ppb 97 22) Allyl chloride 6.74 41 36323 1.00 ppb 82 23) Carbon disulfide 6.90 76 84209 1.00 ppb 92 24) trans-1,2-dichloroethene 9.03 61 47120 1.00 ppb 93 25) methyl tert-butyl ether 7.72 73 103277 1.00 ppb 94 27) Vinyl acetate 8.11 43 76187 1.00 ppb 94 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 94 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 94 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 94 28) Methyl Ethyl Ketone 9.03 61 45003 1.00 ppb 94 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 94 29) Cis-1,2-dichloroethane 10.45 97 97898 1.00 ppb 93 31) Ethyl acetate 9.21 43 60977 1.00 ppb 93 32) Chloroform 9.65 83 86031 1.00 ppb 94 33) Hexane 10.45 97 97898 1.00 ppb 93 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 95 36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 95 37) Cyclohexane 11.65 64 3150 1.00 ppb 95 38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 95 39) Benzene 11.07 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 95 41) Heydane 12.27 43 49664 1.00 ppb 96 43) Heytane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 98		4.00	85	123480	1.00	ppb		99
Section 114		4.19			1.00	ppb		87
8) 1,3-buttadiene			85	81025	1.00	dqq		97
8) 1,3-buttadiene			62	23933	1.00	ppb		
9) Bromomethane	-	4.47	43	31602	1,00	ppp		95
12) Acrolein			39	23870	1.00	dqq		96
12 Acrolein			94	28661	1.00	ppb		84
12 Acrolein	·		64	10624	1.00	dqq	#	50
12 Acrolein			45	11120m/V	1.03	ppb		
13) Vinyl Bromide	·	5.64	56	8216	1.00	ppb	#	65
15) Acetone		5.30	106	29742	1.00	dqq		98
16 Pentame			101	98337	1.00	ppb		97
17 Isopropyl alcohol 5.86 45 41684 1.00 ppb # 100 18 1,1-dichloroethene 6.30 96 32526 1.00 ppb 87 19 Freon 113 6.48 101 75462 1.00 ppb 84 20 t-Butyl alcohol 6.57 59 78494 1.00 ppb 76 76 21 Methylene chloride 6.76 84 65632 1.00 ppb 97 76 22 Allyl chloride 6.76 84 65632 1.00 ppb 97 82 32 Carbon disulfide 6.90 76 84209 1.00 ppb 92 24 trans-1,2-dichloroethene 7.68 61 47120 1.00 ppb 93 25 methyl tert-butyl ether 7.72 73 103277 1.00 ppb 94 27 Vinyl acetate 8.11 63 58112 1.00 ppb 99 28 Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 99 28 Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 84 30 Hexane 8.61 57 44674 1.00 ppb 93 31 Ethyl acetate 9.03 61 45003 1.00 ppb 93 31 Ethyl acetate 9.21 43 60977 1.00 ppb 99 32 Chloroform 9.65 83 86031 1.00 ppb 99 33 Tetrahydrofuran 9.85 42 28351 1.00 ppb 99 33 Tetrahydrofuran 9.85 42 28351 1.00 ppb 94 1,2-dichloroethane 10.77 62 62536 1.00 ppb 92 36 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37 Cyclohexane 11.16 56 43150 1.00 ppb 89 39 Benzene 11.07 78 94896 1.00 ppb 95 39 Benzene 11.07 78 94896 1.00 ppb 95 40 Methyl methacrylate 12.66 41 40080 1.00 ppb 96 42 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43 Heptane 12.27 43 49664 1.00 ppb 98 44 17chloroethene 12.41 130 50472 1.00 ppb 93 45 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96 45 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96 35 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96 45 1,2-dichloropropane 12				19048	1.00	dqq	#	1
19) Freon 113 20) t-Butyl alcohol 20) t-Butyl alcohol 21) Methylene chloride 6.76 84 65632 1.00 ppb # 76 22) Allyl chloride 6.76 441 36323 1.00 ppb # 82 23) Carbon disulfide 6.90 76 84209 1.00 ppb # 92 24) trans-1,2-dichloroethene 7.68 61 47120 1.00 ppb 93 25) methyl tert-butyl ether 7.72 73 103277 1.00 ppb 94 27) Vinyl acetate 8.11 63 58112 1.00 ppb 94 27) Vinyl acetate 8.11 43 76187 1.00 ppb 99 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 99 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 93 30) Hexane 8.61 57 44674 1.00 ppb 84 30) Hexane 8.61 57 44674 1.00 ppb 93 31) Ethyl acetate 9.21 43 60977 1.00 ppb 90 32) Chloroform 9.65 83 86031 1.00 ppb 99 33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 99 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 92 36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 37) Cyclohexane 11.17 93613 1.00 ppb 98 38) Benzene 11.07 78 94896 1.00 ppb 89 39) Benzene 11.07 78 94896 1.00 ppb 89 40) Methyl methacrylate 12.63 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 96 42) 2,2,4-trimethylpentane 12.27 43 49664 1.00 ppb 98 43) Heptane 44) Trichloroethene 12.41 130 50472 1.00 ppb 98 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 98		5.82	42	26195	1.00	ppb	#	22
19) Freon 113 20) t-Butyl alcohol 20) t-Butyl alcohol 21) Methylene chloride 6.76 84 65632 1.00 ppb # 76 22) Allyl chloride 6.76 441 36323 1.00 ppb # 82 23) Carbon disulfide 6.90 76 84209 1.00 ppb # 92 24) trans-1,2-dichloroethene 7.68 61 47120 1.00 ppb 93 25) methyl tert-butyl ether 7.72 73 103277 1.00 ppb 94 27) Vinyl acetate 8.11 63 58112 1.00 ppb 94 27) Vinyl acetate 8.11 43 76187 1.00 ppb 99 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 99 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 93 30) Hexane 8.61 57 44674 1.00 ppb 84 30) Hexane 8.61 57 44674 1.00 ppb 93 31) Ethyl acetate 9.21 43 60977 1.00 ppb 90 32) Chloroform 9.65 83 86031 1.00 ppb 99 33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 99 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 92 36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 37) Cyclohexane 11.17 93613 1.00 ppb 98 38) Benzene 11.07 78 94896 1.00 ppb 89 39) Benzene 11.07 78 94896 1.00 ppb 89 40) Methyl methacrylate 12.63 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 96 42) 2,2,4-trimethylpentane 12.27 43 49664 1.00 ppb 98 43) Heptane 44) Trichloroethene 12.41 130 50472 1.00 ppb 98 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 98		5.86	45	41684	1.00	$\mathbf{d}\mathbf{q}\mathbf{q}$	#	100
100 110		6.30	96	32526	1.00	dqq		87
21) Methylene chloride 6.76 84 65632 1.00 ppb 97 22) Allyl chloride 6.74 41 36323 1.00 ppb # 82 23) Carbon disulfide 6.90 76 84209 1.00 ppb 92 24) trans-1,2-dichloroethene 7.68 61 47120 1.00 ppb 93 25) methyl tert-butyl ether 7.72 73 103277 1.00 ppb 91 26) 1,1-dichloroethane 8.11 63 58112 1.00 ppb 94 27) Vinyl acetate 8.11 43 76187 1.00 ppb 99 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 94 27) Cis-1,2-dichloroethene 9.03 61 45003 1.00 ppb 84 30) Hexane 8.61 57 44674 1.00 ppb 93 31) Ethyl acetate 9.21 43 60977 1.00 ppb 93 32) Chloroform 9.65 83 86031 1.00 ppb 99 33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 99 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 94 34) 1,2-dichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 38) Carbon tetrachloride 11.10 117 78 94896 1.00 ppb 95 38) Carbon tetrachloride 11.10 117 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 95 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 96 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 98 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 93		5.48	101	75462	1.00	ppb		84
21) Methylene chloride 6.76 84 65632 1.00 ppb 97 22) Allyl chloride 6.74 41 36323 1.00 ppb # 82 23) Carbon disulfide 6.90 76 84209 1.00 ppb 92 24) trans-1,2-dichloroethene 7.68 61 47120 1.00 ppb 93 25) methyl tert-butyl ether 7.72 73 103277 1.00 ppb 91 26) 1,1-dichloroethane 8.11 63 58112 1.00 ppb 94 27) Vinyl acetate 8.11 43 76187 1.00 ppb 99 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 94 27) Cis-1,2-dichloroethene 9.03 61 45003 1.00 ppb 84 30) Hexane 8.61 57 44674 1.00 ppb 93 31) Ethyl acetate 9.21 43 60977 1.00 ppb 93 32) Chloroform 9.65 83 86031 1.00 ppb 99 33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 99 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 94 34) 1,2-dichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 38) Carbon tetrachloride 11.10 117 78 94896 1.00 ppb 95 38) Carbon tetrachloride 11.10 117 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 95 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 96 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 98 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 93	20) t-Butyl alcohol	6.57	59	78494	1.00	ppb	Ħ	
23) Carbon disulfide 6.90 76 84209 1.00 ppb 92 24) trans-1,2-dichloroethene 7.68 61 47120 1.00 ppb 93 25) methyl tert-butyl ether 7.72 73 103277 1.00 ppb 91 26) 1,1-dichloroethane 8.11 63 58112 1.00 ppb 94 27) Vinyl acetate 8.11 43 76187 1.00 ppb 99 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 97 29) cis-1,2-dichloroethene 9.03 61 45003 1.00 ppb 84 30) Hexane 8.61 57 44674 1.00 ppb 93 31) Ethyl acetate 9.21 43 60977 1.00 ppb 93 32) Chloroform 9.65 83 86031 1.00 ppb 99 33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 99 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 92 36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 95 38) Benzene 11.07 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 95 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 98 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96	21) Methylene chloride	6.76	84	65632				
24) trans-1,2-dichloroethene 7.68 61 47120 1.00 ppb 93 25) methyl tert-butyl ether 7.72 73 103277 1.00 ppb 91 26) 1,1-dichloroethane 8.11 63 58112 1.00 ppb 94 27) Vinyl acetate 8.11 43 76187 1.00 ppb 99 28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb 91 29) cis-1,2-dichloroethene 9.03 61 45003 1.00 ppb 93 30) Hexane 8.61 57 44674 1.00 ppb 93 31) Ethyl acetate 9.21 43 60977 1.00 ppb 99 32) Chloroform 9.65 83 86031 1.00 ppb 99 33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 94 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 95 <td>22) Allyl chloride</td> <td>6.74</td> <td>41</td> <td>36323</td> <td></td> <td></td> <td>#</td> <td>82</td>	22) Allyl chloride	6.74	41	36323			#	82
26) 1,1-dichloroethane				84209				
26) 1,1-dichloroethane	24) trans-1,2-dichloroethene	7.68						93
28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb # 17 29) cis-1,2-dichloroethene 9.03 61 45003 1.00 ppb 84 30) Hexane 8.61 57 44674 1.00 ppb 93 31) Ethyl acetate 9.21 43 60977 1.00 ppb 90 32) Chloroform 9.65 83 86031 1.00 ppb 99 33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 94 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 92 36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 89 38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 89 39) Benzene 11.07 78 94896 1.00 ppb 89 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 95 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96	25) methyl tert-butyl ether	7.72						
28) Methyl Ethyl Ketone 8.62 72 13975 1.00 ppb # 17 29) cis-1,2-dichloroethene 9.03 61 45003 1.00 ppb 84 30) Hexane 8.61 57 44674 1.00 ppb 93 31) Ethyl acetate 9.21 43 60977 1.00 ppb 90 32) Chloroform 9.65 83 86031 1.00 ppb 99 33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 94 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 92 36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 89 38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 89 39) Benzene 11.07 78 94896 1.00 ppb 89 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 95 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96		8.11						
30) Hexane 31) Ethyl acetate 32) Chloroform 32) Chloroform 33) Tetrahydrofuran 34) 1,2-dichloroethane 36) 1,1,1-trichloroethane 37) Cyclohexane 38) Carbon tetrachloride 39) Benzene 31) Benzene 31) Ethyl acetate 39,21 43 60977 31,00 ppb 39 31) Tetrahydrofuran 39,85 42 28351 300 ppb 31 32) 1,00 ppb 32 33) Tetrahydrofuran 39,85 42 28351 300 ppb 39 39 39 39 30 30 31,1,1-trichloroethane 31,16 56 43150 31,00 ppb 32 33 33 33 33 33 33 33 33 33 33 33 33	27) Vinyl acetate		43	76187	1.00			
30) Hexane 31) Ethyl acetate 32) Chloroform 32) Chloroform 33) Tetrahydrofuran 34) 1,2-dichloroethane 36) 1,1,1-trichloroethane 37) Cyclohexane 38) Carbon tetrachloride 39) Benzene 31) Benzene 31) Ethyl acetate 39,21 43 60977 31,00 ppb 39 31) Tetrahydrofuran 39,85 42 28351 300 ppb 31 32) 1,00 ppb 32 33) Tetrahydrofuran 39,85 42 28351 300 ppb 39 39 39 39 30 30 31,1,1-trichloroethane 31,16 56 43150 31,00 ppb 32 33 33 33 33 33 33 33 33 33 33 33 33	28) Methyl Ethyl Ketone	8.62	72	13975	1.00			
33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 94 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 92 36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb # 52 38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 89 39) Benzene 11.07 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 96 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96	29) Cls-1,2-dichloroethene		61	45003	1.00			
33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 94 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 92 36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb # 52 38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 89 39) Benzene 11.07 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 96 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96			57	44674	1.00			
33) Tetrahydrofuran 9.85 42 28351 1.00 ppb 94 34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 92 36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb # 52 38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 89 39) Benzene 11.07 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 96 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96			43	60977	1.00	ppp		
34) 1,2-dichloroethane 10.77 62 62536 1.00 ppb 92 36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb 52 38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 89 39) Benzene 11.07 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 74 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96				90037	700			
36) 1,1,1-trichloroethane 10.45 97 97898 1.00 ppb 98 37) Cyclohexane 11.16 56 43150 1.00 ppb # 52 38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 89 39) Benzene 11.07 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 74 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96								
37) Cyclohexane								
38) Carbon tetrachloride 11.10 117 93613 1.00 ppb 89 39) Benzene 11.07 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 74 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96								
39) Benzene 11.07 78 94896 1.00 ppb 95 40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 74 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96	· · · · · · · · · · · · · · · · · · ·						#	
40) Methyl methacrylate 12.66 41 40080 1.00 ppb 89 41) 1,4-dioxane 12.73 88 21030 1.00 ppb 74 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96				and the second second				
41) 1,4-dioxane 12.73 88 21030 1.00 ppb 74 42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96								
42) 2,2,4-trimethylpentane 11.92 57 133895 1.00 ppb 96 43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96								
43) Heptane 12.27 43 49664 1.00 ppb 98 44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96								
44) Trichloroethene 12.41 130 50472 1.00 ppb 93 45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96								
45) 1,2-dichloropropane 12.53 63 33412 1.00 ppb 96								
			63	33412	1.00	aqq		96

^{(#) =} qualifier out of range (m) = manual integration AN112309.D AN23_1UG.M Wed Dec 28 15:44:13 2016

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112309.D

Vial: 9 Acq On : 23 Nov 2016 8:58 pm Operator: RJP Sample : A1UG_1.0 Inst : MSD #1 Misc : AN23_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

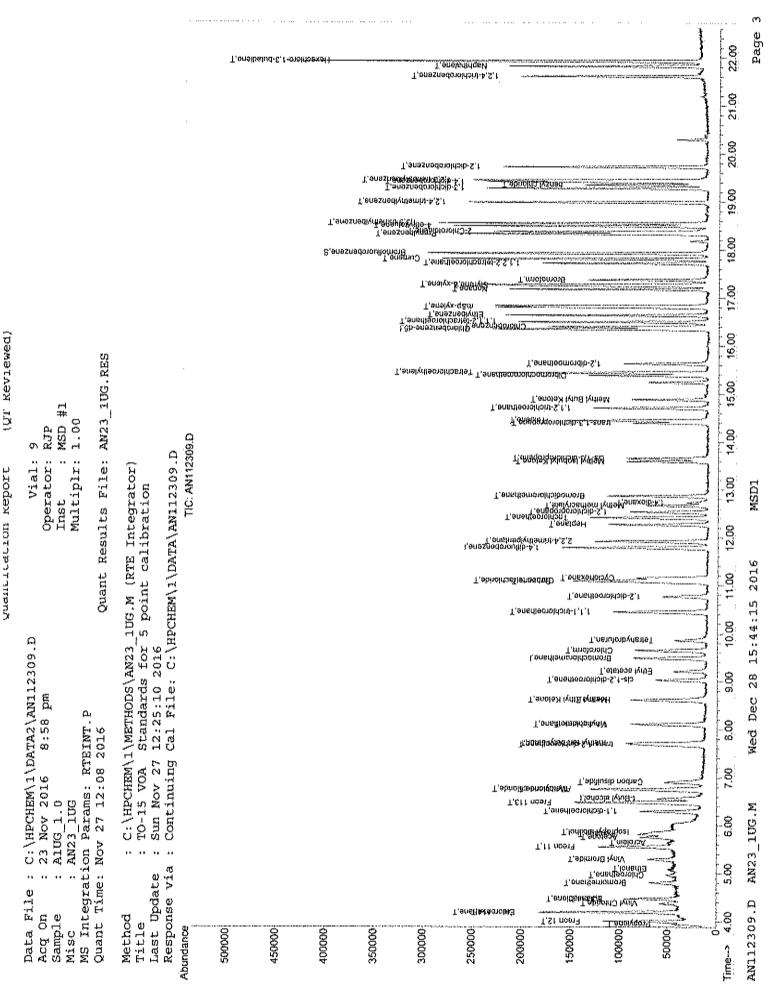
Quant Time: Nov 23 21:45:58 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

16.0 10.0 100 100	Compound	R.T.	Qlon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.87	 83	81315	1.00 ppb	94
47)	cis-1,3-dichloropropene	13.65	75	58355	1.00 ppb	89
48)	trans-1,3-dichloropropene	14.39	75	58160	1.00 ppb	81
49)		14.70	97	43467	1.00 ppb	97
51)	Toluene	14.44	92	71253	1.00 ppb	99
52)	Methyl Isobutyl Ketone	13.58	43	66820	1.00 ppb	97
53)	Dibromochloromethane	15.38	129	79875m 🗗		
54)	Methyl Butyl Ketone	14.88	43	62229 ′	1.00 ppb	91
55)	1,2-dibromoethane	15.62	107	73301	1.00 ppb	96
56)	Tetrachloroethylene	15.43	164	57760	1.00 ppb	92
57)	Chlorobenzene	16.39	112	104602	1.00 ppb	93
58)	1,1,1,2-tetrachloroethane	16.50	131	60961	1.00 ppb	98
59)	Ethylbenzene	16.63	91	172014	1.00 ppb	94
60)	m&p-xylene	16.80	91	282637	2.00 ppb	94
61)	Nonane	17.18	43	75990	$1.00 \tilde{p} pb$	97
62)	Styrene	17.25	104	100821	1.00 ppb	80
63)	Bromoform	17.37	173	71468	1.00 ppb	100
64)	o-xylene	17.28	91	156870	1.00 ppb	95
65)	Cumene	17.81	105	197522	1.00 ppb	96
67)	1,1,2,2-tetrachloroethane	17.72	83	84397 /	1.00 ppb	96
	Propylbenzene	18.33	91	221035m 🖣	1.00 ppb	
69)		18.37	91	149523m	1.01 ppb	
	4-ethyltoluene	18.49	105	185318m /	1.00 ppb	
	1,3,5-trimethylbenzene	18.55	105	171643m /	1.00 ppb	
	1,2,4-trimethylbenzene	18.99	105	158164	1.00 ppb	96
73)	1,3-dichlorobenzene	19.27	146	108149 /	1.00 ppb	93
74)	benzyl chloride	19.35	91	104768m/	0.99 ppb	
75)	1,4-dichlorobenzene	19.41	146	105541 1	1.00 ppb	94
76)		19.44	105	153509	1.00 ppb	91
77)	1,2-dichlorobenzene	19.73	146	99663	1.00 ppb	97
	1,2,4-trichlorobenzene	21.61	180	68950	1.00 ppb	95
79)	Naphthalene	21.82	128	186262	1.00 ppb	94
80)	Hexachloro-1,3-butadiene	21.92	225	90781	1.00 ppb	94



Page 107 of 191

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112310.D
Acq On : 23 Nov 2016 9:35 pm
Sample : A1UG_0.75
Misc : AN23_1UG Vial: 10 Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT,P

Quant Time: Nov 24 11:37:10 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

Internal Standards	R.T.	QIon	Response (Conc t	Jnits	Dev	(Min)
			33394		dqq (-0.07
35) 1,4-difluorobenzene	11.78	1.14	151976		bbb		-0.06
50) Chlorobenzene-d5	16.34				dqq (-0.04
Jo, directordinating qu	10.54	11,	エコサウエリ		, ppp		O.04
System Monitoring Compounds							
66) Bromofluorobenzene	17,92	95	100890	0.98	dag 8		-0.04
Spiked Amount 1.000	Range 70						
	-		-				
Target Compounds							alue
Propylene	3.95	41	16596		dqq	#	
3) Freon 12	4.00	85	92684	0.77	ppb		99
4) Chloromethane	4.19	50	92684 20095	0.70	वव्यव (90
5) Freon 114	4.19	85	61378		dqq		96
6) Vinyl Chloride	4.37	62 43 39	17250	0.74	ppb		94
7) Butane	4.47	43	21770	0.71	dqq .		92
8) 1,3-butadiene	4.48	39	17733m /	0.77	ppb		
9) Bromomethane	4.80	94	21925 '		bbp		83
10) Chloroethane	4.97	64			dqq		35
11) Ethanol	5.10	64 45	8519 6095	0.81	. ppb		95
12) Acrolein	5.65	56	むひきさ	0.76	dag		30
13) Vinyl Bromide	5.29	106 101 58	21500	0.75	dqq		97
14) Freon 11	5.55	101	70707 14307	0.74	ppb		9 9
15) Acetone	5.75	58	14307	0.77	dag	##	1
16) Pentane	5.81		20385m 🌶	0.80	ppb		
17) Isopropyl alcohol	5.87	45	28930	0.72	dqq		100
18) 1,1-dichloroethene	0.29	96	23090	0.73	dqq		85
19) Freon 113	6.48	101			ppp		83
20) t-Butyl alcohol	6.56	59	51635		dqq	#	85
21) Methylene chloride	6.76 6.74	84	50838	0.80	ppb		96
22) Allyl chloride		41			dqq		81
23) Carbon disulfide	6.90	76			dqq		96
24) trans-1,2-dichloroethene		61	34220		qqq		95
25) methyl tert-butyl ether	7.71 8.11	73 63	74686	0.75	dqq		91
26) 1,1-dichtoroethane	8.11	63	43096		ppb		96
27) Vinyl acetate	8.11	43	50378		dqq		97
28) Methyl Ethyl Ketone	8.64	72	9556		ppb		1
29) cis-1,2-dichloroethene		61	9556 32928 32346		dqq		85
30) Hexane	8.61	57	32346	0.75	ppb		91
31) Ethyl acetate	9.22	43	40968	0.69	dqq		8.9
32) Chloroform	9.65	83	61059	0.73	$\mathbf{d}\mathbf{q}\mathbf{q}$		97
33) Tetrahydrofuran	9.86	42	20749	0.75	bbp		92
34) 1,2-dichloroethane	10.77	62	45411		dqq		89
36) 1,1,1-trichloroethane	10.45	97	71320		ppb		97
37) Cyclohexane	11.16	56	32081		ppb	#	56
38) Carbon tetrachloride	11.10	117	62993		dqq		87
39) Benzene	11.07	78	66639		ББр		91
40) Methyl methacrylate	12.66	41	28380		dag		89
41) 1,4~dioxane	12.73	88	14008m N		ppp		
42) 2,2,4-trimethylpentane	11.92	57	97550		qqq		96
43) Heptane	12.27	43	36234		ppp		98
44) Trichloroethene	12.41	130	35998		ЪЪр		91
45) 1,2-dichloropropane	12.53	63	24131	0.77	dqq		98

^{(#) =} qualifier out of range (m) = manual integration AN112310.D AN23_1UG.M Wed Dec 28 15:44:17 2016

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: Nov 24 11:37:10 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.86	83	58028	0.76 ppb	99
47)	cis-1,3-dichloropropene	13.65	75	40271	$0.74 \overline{ppb}$	91
48)	trans-1,3-dichloropropene	14.39	75	40376	0.74 ppb	78
49)	1,1,2-trichloroethane	14.70	97	31353	0.77 ppb	97
51)	Toluene	14.44	92	51008	0.75 ppb	98
52)	Methyl Isobutyl Ketone	13.59	43	45562	0.71 ppb	95
53)	Dibromochloromethane	15.38	129	55144m 🖍	0.74 ppb	
54)	Methyl Butyl Ketone	14.88	4.3	41263	0.69 ppb	88
55)	1,2-dibromoethane	15.63	107	51936	0.74 ppb	96
56)	Tetrachloroethylene	15.43	164	41043	0.74 ppb	89
57)	Chlorobenzene	16.39	112	74508	0.75 ppb	90
58)	• • • • • • • • • • • • • • • • • • • •	16.49	131	40051	0.69 ppb	96
59)	Ethylbenzene	16.63	91	124816	0.76 ppb	93
60)	m&p-xylene	16.83	91	201546	1.49 ppb	96
61)	Nonane	17.18	43	55035	0.76 ppb	97
62)	Styrene	17.25	104	70914	0.74 ppb	78
63)	Bromoform	17.37	173	47617	0.70 ppb	99
64)	o-xylene	17.27	91.	110640	0.74 ppb	96
65)		17.81	105	139477	0.74 ppb	95
67)	1,1,2,2-tetrachloroethane	17.72	83	60939	0.76 ppb	97
	Propylbenzene	18.33	91.	157015m	0.74 ppb	
69)		18.37	91	99265m /	0.70 ppb	
70)		18.49	105	131379m /	0.74 ppb	
71)	1,3,5-trimethylbenzene	18.55	105	120119m	0.74 ppb	
72)		18.98	105	115103	0.76 ppb	97
73)	1,3-dichlorobenzene	19.28	146	76654 √	0.74 ppb	93
74)		19.35	91	73022m 😾	0.72 ppb	
75)		19.41	1.46	73592	0.73 ppb	92
	1,2,3-trimethylbenzene	19.44	105	111887	0.76 ppb	91
	1,2-dichlorobenzene	19.73	146	71362	0.75 ppb	100
	1,2,4-trichlorobenzene	21.61	180	46612	0.71 ppb	97
79)	Naphthalene	21.82	128	128112	0.72 ppb	95
80)	Hexachloro-1,3-butadiene	21.93	225	63482	0.73 ppb	94

(QT Reviewed)

Quantitation Report

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112311.D Vial: 11 Acq On : 23 Nov 2016 10:12 pm Operator: RJP : Alug_0.50 Sample Inst : MSD #1 Misc : AN23 1UG Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Time: Nov 24 11:37:38 2016

Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG,M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

Internal Standards	R.T.	QIon	Response C	onc U	nits	Dev(N	(in)
			-				
 Bromochloromethane 	9.49	128	31597	1.00	ppb	- (0.07
35) 1,4-difluorobenzene	11.79	114	145556	1.00	dag	- (0.05
50) Chlorobenzene-d5	16.34	117	129171	1.00	ppb	- (),04
System Monitoring Compounds							
66) Bromofluorobenzene	17.93	95	95697	0.96	dqq	(0.04
Spiked Amount 1.000	Range 70	- 130	Recovery			.00%	
	_		•				
Target Compounds						Qva]	Lue
Propylene	3.95	41	13468	0.64	ppb		95
3) Freon 12	4.00	85	60427		dqq		99
4) Chloromethane	4.19	5 Q	14364	0.53	dqq		74
5) Freon 114	4.19	50 85	39733	0.53	₫qq		93
6) Vinyl Chloride	4.37	62	11416	0.52	dqq		94
7) Butane	4.47	43	16321	0.56	ppb		89
8) 1,3-butadiene	4.48	39	13874	0.63	dag		82
Bromomethane	4.81	43 39 94	13874 15236	0.58	dqq		87
10) Chloroethane	4.96	64	4870	0.50			30
11) Ethanol	5.10		4705	0.47	dqq		42
12) Acrolein	5.64	56	5013m A	0.66	dqq		
13) Vinyl Bromide	5.30	56 106	14798 🐉	0.54	dqq		95
14) Freon 11	5.55	101		0.53			100
15) Acetone	5.76				ppb	#	1
16) Pentane	5.82	58 42	14329		dqq		26
17) Isopropyl alcohol	5.87	45	18206	0.48			100
18) 1,1-dichloroethene	6.29	96		0.49			83
19) Freon 113	6.48	1.01	36127	0.52			85
20) t-Butyl alcohol	6.57	101 59	36151	0.50		#	89
21) Methylene chloride	6.76	84	33864m 🦯	0.56			
22) Allyl chloride	6.74	41	16736	0.50	ďqq	#	77
23) Carbon disulfide	6.91	76	39691	0.51			89
24) trans-1,2-dichloroethene	7.68	61	22048	0.51			93
25) methyl tert-butyl ether	7.72	73	48313	0.51			89
26) 1,1-dichloroethane	8.11	63	27656 33070 5821	0.52			95
27) Vinyl acetate	8.10	43	33070	0.47			98
28) Methyl Ethyl Ketone	8.64	72	5821	0.45	dqq	#	ı
29) cis-1,2-dichloroethene	9.03	61	21094	0.51			85
30) Hexane	8.61	57 43	21482	0.52	dqq		94
31) Ethyl acetate	9.22	43	27718	0.50	ppb		91
32) Chloroform	9.64	83	40463	0.51			98
33) Tetrahydrofuran	9.87	42	12957	0.50			94
34) 1,2-dichloroethane	10.76	62	29266	0.51	ppb		87
36) 1,1,1-trichloroethane	10,45	97	44627	0.5%	dqq		97
37) Cyclohexane	11.14	56	21006	0.54		#	56
38) Carbon tetrachloride	11.10	117	38771	0.46			91
39) Benzene	11.07	78	45763	0.54			96
40) Methyl methacrylate	12.67	41	18540m 🅖	0.51			
41) 1,4-dioxane	12.74	88	9515	0.50			71
42) 2,2,4-trimethylpentane	11.92	57	62337	0.52			98
43) Heptane	12.27	43	24158	0.54			96
44) Trichloroethene	12.41	130	23900	0.53			94
45) 1,2-dichloropropane	12.53	63	15693	0.52			97

^{(#) =} qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT, P

Quant Time: Nov 24 11:37:38 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.86	83	35308	0.48 ppb	94
47)	cis-1,3-dichloropropene	13.65	75	26170	0.50 ppb	90
48)	trans-1,3-dichloropropene	14.39	75	26701	dgg 12.0	81
49)	1,1,2-trichloroethane	14.70	97	20296	0.52 ppb	92
51)	Toluene	14.44	92	33466	0.51 ppb	99
52)	Methyl Isobutyl Ketone	13.58	43	31240	0.51 ppb	97
53)		15.38	129	33529m /i	0.46 ppb	
54)	Methyl Butyl Ketone	14.88	43	31558	0.55 ppb	88
55)	1,2-dibromoethane	15.62	107	33705	$0.50 \tilde{p} \tilde{p} b$	94
56)	Tetrachloroethylene	15.44	164	26947	0.51 ppb	92
57)	Chlorobenzene	16.39	112	48827	0.51 ppb	92
58)	1,1,1,2-tetrachloroethane	16.49	1.31	26174	0.47 ppb	96
59)	Ethylbenzene	16.64	91	81946	0.52 ppb	92
60)	m&p-xylene	16.83	91	129584	1.00 ppb	95
61)	Nonane	17.17	43	35791	0.51 ppb	96
62)	•	17.25	104	46406	0.50 ppb	78
	Bromoform	17.37	173	28484	0.43 ppb	96
64)	-	17.28	91	71132	0.49 ppb	96
65)	Cumene	17.81	105	91143	0.50 ppb	96
67)	1,1,2,2-tetrachloroethane	17.72	83	38390	0.49 ppb	96
68)	Propylbenzene	18.33	91	106043m 🏄	0.52 ppb	
69)	2-Chlorotoluene	18.37	91	71695m /	0.52 ppb	
70)		18.49	105	84319m /	0.49 ppb	
71)		18.55	105	79120m	0.50 ppb	
	1,2,4-trimethylbenzene	18.99	105	73862	0.51 ppb	97
73)	•	19.28	146	49358	0.50 ppb	91
74)	benzyl chloride	19.35	91	52712	0.54 ppb	96
75)		19.41	146	48773	0.50 დებ	93
76)	1,2,3-trimethylbenzene	19.44	105	70726	0.50 ppb	89
77)		19.73	146	47398	0.52 ppb	96
78)	1,2,4-trichlorobenzene	21.61	180	28602	0.45 ppb	96
	Naphthalene	21.82	128	82902	0.48 ppb	95
80)	Hexachloro-1,3-butadiene	21,92	225	40216	0.48 ppb	95

Kev1ewed}

T.O.)

Vuantitation Keport

Page 113 of 191

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112312.D Vial: 12 Acq On : 23 Nov 2016 10:49 pm Operator: RJP Sample : A1UG_0.30 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 24 11:38:06 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23 1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Nov 23 21:45:43 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

DataAcq Meth : IUG_RUN

Internal Standards		QIon	Response			
1) Bromochloromethane	9,49	128	30242	1.00 p	pb -0.	
35) 1,4-difluorobenzene	11.79			1.00 p	pb -0.	05
50) Chlorobenzene-d5	16.34	117	124607	1.00 p	pb -0.	04
System Monitoring Compounds 66) Bromofluorobenzene	17.92	95	92335	0.96 p	.0- da	Ω4
				_	96.00%	04
	J			-		
Target Compounds			<i>(</i>)		Qvalu	(e)
2) Propylene	3.95	41	6977m 📝			
3) Freon 12	4.01	85	35011 /	0.32 p		97
4) Chloromethane	4.20	50	_ 8574m り			
5) Freon 114	4.19	85	25262	0.35 p		97
6) Vinyl Chloride	4.39	62	7226			93
7) Butane	4.48	43	10289 7278	0.37 p		98
8) 1,3-butadiene	4.48	39				95
9) Bromomethane	4.82	94	9044		# dq	75
10) Chloroethane	4.97	64	3093	0.33 p		33
11) Ethanol	5.09	45	3108m 🖉	'0.33 p		
12) Acrolein	5.65	56	2889m / 9286	0.40 p		
13) Vinyl Bromide	5.30	106	9286 7			94
14) Freon 11	5.56	101	29278	0.34 p	pb	96
15) Acetone	5.76	58	6568	0.39 დ	pb #	1
16) Pentane	5.82	42	9083	0.39 p	pb #	23
17) Isopropyl alcohol	5.87	45	12648	0.35 p	pb # 1	00
18) 1,1-dichloroethene	6.30	96	9134	$0.32 \tilde{p}$		87
19) Freon 113	6,48	101	21597	0.33 p		85
20) t-Butyl alcohol	6.57	59	23138	0.34 p		93
21) Methylene chloride	6.76	84	23717m 🌶			
22) Allyl chloride	6.73	41	1.0342	0.32 p		80
23) Carbon disulfide	6.91	76	23758	$0.32 \ \hat{p}$	Ďb	85
24) trans-1,2-dichloroethene		61	12954	0.31 p		92
25) methyl tert-butyl ether		73	29513	0.33 p		86
26) 1,1-dichloroethane	8.11	63	16584	0.32 p		97
27) Vinyl acetate	8.10	43	18757	0.28 p		99
28) Methyl Ethyl Ketone	8.65	72		0.29 p		ī
29) cis-1,2-dichloroethene		61	12608	0.32 p		87
30) Hexane	8.61	57	12207	0.31 p		89
31) Ethyl acetate	9.22	4.3	15972	0.30 p		94
32) Chloroform	9.65	83	24196	0.32 p	ກຸກ	97
33) Tetrahydrofuran	9.87	42	7719	0.31 p		87
34) 1,2-dichloroethane	10.77	62	17313	0.32 p	950 OD	90
36) 1,1,1-trichloroethane	10.45	97	25235	0.32 p		96
37) Cyclohexane	11.16	56	12164	0.32 p		57
38) Carbon tetrachloride	11.10	117	20440m /	0.32 p	-p #	<i>3 /</i>
39) Benzene	11.07	78	26277	0.32 p	ob Ob	92
40) Methyl methacrylate	12.67		10389			86
		41		0.30 p		
41) 1,4-dioxane	12.75	88	6062	0.33 pg		77
42) 2,2,4-trimethylpentane	11.92	57 42	37275	0.32 p		98
43) Heptane	12.27	43	14055	0.32 p		98
44) Trichloroethene	12.41	130	13402	0.30 pj		86
45) 1,2-dichloropropane	12.53	63	9437	0.32 pj	L -	99
						-

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

AN112312.D AN23_1UG.M Wed Dec 28 15:44:25 2016

MSDl

Quantitation Report (QT Reviewed)

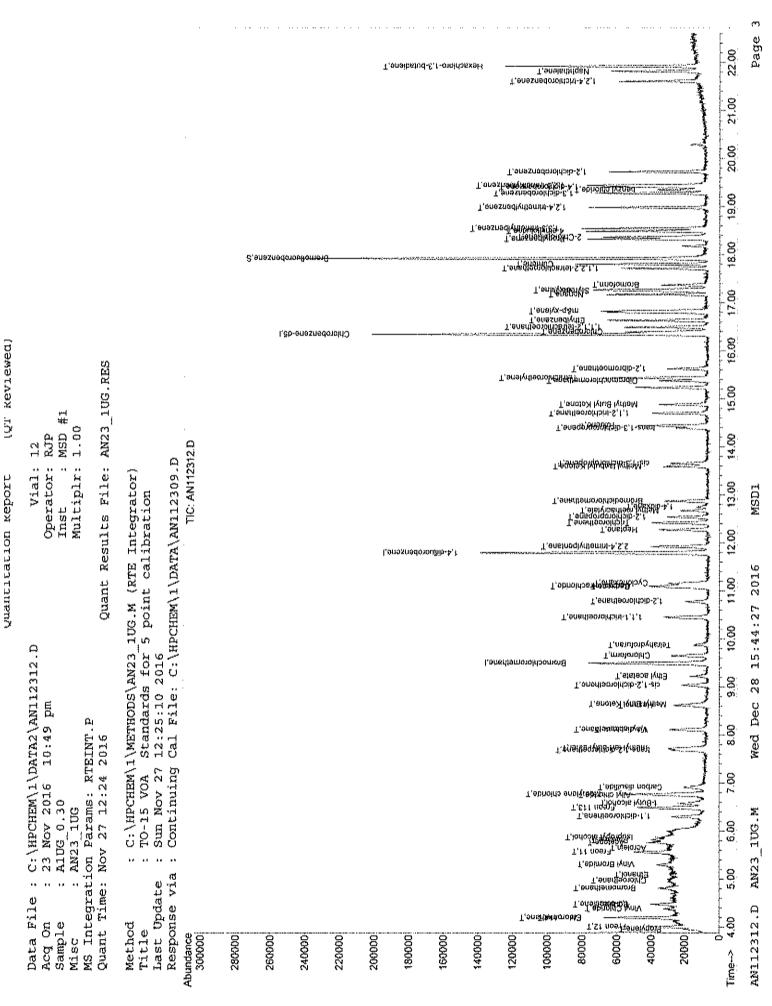
Data File : C:\HPCHEM\1\DATA2\AN112312.D Vial: 12 Acq On : 23 Nov 2016 10:49 pm Operator: RJP Sample : AlUG_0.30 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 24 11:38:06 2016 Quant Results File: AN23 1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Nov 23 21:45:43 2016
Response Via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.87	83	19964	0.28 ppb	94
47)		13.65	75	14511	0.28 ppb	84
48)	trans-1,3-dichloropropene	14.40	75	14206	0.28 ppb	77
49)	1,1,2-trichloroethane	14.70	97	11857	0.31 ppb	100
51)	Toluene	14.45	92	19891	0.31 ppb	99
52)	Methyl Isobutyl Ketone	13.59	43	19838	dag 88.0	96
53)		15.37	129	17838m 🖓	0.26 ppb	
54)	2 · · · · · · · · · · · · · · · · · · ·	14.88	43	21678m /	0.39 ppb	
55)		15.62	107	19295	0.30 ppb	93
56)	Tetrachloroethylene	15.44	164	16041	0.31 ppb	92
	Chlorobenzene	16.39	112	29248	0.32 ppb	88
58)	1,1,1,2-tetrachloroethane	16.50	131	14510	0.27 ppb	96
59)		16.63	91	47851	0.31 ppb	94
60)	m&p-xylene	16.83	91	77431	0.62 ppb	94
61)	Nonane	17.17	43	23578	0.32 ppb	95
62)	Styrene	17.25	104	27003	0.30 ppb	76
63)		17.37	173	15817	0.25 ppb	97
64)		17.28	91	39119	0.28 ppb	89
	Cumene	17.81	105	55314	0.32 ppb	96
67)		17.72	83	22442 n	dqq 08.0	93
	Propylbenzene	18.33	91	61708m /	0.31 ppb	
69)		18.38	91	44200m .	0.34 ppb	
70)		18,49	105	48885m /	0.30 ppb	
71)	1,3,5-trimethylbenzene	18.55	105	47128m / _s	0.31 ppb	
72)		18.99	105	44160	0.31 ppb	96
73)	• • • • • • • • • • • • • • • • • • • •	19.28	146	28916	0.30 ppb	92
	benzyl chloride	19.35	91	30111	0.32 ppb	93
	1,4-dichlorobenzene	19.41	146	29633	0.32 ppb	94
76)	1,2,3-trimethylbenzene	19.45	105	43040	0.32 ppb	91.
77)	1,2-dichlorobenzene	19.72	146	27583	0.31 ppb	96
78)	1,2,4-trichlorobenzene	21.62	180	16353	0.27 ppb	99
79)	Naphthalene	21.82	128	48484	0.29 ppb	94
80)	Hexachloro-1,3-butadiene	21.92	225	24112	0.30 ppb	94



Page 116 of 191

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112313.D Vial: 13 Acq On : 23 Nov 2016 11:24 pm Operator: RJP Sample : Alug_0.15 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT,P

Quant Time: Nov 24 11:38:33 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration Title

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

DataAcq Meth : 1UG_RUN

1914							
Internal Standards		QIon	_	one U			
1) Bromochloromethane	9.50			1.00	ppp		-0.06
35) 1,4-difluorobenzene	11.78	114	137007 119871	1.00	agg		-0.05
50) Chlorobenzene-d5	16.34	117	119871	1.00	ppp	•	-0.04
System Monitoring Compounds							
66) Bromofluorobenzene	17.93	95	91017	0.99	dag		-0.04
Spiked Amount 1.000	Range 70	- 130	Recovery	7 =	99	.00%	
			·				
Target Compounds			Δ.			Qva	alue
Propylene	3.96	41	3522m 🕢				
3) Freon 12	4.00	85	20492	0.19			99
4) Chloromethane	4.19	50	4597m	0.18			
5) Freon 114	4.20	85	13819 4198 4679m	0.20			97
Vinyl Chloride	4.38	62	4198	0.20			97
7) Butane	4.48		/	0.17			
8) 1,3-butadiene	4.48	39	4071m	0.20			
Bromomethane	4.81	94	4528m	0.18			
10) Chloroethane	4.98	64		0.20			1
11) Ethanol	5.09	45		0.18		#	45
13) Vinyl Bromide	5.30	106	5223	0.20			88
14) Freon 11	5.56	101	15320	0,18			96
15) Acetone	5.76	58	4107m	0.25			
16) Pentane	5.83	42	3260m	0.14			
17) Isopropyl alcohol	5.87	45	6575	0.18	dqq	#	100
18) 1,1-dichloroethene	6.30	96	4841	0.17			87
19) Freon 113	6.48		11479	0.18	dqq		83
20) t-Butyl alcohol	6.59	59	13007	0.19		#	68
21) Methylene chloride	6.76	84	13158m 🤳		ppb		
22) Allyl chloride	6.74	41	6897	0.22	ďąą	#	63
23) Carbon disulfide	6.91	76	12962	0.18			82
24) trans-1,2-dichloroethene		61	6529	0.16			88
25) methyl tert-butyl ether	7.73	61 73	17016	0.19	dqq		89
26) 1,1-dichloroethane	8.11	63	8484	0.17	ppb		99
27) Vinyl acetate	8.11	43	9775	0.15			99
28) Methyl Ethyl Ketone	8.65	72	1774	0.15	ppb	#	1
29) cis-1,2-dichloroethene	9.04	61	7021	0.18	dqq		86
30) Hexane	8.61	57	6532	0.17	ppb		87
31) Ethyl acetate	9.22	43	7955	0.15	ppb		95
32) Chloroform	9.65	83	12902	0.17	dqq		97
33) Tetrahydrofuran	9.90	42	4278	0.17	ppb	#	77
34) 1,2-dichloroethane	10.77	62	9237	0.17	dqq		86
36) 1,1,1-trichloroethane	10,44	97	13449	0.16	ppb		96
37) Cyclohexane	11.16	56	7124	0.20	dqq	#	65
38) Carbon tetrachloride	11.10	117	10828	0.14	ppb		91
39) Benzene	11.08	78	14135	0.18	dag		92
40) Methyl methacrylate	12.68	41	4836	0.14	dqq		91
41) 1,4-dioxane	12.76	88	3634	0.20	ppb		93
42) 2,2,4-trimethylpentane	11.91	57	20192	0.18	ppb		97
43) Heptane	12.27	43	7795	0.19	ББр		96
44) Trichloroethene	12.41	130	7858	0.18			96
45) 1,2-dichloropropane	12.53	63	4665	0.17	ppb		90
46) Bromodichloromethane	12.87	83	9865	0.14			97

MSDl

^{(#) ≈} qualifier out of range (m) = manual integration AN112313.D AN23 1UG.M Wed Dec 28 15:44:29 2016

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: Nov 24 11:38:33 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Nov 23 21:45:43 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qva	lue
47)	cis-1,3-dichloropropene	13.65	75	7600	0.15 ppb	****	90
48)	trans-1,3-dichloropropene	14.39	75	8180	0.17 ppb		78
49)	1,1,2-trichloroethane	14.70	97	6537	0.18 ppb		93
51)	Toluene	14.44	92	10636	0.17 ppb		99
52)	Methyl Isobutyl Ketone	13.59	43	12155 6	0.21 ppb		95
53)	Dibromochloromethane	15.38	129	8933m A	0.13 ppb		
54)	Methyl Butyl Ketone	14.88	43	1.0060m 🖟	0.19 ppb		
55)	1,2-dibromoethane	15.63	107	10200	0.16 ppb		93
56)	Tetrachloroethylene	15.43	1.64	8280	0.17 ppb		87
57)	Chlorobenzene	16.39	112	15534	0.17 ppb		83
58)	1,1,1,2-tetrachloroethane	16.48	131	7282	0.14 ppb	#	93
59)	Ethylbenzene	16.63	9 I.	26126	0.18 ppb		91
60)	m&p-xylene	16.83	91	41232	0.34 ppb		94
61)	Nonane	17.17	43	11713	0.18 ppb		92
62)	Styrene	17.25	104	13751	0.16 ppb	#	64
63)	Bromoform	17.37	173	7620	0.12 ppb		96
64)	o-xylene	17.27	91	23400	0.17 ppb		94
65)	Cumene	17,81	105	28288	0.17 ppb		95
67)	1,1,2,2-tetrachloroethane	17.72	83	11559 /	0.16 ppb		93
68)	Propylbenzene	18.33	91	33410m 🧗	0.18 ppb		
69)	2-Chlorotoluene	18.37	91	22211m j	0.18 ppb		
70)		18.49	1.05	25889m /	0.16 ppb		
71)	1,3,5-trimethylbenzene	18.55	105	26612m_{	0.18 ppb		
72)	1,2,4-trimethylbenzene	18.98	105	23624	0.17 ppb		99
73)	1,3-dichlorobenzene	19.28	146	15179	0.16 ppb		88
74)	benzyl chloride	19.35	91	15869	0.18 ppb		96
75)	1,4-dichlorobenzene	19.41	146	15612	0.17 ppb		94
76)	1,2,3-trimethylbenzene	19.44	105	22285	0.17 ppb		91
77)	1,2-dichlorobenzene	19.73	146	14445	0.17 ppb		98
78)	1,2,4-trichlorobenzene	21.61	180	8205	0.14 ppb		94
79)	Naphthalene	21.83	128	27449	0.17 ppb		93
80)	Hexachloro-1,3-butadiene	21.93	225	12483	0.16 ppb		92

(U.F. Keviewed)

Unantitation Report

Page 119 of 191

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112314.D Vial: 14 Acq On : 24 Nov 2016 12:00 am Operator: RJP Sample : A1UG_0.10 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

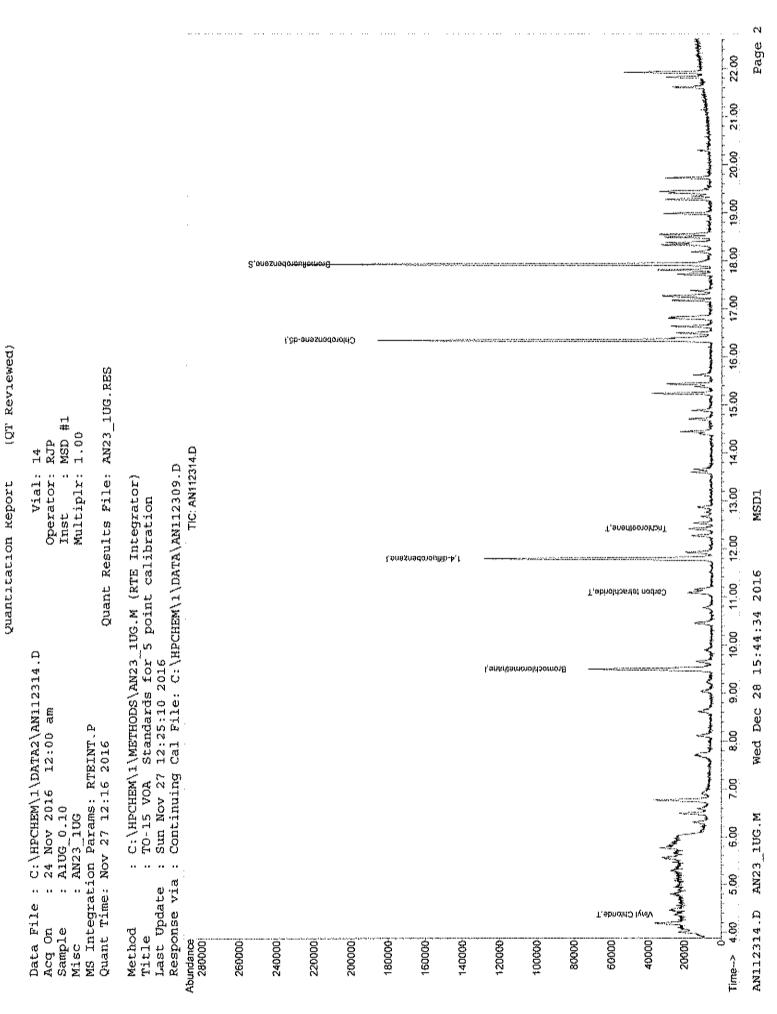
MS Integration Params: RTEINT.P

Quant Time: Nov 24 11:39:02 2016 Quant Results File: AN23 1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Nov 23 21:45:43 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D

DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response C	onc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.49 11.79 16.34	128 114 117	29074 133192 118324	1.00 1.00 1.00	dqq	
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.93 Range 70	95 - 130	86135 Recovery	0.94 =		-0.04 .00%
Target Compounds 6) Vinyl Chloride	4,38	62	2362m 🔎	0.12	daa	Qvalue
38) Carbon tetrachloride 44) Trichloroethene	11.09 12.40	117 130	6781 5191	0.09	dqq	



Page 121 of 191

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112315.D Vial: 15 Acq On : 24 Nov 2016 12:35 am Operator: RJP Sample : AlUG_0.04 Misc : AN23_lUG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 24 11:39:27 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Nov 23 21:45:43 2016
Response Via : Continuing Cal File: C:\HPCHEM\1\DATA\AN112309.D
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	onc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9,49 11.78 16.34	128 114 117	26685 126182 111457	1.00	dqq	
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70		83485 Recovery			
Target Compounds 6) Vinyl Chloride	4.38	62	1134m /Y	0.06	dqq	Qvalue
38) Carbon tetrachloride 44) Trichloroethene	11.11 12.41	117 130	2974 ¹ 2587	0.04	ppb	84

(QT Reviewed)

Vuantitation Report

Page 123 of 191

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Dec 28 15:45:04 2016 Response via : Multiple Level Calibration

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

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

01 Hr of TV	Compound	AvgRF	CCRF	%Dev	Areat	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	91	-0.08
2 T	Propylene	0.723	0.633	12.4		
3 T	Freon 12	3.741	3.753	-0.3	95	-0.07
4 T	Chloromethane	0.859	0.745	13.3		~0.07
5 T	Freon 114	2.500	2.419	3.2		-0.07
6 T	Vinyl Chloride	0.770	0.692	10.1		-0.07
7 T	Butane	0.966	0.922	4.6		-0.07
8 T	1,3-butadiene	0.755	0.753	0.3	99	-0,06
9 T	Bromomethane	0.879	0.797	9.3	87	~0.07
10 T	Chloroethane	0.318	0.310	2.5	91	-0.07
11 T	Ethanol	0.317	0.284	10.4	80	~0.08
12 T	Acrolein	0.260	0.245	5.8	94	-0.08
13 T	Vinyl Bromide	0.919	0.859	6.5	91	-0.08
14 T	Freon 11	2.896	2.823	2.5	90	-0.08
15 T	Acetone	0.614	0.515	16.1		-0.07
16 T	Pentane	0.808	0.795	1.6		-0.07
17 T	Isopropyl alcohol	1.213	1.026	15.4	77	-0.07
18 T	1,1-dichloroethene	0.952	0.879	7.7	85	-0.08
19 T	Freon 113	2,251	2.153	4.4		-0.07
20 t	t-Butyl alcohol	2.332	1.784	23.5		-0.08
21 T	Methylene chloride	2.093	1.566	25.2		~0.07
22 T	Allyl chloride	1.103	0.878	20.4		-0.07
23 T	Carbon disulfide	2.502	2.345	6.3		-0.08
24 T	trans-1,2-dichloroethene	1.378	1.306	5.2		-0.08
25 T	methyl tert-butyl ether 1,1-dichloroethane	3.119	2.798	10.3		-0.07
26 T	1,1-dichloroethane	1.736	1.611	7.2		-0.08
27 T	vinyi acetate	2.136	1.596	25.3		-0.07
28 T	Methyl Ethyl Ketone	0.396	0.391	1.3		-0.07
29 T	cis-1,2-dichloroethene	1.350	1.280	5.2		-0.07
30 T	Hexane	1.327	1.186	10.6		-0.07
31 T	Ethyl acetate	1.722	1.491	13.4		-0.07
32 T	Chloroform	2.535	2.426	4.3		-0.07
33 T	Tetrahydrofuran	0.832	0.722	13.2		-0.06
34 T	1,2-dichloroethane	1.824	1.734	4.9	87	-0.07
35 Ï	1,4-difluorobenzene	1.000	1.000	0.0	88	-0.06
36 T	1,1,1-trichloroethane	0.616	0.544	11.7	79	-0.07
37 T	Cyclohexane	0.286	0.252	11.9		~0.08
38 T	Carbon tetrachloride	0.558	0.453	18.8		-0.07
39 T	Benzene	0.605	0.583	3.6	88	~0.07
40 T	Methyl methacrylate	0.246	0.209	15.0	74	-0.06
41 T	1,4-dioxane	0.136	0.125	8.1	85	-0.07
42 T	2,2,4-trimethylpentane	0.861	0.774	10.1	83	-0.07
43 T	Heptane	0.322	0.271	15.8	78	-0.06
44 T	Trichloroethene	0.351	0.313	10.8	88	-0.07
45 T	1,2-dichloropropane	0.211	0.199	5.7	85	-0.06
46 T	Bromodichloromethane	0.499	0.506	-1.4	89	-0.07
47 T	cis-1,3-dichloropropene	0.358	0.316	11.7	77	-0.05
48 T	trans-1,3-dichloropropene	0.365	0.261	28.5	64	-0.04
49 T	1,1,2-trichloroethane	0.279	0.269	3.6	89	-0.05

^{(#) =} Out of Range AN112703.D AN23_1UG.M Wed Dec 28 15:49:12 2016

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\AN112703.D Vial: 3 Acq On : 27 Nov 2016 1:55 pm Operator: RJP Sample : Alug_1.0 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Dec 28 15:45:04 2016 Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Areat	Dev(min)
51	T	Toluene	0.518	0.501	3.3	87	-0.05
52	\mathbf{T}	Methyl Isobutyl Ketone	0.498	0.432	13.3	80	-0.06
53	${f T}$	Dibromochloromethane	0.555	0.553	0.4	86	-0.05
54	\mathbf{T}	Methyl Butyl Ketone	0.468	0.378	19.2	75	-0.04
55	\mathbf{T}	1,2-dibromoethane	0.523	0.500	4.4	84	-0.05
56	${f T}$	Tetrachloroethylene	0.416	0.395	5.0	8.5	-0.05
57	T	Chlorobenzene	0.759	0.748	1.4	89	-0.04
58	\mathbf{T}	1,1,1,2-tetrachloroethane	0.419	0.369	11.9	75	-0.04
59	\mathbf{T}	Ethylbenzene	1.258	1.222	2.9	88	-0.05
60	${f T}$	m&p-xylene	1.012	0.980	3.2	86	-0.04
61	\mathbf{T}	Nonane	0.547	0.473	13.5	77	-0.05
62	${f T}$	Styrene	0.716	0.679	5,2		-0.05
63	T	Bromoform	0.487	0.468	3.9	81	-0.04
64	T	o-xylene	1.111	1.067	4.0	84	-0.05
65	${f T}$	Cumene	1.419	1.406	0.9	88	-0.04
66	s	Bromofluorobenzene	0.754	0.738	2.1	84	~0.04
67	${f T}$	1,1,2,2-tetrachloroethane	0.604	0.615	-1.8		-0.04
68	\mathbf{T}	Propylbenzene	1.635	1.644	-0.6	92	-0.04
69	${f T}$	2-Chlorotoluene	1.057	1.018	3.7	84	-0.04
70	\mathbf{T}	4-ethyltoluene	1.312	1.266	3.5	8.5	-0.04
71	Ť	1,3,5-trimethylbenzene	1.238	1.178	4.8	85	-0.04
72	T	1,2,4-trimethylbenzene	1.156	1.101	4.8	86	-0.04
73	T	1,3-dichlorobenzene	0.769	0.730	5.1	84	-0.05
74	T	benzyl chloride	0.800	0.592	26.0	70	-0.04
75	Ţ	1,4-dichlorobenzene	0.763	0.718	5.9	84	-0.04
76	T	1,2,3-trimethylbenzene	1.111	1.092	1.7	88	-0.04
77	T	1,2-dichlorobenzene	0.720	0.697	3.2	87	-0.04
78	T	1,2,4-trichlorobenzene	0.475	0.445	6.3		~0.05
79	${f T}$	Naphthalene	1.335	1.059	20.7		-0.04
80	T	Hexachloro-1,3-butadiene	0.642	0.667	-3.9	91	~0.04

Quantitation Report (QT Reviewed)

 Data File: C:\HPCHEM\1\DATA2\AN112703.D
 Vial: 3

 Acq On: 27 Nov 2016: 1:55 pm
 Operator: RJP

 Sample: AlUG_1.0
 Inst: MSD #1

 Misc: AN23_1UG
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 28 06:59:37 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Un	its	Dev	(Min)
1) Bromochloromethane	9.47	738	31325	1.00	ppo	_	. 0 . 0 6
35) 1,4-difluorobenzene 50) Chlorobenzene-d5	11.70	117	プランロコ に アポペンア ザ	1.00 1.00	ppn ppn	_	. 0 . 05
50) Chlorobenzene-d5	16.33	11/	123835	1.00	ស្រួល		-0.05
System Monitoring Compounds							
66) Bromofluorobenzene	17.92	95	91356	0.98	ggg		-0.04
Spiked Amount 1.000	Range 70	- 130	Recove	xy =	98.	.00%	
						^	.1
Target Compounds	2 04	4.7	3010	0.97	nnh		alue 90
2) Propylene	3.94		117572	0.87 1.00	PPP PPP		100
3) Freon 12	3.99 4.18	50	117572 23350	0.87	ppp		90
4) Chloromethane	4.18	85	75761	0.97	DDP.		
5) Freon 114		65	75761	0.37	かかか		100
6) Vinyl Chloride	4.36	62 43 39	2,000	0.90 0.96 1.00	php		99
7) Butane	4.46 4.47	4.3	28888	0.96	PPD		
8) 1,3-butadiene	4.47	39	23595	1.00	ppp		86
9) Bromomethane	4.80	94	24953		ppp	12.	81
10) Chloroethane	4.95	64	9706 8901	0.97 0.90	agg	#	64
11) Ethanol	5.07	4.5	8901	0.90			
12) Acrolein	5.63		7688				80
13) Vinyl Bromide	5.28	106	26918	0.93			98
14) Freon 11	5.54 5.75	101	88443 16131	0.97	bbp		98
15) Acetone	5.75	58	16131	0.84			
16) Pentane	5.81	42	24906	0.98			26
17) Isopropyl alcohol	5.85 6.28 6.47	45	32139 27532 67452	0.85			100
18) 1,1-dichloroethene	6,28	96	27532	0.92	$_{ m dqq}$		88
19) Freon 113	6.47	101	67452	0.96	dqq		85
20) t-Butyl alcohol	6.55	59	55878	0.76	dqq	#	
21) Methylene chloride	6.75	84	49048	0.75	ььр		96
22) Allyl chloride	6.73	41	49048 27514 73468	0.80	dqq		83
23) Carbon disulfide	6.89	76	73468	0.94	ppb		98
24) trans-1,2-dichloroethene	7.66	61	40921	0.95	dqq		93
25) methyl tert-butyl ether	7.70	73	87645		ppb		93
26) 1,1-dichloroethane	8.09	73 63	87645 50450	0.90	ppb		99
271 1/11(1) 2/16(1) 2/16(1)	25 () 24	43	49999	0.75	ppb		94
28) Methyl Ethyl Ketone 29) cis-1,2-dichloroethene 30) Hexane	8.62	72	12241	0,99	ppb	#	17
29) cis-1.2-dichloroethene	9.02	61	40111		dqq		85
30) Hexane	8.60	61. 57	40111 37153	0.89	dqq		93
31) Ethyl acetate	9.20	43	46693	0.87	dad		91
32) Chloroform	9.63	83	76007	0.96	dqq		96
33) Tetrahydrofuran	9.85			0.87	dqq		92
34) 1,2-dichloroethane	10.76	62	54303	0.95	daa		90
36) 1,1,1-trichloroethane	10.44	97	77809	0.88			97
37) Cyclohexane	11.14	56	35944	0.88		#	58
38) Carbon tetrachloride	11.09	117	64741	0.81		"	87
39) Benzene	11.06	78	83261	0.96			97
40) Methyl methacrylate	12.66	41	29852	0.85			93
41) 1,4-dioxane	12.71	88	17820	0.92			80
42) 2,2,4-trimethylpentane	11.91	57	110597	0.90			95
_ ::	12.26	43	38792				94
43) Heptane 44) Trichloroethene	12.40		44666				92
45) 1,2-dichloropropane	12.52	63	28387	0.94			96
45) 1,2-dichtoropropane					· ~ ·		

^{(#) =} qualifier out of range (m) = manual integration AN112703.D AN23_1UG.M Wed Dec 28 15:49:18 2016

MSD1

(QT Reviewed) Quantitation Report

Vial: 3 Data File : C:\HPCHEM\1\DATA2\AN112703.D Acq On : 27 Nov 2016 1:55 pm Sample : Alug_1.0 Misc : AN23_1UG Operator: RJP Inst : MSD #1 Multiplx: 1.00

MS Integration Params: RTEINT.P

Quant Results File: AN23_1UG.RES Quant Time: Nov 28 06:59:37 2016

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

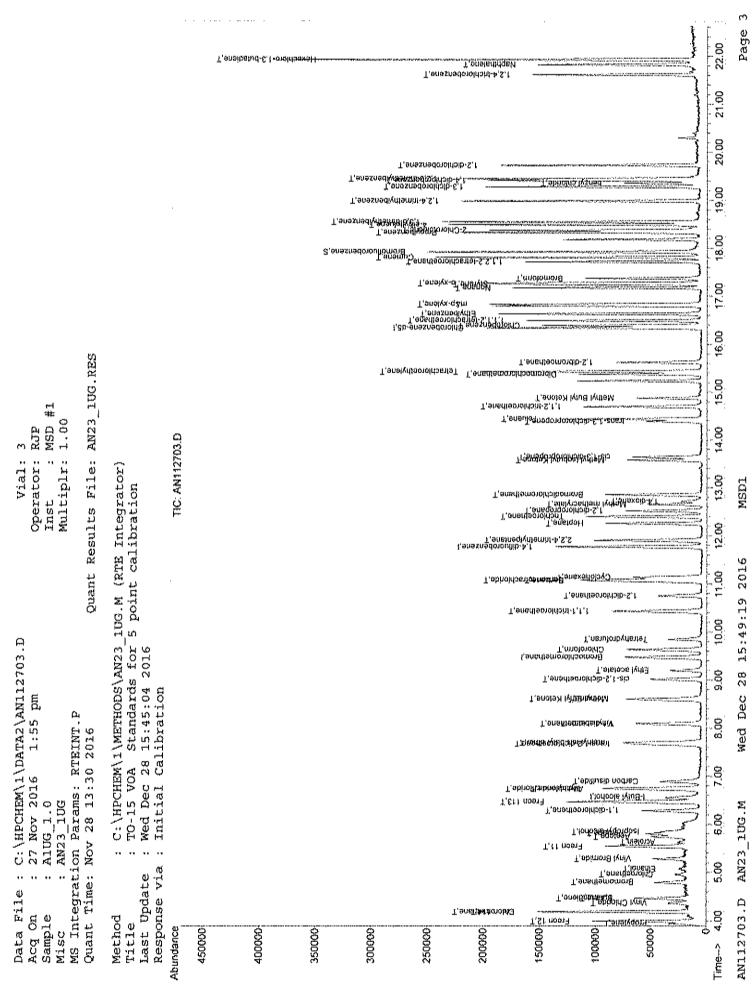
DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.85	83	72274	1.01 ppb	98
47)	cis-1,3-dichloropropene	13.64	75	45134	dqq 88.0	92
48)	trans-1,3-dichloropropene	14.39	75	37358	0.72 ppb	77
49)	1,1,2-trichloroethane	14.69	97	38495	0.97 ppb	97
51)	Toluene	14.44	92	62004	0.97 ppb	99
52)	Methyl Isobutyl Ketone	13.57	43	53453	0.87 ppb	97
53)	Dibromochloromethane	15.37	129	68455m 📝	1.00 ppb	
54)	Methyl Butyl Ketone	14.87	4.3	46789	0.81 ppb	89
55)	1,2-dibromoethane	15.62		61901	0.96 ppb	97
56)	Tetrachloroethylene	15.43	164	48862	0.95 ppb	82
57)	Chlorobenzene	16.39	112	92620	0.99 ppb	94
58)	1,1,1,2-tetrachloroethane	16.49	131	45741	dqq 88.0	99
59)	Ethylbenzene	16.63	91	151313	0.97 ppb	91
60)	m&p-xylene	16.82	91	242776	1.94 ppb	95
61)	Nonane	17.17	43	58578	ರ.86 ಭರ್ಗ	97
62)	Styrene	17.24	104	84083	0.95 ppb	79
63)	Bromoform	17.37	173	57974	0.96 ppb	99
64)	o-xylene	17.27	91	132134	0.96 ppb	96
65)	Cumene	17.80	105	174147	dqq ee.0	96
67)	1,1,2,2-tetrachloroethane	17.71	83	76174 0	1.02 ppb	95
68)	Propylbenzene	18.33	91	203619m 💃	1.01 ppb	
69)	2-Chlorotoluene	18.37	91	126115m	0.96 ppb	
70)	4-ethyltoluene	18.49	105	156740m	0.96 ppb	
71)	1,3,5-trimethylbenzene	18.54	105	145909m 🌡	0.95 ppb	
72)	1,2,4-trimethylbenzene	18.98	105	136358	0.95 ppb	97
73)		19.27		90374	0.95 ppb	91
74)	benzyl chloride	19.35		73309	0.74 ppb	95
75)	1,4-dichlorobenzene	19.41		88912	0.94 ppb	93
76)	1,2,3-trimethylbenzene	19.44		135166	dqq 80.0	93
77)	1,2-dichlorobenzene	19.72	146	86361	0.97 ppb	97
78)	1,2,4-trichlorobenzene	21.61		55076	0.94 ppb	94
79)	Naphthalene	21.82	128	131138	0.79 ppb	95
80)	Hexachloro-1,3-butadiene	21,92	225	82648	1.04 ppb	95

KEVLEWED!

IΛ

מתמזורורשריותו אבלתור



Page 129 of 191

Evaluate Continuing Calibration Report

Vial: 2 Data File : C:\HPCHEM\1\DATA2\AN112802.D Acq On : 28 Nov 2016 9:30 am Sample : A1UG_1.0 Misc : AN23_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

: C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator) Method : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Dec 28 15:45:04 2016 Response via : Multiple Level Calibration

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

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

	Compound	AvgRF	CCRF	*Dev		Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	57	-0.07
2 T	Propylene	0.723	0.688	4.8		-0.06
3 T	Freon 12	3.741	4.433	-18.5		-0.07
4 T	Chloromethane	0.859	1.010	-17.6	67	-0.06
śŤ	Freon 114	2.500	3.112	-24.5		-0.06
6 T	Vinyl Chloride	0.770	0.845	-9.7		-0.06
7 T	Butane	0.966	1.034	~7.0		-0.07
é T	1,3-butadiene	0.755	0.824	-9.1		-0.05
9 T	Bromomethane	0.879				-0.07
10 T	Chloroethane	0.318	0.345	-8.5	63	-0.06
11 T	Ethanol	0.317	0.361	-13.9		-0.06
12 T	Acrolein	0.260	0.271	-4.2	64	-0.06
13 T	Vinyl Bromide	0.919		-14.4		-0.07
14 T	Freon 11	2.896	3.579	-23.6		-0.07
15 T	Acetone	0.614	0.604	1.6		-0.06
16 T	Pentane	0.808				-0.06
17 T	Isopropyl alcohol	1.213	1.347		63	-0.06
18 T	1,1-dichloroethene	0.952	0.887	6.8		-0.07
19 T	Freon 113	2.251	2.385		62	-0.06
20 t	t-Butyl alcohol	2.332	1.712			-0.07
21 T	Methylene chloride	2.093	1.651	21.1		-0.06
22 T	Allyl chloride	1.103	0.933	15.4		-0.07
23 T	Carbon disulfide	2.502				
24 T	trans-1,2-dichloroethene			-2.7		-0.07
25 T	methyl tert-butyl ether		2.642	15.3		-0.06
26 T	1,1-dichloroethane	1.736	1.736		58	
27 T	Vinyl acetate	2.136	1.810			-0.06
28 T	Methyl Ethyl Ketone	0.396		-2.0	57	-0.06
29 T	cis-1,2-dichloroethene	1.350	1.421		62	-0.06
30 T	Hexane	1.327	1.249			-0.07
31 T	Ethyl acetate	1.722			52	-0.06
32 T	Chloroform	2.535			61	-0.06
33 T	Tetrahydrofuran	0.832	0.775		53	-0.05
34 T	1,2-dichloroethane	1.824	1.940	-6.4	61	-0.06
J	2 / W 21 M 21 M 21 M 21 M 21 M 21 M 21 M 21					
35 I	1,4-difluorobenzene	1.000	1.000	0.0	55	-0.05
36 T	1,1,1-trichloroethane	0.616	0.566	8.1	52	-0.06
37 T	Cyclohexane	0.286	0.263	8.0	55	-0.07
38 T	Carbon tetrachloride	0.558	0.538	3.6	52	-0.07
39 T	Benzene	0.605	0.598	1.2	57	~0.06
40 T	Methyl methacrylate	0.246		7.3	51	-0.06
41 T	1,4-dioxane	0.136	0.125	8.1	53	-0.05
42 T	2,2,4-trimethylpentane	0.861	0.833	3 - 3	56	-0.06
43 T	Heptane	0.322	0.290	9.9	52	-0.05
44 T	Trichloroethene	0.351	0.335	4.6	60	-0.05
45 T	1,2-dichloropropane	0.211	0.205	2.8	55	-0.04
46 T	Bromodichloromethane	0.499	0.584	-17.0	64	~0.06
47 T	cis-1,3-dichloropropene	0.358	0.320	10.6	49#	-0.05
48 T	trans-1,3-dichloropropene	0.365	0.268	26.6	41#	-0.04
49 T	1,1,2-trichloroethane	0.279	0.293	-5.0	61	-0.04
. –						

^{(#) =} Out of Range Wed Dec 28 15:50:33 2016 MSD1 AN112802.D AN23_1UG.M

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2\AN112802.D Vial: 2 Acq On : 28 Nov 2016 9:30 am Operator: RJP Sample : Alug 1.0 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AN23_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Dec 28 15:45:04 2016 Response via : 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	~~~·	Toluene	0.518	0.521	-0.6	57	-0.04
52		Methyl Isobutyl Ketone	0.498	0.321	16.1		-0.04
53		Dibromochloromethane	0.555	0.659	-18.7	65	-0.04
54		Methyl Butyl Ketone	0.468	0.370	20.9		-0.04
55		1,2-dibromoethane	0.523	0.546	-4.4		-0.04
56		Tetrachloroethylene	0.416	0.424	-1.9		-0.04
57		Chlorobenzene	0.759	0.789	-4.0		-0.04
58		1,1,1,2-tetrachloroethane	0.419	0.433	-3.3		-0.04
59		Ethylbenzene	1.258	1.283	-2.0		-0.04
60		m&p-xylene	1.012	1.029	-1.7		-0.04
61.		Nonane	0.547	0.510	6.8	53	-0.04
62		Styrene	0.716	0.713	0.4		-0.04
63		Bromoform	0.487	0.566	-16.2		-0.04
64		o-xylene	1.111	1.053	5.2	53	-0.04
65		Cumene	1.419	1.428	~0.6		-0.04
66		Bromofluorobenzene	0.754	0.745	1.2		-0.04
67		1,1,2,2-tetrachloroethane	0.604	0.682	-12.9		-0.04
68		Propylbenzene	1.635	1.705	-4.3		-0.04
69		2-Chlorotoluene	1.057	1.040	1.6		-0.04
70		4-ethyltoluene	1.312	1.317	-0.4		-0.04
71		1,3,5-trimethylbenzene	1.238	1.272	-2.7	58	-0.04
72		1,2,4-trimethylbenzene	1.156	1.156	0.0	57	-0.04
73		1,3-dichlorobenzene	0.769	0.744	3.3		-0.04
74		benzyl chloride	0.800	0.563	29.6		-0.04
75		1,4-dichlorobenzene	0.763	0.750	1.7	56	-0.04
76		1,2,3-trimethylbenzene	1.111	1.133	-2.0		-0.04
77		1,2-dichlorobenzene	0.720	0.715	0.7		-0.04
78		1,2,4-trichlorobenzene	0.475	0,438	7.8		-0.04
79		Naphthalene	1.335	0.983	26.4		-0.03
80		Hexachloro-1,3-butadiene	0.642	0.707	-10.1	61	-0.04

Quantitation Report (QT Reviewed)

 Data File : C:\HPCHEM\1\DATA2\AN112802.D
 Vial: 2

 Acq On : 28 Nov 2016 9:30 am
 Operator: RJP

 Sample : AlUG_1.0
 Inst : MSD #1

 Misc : AN23_1UG
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 28 11:10:18 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standar	rds	R.T.	QIon	Response	Conc U	nits	Dev	(Min)
1) Transablers			100		7 00			
1) Bromochloro 35) 1,4-difluor		9.48 11.79			1.00 1.00	ը Միր		-0.07 -0.05
50) Chlorobenze		16.35	117	78295	1.00	ppb		-0.04
JOY CARAGEORGERAGE	TAMES CLD	10.33	11.11.7	70293	V V	PPV		U. V.
System Monitorin	g Compounds							
66) Bromofluoro	benzene	17.93	95	58318	0.99			-0.04
Spiked Amount	1.000	Range 70	- 130	Recove	ry =	99	\$00.	
							_	-
Target Compounds	;	2 04	4.3	1 2 4 2 5	0.05	to	QVε	alue
 Propylene Freon 12 		3.94	41	13438	0.95			80 99
4) Chlorometha		3.99 4.18	85 50	86601 19725	1.18			98
5) Freon 114	11165	4.19	85	60790	1.18 1.24	Phi		94
6) Vinyl Chlor	-i de	4.37	62	16509	1,10			96
7) Butane	TUE	4.47	43	20200	1.07			94
8) 1,3-butadie	ati de	4.48	39	16104	1.09			94
9) Bromomethan		4.80	94	20106	1.17			85
10) Chloroethan		4.97	64	6742	1.08			69
11) Ethanol		5.10	4.5	7060	1.14			92
12) Acrolein		5.64	56	5299	1.04		#	72
13) Vinyl Bromi	de	5.29			1.14		"	100
14) Freon 11		5.55	101	69923m	/ 1.24			200
15) Acetone		5.76	58	11801	0.98		#	1
16) Pentane		5.82	42	17878	1.13			26
17) Isopropyl a	lcohol	5.86	45	26311	1.11			100
18) 1,1-dichlor		6.29	96	17328	0.93			73
19) Freon 113		6.49	101	46599	1.06			84
20) t-Butyl alc	chol	6.57	59	33448	0.73		#	78
21) Methylene c		6.76	84	32254	0.79			95
22) Allyl chlor		6.73	41	18230	0.85			84
23) Carbon disu		6.90	76	50066	1.02			100
24) trans-1,2-d	ichloroethene	7.68	61	27649	1.03			95
25) methyl tert	-butyl ether	7.72	73	51618	0.85			87
26) 1,1-dichlor	oethane	8.11	63	33914	1.00	dqq		96
27) Vinyl aceta	.te	8,11	43	35365	0.85	ppb		98
28) Methyl Ethy	l Ketone	8.62		7896	1.02	ppb	#	9
29) cis-1,2-dic	hloroethene	9.03	61	27758	1.05			88
30) Hexane		8.61	61 57 43	24393	0.94			92
31) Ethyl aceta	te	9.21			0.94			90
32) Chloroform		9.65	83	52344	1.06	dqq		97
33) Tetrahydrof		9.86	42	15150	0.93	bbp		97
34) 1,2-dichlor		10.77	62	37911	1.06	dąg		86
36) 1,1,1-trich		10.45	97	50782	0.92		.,	99
37) Cyclohexane		11.16	56	23627	0.92		#	52
38) Carbon tetr	achloride	11.10	117	48330	0.97			90
39) Benzene		11.07	78	53670	0.99			94
40) Methyl meth	_	12.66	41	20459	0.93			93
41) 1,4-dioxane		12.73	88	11198	0.92			81
42) 2,2,4-trime	coArbengane	11.92	57 43	74819	0.97			97 86
43) Heptane	h	12.27	43	26027	0.90			95 94
44) Trichloroet		12.41	130 63	30085 18368	0.95 0.97			94 97
45) 1,2-dichlor	opropane	12.54			0.3/	 		
/#\ _ ~~~~~~~~								

MSD1

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: Nov 28 11:10:18 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_lUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.86	83	52437	1.17 ppb	93
47)	cis-1,3-dichloropropene	13.65	75	28689	0.89 ppb	92
48)	trans-1,3-dichloropropene	14.39	75	24080m 🛭	0.74 ppb	
49)	1,1,2-trichloroethane	14.70	97	26320	1.05 ppb	98
51)	Toluene	14,44	92	40813	1.01 ppb	98
52)	Methyl Isobutyl Ketone	13.59	43	32756	0 84 pph	96
53)	Dibromochloromethane	15.38	129	51619m P	1.19 ppb	
54)	Methyl Butyl Ketone	14.88	43	28977	0.79 ppb	91
55)	1,2-dibromoethane	15.63	107	42719	$1.04 \stackrel{\circ}{ppb}$	97
56)	Tetrachloroethylene	15.44	1.64	33185	1.02 ppb	87
57)	Chlorobenzene	16.39	112	61755	1.04 ppb	93
58)	1,1,1,2-tetrachloroethane	16.49	131	33899	1.03 ppb	97
59)	Ethylbenzene	16.64	91	100473	1.02 ppb	92
60)	m&p-xylene	16.83	91	161080	2.03 ppb	93
61)	Nonane	17.18	43	39923	0.93 ppb	98
62)	Styrene	17.25	104	55827	1.00 ppb	78
63)	Bromoform	17,37	173	44283	1.16 ppb	99
64)	o-xylene	17.28	91	82442	0.95 ppb	92
65)	Cumene	17.81	105	111839	1.01 ppb	96
67)	1,1,2,2-tetrachloroethane	17.72	83	53361. 🖍	1.13 ppb	97
68)	Propylbenzene	18.33	91	133517m 🖔	1.04 ppb	
69)	2-Chlorotoluene	18.37	91	81393m	dqq 86.0	
70)	4-ethyltoluene	18.49	105	103110m	1.00 ppb	
71)	1,3,5-trimethylbenzene	18.55	105	99582m	1.03 ppb	
72)	1,2,4-trimethylbenzene	18.99	105	90530	1.00 ppb	99
73)	1,3-dichlorobenzene	19.28	146	58254	0.97 ppb	92
74)	benzyl chloride	19.35	91	44080m V		
75)	1,4-dichlorobenzene	19.41	146	58703	0.98 ppb	93
76)	1,2,3-trimethylbenzene	19.44	105	88722	1.02 ppb	94
77)	1,2-dichlorobenzene	19.73	146	56018	dqq ee.0	96
78)	1,2,4-trichlorobenzene	21.62	180	34322	0.92 ppb	96
79)	Naphthalene	21.83	128	76990	0.74 ppb	93
80)	Hexachloro-1,3-butadiene	21.93	225	55374	1.10 ppb	95

(VI KEVIEWEG)

Quantitation Report

Page 134 of 191

GC/MS VOLATILES-WHOLE AIR

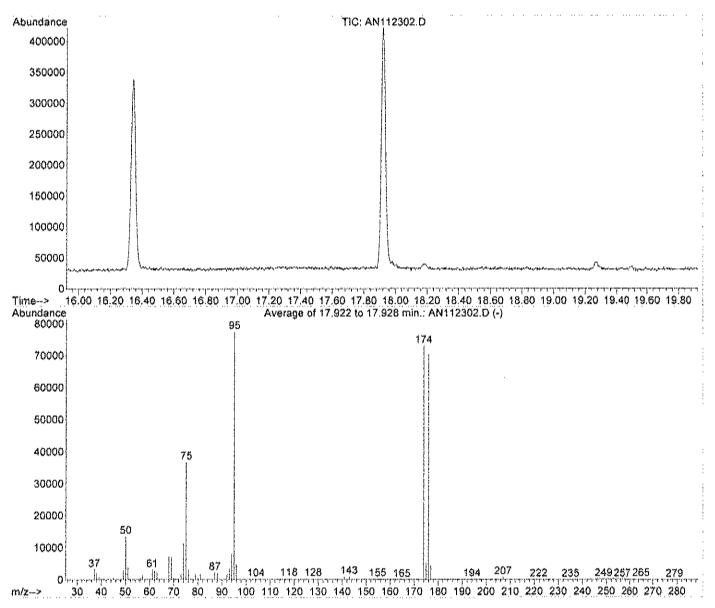
METHOD TO-15

RAW DATA

BFB

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



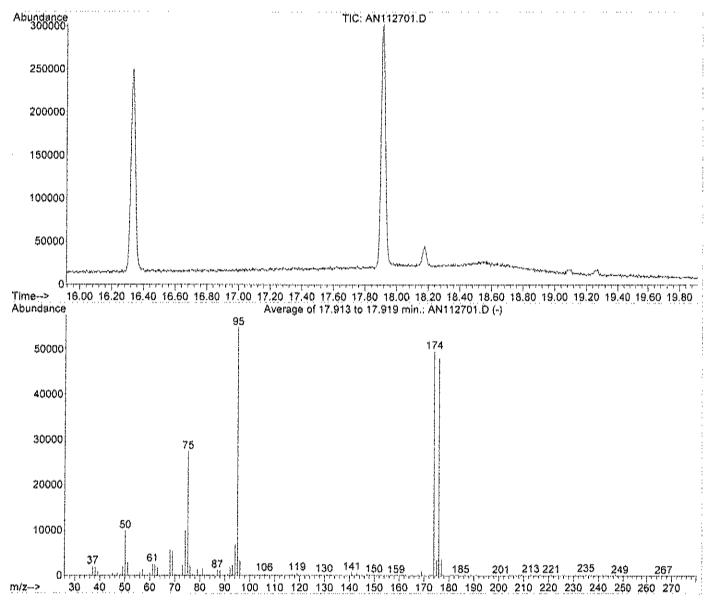
Spectrum Information: Average of 17.922 to 17.928 min.

	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abnŧ	Raw Abn	Result Pass/Fail
Ī	50	95	8	40	17,5	13542	PASS
ĺ	75	95	30	66	47.6	36900	PASS
Ì	95	95	100	100	100.0	77555	PASS
İ	96	95	5	9	6.2	4781	PASS
Ì	173	174	0.00	2	0.0	0	PASS
İ	174	95	50	120	94.3	73114	PASS
ĺ	175	174	4	9	7.1	5176	PASS
- [176	174	95	101	96.5	70530	PASS
	1.77	176	5	9	6.4	4526	PASS
_							

BFB

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



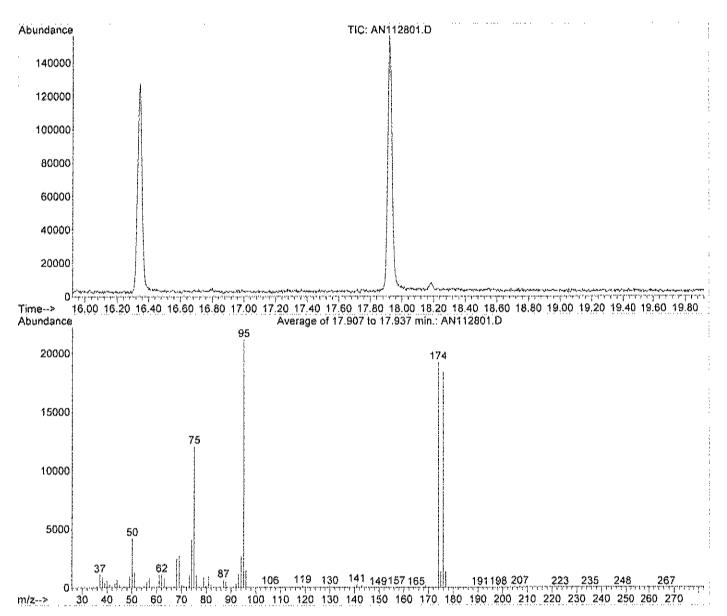
Spectrum Information: Average of 17.913 to 17.919 min.

	Target Mass	Rel. to Mass	Lower Limit*	Upper Limit*	Rel. Abn%	Raw Abn	Result Pass/Fail
Ī	50	95	8	40	18.1	9904	PASS
	75	95	30	66	50.1	27480	PASS
İ	95	95	100	100	100.0	54842	PASS
İ	96	95	5 i	9	6.0	3296	PASS
j	173	174	0.00	2	0.3	145	PASS
	174	95	50	120	90.5	49656	PASS
	175	174	4	9	7.1	3548	PASS
	176	174	95	101	96.9	48128	PASS
İ	177	176	5	9	7.4	3574	PASS
		·				· 	

BFB

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 17.907 to 17.937 min.

	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail	
Ī	50 75	95 95	8 30	40 66	20.0 57.0	4230 12080 21199	Pass Pass Pass	
	95 96 173	95 95 174	100 5 0.00	100 9 2	100.0 7.1 0.0	1510	PASS PASS PASS	
	174 175	95 174	50 4	120 9	90.8	19247 1365	PASS PASS	
	176 177	174 176	95 5	101 9	96.0 7.4	18483	PASS PASS	

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15
RAW QC DATA

Date: 28-Dec-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1611040

1740 Emerson Street

Project:

TestCode: 0.25CT-TCE-VC

Client ID: 222222 Batch ID: R11704 TestNot: TO-15 Analysis Date: 1112712016 Sequic 117003 Sequic 117003 Analysis Date: 1.1.2.Tichtokrocethane	Sample ID AMB1UG-112716	SampType: MBLK	TestCode: 0.25CT-TCE- Units: ppbV	Prep Date:	RunNo: 11704
Result PQL SPK value SPK Rei Val SPK value SPK Rei Val SPK value SPK Rei Val SPK Pei Val SPK Pei Value SPK Rei Val SPK Pei Value SPK Rei Value SPK		Baich ID: R11704	TestNo: TO-15	Analysis Date: 11/27/2016	SeqNo: 137003
Control Cont	Analyte	Result	SPK value	LowLimit HighLimit	RPDLimit
 6.015 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.16 0.15 0.16 0.17 0.18 0.19 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 <l< td=""><td>1,1,1-Trichloroethane</td><td>< 0.15</td><td>0.15</td><td></td><td></td></l<>	1,1,1-Trichloroethane	< 0.15	0.15		
Col.15 O.15 O.15	1,1-Dichloroethane	< 0.15	0.15		
Colification Coli	1,1-Dichloroethene	< 0.15	0.15		
Col. 15 Col.	Chlorcethane	< 0.15	0.15		
Country Coun	Chioromethane	< 0.15	0.15		
 6.0.15 6.0.15 6.0.16 6.0.10 6.0.10 6.0.040 6.0.040 SampType: MBLK TestCode: 0.25CT-TCE- Units: ppbV Prep Date: 11/28/2016 SeqNo: 137025 Baltch ID: R11705 TestNo: T0-15 Analysis Date: 11/28/2016 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137026 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 137025 SeqNo: 1402 SeqNo: 1402 SeqNo: 1402<td>cis-1,2-Dichloroethene</td><td>< 0.15</td><td>0.15</td><td></td><td></td>	cis-1,2-Dichloroethene	< 0.15	0.15		
Country Coun	Tetrachloroethylene	< 0.15	0.15		
< 6,040 0.040 < 6,040 0.040 SampType: MBLK TestCode: 0.25CT-TCE- Units: ppbW Prep Date: 11/28/2016 SeqNo: 11705 Batch ID: R11705 TestNo: TO-15 Analysis Date: 11/28/2016 SeqNo: 137025 Result PQL SPK value SPK Ref Val %REC LowLimit HightLimit RPD Ref Val %RPD RPDLimit < 0.15	trans-1,2-Dichloroethene	< 0.15	0.15		
SampTyper: MBLK TestCode: 0.26CT-TCE- Units: ppbV Prep Date: RunNo: 11705 Bartch ID: R11705 TestCode: 0.26CT-TCE- Units: ppbV Prep Date: 11/28/2016 SeqNo: 137025 Result PQL SPK value SPK Ref Val %REC LowLimit Hight init RPD Ref Val %RPD RPDLimit < 0.15	Trichbroethene	< 0.040	0.040		
SampType: MBLK TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 11705 Batch ID: R11705 TestNo: TO-15 Analysis Date: 11/28/2016 SeqNo: 137025 Result PQL SPK value SPK Ref Val %REC LowLimit Hight imit RPD Ref Val %RPD RPDLimit < 0.15	Vinyt chloride	< 0.040	0.040		
ZZZZZ Baltch ID: R11705 TestNo: TO-15 Analysis Date: 11/28/2016 SeqNo: 137025 Result PQL SPK value SPK Ref Val %REC LowLimit High Limit RPD Ref Val %RPD RPD Limit lorelhane < 0.15	Sample ID AMB1UG-112816	SampType: MBLK		Prep Date:	RunNo: 11705
Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit RPD Ref Val RPD Re		Batch ID: R11705	TestNo: TO-15	Analysis Date: 11/28/2016	SeqNo: 137025
corthane < 0.15 0.15 oethane < 0.15	Analyte	Result	SPK value	LowLimit HighLimit	RPDLimit
cethane < 0.15 0.15 bethene < 0.15	1,1,1-Frichloroethane	< 0.15	0.15		
cethene < 0.15 0.15 ne < 0.15	1,1-Dichforoethane	< 0.15	0.15		
Control of the cont	1,1-Dichloroethene	< 0.15	0.15		
Analysis Appendix Appendix Applies to the Page 1 Page 2 Page 2 Page 3 Page	Chloroethane	< 0.15	0.15		
Note the state	Chloromethane	< 0.15	0.15		
Sesuits reported are not blank corrected E Estimated Value above quantitation range H	cis-1,2-Dichloroethene	< 0.15	0.15		
hene < 0.040 0.040 > 0.040 Results reported are not blank corrected Estimated Value above quantitation range H	Tetrachloroethylene	< 0.15	0.15		
hene < 0.040 0.040 Casults reported are not blank corrected E Estimated Value above quantitation range H Anakasa detected before the state of protection for the state of th	trans-1,2-Dichloroethene	< 0.15	0.15		
Results reported are not blank corrected E Estimated Value above quantitation range H Anakasa destart imit of Potentian Dates and dark imit of Potentian D	Trichlaroethene	< 0.040	0.040		
Anakasa dan kalaur anandalifan fimit M. Mar Datasasa da dan kimir af Parasasian Datasasa Maria da Mari		orded are not blank corrected	-		menaration of analysis exceeded
	-	and a fear annual term fear;			of the second se

Page 1 of 2

Spike Recovery outside accepted recovery limits

۲
4
5
Para

Sample ID AMB1UG-112816	SampType: MBLK	TestCode: 0.25CT-TCE- Units: ppbV	Prep Date:	RunNo: 11705
Client ID: ZZZZZ	Batch ID: R11705	TestNo: TO-15	Analysis Date: 11/28/2016	SeqNo: 137025
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	SRPD RPDLimit Qual
Vinyl chloride	< 0.640	0.040		

TestCode: 0.25CT-TCE-VC

Results reported are not blank corrected	E Estimated Value above quantitation range	Results reported are not blank corrected E Estimated Value above quantitation range H Holding times for preparation or analysis exceeded	1
Analyte detected below quantitation finit	ND Not Detected at the Limit of Detection	R RPD outside accepted recovery limits	
Cailes Decorrent sustaints accounted exercises fissis			

Qualifiers:

LaBella Associates, P.C.

1740 Emerson Street

C1611040

Work Order:

Project:

CLJENT:

Quantitation Report (QT Reviewed)

Vial: 5 Data File : C:\HPCHEM\1\DATA2\AN112705.D Acq On : 27 Nov 2016 3:28 pm Operator: RJP Sample : AME1UG-112716 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 28 06:59:39 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_lUG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Internal Standards	R.T. QI	on Response	Conc Units Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	11.78 1	28 27752 114 124751 117 107782	1.00 ppb -0.07 1.00 ppb -0.06 1.00 ppb -0.05
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70 -	95 73467 130 Recover	0.90 ppb -0.04 Ty ≈ 90.00%

Qvalue Target Compounds

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AN112705.D AN23_1UG.M Wed Dec 28 15:48:28 2016 MSD1

Page 143 of 191

(Ил келтемер)

Quantitation Report

MSD #1

RJP

Vial: Operator:

C:\HPCHEM\1\DATA2\AN112705.D 27 Nov 2016 3:28 pm

Data File

: AMB1UG-112716

Sample

Inst

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112804.D Vial: 4 Acq On : 28 Nov 2016 11:03 am Sample : AMB1UG-112816 Misc : AN23_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 29 07:16:50 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\l\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration

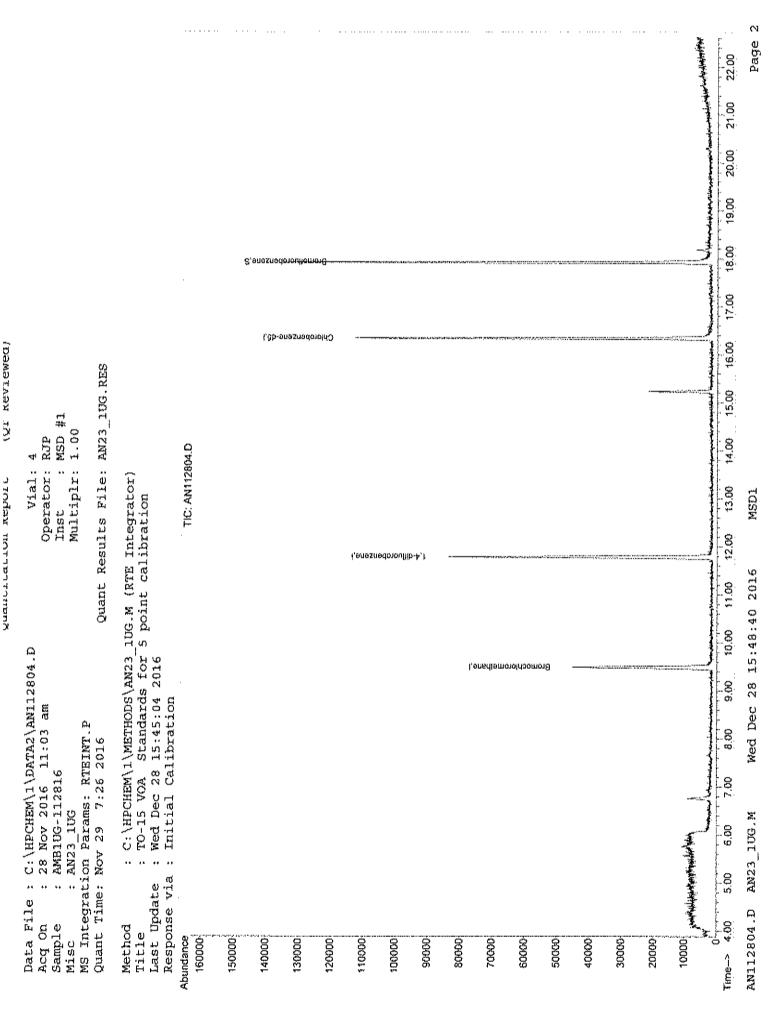
DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response	Conc Unit	s Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.49 11.79 16.34	128 114 117	19032 84899 71392	1.00 pp 1.00 pp 1.00 pp	b -0.05
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70	95 - 130	48791 Recover	0.91 pp y = 9	b -0.04 1.00%

Target Compounds

Qvalue

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AN112804.D AN23_1UG.M Wed Dec 28 15:48:39 2016 MSD1



Page 145 of 191

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 28-Dec-16

LaBella Associates, P.C. CLIENT:

Work Order:

Project:

C1611040 1740 Emerson Street

TestCode: 1ugM3_TO15

	C1611040-003A MS SampType: MS	TesfCod	TestCode: 1ugM3_T015	15 Units: ppbV		Prep Date			RunNo: 11705	05	
Client ID: 1740-SVI-2	Batch ID: R11705	TestN	TestNo; TO-15		4.	Analysis Date:	11/28/2016	916	SeqNo: 137035	035	
Analyte	Result	72	SPK value	SPK Ref Val	%REC	LowLimit P	HighLimif	RPD Ref Vai	%RPD	RPDLimit	Qual
1, f., 1-Trichloroethane	1.150	0.15	qur	0.2	95.0	92	130				
1,1-Dichloroethane	1,290	0.15	400	0.35	34.0	20	130				
1,1-Dichloroethene	1.030	0.15	ų.	Q	103	22	130				
Chloroethane	1.120	0.15	****	0	112	70	130				
Chloromethane	1.140	0.15	•	0	\$ *	55	130				
cis-1,2-Dichloroethene	4.500	0.15	•	3.69	81.0	70	130				
Tetrachloroethylene	18.34	0.15	•	18.84	-50.0	70	130				S
trans-1,2-Dichloroethene	1,260	0.15	-	0.27	99.0	22	130				
Trichloroethene	14.22	0.15	τ-	13.76	46.0	70	130				ςς
Viny! chloride	1,090	0.15	-	0	109	70	130			,	
Sample ID C1611040-003A MS	SampType: MSD	TestCod	TestCode: 1ugM3_T015	115 Units: ppbV		Prep Date:			Runhlo: 11705	99	
Client ID: 1740-SVI-2	Batch ID: R11705	Fest	TestNo: TO-15		~	Analysis Date:	11/28/2016	916	SeqNo: 137036	036	
Analyte	Resuit	ğ	SPK value	SPK Ref Vai	%REC	LowLimit	HighLimi∄	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.160	0.15		0.2	96.0	7.0	130	1.15	0.866	30	
1,1-Dichloroethane	1.240	0.15	•	0.35	89.0	70	130	1.29	3.95	30	
1,1-Dichlaroethene	0.9800	0.15	-	0	98.0	70	130	1.03	4.98	30	
Chloroethare	1.030	0.15	-	0	103	70	130	1.12	8.37	30	
Chloromethane	1.050	0.15	-	0	105	70	130	1,14	8.22	30	
cis-1,2-Dichloroethene	4.070	0.15	τ	3.69	38.0	70	130	4.5	10.0	90	S
Tetrachloroethylene	16.02	0.55	**	18.84	-282	76	130	18.34	13.5	30	κ
trans-1,2-Dichloroethene	1.190	0.15	¢	0.27	92.0	70	130	1.26	5.71	30	
Trichloroethene	12.78	0.15	4	13.76	-98.0	70	130	14.22	10.7	8	Ø
Qualifiers: Results repo	Results reported are not blank corrected		E Estima	Estimated Value above quantitation range	itation rang	<u>sy</u>	=	Holding times for preparation or analysis exceeded	preparation or at	nalysis exceed	2
-	Analyte detected below quantitation limit		NO NO DA	Not Detected at the Limit of Detection	Defection		*	RPD outside accepted recovery limits	ated recovery line	sits	
S Spike Recov	Spike Recovery outside accepted recovery limits	mits								4	Price 1 nf?

TestCode: 1ugMB_T015

TestNo: 10-15 Analysis Date: 11/28/2016 PQL SPK value SPK Ref Val %REC LowLimit HighLimit RP 0.15 1 0 99:0 70 130	8atch ID: R1705 Result F
SPK value SPK Ref Val	
•	
	3
E Estimated Value above quantitation range ND Not Detected at the Litnit of Detection	Results reported are not blank corrected Analyse detected below quantitation limit
nits	Spike Recovery outside accepted recovery limits

LaBella Associates, P.C.

1740 Emerson Street

C1611040

CLJENT: Work Order:

Project:

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112806.D Vial; 6
Acq On : 28 Nov 2016 12:25 pm Operator: RJP
Sample : C1611040-003A MS Inst : MSD #1
Misc : AN23_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 29 08:02:47 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG RUN

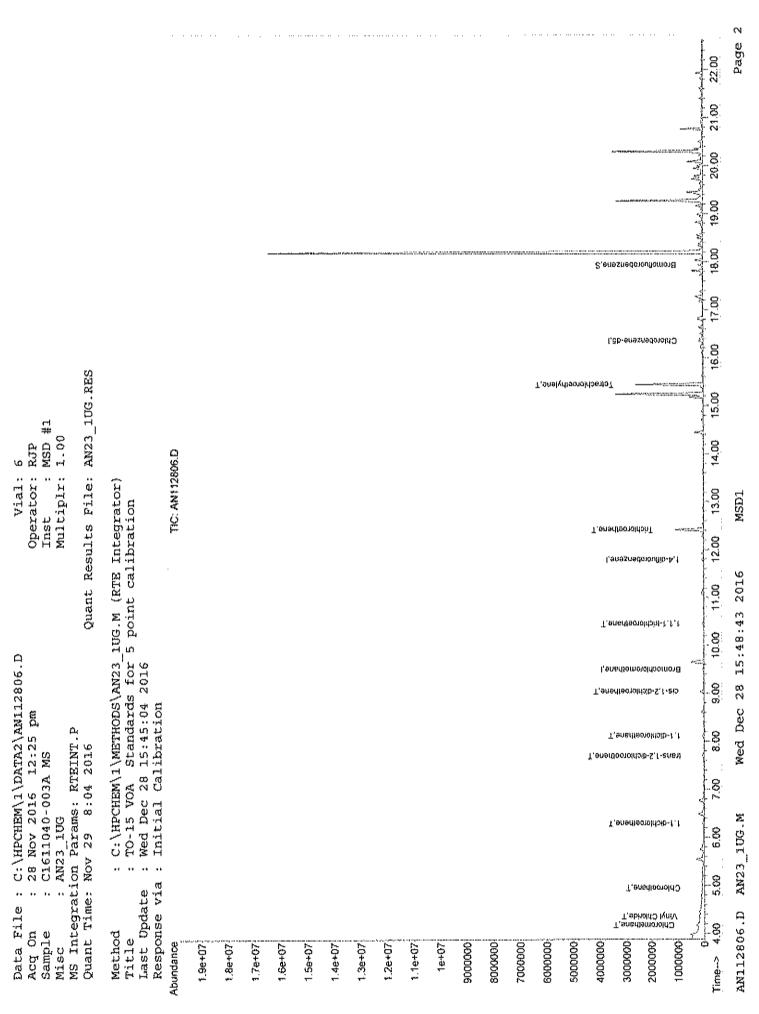
Internal Standards	R.T.	QIon	Response	Conc U	nits	Dev(Min)
1) Bromochloromethane	9.50	128	19945	1.00	dqq	-0.06
35) 1,4-difluorobenzene	11.79	114	88940		ppb	
50) Chlorobenzene-d5	16.34	117	83101		ppb	
System Monitoring Compounds						
66) Bromofluorobenzene	17.93	95	61500	0.98	dqq	-0.04
Spiked Amount 1.000	Range 70	- 130	Recover	У 🔤	98	.00%
Target Compounds						Qvalue
4) Chloromethane	4.18	50	1.9538	1.14	ppb	93
6) Vinyl Chloride	4.36	62	16670	1.09	dqq	85
10) Chloroethane	4.96	64	7095	1,12	ppb	# 68
18) 1,1-dichloroethene	6.30	96	19463		dqq	86
24) trans-1,2-dichloroethene	7.68	61	34565		ppb	
26) 1,1-dichloroethane	8.12	63	44692	1.29	ppb	96
29) cis-1,2-dichloroethene	9.04	61	121075		ppb	
36) 1,1,1-trichloroethane	10.46	97	63120		рpр	
44) Trichloroethene	12,41	130	444095	14.22		
56) Tetrachloroethylene	15.44	164	633610	18.34	$_{\rm bbp}$	88

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AN112806.D AN23_1UG.M Wed Dec 28 15:48:42 2016 MSD1

INC. TOMORY

ťΧ

תחשוורדושרזהוו צבלהדר



Page 149 of 191

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: Nov 29 08:02:55 2016 Quant Results File: AN23_lUG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

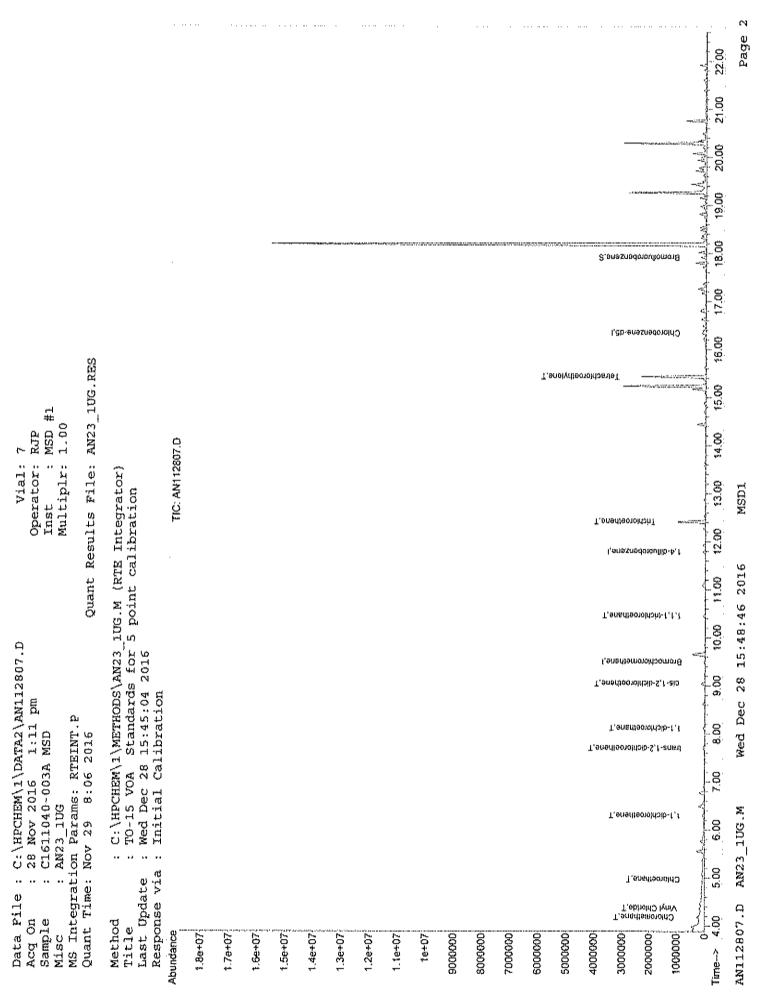
Internal Standards	R.T.	QIon	Response	Conc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.50 11.79 16.34		91248	1.00 1.00 1.00	ppb	-0.05
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.92 Range 70	95 - 130				-0.04 .00%
Target Compounds 4) Chloromethane 6) Vinyl Chloride 10) Chloroethane 18) 1,1-dichloroethene 24) trans-1,2-dichloroethene 26) 1,1-dichloroethane 29) cis-1,2-dichloroethene 36) 1,1,1-trichloroethane 44) Trichloroethene 56) Tetrachloroethylene	4.18 4.36 4.97 6.30 7.69 8.12 9.04 10.46 12.41	50 62 64 96 61 63 61 97 130	6916 19524 34340 45354 115343 65419	1.05 0.99 1.03 0.98 1.19 1.24 4.07 1.16 12.78 16.02	ddd ddd ddd ddd ddd ddd ddd ddd ddd	# 68 # 82 93 96 86 95

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AN112807.D AN23 lUG.M Wed Dec 28 15:48:45 2016 MSD1

Keviewed)

ſζ

Vuantitation Report



Page 151 of 191

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 28-Dec-16

LaBella Associates, P.C. CLIENT:

C1611040 Work Order:

1740 Emerson Street

Project:

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UG-112716	G-112716 SampType: LCS	TestCode	TestCode: 0,25CT-TCE-	· Units: pobV		Prep Date:	G.		RunNo: 11704	
Client ID: ZZZZZ	Batch ID: R11704	TesiNo: TO-15	TO-15	:	•	Analysis Date:	le: 11/27/2016		SeqNo: 137004	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Lowlimit	HighLimit RPD Ref Val	ef Val	%RPO RPOLimit	Qual
1,1,1-Trichloroethane	0.9000	0.15	-	0	90.0	70	130			
1,1-Dichloroethane	0.9500	0.15	-	0	95.0	70	130			
1,1-Dichloroethene	0.9800	0.15	-	0	98.0	70	130			
Chloroethane	0.9700	0.15	-	0	97.0	70	130			
Chloromethane	0.9800	0.15	-	0	98.0	70	130			
cis-1,2-Dichloroethene	0.9600	0.15	-	0	0.96	70	130			
Tetrachloroethylene	1.010	0.15	-	0	101	70	130			
frans-f,2-Dichloroethene	0.9700	0.15	-	0	97.0	70	130			
Trichkoroethene	0.9200	0.040	-	0	92.0	70	130			
Vinyl chloride	6.9200	0.040	-	0	92.0	70	130			
Sample ID ALCS1UG-112816	SampType: LCS	TestCode	TestCode: 0.25CT-TCE-	- Units: pabV		Prep Date	iej i		RunNo: 11705	
Cilent ID: ZZZZZ	Batch ID: R11705	TestNo: TO-15	TO-15		*	Analysis Date:	e: 11/28/2016		SeqNo: 137026	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	ef Val	%RPD RPDLimit	Qual
1,1,1-Trichloroethane	0:6300	0.15	-	0	93.0	70	130			
1,1-Dichloroethane	1.010	0.15	-	0	101	70	130			
1,1-Dichloroethene	0.9600	0.15	-	0	0.96	70	130			
Chloroethane	1.070	0.15	-	0	107	70	130			
Chloromethane	1.070	0.15	-	0	107	70	130			
cis-1,2-Dichloroethene	0.9700	0.15	-	0	97.0	70	130			
Tetrachlorcethylene	0.9900	0.15	-	0	98.0	70	130			
trans-1,2-Dichloroethere	1.000	0.15	-	0	38	22	130			
Trichloroethene	0.9500	0.040	-	0	95.0	70	130			
Qualifiers: Results repor	Results reported are not blank corrected			Estimated Value above quantitation range	itation rang	ų.		नेताहर जिल्हा	Holding times for preparation or analysis exceeded	deð
	Analyte detected below quantitation limit		ND Not Det	Not Detected at the Limit of Detection)etection		R RPD cuts	ide accepto	RPD outside accepted recovery limits	
S Spike Recove	Spike Recovery outside accepted recovery limits	nits							7	Page 1 of 3

rder:	C1611040											
Project:	1740 Emerson Strect	son Street						<u>-</u>	TestCode: (0.25CT-TCE-VC	g-vc	
Sample ID ALCS1UG-112816	3-112816	SampType: LCS	TestCo	TestCode: 0,25CT-TCE-	Units: ppbV		Prep Date	jaj		RunNo: 11705	705	
Client ID: ZZZZZ		Batch ID: R11705	Tesi	TestMo: TO-15		7	Analysis Date:	te: 11/28/2016	016	SeqNo: 137026	1026	
Analyte		Result	POL	SPK value SF	SPK Ref Val	%REC	LowLimit	14ightimit	RPD Ref Val	%RPD	RPDLimit	Ovat
Vinyî chloride		1.640	0.040	*	0	\$04	7.0	130				
Sample ID ALCS1UGD-112716	30-112716	SampType: LCSD	TestCo	FestCode: 0.25CT-TCE-	Units: ppbV		Prep Date:	.e.		RunMo: 11704	704	
Client ID: ZZZZZ		Batch (D: R11704	Test	TestNo: TO-15		~	Analysis Date:	le: 11/28/2016	016	SeqNo: 137005	7005	
Analyte		Resuit	POL	SPK value SF	SPK Ref Val	%REC	Lawtimit	HighLimit	RPD Ref Val	WRPD	RPDLimit	Qual
1,1,1-Trichloroethane		0.7900	0.15	y ar	0	79.0	55	130	0.9	13.0	30	
1,1-Dichloroethane		0.9200	0.15	dan	¢	92.0	70	130	0.95	3.21	30	
f, 1-Dichtorcethene		0.9800	0.15	4 11-	¢	98.0	22	130	0.98	0	30	
Chloraethane		0.9500	0.15	*-	ф	95.0	70	130	0.97	2.08	30	
Chlorometinane		0.9200	0.15	•	¢	92.0	70	130	0.98	6.32	8	
cis-1,2-Dichloroethene	ø	0.9500	0.15	***	Ф	95.0	70	130	0.96	1.05	33	
Tetrachloroethyene		0.9600	0.15	-	0	96.0	70	130	1.01	5.08	33	
trans-1,2-Dichloroethene	ine	0.9300	0.15	۳.	Ф	93.0	70	130	0.97	4.21	33	
Trichloroethene		0.9100	0.040	***	t)	91.0	720	130	0.92	1.09	8	
Vinyl chloride		0.9500	0.040	₹~	0	95.0	70	130	0.92	3.21	30	
Sample ID ALCS1UG	ALCS1UGD-112816	SampType: LCSD	TestCo	TestCode: 0.25CT-TCE-	Units: ppbV		Prep Date:	ě.		RunNo: 11705	105	
Client ID: ZZZZZ		Batch ID: R11705	Test	TestNo: TO-15		•	Analysis Date:	le: 11/28/2016	016	SeqNo: 137027	'027	,,
Analyte		Result	PQL.	SPK value SF	SPK Ref Val	%REC	LowLimit	FlighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane		0.9300	0.15	1	C.	93.0	70	130	0.93	0	39	
1,1-Dichloroethane		1.040	0.15	-	O	104	70	130	1.01	2.93	æ	
1,1-Dichloroethene		0.9500	0.15	-	0	95.0	55	130	0.96	1,05	30	
Chloroethane		1.120	0.15	-	0	112	70	130	1.07	4.57	30	
Chloromethane		1,150	0.15	-	0	1,5	70	130	1.07	7.2	30	
cis-1,2-Dicinloroethene	മ	1.010	0.15	τ-	0	101	70	130	0.97	4.04	30	
Tetrachloroethylene		1.020	0.15	-	0	102	70	130	0.99	2.99	30	
trans-1,2-Dichloroethene	ene.	1.030	0.15	-	0	103	70	130	-	2.96	30	
Trichtoroethene		0.9500	0.040	-	0	95.0	70	130	0.95	Û	30	
Qualifiers: R	tesults report	Results reported are not blank corrected		E Estimated	Estimated Value above quantitation range	sitation cang	y.	=	Joseph Sternes for	Boiding times for preparation or analysis exceeded	nalysis exceed	cd
	भग्नामेन वेद्धि	Analyte detected below quantitation limit		ND Not Detect	Not Detected at the Limit of Detection	Detection		ez ez	PD outside acce	RPD outside accepted recovery limits	nits	
S	Spike Recove	Spike Recovery outside accepted recovery limits	Emtits								Q,	Page 2 of 3

LaBella Associates, P.C.

CLIENT:

Andre March Manager Andre Andr	Holding times for preparation or analysis exceeded
3 Analyte detected below quantitation limit ND Not Detected at the Limit of Detection R	R RPD outside accepted recovery limits

			1
		Q	
3-vc	50.	ING: 137027 %RPD RPDLimit Qual	30
25CT-TCF	RunNo: 11705	SeqNo: 13/02/	5.61
TestCode: 0.25CT-TCE-VC		Analysis Date: 11/28/2016 %REC LowLimit HighLimit RPD Ref Val	1.04
jana .	di	s. Titzakzi HighLimit	130
	Prep Date	Analysis Liate: 11/28/2016 LowLimit HighLimit RP	70
		%REC	110
	0.25CT-TCE- Units: ppbV	⊃K Ref Val	0
	le: 0.25CT-TCE-	SPK value SPK Ref Val	-
	TestCode:	Pal	0.040
on Street	SampType: LCSD	Result	1,100
1740 Emerson Street	Sample ID ALCS1UGD-112816 SampType: LCSD		ap
Project:	Sample ID	Analyte	Vinyl chloride

LaBella Associates, P.C.

C1611040

Work Order:

CLIENT:

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112704.D Vial; 4 Acq On : 27 Nov 2016 2:53 pm Operator: RJP Sample : ALCS1UG-112716 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT, P

Quant Time: Nov 28 06:59:38 2016 Quant Results File: AN23 1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

December Part Par	MAY							
1 Bromochloromethane 9.48 128 27668 1.00 ppb -0.06 50 Chlorobenzene-ds 11.78 114 127234 1.00 ppb -0.06 50 Chlorobenzene-ds 16.34 117 111596 1.00 ppb -0.04								
## System Monitoring Compounds								-
## System Monitoring Compounds	 Bromochloromethane 	9.48	128	27668	1.00	ppb	-0.0	8
## System Monitoring Compounds	35) l,4-difluorobenzene	11.78	114	127234	1.00	dqq	-0.0	б
## System Monitoring Compounds	50) Chlorobenzene-d5	16.34	117	111596	1.00	ppb	-0.04	4
## Spiked Amount								
Target Compounds								
Target Compounds	66) Bromofluorobenzene	17.92	95			dqq	-0.0	4
23 Propylene 3.95	Spiked Amount 1,000	Range 70	~ 130	Recover	ту =	98	.00%	
23 Propylene 3.95					_			
3 Freon 12							Qvalue	
3 Freen 12	2) Propylene	3.95	41	18382		ppp		6
4) Chloromethane 4.19 50 23376 0.98 ppb 98 5) Freon 114 4.18 85 70565 1.02 ppb 97 6) Vinyl Chloride 4.36 62 19606 0.92 ppb 93 7) Butane 4.46 43 27349 1.02 ppb 94 8) 1,3-butadiene 4.46 43 27349 1.02 ppb 94 10) Chloroethane 4.80 94 24969 1.03 ppb 84 10) Chloroethane 4.95 64 8595 0.97 ppb 86 11) Ethanol 5.08 45 8448 0.96 ppb 79 12) Acrolein 5.63 56 7026 0.98 ppb 86 13) Vinyl Bromide 5.28 106 25891 1.02 ppb 95 14) Freon 11 5.55 101 85267 1.06 ppb 96 15) Acetone 5.75 58 14924 0.88 ppb # 1 16) Pentane 5.80 42 21840 0.98 ppb # 22 17) Isopropyl alcohol 5.84 45 32224 0.96 ppb # 100 18) 1,1-dichloroethene 6.29 96 25761 0.98 ppb 86 19) Freon 113 6.47 101 62926 1.01 ppb 83 20) t-Butyl alcohol 6.56 59 52553 0.81 ppb 83 21) Methylene chloride 6.75 84 45511 0.79 ppb 95 22) Allyl chloride 6.73 41 24768 0.81 ppb 86 23) Carbon disulfide 6.90 76 6813 0.99 ppb 98 24) trans-1,2-dichloroethene 7.66 61 37145 0.99 ppb 98 25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 96 26) 1,1-dichloroethane 8.09 63 45813 0.99 ppb 96 27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Mexane 8.60 57 33371 0.91 ppb 95 29) Cis-1,2-dichloroethane 8.61 72 11024 1.01 ppb 92 29) cis-1,2-dichloroethane 8.61 72 11024 1.01 ppb 95 30) Hexane 8.60 57 33371 0.91 ppb 95 31) Ethyl acetate 9.03 61 35746 0.96 ppb 79 32) Chloroform 9.64 83 70883 1.01 ppb 96 33) Tetrahydrofuran 9.85 42 2032 0.89 ppb 97 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 97 35) Chloroform 9.64 83 70883 1.01 ppb 96 36) 1,1,1-trichloroethane 10.76 62 49415 0.98 ppb 97 37) Cyclohexane 11.14 56 31847 0.88 ppb 95 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 84 40) Methyl Ethyl methacrylate 11.06 78 74767 0.97 ppb 94 41) 1,4-dichloroethane 12.26 43 36469 0.89 ppb 97 44) Trichloroethane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.26 33 25111 0.93 ppb 95	3) Freon 12	4.00			1.05	dqq	1.0	0
5) Freon 114	4) Chloromethane		50	23376	0.98	ppb	91	8
8	5) Freon 114		85	70565		daa	9'	7
8	6) Vinyl Chloride	4.36	62	19606	0.92			3
10) Chloroethane	7) Butane	4.46	43	27349	1.02			4
10) Chloroethane	8) 1,3-butadiene	4.46	39	21034	1.01			1.
10) Chloroethane		4.80	94	24969	1.03			
11) Ethanol	10) Chloroethane	4.95	64	8585	0.97			
12) Acrolein	11) Ethanol		4.5	8448				
14) Freon 11 5.55 101 85267 1.06 ppb 96 15) Acetone 5.75 58 14924 0.88 ppb # 1 16) Pentane 5.80 42 21840 0.98 ppb # 22 17) Isopropyl alcohol 5.84 45 32224 0.96 ppb # 100 18) I.1-dichloroethene 6.29 96 25761 0.98 ppb 86 19) Freon 113 6.47 101 62926 1.01 ppb 83 20) t-Butyl alcohol 6.56 59 52553 0.81 ppb # 92 21) Methylene chloride 6.75 84 45511 0.79 ppb 95 22) Allyl chloride 6.73 41 24768 0.81 ppb 86 23) Carbon disulfide 6.90 76 68313 0.99 ppb 98 24) trans-1,2-dichloroethene 7.66 61 37145 0.97 ppb 89 25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96			56	7026				
14) Freon 11 5.55 101 85267 1.06 ppb 96 15) Acetone 5.75 58 14924 0.88 ppb # 1 16) Pentane 5.80 42 21840 0.98 ppb # 22 17) Isopropyl alcohol 5.84 45 32224 0.96 ppb # 100 18) I.1-dichloroethene 6.29 96 25761 0.98 ppb 86 19) Freon 113 6.47 101 62926 1.01 ppb 83 20) t-Butyl alcohol 6.56 59 52553 0.81 ppb # 92 21) Methylene chloride 6.75 84 45511 0.79 ppb 95 22) Allyl chloride 6.73 41 24768 0.81 ppb 86 23) Carbon disulfide 6.90 76 68313 0.99 ppb 98 24) trans-1,2-dichloroethene 7.66 61 37145 0.97 ppb 89 25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96	13) Vinyl Bromide		106	25891				
15 Acetone	<u>-</u>		101	85267				
18) 1,1-dichloroethene 6.29 96 25761 0.98 ppb 86 19) Freon 113 6.47 101 62926 1.01 ppb 83 20) t-Butyl alcohol 6.56 59 52553 0.81 ppb #92 21) Methylene chloride 6.75 84 45511 0.79 ppb 95 22) Allyl chloride 6.73 41 24768 0.81 ppb 86 23) Carbon disulfide 6.90 76 68313 0.99 ppb 98 24) trans-1,2-dichloroethene 7.66 61 37145 0.97 ppb 98 25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96 27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Methyl Ethyl Ketone 8.61 72 11024 1.01 ppb #6 29) cis-1,2-dichloroethene 9.03 61 35746 0.96<	· ·		58	14924				
18) 1,1-dichloroethene 6.29 96 25761 0.98 ppb 86 19) Freon 113 6.47 101 62926 1.01 ppb 83 20) t-Butyl alcohol 6.56 59 52553 0.81 ppb #92 21) Methylene chloride 6.75 84 45511 0.79 ppb 95 22) Allyl chloride 6.73 41 24768 0.81 ppb 86 23) Carbon disulfide 6.90 76 68313 0.99 ppb 98 24) trans-1,2-dichloroethene 7.66 61 37145 0.97 ppb 98 25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96 27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Methyl Ethyl Ketone 8.61 72 11024 1.01 ppb #6 29) cis-1,2-dichloroethene 9.03 61 35746 0.96<			4.2	21840	0.98			
18) 1,1-dichloroethene 6.29 96 25761 0.98 ppb 86 19) Freon 113 6.47 101 62926 1.01 ppb 83 20) t-Butyl alcohol 6.56 59 52553 0.81 ppb #92 21) Methylene chloride 6.75 84 45511 0.79 ppb 95 22) Allyl chloride 6.73 41 24768 0.81 ppb 86 23) Carbon disulfide 6.90 76 68313 0.99 ppb 98 24) trans-1,2-dichloroethene 7.66 61 37145 0.97 ppb 98 25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96 27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Methyl Ethyl Ketone 8.61 72 11024 1.01 ppb #6 29) cis-1,2-dichloroethene 9.03 61 35746 0.96<	· · · · · · · · · · · · · · · · · · ·	5.84	45	32224	0.96			
19) Freon 113 20) t-Butyl alcohol 20) t-Butyl alcohol 21) Methylene chloride 22) Allyl chloride 37 41 24768 23) Carbon disulfide 38 6.47 24768 25) Methylene chloroethene 26 6.73 27 41 24768 28 17 24768 29 17 24768 20 18 1 ppb 20 24 1 trans-1,2-dichloroethene 20 25) methyl tert-butyl ether 21 7.71 22 7.7655 23 1,1-dichloroethane 25 methyl tert-butyl ether 27 7.71 28 25 27 27 28 29 29 29 29 29 29 29 29 29 29 29 29 29			96	25761	0.98			
22) Allyl chloride 6.73 41 24768 0.81 ppb 86 23) Carbon disulfide 6.90 76 68313 0.99 ppb 98 24) trans-1,2-dichloroethene 7.66 61 37145 0.97 ppb 89 25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96 27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Methyl Ethyl Ketone 8.61 72 11024 1.01 ppb # 22 29) cis-1,2-dichloroethene 9.03 61 35746 0.96 ppb 79 30) Hexane 8.60 57 33371 0.91 ppb 95 31) Ethyl acetate 9.20 43 41364 0.87 ppb 91 32) Chloroform 9.64 83 70883 1.01 ppb 96 33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95			101	62926	1.01			
22) Allyl chloride 6.73 41 24768 0.81 ppb 86 23) Carbon disulfide 6.90 76 68313 0.99 ppb 98 24) trans-1,2-dichloroethene 7.66 61 37145 0.97 ppb 89 25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96 27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Methyl Ethyl Ketone 8.61 72 11024 1.01 ppb # 22 29) cis-1,2-dichloroethene 9.03 61 35746 0.96 ppb 79 30) Hexane 8.60 57 33371 0.91 ppb 95 31) Ethyl acetate 9.20 43 41364 0.87 ppb 91 32) Chloroform 9.64 83 70883 1.01 ppb 96 33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95		6.56	59	52553	0.81			
22) Allyl chloride 6.73 41 24768 0.81 ppb 86 23) Carbon disulfide 6.90 76 68313 0.99 ppb 98 24) trans-1,2-dichloroethene 7.66 61 37145 0.97 ppb 89 25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96 27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Methyl Ethyl Ketone 8.61 72 11024 1.01 ppb # 22 29) cis-1,2-dichloroethene 9.03 61 35746 0.96 ppb 79 30) Hexane 8.60 57 33371 0.91 ppb 95 31) Ethyl acetate 9.20 43 41364 0.87 ppb 91 32) Chloroform 9.64 83 70883 1.01 ppb 96 33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95		6.75	84	45511				
23) Carbon disulfide 6.90 76 68313 0.99 ppb 98 24) trans-1,2-dichloroethene 7.66 61 37145 0.97 ppb 89 25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96 27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Methyl Ethyl Ketone 8.61 72 11024 1.01 ppb # 22 29) cis-1,2-dichloroethene 9.03 61 35746 0.96 ppb 79 30) Hexane 8.60 57 33371 0.91 ppb 95 31) Ethyl acetate 9.20 43 41364 0.87 ppb 91 32) Chloroform 9.64 83 70883 1.01 ppb 96 33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95		6.73	41	24768				
25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96 27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Methyl Ethyl Ketone 8.61 72 11024 1.01 ppb # 22 29) cis-1,2-dichloroethene 9.03 61 35746 0.96 ppb 79 30) Hexane 8.60 57 33371 0.91 ppb 95 31) Ethyl acetate 9.20 43 41364 0.87 ppb 91 32) Chloroform 9.64 83 70883 1.01 ppb 96 33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95			76	68313				
25) methyl tert-butyl ether 7.71 73 77655 0.90 ppb 93 26) 1,1-dichloroethane 8.09 63 45813 0.95 ppb 96 27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Methyl Ethyl Ketone 8.61 72 11024 1.01 ppb # 22 29) cis-1,2-dichloroethene 9.03 61 35746 0.96 ppb 79 30) Hexane 8.60 57 33371 0.91 ppb 95 31) Ethyl acetate 9.20 43 41364 0.87 ppb 91 32) Chloroform 9.64 83 70883 1.01 ppb 96 33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95	24) trans-1.2-dichloroethene	7.66	61	37145	0.97	daa		
26) 1,1-dichloroethane			73					
27) Vinyl acetate 8.09 43 47007 0.80 ppb 96 28) Methyl Ethyl Ketone 8.61 72 11024 1.01 ppb # 22 29) cis-1,2-dichloroethene 9.03 61 35746 0.96 ppb 79 30) Hexane 8.60 57 33371 0.91 ppb 95 31) Ethyl acetate 9.20 43 41364 0.87 ppb 91 32) Chloroform 9.64 83 70883 1.01 ppb 96 33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb <								
29) cis-1,2-dichloroethene 9.03 61 35746 0.96 ppb 79 30) Hexane 8.60 57 33371 0.91 ppb 95 31) Ethyl acetate 9.20 43 41364 0.87 ppb 91 32) Chloroform 9.64 83 70883 1.01 ppb 96 33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 <tr< td=""><td></td><td>8.09</td><td>43</td><td>47007</td><td></td><td></td><td></td><td></td></tr<>		8.09	43	47007				
29) cis-1,2-dichloroethene 9.03 61 35746 0.96 ppb 79 30) Hexane 8.60 57 33371 0.91 ppb 95 31) Ethyl acetate 9.20 43 41364 0.87 ppb 91 32) Chloroform 9.64 83 70883 1.01 ppb 96 33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 <tr< td=""><td></td><td></td><td>72</td><td>11024</td><td></td><td></td><td></td><td></td></tr<>			72	11024				
30) Hexane			61	35746				
33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95			57	33371		ppb		
33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95			43	41364	0.87	daa	9.7	
33) Tetrahydrofuran 9.85 42 20432 0.89 ppb 95 34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95			83	70883	1 01	nph		
34) 1,2-dichloroethane 10.76 62 49415 0.98 ppb 87 36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95								
36) 1,1,1-trichloroethane 10.43 97 70302 0.90 ppb 99 37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95					0.98	ppp		
37) Cyclohexane 11.14 56 31847 0.88 ppb # 51 38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95								
38) Carbon tetrachloride 11.10 117 59811 0.84 ppb 88 39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95								
39) Benzene 11.06 78 74767 0.97 ppb 94 40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95	· A							
40) Methyl methacrylate 12.66 41 27070 0.87 ppb 94 41) 1,4-dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95								
41) 1,4*dioxane 12.72 88 17814 1.03 ppb 89 42) 2,2,4*-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2*-dichloropropane 12.52 63 25111 0.93 ppb 95	-							
42) 2,2,4-trimethylpentane 11.91 57 103241 0.94 ppb 96 43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95			_					
43) Heptane 12.26 43 36469 0.89 ppb 97 44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95								
44) Trichloroethene 12.40 130 41018 0.92 ppb 90 45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95								
45) 1,2-dichloropropane 12.52 63 25111 0.93 ppb 95								
					0.74	DDP PPD		
	45, 1,2-dichioropropane					 - \pp		J

^{(#) =} qualifier out of range (m) = manual integration AN112704.D AN23 lUG.M Wed Dec 28 15:48:24 2016 MSDL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112704.D Vial: 4
Acq On : 27 Nov 2016 2:53 pm Operator: RJP
Sample : ALCS1UG-112716 Inst : MSD #1
Misc : AN23_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 28 06:59:38 2016 Quant Results File: AN23_luG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Nov 27 12:25:10 2016

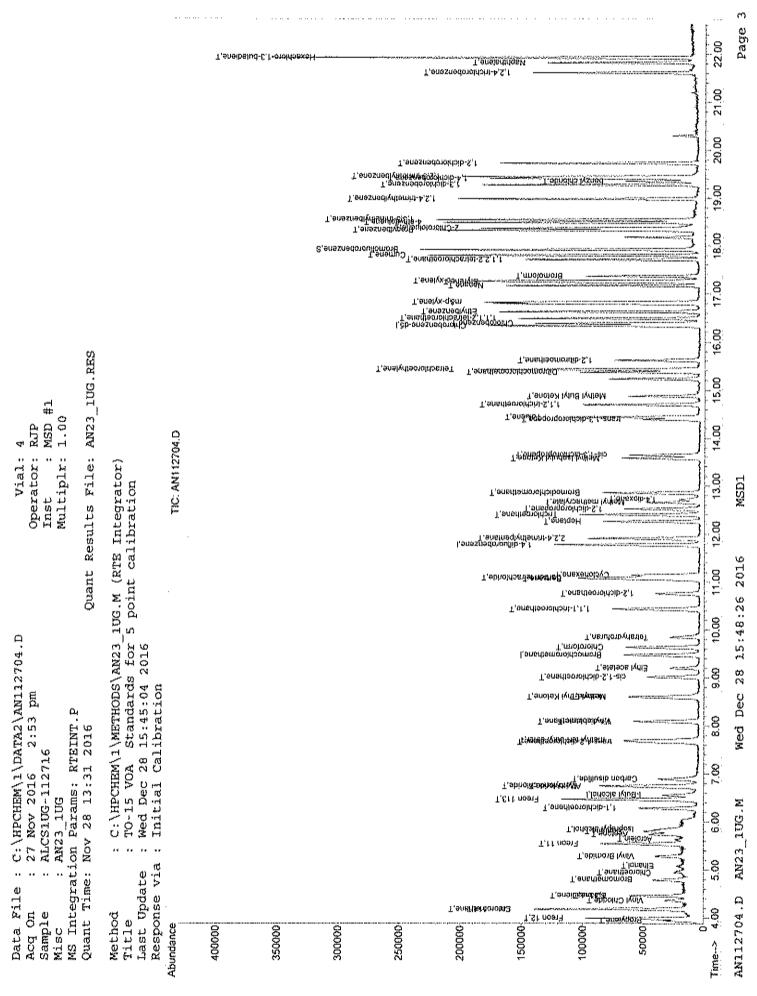
Response via : Initial Calibration

DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.86	83	66105	1.04 ppb	95
47)	cis-1,3-dichloropropene	13.64	75	40876	0.90 ppb	92
48)	trans-1,3-dichloropropene	14.38	75	33327	0.72 ppb	75
49)	1,1,2-trichloroethane	14.70	97	35328	1.00 ppb	98
51)	Toluene	14.44	92	55905	0.97 ppb	99
52)	Methyl Isobutyl Ketone	13.58	43	50152 ^	dqq 00.0	95
53)	Dibromochloromethane	15.37	129	65859m 🖗	1.06 ppb	
54)	Methyl Butyl Ketone	14.87	43	47587	0.91 ppb	89
55)	1,2-dibromoethane	15.62	107	57443	0.98 ppb	95
56)	Tetrachloroethylene	15,43	164	47082	1.01 ppb	92
,	Chlorobenzene	16.38	112	84937	1.00 ppb	91.
58)	1,1,1,2-tetrachloroethane	16.49	131	42628	0.91 ppb	98
59)	Ethylbenzene	16.63	91	137309	0.98 ppb	93
60)	m&p-xylene	16.82	91	222731	1.97 ppb	94
61)	Nonane	17.17	43	53852	dqq 88.0	99
62)	Styrene	17.24	104	78627	dqq 80.0	79
63)	Bromoform	17.36	173	53134	0.98 ppb	97
64)	o-xylene	17.27	91	121903	dqq 86.0	95
65)	Cumene	17.80	105	160289	1.01 ppb	96
67)	1,1,2,2-tetrachloroethane	17.71	83	70212	1.04 ppb	98
68)	Propylbenzene	18.32	91	177138m 🐴	0.97 ppb	
69)	2-Chlorotoluene	18.37	91	112948m	0.96 ppb	
70)	4-ethyltoluene	18.49	105	150773m	1.03 ppb	
71)	1,3,5-trimethylbenzene	18.54	105	136599m 🗸	0.99 ppb	
72)	1,2,4-trimethylbenzene	18.98	105	125886	0.98 ppb	97
73)	1,3-dichlorobenzene	19.27	146	84477	dqq 80.0	91
74)	benzyl chloride	19.34	91	66119	0.74 ppb	97
75)	1,4-dichlorobenzene	19.40	146	81561	0.96 ppb	93
76)	1,2,3-trimethylbenzene	19.44	105	126177	1.02 ppb	93
77)	1,2-dichlorobenzene	19.72	1.46	80869	1.01 ppb	96
78)	1,2,4-trichlorobenzene	21.61	180	46957	dqq 08.0	96
79)	Naphthalene	21.81	128	114480	0.77 ppb	94
80)	Hexachloro-1,3-butadiene	21.92	225	75467	1.05 დგხ	95

(V.I. Kevlewed)

Vuantitation Report



Page 157 of 191

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112803.D Vial: 3 Acq On : 28 Nov 2016 10:28 am Operator: RJP Sample : ALCS1UG-112816 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT,P

Quant Time: Nov 29 07:16:43 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\l\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response (Conc U	nits	Dev	(min)
 Bromochloromethane 	9.49	128	19643	1.00	ppb		-0.07
35) 1,4-difluorobenzene	11.78	114	87844	1.00	daa		-0.06
50) Chlorobenzene-d5	16.34	1.1.7	79321	1.00	ppb		-0.04
System Monitoring Compounds							
66) Bromofluorobenzene	17.92	95	57195	0.96	ppb		-0.04
Spiked Amount 1.000	Range 70	- 130	Recovery	Y =	96	. ዕዕቴ	
Target Compounds						Ova	alue
2) Propylene	3.93	41	14371	1.01	daa	~	90
3) Freon 12	3.99	85	86013	1.17			99
4) Chloromethane	4,18	50	18127	1.07			98
5) Freon 114	4.18	85	57557				98
6) Vinyl Chloride	4,37	62	15778	1.04			97
7) Butane	4.46	62 43	21484	1.13			96
8) 1,3-butadiene	4,46		16520	1.11	daa		88
Bromomethane	4,80						
10) Chloroethane	4.96						
11) Ethanol	5.08	45	6678 6096	0.98			89
12) Acrolein	5.64	56	4888	0.96			74
13) Vinyl Bromide	5.29						98
14) Freon 11	5.55	106 101 58	19014 73642m/	1.29			
15) Acetone	5.75	58	11262	0.93		#	1
16) Pentane	5.81	42	17172				22
17) Isopropyl alcohol	5.86			1.09			100
18) 1,1-dichloroethene	6.29	45 96	25870 17966	0.96			78
19) Freon 113	6.48	101	45887	1.04			84
20) t-Butyl alcohol	6.56	59	34055	0.74			76
21) Methylene chloride	6.76						96
22) Allyl chloride	6.76 6.74	84 41	32408 17798	0.82			83
23) Carbon disulfide	6.90	76	49276	1.00			99
24) trans-1,2-dichloroethene				1.00			93
25) methyl tert-butyl ether	7.71	73	50433				87
26) 1,1-dichloroethane	7.71 8.11	61 73 63	50433 34506	1.01			96
27) Vinvl acetate	8 30	43	35742				97
28) Methyl Ethyl Ketone	9 60	72	7626	0.98			1
28) Methyl Ethyl Ketone 29) cis-1,2-dichloroethene	9.03	61.	7626 25692	0.97			83
30) Hexane	8.61	57	24648	0.95	dqq		97
31) Ethyl acetate	9.21	43	30731		daa		91
32) Chloroform	9.64	83	52497	1.05	dag		95
33) Tetrahydrofuran	9.86	4.2	14753	0.90	daa		97
34) 1,2-dichloroethane	10.77	62	37971	1.06			89
36) 1,1,1-trichloroethane	10.44	97	50025	0.93			97
37) Cyclohexane	11.14	56	23026	0.92		##	46
38) Carbon tetrachloride	11.10	117	49149	1.00			88
39) Benzene	11.07	78	52879	1.00			96
40) Methyl methacrylate	12.66	41	20361	0.94			95
41) 1,4-dioxane	12.72	88	13806	1.15			84
42) 2,2,4-trimethylpentane	11.92	57	73493	0.97			98
43) Heptane	12.27	4.3	26022	0.92	dag		93
44) Trichloroethene	12.42	130	29409	0.95	dag		91
45) 1,2-dichloropropane	12.53	63	18055	0.97			96
**************************************						V NF AN AN W	

Quantitation Report (QT Reviewed)

Vial: 3 Data File : C:\HPCHEM\1\DATA2\AN112803.D Acq On : 28 Nov 2016 10:28 am Sample : ALCS1UG-112816 Misc : AN23_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Time: Nov 29 07:16:43 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : IUG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.86	83	53008	1.21 ppb	98
47)	cis-1,3-dichloropropene	13.65	75	28000	0.89 ppb	89
48)	trans-1,3-dichloropropene	14.39	75	23324	0.73 ppb	79
49)	1,1,2-trichloroethane	14.70	97	26285	1.07 ppb	97
51)	Toluene	14.44	92	40495	dqq ee.0	98
52)	Methyl Isobutyl Ketone	13.58	43	39965 7	1.01 ppb	95
53)	Dibromochloromethane	15.38	129	53815m 🏳	1.22 ppb	
54)	Methyl Butyl Ketone	14.88	43	36556	0.98 ppb	88
55)	1,2-dibromoethane	15.62	107	41850	1.01 ppb	97
56)	Tetrachloroethylene	15.43	164	32489	0.99 ppb	88
57)	Chlorobenzene	16.39	112	60809	1.01 ppb	95
58)	1,1,1,2-tetrachloroethane	16.49	131	32405	0.97 ppb	97
59)	Ethylbenzene	16.63	91	98599	0.99 ppb	92
60)	m&p-xylene	16.83	91.	160390	2.00 დდბ	93
61)	Nonane	17.18	43	39363	0.91 ppb	98
62)	Styrene	17.25	104	53804	0.95 დებ	76
63)	Bromoform	17.37	173	44391	1.15 ppb	98
64)	o-xylene	17.28	91	83803	0.95 ppb	93
65)	Cumene	17.81	105	111740	0.99 ppb	97
67)	1,1,2,2-tetrachloroethane	17.72	83	52844 <i>f</i>	1.10 ppb	97
68)	Propylbenzene	18.33	91	119880m 🖔	0.92 ppb	
69)	2-Chlorotoluene	18.37	91	92030m	1.10 ppb	
70)	4-ethyltoluene	18.49	105	105451m	1.01 ppb	
71)	1,3,5-trimethylbenzene	18.55	105	95646m	0.97 ppb	
72)	1,2,4-trimethylbenzene	18.99	105	89778	0.98 ppb	99
73)	1,3-dichlorobenzene	19.28	146	58423	0.96 ppb	93
74)	benzyl chloride	19.35	91	44317m\√	0.70 ppb	
75)		19.41	146	58174	0.96 ppb	95
76)		19.44	105	89826	1.02 ppb	95
77)	1,2-dichlorobenzene	19.73	146	55269	0.97 ppb	97
78)	1,2,4-trichlorobenzene	21.62	180	33754	ರೆಇಇ 00.0	98
79)	Naphthalene	21.82	128	83182	0.79 ppb	94
80)	Hexachloro-1,3-butadiene	21.92	225	53704	1.05 ppb	93

THE VACABLE

τ×

ζααπετεαετοπ γεμοτε

Page 160 of 191

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112725.D Vial: 9 Acq On : 28 Nov 2016 4:49 am Sample : ALCS1UGD-112716 Misc : AN23_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 28 06:59:59 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Sun Nov 27 12:25:10 2016

Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Bromochloromethane	Internal Standards	R.T.	QIon	Response	Conc Uni	ts D	ev(Min)
35							16. M. W. W. W. W. W.
## System Monitoring Compounds		9.48	128	26130	1.00 p	pb	-0.07
## System Monitoring Compounds		11.78			1.00 p	dqo	-0.06
## System Monitoring Compounds	50) Chlorobenzene-d5	16.34	1.1.7	99370	1.00 g	dago	-0.04
## Spiked Amount 1.000 Range 70 - 130 Recovery = 95.00% Target Compounds							
Target Compounds							
Target Compounds							
23 Propylene 3.94 41 15796 0.84 ppb 79 79 79 79 79 79 79 7	Spiked Amount 1.000	Range 70	- 130	Recove	ry =	95.0	O%
23 Propylene 3.94 41 15796 0.84 ppb 79 79 79 79 79 79 79 7	m						
3) Freon 12 3) 99 85 101120 1.03 ppb 94 5) Freon 114 4.18 50 20605 0.92 ppb 94 5) Freon 114 4.19 85 67382 1.03 ppb 99 6) Vinyl Chloride 4.37 62 19150 0.95 ppb 94 8) 1,3-butadiene 4.46 43 23626 0.94 ppb 94 8) 1,3-butadiene 4.80 94 24246 1.06 ppb 91 10) Chloroethane 4.80 94 24246 1.06 ppb 93 11) Ethanol 5.10 45 8615 1.04 ppb 95 11) Ethanol 5.10 45 8615 1.04 ppb 95 12) Acrolein 5.63 56 6480 0.96 ppb # 72 13) Vinyl Bromide 5.29 106 24205 1.01 ppb 99 14) Freon 11 5.54 101 76507 1.01 ppb 99 14) Freon 11 5.554 101 76507 1.01 ppb 99 15) Acetone 5.81 42 20330 0.96 ppb # 24 17) Isopropyl alcohol 18) 1,1-dichloroethene 6.29 96 24280 0.98 ppb 90 19) Freon 113 6.48 101 59536 1.01 ppb 85 20) L-Butyl alcohol 21) L-dichloroethene 6.59 46169 22) Allyl chloride 6.75 84 42876 23) Carbon disulfide 6.74 41 22860 0.78 ppb 84 22) Allyl chloride 6.75 84 42876 0.78 ppb 94 22) Allyl chloride 6.75 84 42876 0.78 ppb 95 23) Carbon disulfide 6.74 41 22860 0.79 ppb 86 24) Trans-1,2-dichloroethene 8.10 63 41886 0.92 ppb 95 27) Vinyl acetate 8.09 43 41066 0.74 ppb 95 27) Vinyl acetate 8.09 43 41066 0.74 ppb 95 28) Mexane 30 Hexane 31 Ethyl Acetote 8.09 43 41066 0.74 ppb 95 32) Chloroform 9.64 83 62795 33) Cetrohoroethane 10.76 62 44166 0.93 ppb 91 32) Chloroform 9.64 83 62795 33) Carbon disulfide 11.14 56 29240 0.99 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 93 31) Ethyl acetate 9.03 61 33395 0.95 ppb 82 32) Chloroform 9.64 83 62795 0.95 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 95 34) 1,2-dichloroethane 10.77 866144 0.95 ppb 96 34) 1,2-dichloroethane 10.78 62 44166 0.93 ppb 97 39) Cyclohexane 11.14 56 29240 0.89 ppb 96 41) 1,4-dioxane 11.07 866144 0.95 ppb 96 42) 2,2,4-trimethylpentane 11.07 78 66144 0.95 ppb 96 43) Heptane 44,5 1,2-dichloroethane 12.66 41 24570 0.87 ppb 96 44) Trichloroethene 12.26 43 30753 0.83 ppb 91 45) 1,2-dichloroethene 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.26 43 30753 0.93 ppb 93							
4) Chloromethane 4 18 50 20605 0.92 ppb 94 5) Freon 114 4.19 95 67382 1.03 ppb 99 6) Vinyl Chloride 4.37 62 19150 0.95 ppb 94 8) Butane 4.46 43 23626 0.94 ppb 94 8) Bromomethane 4.80 94 24246 1.06 ppb 89 10) Chloroethane 4.96 64 7933 0.95 ppb 95 11) Ethanol 5.10 45 8615 1.04 ppb 95 12) Acrolein 5.63 56 6480 0.96 ppb 72 13) Vinyl Bromide 5.29 106 24205 1.01 ppb 97 14) Freon 11 5.54 101 76507 1.01 ppb 97 15) Acetone 5.75 58 14302 0.89 ppb # 10 16) Pentane 5.81 42 20330 0.96 ppb # 24 17) Isopropyl alcohol 5.85 45 30562 0.96 ppb # 100 18) 1,1-dichloroethene 6.29 96 24280 0.99 ppb 90 19) Freon 113 6.48 101 59536 1.01 ppb 85 20) t-Butyl alcohol 6.56 59 46169 0.76 ppb # 78 21) Actylene chloride 6.75 84 42876 0.98 ppb 90 22) Allyl chloride 6.74 41 22860 0.79 ppb 86 23) Carbon disulfide 6.90 76 63022 0.96 ppb 90 24) trans-1,2-dichloroethene 7.67 61 33661 0.93 ppb 91 25) methyl tert-butyl ether 7.70 73 63437 0.78 ppb 86 26) 1,1-dichloroethene 8.62 72 9879 0.96 ppb 92 27) Vinyl acetate 8.09 43 41066 0.74 ppb 94 28) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb 92 28) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb 93 29) Chloroform 9.64 83 62795 0.95 ppb 93 21) Chloroform 9.64 83 62795 0.95 ppb 95 22) Chloroform 9.64 83 62795 0.95 ppb 97 23) Tetrahydrofuran 9.85 42 18217 0.84 ppb 97 24) Chloroform 9.64 83 62795 0.95 ppb 97 25) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb 97 26) Chloroform 9.64 83 62795 0.95 ppb 97 27) Vinyl acetate 9.03 61 33395 0.95 ppb 97 28) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb 97 29) Cis-1,2-dichloroethane 10.76 62 44166 0.93 ppb 97 30) Hexane 11.07 78 66144 0.95 ppb 97 31) Ethyl acetate 9.03 61 3395 0.95 ppb 97 32) Chloroform 9.64 83 62795 0.95 ppb 97 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 97 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 97 36) 1,1-trichloroethane 10.77 8 66144 0.95 ppb 97 37) Cyclohexane 11.14 56 29240 0.99 ppb 97 38) Benzene 11.07 78 66144 0.95 ppb 97 39) Benzene 11.07 78 66144 0.95 ppb 97 30) Hexane 12.26 43 30753 0.83 ppb 91 31) Heytane 12.26 43 30753 0.83 ppb 91 320 Chloroforhome 1							
Section 14	-						
6) Vinyl Chloride 7) Butane 4.46 43 23626 0.94 ppb 94 8) 1,3-butadiene 4.47 39 18614 0.94 ppb 94 9) Bromomethane 4.80 4.47 39 18614 1.06 ppb 89 10) Chloroethane 4.80 4.80 4.7933 0.95 ppb 458 11) Ethanol 5.10 45 8615 1.04 ppb 95 12) Acrolein 5.63 56 6480 0.96 ppb 47 21 31) Vinyl Bromide 5.29 16) Calzoo 17) Jacetone 5.75 58 14302 0.89 ppb 10) Ppb 97 15) Acetone 5.75 58 14302 0.89 ppb 11 16) Pentane 5.81 42 20330 0.96 ppb 12 47 17 Isopropyl alcohol 18) 1,1-dichloroethene 6.29 96 24280 0.98 ppb 90 19) Freon 113 6.48 101 59536 1.01 ppb 85 20) t-Butyl alcohol 6.56 59 46169 0.76 ppb 17 21 22) Allyl chloride 6.75 84 42876 0.78 ppb 94 22) Allyl chloride 6.75 84 42876 0.78 ppb 94 24) trans-1,2-dichloroethene 8.10 6.74 41 22860 0.79 ppb 86 23) Carbon disulfide 6.90 76 63022 0.96 ppb 100 24) trans-1,2-dichloroethene 8.10 63 1,1-dichloroethane 8.10 63 1,1-dichloroethane 8.10 63 1,1-dichloroethane 8.10 63 1,1-dichloroethene 8.20 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.20 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.10 63 1,1-dichloroethene 8.60 57 31622 0.91 ppb 93 10 21) Ethyl Retone 8.60 57 31622 0.91 ppb 94 22) Allyl Ethyl Ketone 8.60 57 31622 0.91 ppb 97 31) Ethyl acetate 9.03 43 37993 0.84 ppb 91 32) Chloroform 9.64 83 62795 9879 9.95 99 31) Tetrahydrofuran 9.85 42 18217 989 90 91 32) Chloroform 9.64 83 62795 99 99 99 90 90 90 90 91 91 91 92 92 93 94 94 94 94 94 94 94 94 94 94 94 94 94			50	20605			
9) Bromomethane	-		85	67382			
9) Bromomethane			62	19150			
9) Bromomethane			43	23626	0.94 დ		
10 Chloroethane			39	18614	0.94 F	pb	
11) Ethanol	·	4.80	94	24246	1.06 p	વેવ	89
11) Ethanol	10) Chloroethane	4.96	64	7933	0.95 p	dq	# 58
12 Acrolein	11) Ethanol	5.10					95
14) Freon 11	12) Acrolein	5.63	56	6480	0.96 p		
14) Freon 11	13) Vinyl Bromide		106	24205	1.01 🖺		
15) Acetone	-				1.01 n		
16) Pentame			58	14302	0.89 to	da	
17 Isopropyl alcohol 5.85 45 30562 0.96 ppb # 100 18) 1,1-dichloroethene 6.29 96 24280 0.98 ppb 90 90 90 90 90 90 90 9			42	20330	0.96 7		
18) 1,1-dichloroethene 6.29 96 24280 0.98 ppb 90 19) Freon 113 6.48 101 59536 1.01 ppb 85 20) t-Butyl alcohol 6.56 59 46169 0.76 ppb # 78 21) Methylene chloride 6.75 84 42876 0.78 ppb 94 22) Allyl chloride 6.74 41 22860 0.79 ppb 86 23) Carbon disulfide 6.90 76 63022 0.96 ppb 100 24) trans-1,2-dichloroethene 7.67 61 33661 0.93 ppb 91 25) methyl tert-butyl ether 7.70 73 63437 0.78 ppb 86 26) 1,1-dichloroethane 8.10 63 41886 0.92 ppb 95 27) Vinyl acetate 8.09 43 41066 0.74 ppb 94 28) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb # 1 29) cis-1,2-dichloroethene 9.03 61 33395 0.95 ppb 82 30) Hexane 8.60 57 31622 0.91 ppb 97 31) Ethyl acetate 9.20 43 37993 0.84 ppb 91 32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 95 34) 1,2-dichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 94 47 Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb	·			30562	0.30		
19) Freon 113 20) t-Butyl alcohol 20) t-Butyl alcohol 21) Methylene chloride 27) Methylene chloride 28) Allyl chloride 29) t-Butyl chloride 20) t-Butyl chloride 20) t-Butyl chloride 21) Methylene chloride 21) Methylene chloride 22) Allyl chloride 23) Carbon disulfide 23) Carbon disulfide 24) trans-1,2-dichloroethene 25) methyl tert-butyl ether 27,70 28) methyl tert-butyl ether 27,70 28) Methyl tert-butyl ether 28) Methyl Ethyl Ketone 28,09 29) 43 28) Methyl Ethyl Ketone 29,03 20) Hexane 20) 43 21) Hexane 21) Ethyl acetate 21) 43 22) Chloroform 22) 43 23) Chloroform 23) Chloroform 24) 1,2-dichloroethane 25) 42 26) 1,1-trichloroethane 27) 43 28) Chloroform 28,60 29,20 20,20 20,20 20,20 20,20 20,20 20,20 20,20 20,20 20,20 20,20 20,20 20,20 20,20 20,	18) 1.1-dichloroethene		96	24280			
20) t-Butyl alcohol 6.56 59 46169 0.76 ppb # 78 21) Methylene chloride 6.75 84 42876 0.78 ppb 94 22) Allyl chloride 6.74 41 22860 0.79 ppb 86 23) Carbon disulfide 6.90 76 63022 0.96 ppb 100 24) trans-1,2-dichloroethene 7.67 61 33661 0.93 ppb 91 25) methyl tert-butyl ether 7.70 73 63437 0.78 ppb 86 26) 1,1-dichloroethane 8.10 63 41886 0.92 ppb 95 27) Vinyl acetate 8.09 43 41066 0.74 ppb 94 28) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb 1 29) cis-1,2-dichloroethene 9.03 61 33395 0.95 ppb 82 30) Hexane 8.60 57 31622 0.91 ppb 97 31) Ethyl acetate 9.20 43 37993 0.84 ppb			701	242QU #0#36			
21) Methylene chloride 6.75 84 42876 0.78 ppb 94 22) Allyl chloride 6.74 41 22860 0.79 ppb 86 23) Carbon disulfide 6.90 76 63022 0.96 ppb 100 24) trans-1,2-dichloroethene 7.67 61 33661 0.93 ppb 91 25) methyl tert-butyl ether 7.70 73 63437 0.78 ppb 86 26) 1,1-dichloroethane 8.10 63 41886 0.92 ppb 95 27) Vinyl acetate 8.09 43 41066 0.74 ppb 94 28) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb # 1 29) cis-1,2-dichloroethene 9.03 61 33395 0.95 ppb 82 30) Hexane 8.60 57 31622 0.91 ppb 97 31) Ethyl acetate 9.20 43 37993 0.84 ppb 91 32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 36482 0.91 ppb 92 45) 1,2-dichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99				39330	2.01	,pb	
22) Allyl chloride 6.74 41 22860 0.79 ppb 86 23) Carbon disulfide 6.90 76 63022 0.96 ppb 100 24) trans-1,2-dichloroethene 7.67 61 33661 0.93 ppb 91 25) methyl tert-butyl ether 7.70 73 63437 0.78 ppb 86 26) 1,1-dichloroethane 8.10 63 41886 0.92 ppb 95 27) Vinyl acetate 8.09 43 41066 0.74 ppb 94 28) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb # 1 29) cis-1,2-dichloroethene 9.03 61 33395 0.95 ppb 82 30) Hexane 8.60 57 31622 0.91 ppb 97 31) Ethyl acetate 9.20 43 37993 0.84 ppb 91 32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 95 34) 1,2-dichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 96 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99		6.56					
23) Carbon disulfide 24) trans-1,2-dichloroethene 25) methyl tert-butyl ether 26) 1,1-dichloroethane 27) Vinyl acetate 28) Methyl Ethyl Ketone 29) Cis-1,2-dichloroethene 20) Hexane 30) Hexane 31) Ethyl acetate 32) Chloroform 32) Chloroform 33) Tetrahydrofuran 33) Tetrahydrofuran 34) 1,2-dichloroethane 30) 1,1,1-trichloroethane 30) 1,1,1-trichloroethane 30) 1,1,1-trichloroethane 31) 1,1-trichloroethane 32) Cyclohexane 33) Carbon tetrachloride 30) 1,1,1-trichloroethane 31) 1,2-dichloroethane 32) Chloroform 34) 1,2-dichloroethane 35) 1,1,1-trichloroethane 36) 1,1,1-trichloroethane 37) Cyclohexane 38) Carbon tetrachloride 39) Benzene 31) Methyl methacrylate 32) Carbon tetrachloride 31) 1,4-dioxane 32) Chloroform 33) Benzene 34) 1,4-dioxane 35) Benzene 36) 1,1,4-dioxane 37) Cyclohexane 38) Carbon tetrachloride 39) Benzene 31) 1,4-dioxane 31) 36482 31) 43) Heptane 32) 2,2,4-trimethylpentane 32) 363 22157 380 Carbon tetrachloropropane 380 Carbon tetrachloropropane 381 Carbon tetrachloropropane 382 Carbon tetrachloropropane 383 Carbon tetrachylpentane 384 Carbon tetrachylpentane 385 Carbon tetrachylpentane 386 Carbon tetrachylpentane 390 Benzene 390 Benzene 390 Benzene 391 Cyclohexane 390 Benzene						αq	
24) trans-1,2-dichloroethene 7.67 61 33661 0.93 ppb 91 25) methyl tert-butyl ether 7.70 73 63437 0.78 ppb 86 26) 1,1-dichloroethane 8.10 63 41886 0.92 ppb 95 27) Vinyl acetate 8.09 43 41066 0.74 ppb 94 28) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb # 29) cis-1,2-dichloroethene 9.03 61 33395 0.95 ppb 82 30) Hexane 8.60 57 31622 0.91 ppb 97 31) Ethyl acetate 9.20 43 37993 0.84 ppb 91 32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.04 56 29240 0.89 ppb 97		6.74		22860	0.79 p		
25) methyl tert-butyl ether 7.70 73 63437 0.78 ppb 86 26) 1,1-dichloroethane 8.10 63 41886 0.92 ppb 95 27) Vinyl acetate 8.09 43 41066 0.74 ppb 94 28) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb # 1 29) cis-1,2-dichloroethene 9.03 61 33395 0.95 ppb 82 30) Hexane 8.60 57 31622 0.91 ppb 97 31) Ethyl acetate 9.20 43 37993 0.84 ppb 91 32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 96 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99		6.90		63022			
26) 1,1-dichloroethane							
27) Vinyl acetate 8.09 43 41066 0.74 ppb 94 28) Methyl Ethyl Ketone 8.62 72 9879 0.96 ppb # 1 29) cis-1,2-dichloroethene 9.03 61 33395 0.95 ppb 82 30) Hexane 8.60 57 31622 0.91 ppb 97 31) Ethyl acetate 9.20 43 37993 0.84 ppb 91 32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.09 117 49992 0.78 ppb 86 39) Benzene 11.09 117 49992 0.78 ppb 96 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 94 <t< td=""><td>25) methyl tert-butyl ether</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	25) methyl tert-butyl ether						
28) Methyl Ethyl Ketone		8.10					
29) cis-1,2-dichloroethene 9.03 61 33395 0.95 ppb 82 30) Hexane 8.60 57 31622 0.91 ppb 97 31) Ethyl acetate 9.20 43 37993 0.84 ppb 91 32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,t-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99							
31) Ethyl acetate 9.20 43 37993 0.84 ppb 91 32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99	28) Methyl Ethyl Ketone	8.62		9879	0.96 p	bp :	
31) Ethyl acetate 9.20 43 37993 0.84 ppb 91 32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99			61.	33395	0.95 p	dq	82
32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99			57	31622		ЪÞ	97
32) Chloroform 9.64 83 62795 0.95 ppb 99 33) Tetrahydrofuran 9.85 42 18217 0.84 ppb 95 34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99	31) Ethyl acetate		43	37993	0.84 p	dq	91
34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99					0.95 დ	pb	
34) 1,2-dichloroethane 10.76 62 44166 0.93 ppb 90 36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99	33) Tetrahydrofuran	9.85	42	18217	0.84 p	dq	95
36) 1,1,1-trichloroethane 10.45 97 55977 0.79 ppb 99 37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99	34) 1,2-dichloroethane	10.76	62	44166	g 8e.o	dq	
37) Cyclohexane 11.14 56 29240 0.89 ppb # 57 38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99		10.45	97	55977			99
38) Carbon tetrachloride 11.09 117 49992 0.78 ppb 86 39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99	37) Cyclohexane	11.14	56	29240			H 57
39) Benzene 11.07 78 66144 0.95 ppb 97 40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99						ma.	
40) Methyl methacrylate 12.66 41 24570 0.87 ppb 96 41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99							
41) 1,4-dioxane 12.73 88 19302 1.24 ppb 84 42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99							
42) 2,2,4-trimethylpentane 11.91 57 92489 0.94 ppb 94 43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99					1.24 0	op op	
43) Heptane 12.26 43 30753 0.83 ppb 91 44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99					0.94 h	pb	
44) Trichloroethene 12.40 130 36482 0.91 ppb 92 45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99					0 22 5	ກັກ	
45) 1,2-dichloropropane 12.53 63 22157 0.92 ppb 99							

^{(#) =} qualifier out of range (m) = manual integration AN112725.D AN23_1UG.M Wed Dec 28 15:48:31 2016

MSDl

Quantitation Report (QT Reviewed)

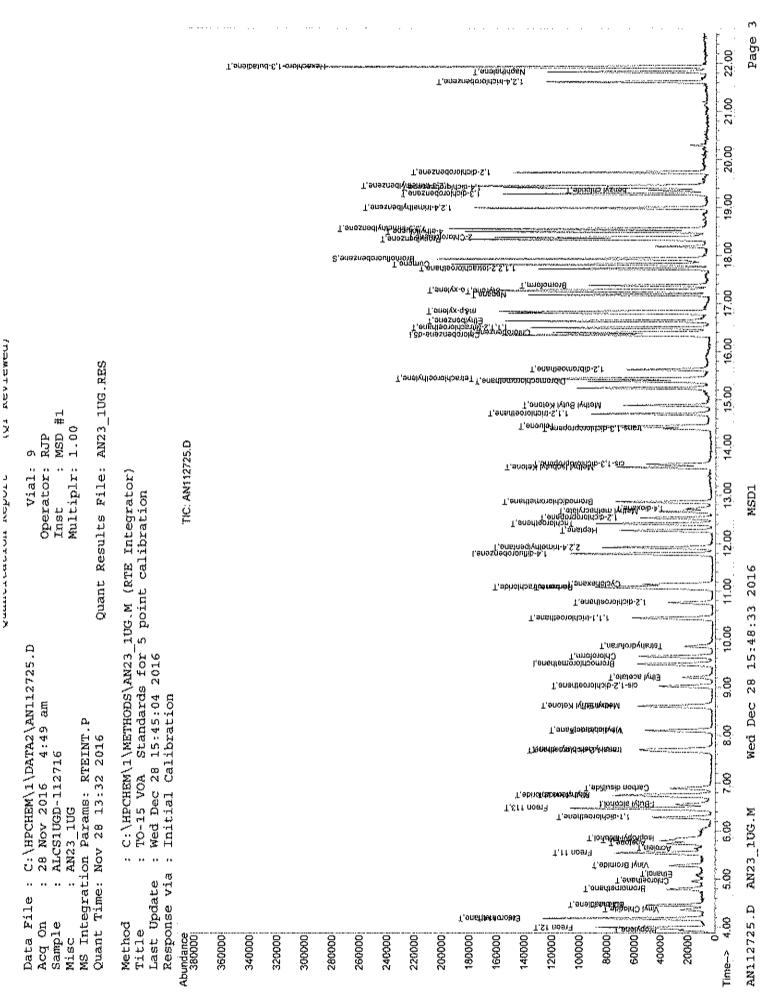
Data File : C:\HPCHEM\1\DATA2\AN112725.D Vial: 9 Acq On : 28 Nov 2016 4:49 am Operator: RJP Sample : ALCS1UGD-112716 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 28 06:59:59 2016 Quant Results File: AN23 1UG.RES

Quant Method : C:\hPCHEM\l\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	12.86	83	58033	1.01 ppb	95
47)	cis-1,3-dichloropropene	13.64	75	32055 A	0.706	90
48)	trans-1,3-dichloropropene	14.38	75	27630m A	0.66 ppb	
49)	1,1,2-trichloroethane	14.69	97	30691	0.96 ppb	99
51)	Toluene	14.43	92	50137	0.97 ppb	99
52)	Methyl Isobutyl Ketone	13.58	43	54321	1.10 ppb	97
53)	Dibromochloromethane	15.37	129	58695m 🕖	1.07 ppb	
54)	Methyl Butyl Ketone	14.87	43	46356	1.00 ppb	91
55)	1,2-dibromoethane	15.62	107	50222	0.97 ppb	96
56)	Tetrachloroethylene	15.43	164	39796	0.96 ppb	87
57)	Chlorobenzene	16.39	112	72927	0.97 ppb	94
58)	1,1,1,2-tetrachloroethane	16.49	131	36937	0.89 ppb	98
59)	Ethylbenzene	16.63	91	122241	0.98 ppb	94
60)	m&p-xylene	16.83	91	1.93486	1.92 ppb	96
61)	Nonane	17.17	43	45359	0.83 ppb	94
62)	Styrene	17.24	104	67291	0.95 ppb	81
63)	Bromoform	17.37	173	49558	1.02 ppb	97
64)	o-xylene	17.27	91	107458	0.97 ppb	98
65)	Cumene	17.80	1.05	137979	0.98 ppb	95
67)	1,1,2,2-tetrachloroethane	17.71	83	62441 ^	1.04 ppb	96
68)	Propylbenzene	18.32	91	162632m 📝	1.00 ppb	
69)	2-Chlorotoluene	18.37	91	100597m	0.96 ppb	
70)	4-ethyltoluene	18.48	105	128660m	0.99 ppb	
71)	1,3,5-trimethylbenzene	18.55	105	117129m	0.95 ppb	
72)	1,2,4-trimethylbenzene	18,98	105	111773	0.97 ppb	99
73)	1,3-dichlorobenzene	19.27	146	71625	0.94 ppb	93
74)	benzyl chloride	19.35	91	52910m\'7	0.67 ppb	
75)	1,4-dichlorobenzene	19.41	146	73363	0.97 ppb	96
76)	1,2,3-trimethylbenzene	19.44	105	109456	dqq ee.0	92
77)	1,2-dichlorobenzene	19.72	146	67529	0.94 ppb	96
78)	1,2,4-trichlorobenzene	21.61	180	42401	0.90 ppb	94
79)	Naphthalene	21.82	128	107381	0.81 ppb	95
80)	Hexachloro-1,3-butadiene	21.92	225	67490	1.06 ppb	94



Page 163 of 191

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112819.D
Acq On : 28 Nov 2016 8:42 pm Vial: 20 Operator: RJP Sample : ALCS1UGD-112816 Misc : AN23_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 29 06:23:55 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	Conc U	nits	Dev	(Min)
1) Bromochloromethane	9 48	128	15560		b		0.07
35) 1.4-difluorobenzene	11.78	114	71068	1 00	ppb	-	0.05
 Bromochloromethane 1,4-difluorobenzene Chlorobenzene-d5 	16.34	117	71068 62512	1.00	pph	_	0.04
the state of the s	10.51	,	OZDIZ	1.00	PPD		0.04
System Monitoring Compounds							
66) Bromofluorobenzene	17.92						0,04
Spiked Amount 1.000	Range 70	~ 130	Recovery		101.	.00%	
Target Compounds						Ova	llue
2) Propylene	3.94	41	11491	1.02	ממים	200	80
3) Freon 12	3.99			1.24			99
4) Chloromethane	4.18	50	15423	1.15			99
5) Freon 114	4.19	50 85 62	46196m 🎤	1.19			
6) Vinyl Chloride	4.37	62	13135	1.10			91.
7) Butane	4.47	43	17443	1.16			95
8) 1,3-butadiene	4.47	39	14288	1.22			86
9) Bromomethane	4.80	94	16759	1.23			85
10) Chloroethane	4.97	64	14288 16759 5573	1.12			60
11) Ethanol	5.08	4.5	5058	1.03			94
12) Acrolein	5.64	56	4053	1.00			56
13) Vinyl Bromide	5.28		17989	1.26		"	96
14) Freon 11	5.55	707	62922	1.40			98
15) Acetone	5.75	58	10001	1.05		#	1
16) Pentane	5.81	58 42 45	15194	1.21			23
17) Isopropyl alcohol	5.86	45	15194 20498	1.09			100
18) 1,1-dichloroethene		96	14139	0.95			73
19) Freon 113	6.48			1.08			87
20) t-Butyl alcohol		101 59 84	26573				88
	6.56 6.76	84	26573 25883	0.79		"	96
22) Allyl chloride	6.76 6.73 6.90	41	14503	0.84			85
23) Carbon disulfide	6.90	76	40408				99
24) trans-1,2-dichloroethene	7.68	61	22001	1.03			95
25) methyl tert-butyl ether	7.71	73	38911	0.80			81
26) 1,1-dichloroethane		63		1.04			97
27) Vinyl acetate	8.10	43	28001 28650 6004	0.86			98
28) Methyl Ethyl Ketone	8.10 8.62	72	6004	0.98			2
29) cis-1,2-dichloroethene	9.02	61	21229	1.01			83
30) Hexane	8.61	57	18855				89
31) Ethyl acetate	9.21	57 43 83	26248	0.98	ppb		95
32) Chloroform	9.65	83	43091	0.98 1.09	daa		97
33) Tetrahydrofuran	9.86	42	12013	0.93	T. T.		94
34) 1,2-dichloroethane	10.77	62	30782	1.08			90
36) 1,1,1-trichloroethane	10.45	97	40819	0.93	daa		97
37) Cyclohexane	11.16	56	18781	0.92		#	46
38) Carbon tetrachloride	11.10	1.17	41010	1.03		"	87
39) Benzene	11.07	78	43361	1.01			93
40) Methyl methacrylate	12.67	41	15834	0.91			95
41) 1,4-dioxane	12.72	88	9244	0.96			85
42) 2,2,4-trimethylpentane	11.92	57	60069	0.98			96
43) Heptane	12.27	43	20476	0.89			94
44) Trichloroethene	12.41	130	23591	0.95			93
45) 1,2-dichloropropane	12.53	63	14840	0.99			97
and the distribution of the state of the sta					t. t		
10)	4						

(#) = qualifier out of range (m) = manual integration AN112819.D AN23 1UG.M Wed Dec 28 15:48:48 2016

MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN112819.D
Acq On : 28 Nov 2016 8:42 pm
Sample : ALCS1UGD-112816
Misc : AN23_1UG Vial: 20 Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 29 06:23:55 2016 Quant Results File: AN23_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Sun Nov 27 12:25:10 2016
Response via : Initial Calibration

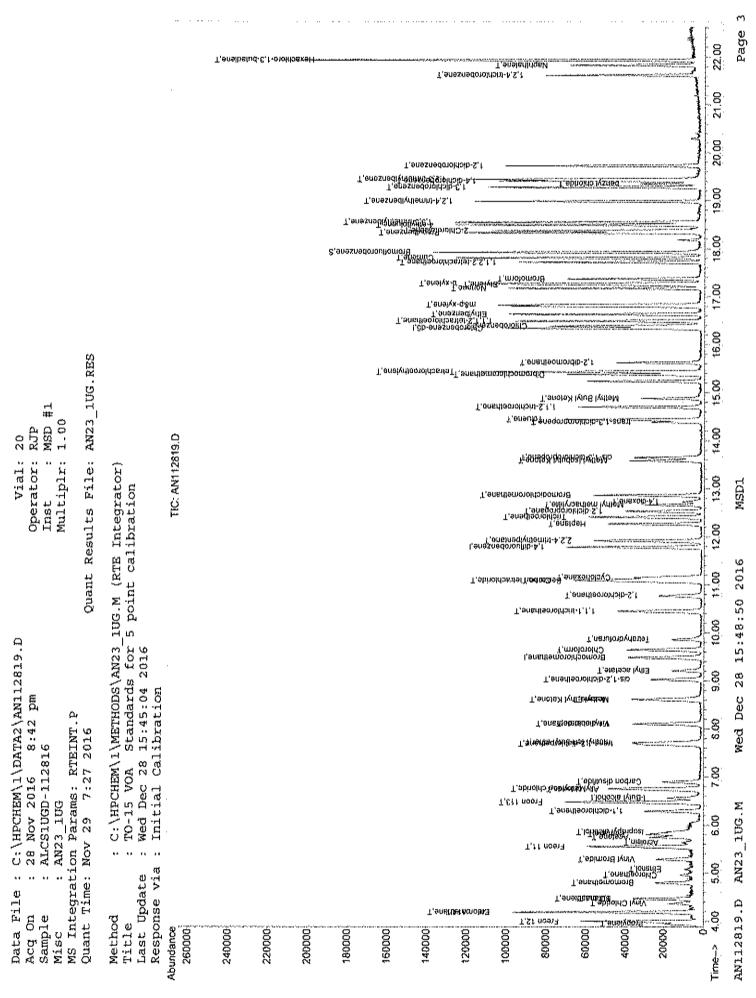
DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
	D			****		
46)		12.87	83	43692	1.23 ppb	95
47)	cis-1,3-dichloropropene	13.64	75	22435	dqq 88.0	90
48)	trans-1,3-dichloropropene	14.39		18307	0.71 ppb	78
49)	• _ •	14.70	97	21190	1.07 ppb	95
51)	Toluene	14.44		32630	1.01 ppb	98
52)	Methyl Isobutyl Ketone	13.59	43	27888	0.90 ppb	96
53)	Dibromochloromethane	15.38	129	43589m P	1.26 ppb	
54)	Methyl Butyl Ketone	14.88	43	23/56	o.si pps	89
55)	1,2-dibromoethane	15.62	107	34841	1.07 ppb	93
56)		15.43		26413	1.02 ppb	90
57)		16.39	112	48272	1.02 ppb	91
58)	1,1,1,2-tetrachloroethane	16.50	131	28193	1.08 ppb	97
59)	Ethylbenzene	16.63	91	78834	1.00 ppb	92
60)	m&p-xylene	16.83	91	126812	2.01 ppb	93
61)	Nonane	17.17	43	31420	0.92 ppb	96
62)	Styrene	17.25	104	42410	0.95 ppb	74
63)	Bromoform	17.37	173	36762	1.21 ppb	97
64)	o-xylene	17.27	91	75234	1.08 ppb	99
65)	Cumene	17.81	105	90832	1.02 ppb	96
67)	1,1,2,2-tetrachloroethane	17.72	83	42967	1.14 ppb	98
68)	Propylbenzene	18.33	91	103832m 🖁	1.02 ppb	
69)	2-Chlorotoluene	18.37	91	72014m	1.09 ppb	
70)	4-ethyltoluene	18.49	105	8334Qm	1.02 ppb	
71)	1,3,5-trimethylbenzene	18.55	105	77911m	1.01 ppb	
72)	1,2,4-trimethylbenzene	18.98	105	70230	0.97 ppb	100
	1,3-dichlorobenzene	19.28	146	46624	0.97 ppb	93
74)	benzyl chloride	19.35	91	34895m 🖫		
	1,4-dichlorobenzene	19,41	146	47124	0.99 ppb	98
76)		19.45	105	70948	1.02 ppb	92
	1,2-dichlorobenzene	19.73	146	45995	1.02 ppb	96
78)	1,2,4-trichlorobenzene	21.61	180	24762	dqq 88.0	94
79)	Naphthalene	21.82	128	58961	0.71 ppb	94
80)	Hexachloro-1,3-butadiene	21.92	225	43558	1.09 ppb	93

кеутемец

5

תחסוורזורמודווו אבהמנו



Page 166 of 191

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 INJECTION LOG

	£	Directory: C	D:\HPCHEN	1\1\DATA2	Injection Log	Standard Stock # 17	43 45
ne	Vial	I FileName	Multiplier	SampleName		Method Ref: EPA TC-15 Misc Info	Injected
31 32 33 34 35 36 37 38 39	7 8 9 10 11 12 13 14 15	An112307.d An112308.d An112309.d An112310.d An112311.d An112312.d An112313.d An112314.d An112315.d An112316.d	1. 1. 1. 1. 1. 1. 1.	A1UG_1.50 A1UG_1.25 A1UG_1.0 A1UG_0.75 A1UG_0.50 A1UG_0.30 A1UG_0.15 A1UG_0.10 A1UG_0.04 No MS or GC data pre	sent	AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG	23 Nov 2016 19:40 23 Nov 2016 20:20 23 Nov 2016 20:58 23 Nov 2016 21:35 23 Nov 2016 22:12 23 Nov 2016 22:49 23 Nov 2016 23:24 24 Nov 2016 00:00 24 Nov 2016 00:35
11 12 13 14 15 16 17 18 19	1 2 3 4 5 21 22 23 24 25	An112701.d An112702.d An112703.d An112704.d An112705.d An112706.d An112707.d An112708.d An112709.d An112710.d	1. 1. 1. 1. 1. 1. 1.	BFB1UG A1UG_1.0 A1UG_1.0 ALCS1UG-112716 AMB1UG-112716 C1611063-001A C1611063-002A C1611063-003A C1611063-005A		AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG	27 Nov 2016 12:24 27 Nov 2016 13:11 27 Nov 2016 13:55 27 Nov 2016 14:53 27 Nov 2016 15:28 27 Nov 2016 16:06 27 Nov 2016 16:45 27 Nov 2016 17:24 27 Nov 2016 18:05 27 Nov 2016 18:05 27 Nov 2016 18:46
1234567899	26 27 28 29 1 2 3 4 5	An112711.d An112712.d An112713.d An112714.d An112715.d An112716.d An112717.d An112718.d An112719.d An112720.d	1. 1. 1. 1. 1. 1. 1.	C1611063-006A C1611062-004A C1611062-005A C1611062-006A C1611040-002A C1611040-006A C1611040-007A C1611040-001A C1611040		AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG	27 Nov 2016 19:25 27 Nov 2016 20:07 27 Nov 2016 20:46 27 Nov 2016 21:25 27 Nov 2016 22:04 27 Nov 2016 22:43 27 Nov 2016 23:22 28 Nov 2016 00:01 28 Nov 2016 00:40 28 Nov 2016 01:22
456789	7 8 9 10 11 12	An112721.d An112722.d An112723.d An112724.d An112725.d An112726.d An112727.d An112728.d An112729.d An112730.d	1. 1. 1. 1. 1. 1. 1.	C1611040 C1611040-005A C1611040-008A ALCS1UGD-112716 C1611062-001A C1611062-003A C1611061-001A C1611061-002A		AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG	28 Nov 2016 02:07 28 Nov 2016 02:53 28 Nov 2016 03:31 28 Nov 2016 04:10 28 Nov 2016 04:49 28 Nov 2016 05:27 28 Nov 2016 06:08 28 Nov 2016 06:47 28 Nov 2016 07:26 28 Nov 2016 08:05
4 5 6 7 8 9	1 2 3 4 5 6 7	An112731.d An112801.d An112802.d An112803.d An112804.d An112806.d An112806.d An112807.d An112808.d An112809.d	1. 1. 1. 1. 1. 1. 1.	No MS or GC data pres BFB1UG A1UG_1.0 ALCS1UG-112816 AMB1UG-112816 C1611040-003A C1611040-003A MSD C1611040-005A 9x C1611040-005A 90x		AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG	28 Nov 2016 08:42 28 Nov 2016 09:30 28 Nov 2016 10:28 28 Nov 2016 11:03 28 Nov 2016 11:42 28 Nov 2016 12:25 28 Nov 2016 13:11 28 Nov 2016 13:50 28 Nov 2016 14:26
2 3 4	12 13 14	An112810.d An112811.d An112812.d An112813.d An112814.d	1. 1. 1. 1.	C1611063-001A 10x C1611063-002A 10x C1611063-003A 10x C1611063-004A 10x C1611063-005A 10x		AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG	28 Nov 2016 15:04 28 Nov 2016 15:51 28 Nov 2016 16:27 28 Nov 2016 17:03 28 Nov 2016 17:39

		Cente	k Laborat	ones, LLC				
			C:\HPCHEN		Injection Lo	etrument II	nck#AI743_ !1745 !1745 !^175	1999
ne	Vial	FileName	Multiplier	SampleName	1,5	Misc Info		Injected
36 37 38 39 30 31 32 33 34 35	16 17 18 19 20 21 22 23 24 25	An112815.d An112816.d An112817.d An112818.d An112819.d An112820.d An112821.d An112823.d An112823.d An112824.d	1. 1. 1. 1. 1. 1.	C1611062 C1611040 C1611040 C1611040 ALCS1UGD-112816 C1611040 C1611040-003A 10x C1611040 C1611040 C1611040		AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG	-004A 90x -002A 10x -004A 10x -006A 10x -001A 10x -005A 2	28 Nov 2016 18:15 28 Nov 2016 18:51 28 Nov 2016 19:27 28 Nov 2016 20:03 28 Nov 2016 20:42 28 Nov 2016 21:17 28 Nov 2016 21:54 28 Nov 2016 22:30 28 Nov 2016 23:06 28 Nov 2016 23:42
16 17 18 19 10 11 12 13 14 15	26 27 28 29 30 31 32 33 34	An112825.d An112826.d An112827.d An112828.d An112829.d An112830.d An112831.d An112833.d An112834.d	1, 1, 1, 1, 1, 1, 1,	C1611062-002A 10x C1611062-002A 40x C1611062-003A 10x C1611061-001A 10x C1611061-001A 20x C1611061-002A 10x C1611061 C1611040 C1611040 C1611062-004A 180x		AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG	-002A 20x -004A 20x	29 Nov 2016 00:18 29 Nov 2016 00:54 29 Nov 2016 01:30 29 Nov 2016 02:06 29 Nov 2016 02:41 29 Nov 2016 03:17 29 Nov 2016 03:53 29 Nov 2016 04:29 29 Nov 2016 05:04 29 Nov 2016 05:40
4	4 1 2 3 21	An112835.d An112901.d An112902.d An112903.d An112904.d An112905.d An112906.d An112907.d An112908.d An112909.d	1. 1. 1. 1. 1. 1. 1.	No MS or GC data pres BFB1UG A1UG_1.0 ALCS1UG-112916 AMB1UG-112916 WAC112916A WAC112916B WAC112916C C1611072-001A C1611072-002A	sent	AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG		29 Nov 2016 06:44 29 Nov 2016 07:35 29 Nov 2016 08:21 29 Nov 2016 08:56 29 Nov 2016 09:44 29 Nov 2016 10:21 29 Nov 2016 10:58 29 Nov 2016 11:48 29 Nov 2016 12:24
789012345	24 25 26 27 28 29 30 31 32	An112910.d An112911.d An112912.d An112913.d An112914.d An112915.d An112916.d An112917.d An112918.d An112919.d	1. 1. 1. 1. 1. 1. 1.	C1611072-003A C1611072-004A C1611072-005A C1611072-006A C1611072-007A C1611072-001A 10X C1611072-002A 10X C1611072-003A 10X C1611072		AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG	-003A 20X	29 Nov 2016 13:03 29 Nov 2016 13:43 29 Nov 2016 14:22 29 Nov 2016 15:01 29 Nov 2016 15:41 29 Nov 2016 16:20 29 Nov 2016 16:56 29 Nov 2016 17:32 29 Nov 2016 18:08 29 Nov 2016 18:44
7 3 1 2 3	34 35 36 1 2 3 4	An112920.d An112921.d An112922.d An112923.d An112924.d An112925.d An112926.d An112927.d An112928.d An112929.d	1. 1. 1. 1. 1. 1. 1.	C1611072-004A 10X C1611072-004A 40X ALCS1UGD-112916 BLK WAC112916D WAC112916E n WAC112916F WAC112916G WAC112916H WAC112916H		AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG AN23_1UG		29 Nov 2016 19:20 29 Nov 2016 19:56 29 Nov 2016 22:06 29 Nov 2016 22:41 29 Nov 2016 23:18 29 Nov 2016 23:54 30 Nov 2016 00:31 30 Nov 2016 01:07 30 Nov 2016 01:44 30 Nov 2016 02:20
7	8 , 9 ,	An112930.d An112931.d An112932.d An112933.d	1. 1. 1. 1.	WAC112916J WAC112916K WAC112916L No MS or GC data pres	ent	AN23_1UG AN23_1UG AN23_1UG		30 Nov 2016 02:57 30 Nov 2016 03:33 30 Nov 2016 04:10

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15
STANDARDS LOG

AND CONTRACTOR

100

GC/MS Calibration Standards Logbook

LUCATION LLC

00.		Lu	201	atoi	100,																	· ·
	Chkd by																					
	Prep by	91	عام م	9 P	73	1										>	<u>4</u> 3	6				Ì
	Final Conc (ppb)		G loom	1 10pm	501	-		→	ſΛ	50	50	50	500	*		\Rightarrow	W. 8.0	50	56			>
	Stock Conc Initial Vol (psig Finial Vol (psia)	ר ט	2.200 ps/g	NOW 1 CS	33			⇒	B	4	30	30	30	45		>	8 1000 FILE		36		+	30
	Initial Vol (psig)	0,9	LTNDE	ST (TS	1.5			→	3.0	0.25	3,0	1.5	1,5	6.0			MSH	? }	125	-	5	3.0
	Stock Conc	50pob	5	3600	1 00m	, 1		৵	50 pp	8.9 ppm	500 pp) pom	10 ppm	50 ne)		->	44	T.	Tapri		-5	50000
	Stock #	A0537	FE.KEI9	7	Sol	Aos34	Aos48	9519	A0552	95		Aozzo	6667	Aos49	(ho550	1955 /	4	A 0.5 H7	1,630 A	A0548	A9519	A 05\$5
	Description	S	TO 15 TO	1.	TO 15 IS	STY		お外	112		Xonis		I'''		(FS)	2.53	HYDROGEN S	45 45		1.55	YPCH	7 7
San (corror	Date Exp			21314												>		12/25/19				
Tour	Date Prep	12/1/11	12 10 10	1	18/21											>	112/11 114	HIPALLI	-			→
v	# pts	A-0546	רומס	A. O.C.U.S.		4	4. o(S)	A 0557	4.0553	4.0554	4. 0555	4.055k	A. 0557	A.0558	A. 0559	A-0560	A-056	A-01712	A-05-63	A-0564	A-0464	A-0566
D		71			2003		8									1		-1				

FORM 153

LLC
boratories,
Lal
entek
r)

Chkd by																					
Prep by	W)	D.F.	4.4	du	_										_/	43				÷>
Final Conc (ppb)	60	,	ippn	Cost Loom	50000						500,000	50 000	5008	1,008	•	-	50 pp			Ş	12
Stock Conc Initial Vol (psig) Finial Vol (psia)	30	45	15 MIX	IS NOW I	30		→	45	30			30	-4	45		_ -}	30	,		>	30
Initial Vol (psig)	1.5	510			۲.۶			o.20	3.0	٠,٠	3	1.5	3.0	5.0		- y	1.5	_		\rightarrow	3,0
Stock Conc	iddol	K300%	Wao!	A6534	/ pop.		}	11.5 Apm	1015 Total Alogs/500408	l gan	10 pam	1.6 1.000	50008			->	I DOM			^	(J. D. J. J. J. J. J. J. J. J. J. J. J. J. J.
Stock #	AITST	A1201		7)	AUDY	AIZOH	AIZBB	A0974	MISSEL	A02.76	A0265	9519	AILIA	Arzos	Arson	AIZOG	Amy	Airoz	भ ळ्यभ	blsb	4Pars A1220
Description	HH			LCS 7015		757	57.0	FORM	5100×		H2S	484	4845	7015116 Is		25	IS	\$T	537	さdh	4Pan5
	7015			1105			_ _	TOIS			+	7015	→	101511		→	7015				\Rightarrow
Date Exp	भारदा		<i>11/21/11</i>	1	1/25/16		-									J :	91 1p				->
Date Prep	गीरीक	7	1/18/11	1/18//1	91/81/1						- ************************************					-)	11/52/11				1
Std#	A- 1201	A-1202	A-1203			A-1206	A-1207	A-1208	A-1269	A-12.10	4-12.11	としてしょ	A-1213	A-12.14	A-1215	4.121£	T121-A	A-1218	A-1219	A. 1220	A-122/

FORM 153

GC/MS Calibration Standards Logbook

Š			T	T			l	1	1		T			Ţ	Ţ	 	Ī	Ī			T
Chkd																					
Prep by Chkd by	1/3	_		>	1/2			<u> </u>			-					-	>	23	_		>
Stock Conc Initial Vol (psig) Finial Vol (psia) Final Conc (ppb)	530	1				50			->	ß	So	P	S,	525			>	52	_		->
Finial Vol (psia)	30	4		->	210005	30 3	,		\	30	12	30	30	30	しいよ		->	30			Ŷ
Initial Vol (psig	7.	0.0	_		<u></u>	.s.			>	3.0	Ī	3.0	12.	15	6.0		->	13	-		>
Stock Conc	10 ppm	50 pph		>	Q LIND	mad	1 1		→	प्टेंट तुड़	11.5 pam	4005		10	प्ष्ट्राट्ड		->	1 pom			\uparrow
Stock #	1997aH	RICTZ	41278	1912.79	FF-4969	A 1289	A1203	ANSUA	4519	4Reth [A1293	hc soft	51.0x A1089	A2270	Aores	A 1290	Arzaj	41252	41289	A1203	A1204	9519
iption	HZS	Ä	5th /42	স	17	75	573	1,05	4 PCH	4PCIF)	Form	Strox	Soc		(-)			IS		527	that
Description	7005	TOIS 146,		ን	SIQL	2105	-							>	7015 14G		>	7015			- >
Date Exp	3/1/16			シ	3 1 12	3/7/16/3/14/16											>	3/24/16			->
Date Prep	211/2/8 21/15/12			->	3116	3/1/16											>	3/14/16			>
\$td#	A- 1285	A. 1286	JA-1287	A. 1286	A- 1285	A.1290	4-129	A. 1292	4-1293	A- 1294	A-1295	A-1256	A-1297	A-1298	A-1299	A-1300	A. 130 /	A. 1302	A-1363	A-1304	A-1305

Page #

FORM 153

CLC
oratories,]
Lab
Centek

GC/MS Calibration Standards Logbook

Chkd by Prep by A 3 Final Conc (ppb) 500 500 12 B [N 8] B B 50 4ر Stock Conc Initial Vol (psig) Finial Vol (psia) 30 5/3 30 HS 3 8 80 45/ 90 O 30 30 07.0 0.20 0.0 б О 0.9 9 3,0 1-1-2-2 m 500gp In Perm widd ol 50 pp दब्वकुट 11.5 ppm SO 200 \$ PPR PP3 19905 FORM HORTH R1058 A1089 A02.70 1722 R1735 1CS A1736 Stock # SULF 1902 70 A0269 A1289 PUZUA A0269 A1723 AI724 9519 A1203 FORM ROGITY 9519 AITS. **BRID** T S 4SES SOLF **%** HZS 51WX K HR.H łżS 3 6 75 Description 7015 14G 1015 1015 150 Date Prep Date Exp 11/24/16 311 ગા ટિયાષિ 1143 827.1 1733 1740 无 1729 1731 1144 178 82 734 1742 13% 738 # pts A. 1735 产 A-1738 33

FORM 153

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

LLC
1 83
orie
orat
ab.
ek I
int

Centek Laboratories, LLC	oratories	s, LLC					QC Canister Cleaning Logbook	Sleaning	Logbool	ب د	
Instrument: Entech 3100	itech 310	0									
ଥ ର Canister Number Canister Size ΩC Can Number	Janister Size		# of Cycles	Int & Date Cle	Cleaned	QC Batch Number	Detection Limits	SULVE ROY	Leak Test 24hr int & Date	f & Date	ente
7.0% 76	IH I	218	R	11 22 16	REP	MACIIOBIGA	14g/m3+0,2年30	¥ 30	30	In lost the Ro	K L
l						·	,	+ 30	<u>+</u>		
90 70 191						* Name and Apply		+ 30	+		ıal(
1						_		+ 30	-+-	-	ווכ
218		>						+ 30	_+		5, L
1320		1207				JACIIOJICB		+ 30	_ +		LU
1208		-						+ 30	+		
1200		4,7						+ 30	_+		
484								+ 30	_+		
1207		÷				>		+ 30	+		
216		215			ځښي	WACTIOSTEC		+ 30	_+		
1323			**************************************					+ 30	_+		
210								+ 30	+		
487		1				reliti-asyr-		+ 30	+		
215		﴾				>		+ 30	+		
1319		1203				WACI10316D		+ 30	4		
784		·	*******	ri la la r in		·		+ 30	+		
483								+ 30	+		
1201								+ 30	+		
1203	>	>		/mm nauma a		≽		+ 30	+		
17.1		617				VAPC 1103 16.1	11	+ 30	<u>+</u>		
193								+ 30	_+		
547			***					+ 30	+		
243		,					novem cause of	+ 30	+		
2 2	 	>	\wedge	→		⇒	<u>-</u>)	+ 30	+	>	
Form C151								Page#	65		

QC Canister Cleaning Logbook

	Leak Test 24hr Int & Date	+ 30 11/03/11/02	+	+	4	÷	4	+	+	1	>	+	4	+	+	44		4		4	+	+	4	+	+	+ .ii
		+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	- 30
	Detection Limits	49/m3-10/25	<u>-</u>							•	>															
	QC Batch Number	MACINGILE				>	WACIPOSICE				>															
		REP JUNACI					WAC																			
	Int & Date Cleaned	11/02/113 8									>															
	h # of Cycles Int & D	30									>															
	QC Can Numbe	464				>	227	-				3														
intech 3100	Canister Size											>														
a Instrument: Entech 3100	nister Number	271	190	182	10 T	200	192	11.80		187	757	700														

(QT Reviewed) Quantitation Report

Qvalue

Data File : C:\HPCHEM\1\DATA2\AN110306.D Vial: 6 Acq On : 3 Nov 2016 12:34 pm Operator: RJP Sample : WAC110316A Misc : AO26_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 08 15:11:32 2016 Quant Results File: AO26_1UG.RES

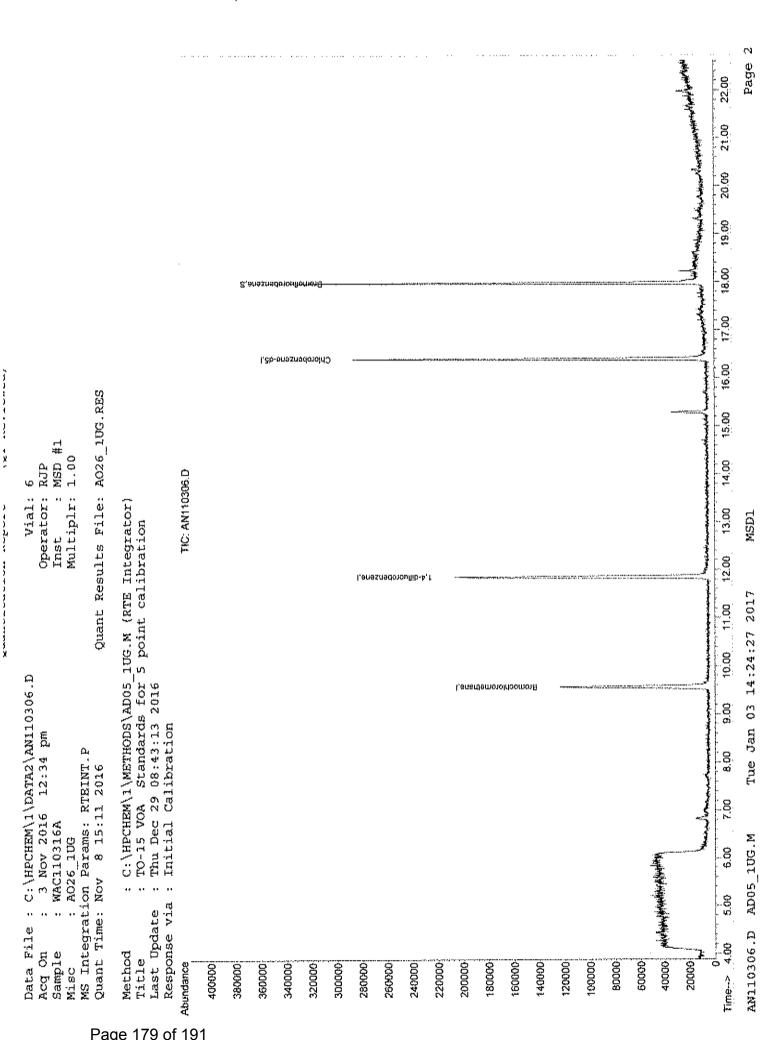
Quant Method : C:\HPCHEM\1\METHODS\AO26_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Thu Oct 27 07:19:53 2016

Response via : Initial Calibration

DataAcq Meth : lUG_RUN

Target Compounds

Internal Standards	R.T.	QIon	Response	Conc U	nits Dev	(Min)
 Bromochloromethane 1,4-difluorobenzene Chlorobenzene-d5 	9.55 11.85 16.39	128 114 117	51628 215735 192732	1.00 1.00 1.00	ppb	0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.96 Range 70	95 - 130	109128 Recover	0.84 Y ≖	ppb 84.00%	0.00



Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: Nov 08 15:11:33 2016 Quant Results File: AO26_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO26_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Oct 27 07:19:53 2016

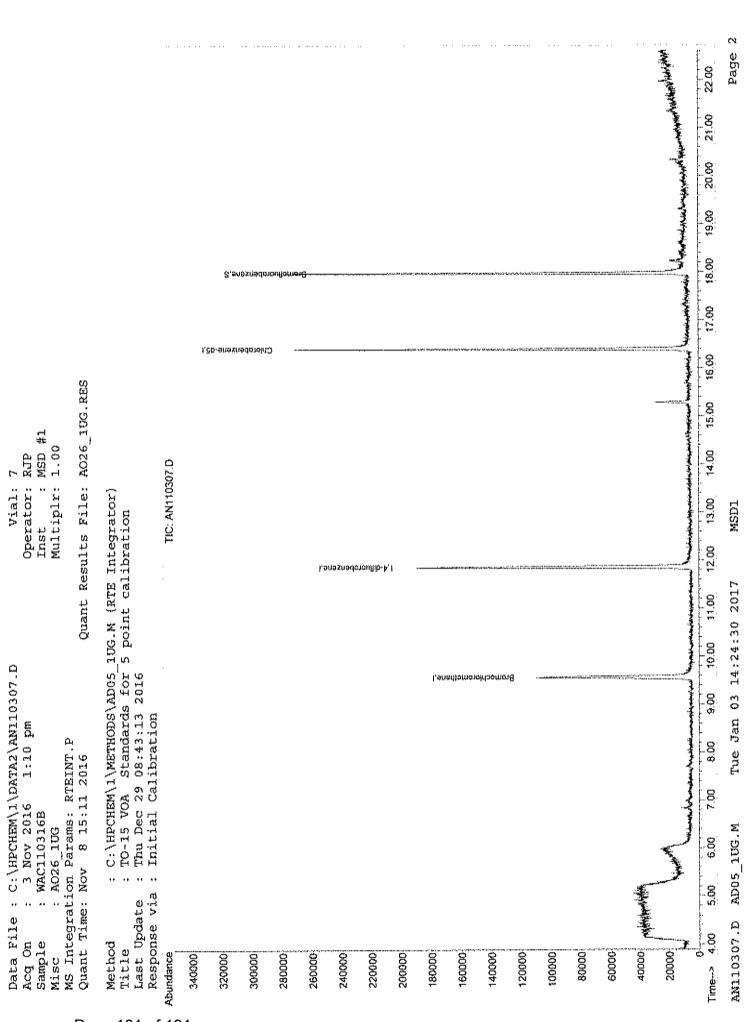
Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Ur	its Dev	(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.56 11.84 16.39	128 114 117	46894 198486 177747	1.00 1.00 1.00	dqq	0.00 0.00 0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.96 Range 70	95 - 130	95638 Recover	0.80 Y **	dqq 800.008	0.00

Target Compounds

Qvalue



Page 181 of 191

* すっぱっい

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN110308.D Vial: 8 Acq On : 3 Nov 2016 2:19 pm Operator: RJP Sample : WAC110316C Misc : AO26_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Nov 08 15:11:34 2016 Quant Results File: AO26 1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO26 1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Oct 27 07:19:53 2016

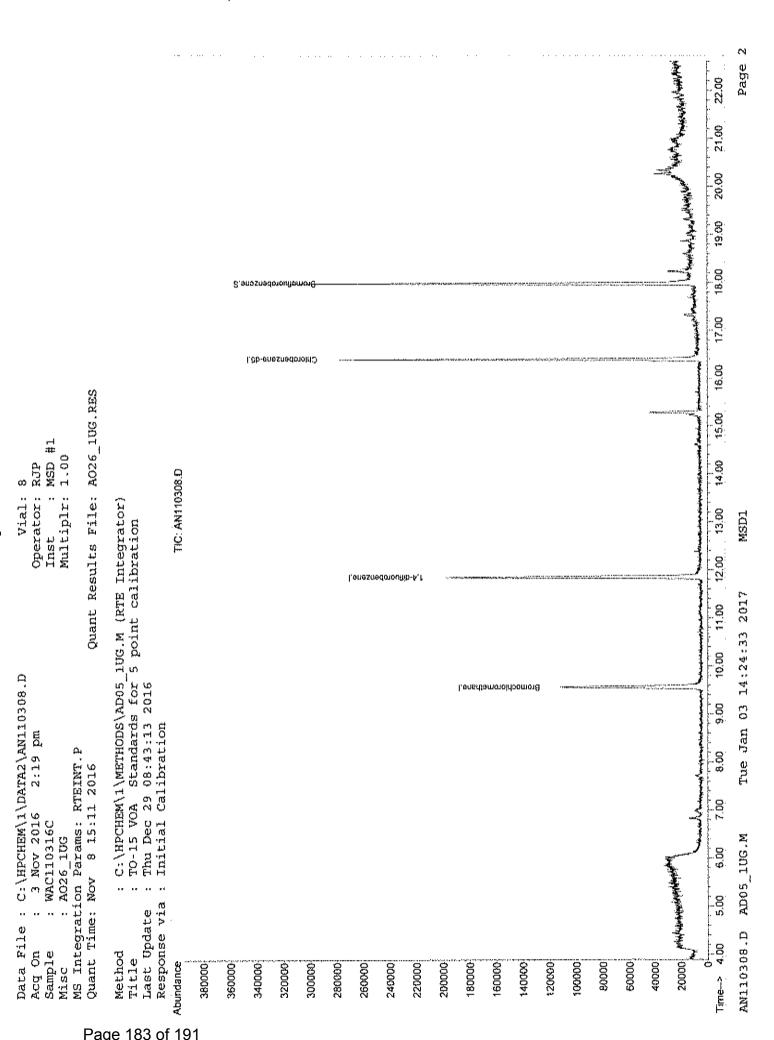
Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Units	bev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.55 11.85 16.39	128 114 117	47081 204188 180803	1.00 pph 1.00 pph 1.00 pph	0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.97 Range 70	95 - 130	103401 Recove	0.85 ppl ry = 85	0.00 5.00%

Target Compounds

Qvalue



Quantitation Report (QT Reviewed)

Vial: 9 Data File : C:\HPCHEM\1\DATA2\AN110309.D Acq On : 3 Nov 2016 Operator: RJP 2:56 pm Sample : WAC110316D Misc : AO26_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: AO26_1UG.RES Quant Time: Nov 08 15:11:35 2016

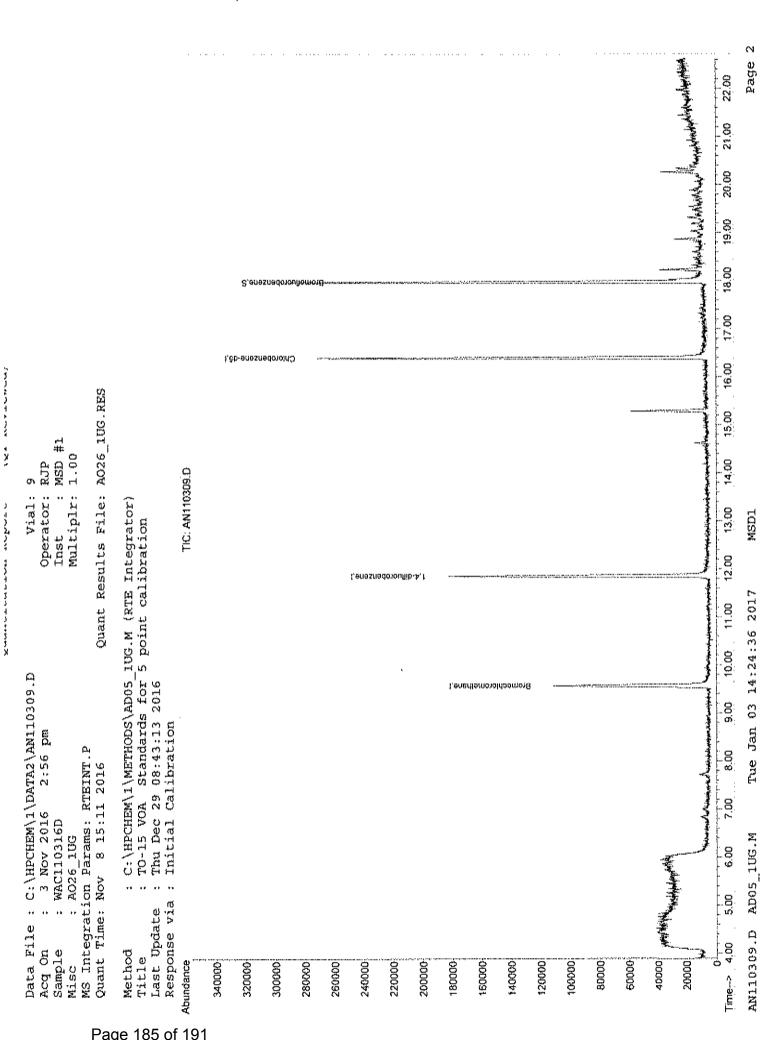
Quant Method : C:\HPCHEM\1\METHODS\AO26 lUG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Thu Oct 27 07:19:53 2016

Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response (Conc C	nits Dev	(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.56 11.85 16.39	128 114 117	46504 195823 178240	1.00 1.00 1.00	dqq	0.00 0.00 0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.97 Range 70	95 - 130	99745 Recovery		dqq \$3.00%	0.00
Taraet Compounds					Ov	alue

Target Compounds



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN110310.D Vial: 10 Acq On : 3 Nov 2016 3:47 pm Operator: RJP Sample : WAC110316E Misc : A026_1UG Inst : MSD #1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: AO26 1UG.RES Ouant Time: Nov 08 15:11:36 2016

Quant Method : C:\HPCHEM\1\METHODS\AO26 1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Thu Oct 27 07:19:53 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

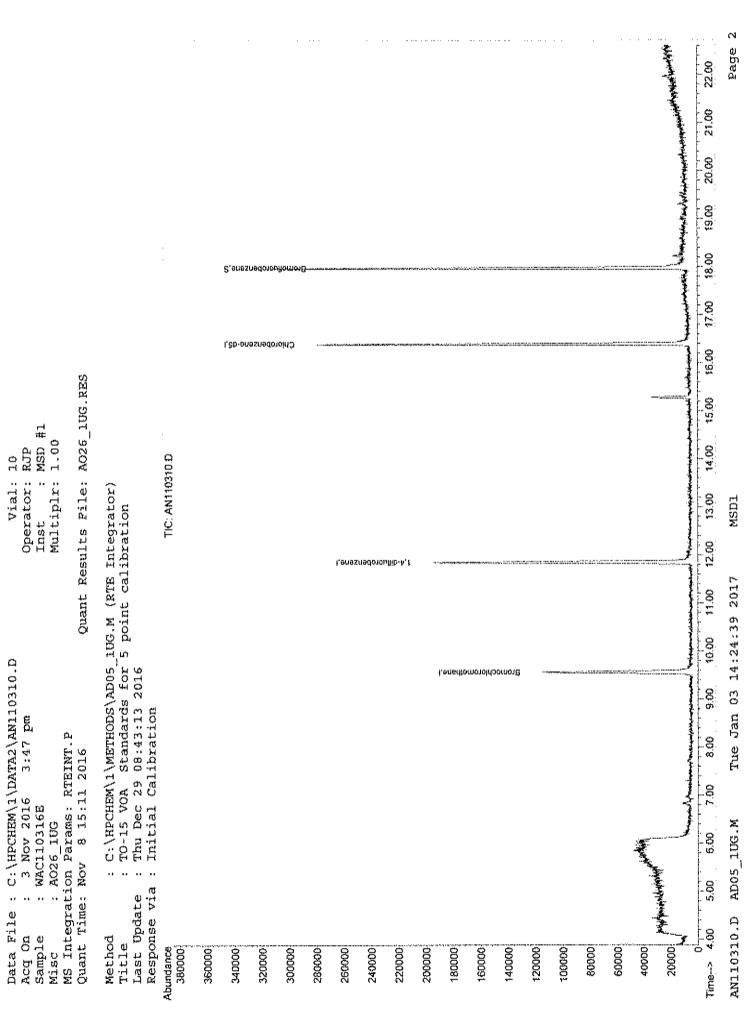
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.56 11.85 16.39	128 114 117	48381 204161 186072	1.00 ppb 1.00 ppb 1.00 ppb	
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.97 Range 70		100927 Recover	0.81 ppb	

Target Compounds

Qvalue

INDMOFACU TXI

Admirtraryon wepute



Page 187 of 191

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN110311.D Vial: 11 : 3 Nov 2016 Operator: RJP Acq On 4:24 pm Sample : WAC110316F Misc : A026_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

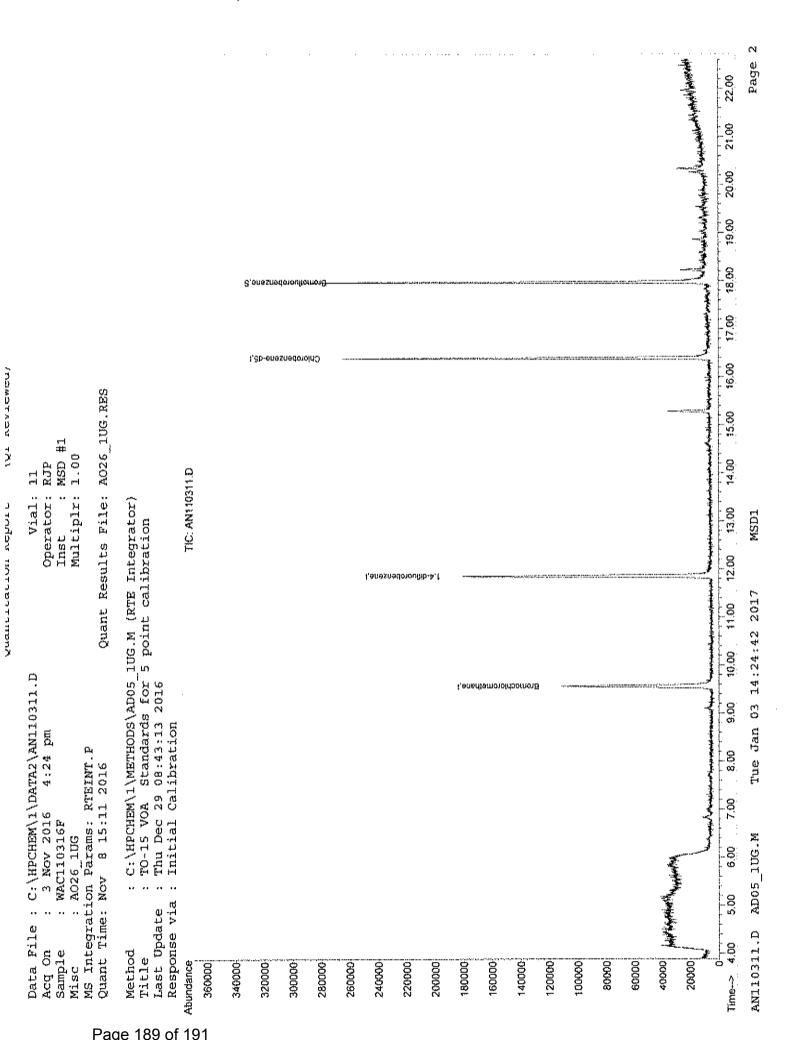
Quant Time: Nov 08 15:11:37 2016 Quant Results File: AO26 1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AO26 1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Thu Oct 27 07:19:53 2016

Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response C	one U	nits Dev	(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.56 11.84 16.39	128 114 117	45825 193237 172103	1.00 1.00 1.00	ppb	0.00 0.00 0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.97 Range 70	95 - 130	95680 Recovery	0.83	dqq \$00.88	0.00
Target Compounds					QV	alue



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN110312.D Vial: 12 Acq On : 3 Nov 2016 5:00 pm Sample : WAC110316G Misc : AO26_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

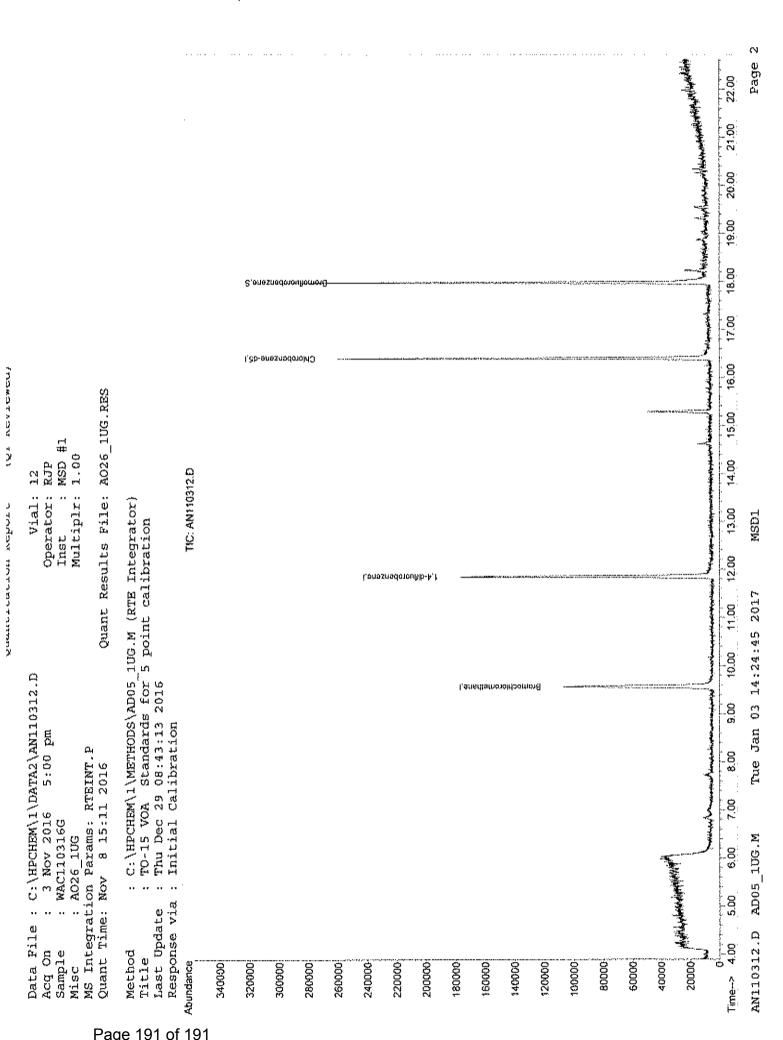
Quant Results File: AO26 1UG.RES Quant Time: Nov 08 15:11:38 2016

Quant Method : C:\HPCHEM\1\METHODS\AO26_lUG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Thu Oct 27 07:19:53 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T. (QIon	Response C	one U	nits De	v(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	9.56 11.85 16.39	128 114 117	44681 192122 171943	1.00 1.00 1.00	dqq	0.00 0.01 0.00
System Monitoring Compounds 66) Bromofluorobenzene Spiked Amount 1.000	17.97 Range 70 -	95 - 130	98362 Recovery	0.85	dqq 00.28	0.01
Target Compounds					Q [,]	value





Centek Laboratories TO-15 Package Review CheckList

Centak Caboraterias	Client:	LaBella	Project:	1740 Emerson	St	SDG:	C1803052
`					<u>YES</u>	<u>NO</u>	NA
Applytical Baculto		Dropout and Complete			~		
Analytical Results TIC's Present		Present and Complete Present and Complete					<u> </u>
iic s rieseiit		Holdin Times Met				***************************************	
		HOMBI THIES MEL			***************************************	NAMES OF THE PARTY	
Comments:							
0.1001.100.800.1101.17.8.1.17.7							
Chain of Custody		Procent and Complete					
Chair of Custody		Present and Complete					******
Surrogate		Present and Complete			~		
J		Recoveries within Limits			`	***************************************	
		Sample(s) reanalyzed					<u> </u>
nternal Standards		Present and Complete					
Recovery		Recoveries within Limits					TIME MAP
		Sample(s) reanalyzed				<u>~</u>	MPLOYAL MAN
Comments:		*SEE LASE	NARRA	TIVE			
ab Control Sample		Present and Complete			_		
LCS)		Recoveries within Limits			~	-	
·					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
ab Control Sample Di	upe	Present and Complete					
LCSD)		Recoveries within Limits					WT MARKANA.
MS/MSD		Present and Complete					
		Recoveries within Limits					
Comments:		*SEE SAOR	NARR	ATIUE			
		·····					
ample Day Date					\		
ample Raw Data		Present and Complete Spectra present			<u></u>	manus West	
		apecia present			POWER AND ADDRESS OF THE PARTY	PERCENTIAL	_
Comments:							
					'		

Centek Laboratories TO-15 Package Review CheckList

	Client:	LaBella	Project:	1740 Emerson St	SDG:	C1803052
(Centek Laboratories		•				
				YES	NO.	NA
Standards Data				P have	11111	<u>LMA</u>
Intial Calibration		Present and Complete		`		****
		Calibration meets criteria				
Continuing Calibration	1	Present and Complete		** <u>*</u>		
		Calibration meets criteria				
Standards Raw Data		Present and Complete		_		
Comments:		•				
Raw Quality Control I	<u>Data</u>	Constant Constant		\		
Tune Criteria Report Method Blank Data		Present and Complete		_	- —	***************************************
Method Digity Data		MB Results < PQL Associated results flagged "B	FR.		· —	***************************************
LCS Sample Data		Present and Complete				THE STREET
LCSD Sample Data		Present and Complete Present and Complete				NUMBER OF STREET
MS/MSD Sample Data		Present and Complete Present and Complete		······	***************************************	
				***************************************	***************************************	MILITAR 1.11.
Comments:						

Logbooks						
Injection Log				<u> </u>		****
Standards Log						PATTA MARKANIA
Can Cleaning Log				**************************************		
Calculation Sheet				**************************************		
IDL's						
Canister Order Form						77-1110 MIN
Sample Tracking Form					· <u>—</u>	THE PROPERTY AND ADDRESS OF THE PARTY AND ADDR
Additional Comments:						
//						
Section Supervisor:	Wel	< Dall	Date	: 4/2/18		
QC Supervisor:	<u> </u>	1.11	Date			
Page 2 of 1		The state of the s	Date	7/3//0		



Phone (315) 431-9730 * Emergency 24/7 (315) 416-2752 NYSDOHELAP Certificate No. 11830

Analytical Report

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

TEL: (585) 454-6110 FAX (585) 454-3066 RE: 1740 Emerson St

Dear Ann Aquilina:

Thursday, March 22, 2018 Order No.: C1803052

Centek Laboratories, LLC received 5 sample(s) on 3/21/2018 for the analyses presented in the following report.

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

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

Centek Laboratories is distinctively qualified to meet your needs for precise and timely volatile organic compound analysis. We perform all analyses according to EPA, NIOSH or OSHAapproved 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

Will Delli

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.

ASP CAT B DELIVERABLE PACKAGE Table of Contents

- 1. Package Review Check List
- 2. Case Narrative
- a. Corrective actions
- 3. Sample Summary Form
- 4. Sample Tracking Form
- 5. Bottle Order
- 6. Analytical Results
- a. Form 1
- 7. Quality Control Summary
- a. Qc Summary Report
- b. IS Summary Report
- c. MB Summary Report
- d. LCS Summary Report
- e. MSD Summary Report
- f. IDL's
- g. Calculation
- 8. Sample Data
 - a. Form I (if requested) TIC's
 - b. Quantitation Report with Spectra
- 9. Standards Data
 - a. Initial Calibration with Quant Report
 - b. Continuing Calibration with Quant Report
- 10. Raw Data
 - a. Tuning Data
- 11. Raw QC Data
 - a. Method Blank
 - b. LCS
 - c. MS/MSD
- 12. Log Books
 - a. Injection Log Book
 - b. Standards Log Book
 - c. QC Canister Log Book



Date: 02-Apr-18

CLIENT:

LaBella Associates, P.C.

Project:

1740 Emerson St

Lab Order:

C1803052

CASE NARRATIVE

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

Centek Laboratories, LLC SOP TS-80

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

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

NYSDEC ASP samples:

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

See Corrective Action: [3698] MS/MSD did not meet criteria.

See Corrective Action: [3699] IS did not meet criteria.

Corrective Action Report

Date Initiated:	21-Mar-18	Corrective Action Report ID:	3698
Initiated By:	Russell Pellegrino	Department:	MSVOA

Corrective Action Description

CAR Summary: MS/MSD did not meet criteria.

Description of Nonconformance Root/Cause(s):

MS/MSD did not meet criteria for a several compounds for samples C1803052-002A MS/MSD. Based on the chromatographic evidence this is most likely due to matrix

interference.

Description of Corrective Action w/Proposed C.A.:

Since MS/MSD show similar results at this time no further corrective action taken. All other QC meets criteria. The samples show many hits in the matrix which will interfere

with spike results. All sets of data submitted

Performed By: Russell Pellegrino Completion Date: 22-Mar-18

Client Notification

Client Notification Required: No Notified By:

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action

Monitor all quality control for sample matrix interference. At this time no further corrective

required by QA: action taken. All sets of data submitted

Approval and Closure

Technical Director / Deputy Tech. Dir.:

Will Dall

Close Date: 26-Mar-18

William Dgbbin

QA Officer Approval:

hm Man

QA Date: 26-Mar-18

Nick Scala

Last Updated BY russ

Updated:

02-Apr-2018 10:33 AM

Reported: 02-Apr-2018 10:33 A

Corrective Action Report

Date Initiated: Initiated By:	21-Mar-18 Russell Pellegrino	Corrective Action Report ID: 3699 Department: MSVOA
A CONTRACTOR OF THE PROPERTY O	Corrective	Action Description
CAR Summary:	IS did not meet criteria.	
Description of Nonconformant Root/Cause(s):	IS was slightly high and did chromatographic evidence,	not meet criteria for samples C1803052-003. Based on the it appears that there may be interfering compounds.
Description of Corrective Action W/Proposed C.A.	on surrogate that is under this l	D for PCE however it was a "J" value. Also, the associated S did make criteria.
Performed By:	Russell Pellegrino	Completion Date: 22-Mar-18
**************************************	Clie	nt Notification
Client Notificati	on Required: No Not	ified By:
Nonconformane Further Action required by QA	ce Type: Deficiency Even though the PCE is a "J	Assurance Review " value it should be considered bias low
	Appro	oval and Closure
Technical Dire Deputy Tech	. Dir.: Well Dak	Close Date: 26-Mar-18
QA Officer App	roval: William D	daul QA Date: 26-Mar-18

Page 10 of 148

Last Updated BY russ

Updated:

02-Apr-2018 10:44 AM

Reported: 02-Apr-2018 10:44 A

	Centek Labs - Chain of Custod	ain of Cust	>	ファミス コマイー industrial State of the Property o	アイザイン くらい	Detection Limit	Leboil Level
	142 Midler Dock Doles		·	Project De Contract C	11 June 1000	Senin	eve
Cantak Laboratorias	Swacuse, NY 13206			1904 71017 POT 18 30 T	5	1 Tuginia	Egyel .
	315-431-9730	Vapor Intrusion & IAQ		- O - O		1ug/M3.+ 0,2 NYS) M[
	www.cemert.aos	Company: (48 ELL	12514	- Orrafe STE	Company:		
	One Surcharge % Date:			· L · A Allerda	Check Here If Same:	:: Z	
O S Business Days	25%	Report to:	より。 12.6% 1	The Contract	Invoice to: Address:	Some	
usiness Days	%09	City, State, Zip	300	stat threet	City, State, Zip		
∞ ₂ Business Days	75%		-71	NY IYBIY			
*Next Day by 5pm	150%	Email: 0.000 u.	uttinse	ilinais labellage, iar	Email: 020	apolice la la la la la la la la la la la la la	(S)
Same Day	200%	Phone: < 35		289	Phone:		
*For Same and Next Day TAT Please Notify Lab	ease Notify Lab	Canister	Regulator	Analysis Request	Field Vacuum	Labs Vacuum**	Comments
Sample ID	Date Sampled	Number	Number		Start / Stop	RecV/Analysis	
IAB-ON March 2018	ις. 	30A	そ sh	1501 51-01	7914	-4 1-4	
かくらくり にからる		487	1419	1 172125	3015	-2 1-3	MS MSI)
149-05 March 2013		459	3.9	1.54		-31.3	•
Jan Mr		290	1152	(400 Email) /	22.513	7-1 E	
Dane Merch 2013	3	11.81	28	7	4 1 0G	1-1	
ł					 ,	. 1	
					1	ł	
						f	
					1	• • •	
					•	18-pg	
						+	
					The space of the s	I	
					į	ł	
					I		
					ļ	•	
					*	-aa	
						-	
					Presentation of the birth		
Chain of Custody	Print Name Horp Pour	III DA	Signature (Date: Time: 7 Mily	POUNTEL UNCER	Pickup/Dropoff
Relinguished by DW				1		"For LAB USE ONLY	(2) 11 (2)
				0 11	N.16.	M. Duranto de la constante de	クインソーの



Date: 02-Apr-18

CLIENT:

LaBella Associates, P.C.

Project:

1740 Emerson St

Lab Order:

C1803052

Work Order Sample Summary

Dao Oraci.	0.000000			
Lab Sample ID C1803052-001A	Client Sample ID IAQ-01 March 2018	Tag Number 202,402	Collection Date 3/19/2018	Date Received 3/21/2018
C1803052-002A	IAQ-02 March 2018	487,1419	3/19/2018	3/21/2018
C1803052-003A	IAQ-03 March 2018	459,381	3/19/2018	3/21/2018
C1803052-004A	Outdoor March 2018	290,1152	3/19/2018	3/21/2018
C1803052-005A	Dupe March 2018	1181,209	3/19/2018	3/21/2018

CENTEK LABORATO	RIES, LLC				Sample R	eceipt	: Checklist	
Client Name LABELLA - ROCHESTER	and the same of th		Da	ate and 1	Time Receive		3/21	1/2018
Work Order Numbe C1803052			Re	eceived	by JDS			
Checklist completed by	-del	/_	3·21	· · / &	by <u>w</u>	>	<u> </u>	
Signature	Date				initials		Date	
Matrix:	Carrier name	FedEx G	<u>round</u>					
Shipping container/copter in good condition?		Yes 🗹	N	o 🗀	Not Prese	· 🗆		
Custody seals intact on shippping container/coo	ler?	Yes 🗀	No	o 🗌	Not Prese	n 🔽		
Custody seals intact on sample bottles?		Yes	N	o 🗌	Not Prese	n 🔽		
Chain of custody present?		Yes 🗹	No	o []				
Chain of custody signed when relinquished and	received?	Yes 🔽	N	o 🗀				
Chain of custody agrees with sample labels?		Yes 🗹	N	o 🗆				
Samples in proper container/bottle?		Yes 🗹	N	o 🗔				
Sample containers intact?		Yes 🔽	N	o 🗀 📜				
Sufficient sample volume for indicated test?		Yes 🛂	N	o 🗀	in a second			
All samples received within holding time?		Yes 🛂	N	o 🗀				
Container/Temp Blank temperature in complian-	ce?	Yes 🗹	N	o 🗆			·	
Water - VOA vials have zero headspace?	No VOA vials subm	nitted 🗹		Yes	□ No	□ .		
Water - pH acceptable upon receipt?		Yes 🗀	N	o 🗹				
	Adjusted?		Checke	d b _				
Any No and/or NA (not applicable) response mu	ust be detailed in the c	comments	section be	===		· v		address Salvania (Salvania III)
Client contacted	Date contacted:	Sub to Provi			erson contacto	id		
Contacted by:	Regarding:		WWW.		hanna a Babasan a Marana a ann ann ann ann ann ann ann ann			· v v · · · · · · · · · · · · · · · · ·
Comments:								
						W		
Corrective Action		21-47 (A. A. P. P. P. P. P. P. P. P. P. P. P. P. P.				A COMMANDE	~~10040717	
	qu	· w · ¬ · · · · · · · · · · · · · · · ·						nooren orionen nedertin

Lab Order:	C1803052					
Client:	LaBella Associates, P.C.	Ü			DATES REPORT	PORT
Project:	1740 Emerson St					
Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCL.P Date Prep Date	e Analysis Date
C1803052-001A	IAQ-01 March 2018	3/19/2018	Ait	lug/m3 w/ 0.2ug/M3 CF-TCE-VC-DCE- 1,1DCE		3/21/2018
C1803052-002A	IAQ-02 March 2018			lug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE- 1,1DCE		3/21/2018
C1803052-003A	1AQ-03 March 2018			lug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE- 1,1DCE		3/21/2018
C1803052-004A	Outdoor March 2018			Tugin3 w/0.2ug/M3 CT-TCE-VC-DCE- 1,1DCE		3/21/2018
C1803052-005A	Dupe March 2018			lug/m3 w/ 0.2ug/M3 CT-TCE-VC-DCE- 1,1DCE		3,02/12/618

02-Apr-18

Centek Laboratories, LLC



CANISTER ORDER

CENTEK LABORATORIES, LLC

Air Quality Testing, At's a Gas

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

7111

02-Apr-18

SHIPPED TO:

Company: LaBella Associates, P.C.

Contact: Alex Brett

Address: 300 State Street, Suite 201

Rochester, NY 14614

Phone:

Quote ID:

Project: PO:

(585) 454-6110

MadeBy: NM

Submitted By:

Ship Date: 3/15/2018

VIA: FedEx Ground

Due Date: 3/16/2018

Bottle Code	Bottle Type	TEST(s)	QTY
MC1400CC	1.4L Mini-Can	1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DC	1
MC1000CC	1L Mini-Can	1ug/m3 w/ 0.2ug/M3 CT-TCE-VC-DC	5
Can / Reg ID	Description		
381	Time-Set Rea - 755 VI		

381	I ime-set keg - 755 VI
402	Time-Set Reg - 781 VI
459	1L Mini-Can - 1362 VI
487	1,4L Mini-Can - 1370 Vt
1152	Time-Set Reg-0744 VI
1181	1L Mini-Can - 1258 VI
1419	Time-Set Reg-2517 IAC
288	1L Mini-Can - 1264 VI
290	1L Mini-Can - 1266 VI
202	1L Mini-Can - 1157 VI
269	Time-Set Reg - 707 VI

Comments: (5) IL @ 6hrs, (1) 1.4L @ 6hrs - NEEDS "T" for Dupe WAC 011518 A-B, 030718A-D

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 ANALYTICAL RESULTS

CLIENT: LaBella Associates, P.C.

Lab Order:

C1803052

Project:

1740 Emerson St

Lab ID:

C1803052-001A

Date: 28-Mar-18

Client Sample ID: IAQ-01 March 2018

Tag Number: 202,402 Collection Date: 3/19/2018

Matrix: AIR

Analyses	Result	**Limit (Qual	Units	ÐF	Date Analyzed
FIELD PARAMETERS		FLC)			Analyst:
Lab Vacuum In	-4			"Hg		3/21/2018
Lab Vacuum Out	-30		,	"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC	-DCE-1,1DCE	TO-1	15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	1	ppbV	1	3/21/2018 7:58:00 PM
1,1-Dichloroethane	< 0.15	0.15	,	ppbV	1	3/21/2018 7:58:00 PM
1,1-Dichloroethene	< 0.040	0.040	j	ppbV	1	3/21/2018 7:58:00 PM
Chloroethane	< 0.15	0.15	,	Vdqq	1	3/21/2018 7:58:00 PM
Chloromethane	0.28	0.15		ppbV	1	3/21/2018 7:58:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		Vdqc	1	3/21/2018 7:58:00 PM
Tetrachloroethylene	0.12	0.15	J	Vdqo	1	3/21/2018 7:58:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	j	ppbV	1	3/21/2018 7:58:00 PM
Trichloroethene	< 0.030	0.030	,	Vdqq	1	3/21/2018 7:58:00 PM
Vinyl chloride	< 0.040	0.040	ľ	ppbV	1	3/21/2018 7:58:00 PM
Surr: Bromofluorobenzene	92.0	70-130		%REC	1	3/21/2018 7:58:00 PM

Qualifiers:

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

Page 1 of 5

Date: 28-Mar-18

CLIENT:

LaBella Associates, P.C.

Lab Order:

C1803052

Project:

1740 Emerson St

Lab ID:

C1803052-001A

Client Sample ID: IAQ-01 March 2018

Tag Number: 202,402 Collection Date: 3/19/2018

Matrix: AIR

Analyses	Result	**Lîmit Q	ual Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1.1DCE		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichtoroethene	< 0.16	0.16	ug/m3	1	3/21/2018 7:58:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	3/21/2018 7:58:00 PM
Chloromethane	0.58	0.31	ug/m3	1	3/21/2018 7:58:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 7:58:00 PM
Tetrachtoroethylene	0.81	1.0	J ug/m3	1	3/21/2018 7:58:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	3/21/2018 7:58:00 PM
Trichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 7:58:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	3/21/2018 7:58:00 PM

Qualifiers:

- Quantitation Limit
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded

Spike Recovery outside accepted recovery limits

- Non-routine analyte. Quantitation estimated. JN
- Results reported are not blank corrected
- Estimated Value above quantitation range \mathbf{e}
- Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Page 1 of 5

CLIENT: LaBella Associates, P.C.

Lab Order:

C1803052

1740 Emerson St

Project: Lab ID:

C1803052-002A

Date: 28-Mar-18

Client Sample ID: IAQ-02 March 2018

Tag Number: 487,1419 Collection Date: 3/19/2018

Matrix: AIR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
FIELD PARAMETERS		FLD	**************************************		Analyst:
Lab Vacuum In	~ 3		"Hg		3/21/2018
Lab Vacuum Out	-30		"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-V	C-DCE-1,1DCE	TO-15	}		Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	₽₽bV	1	3/21/2018 5:44:00 PM
1,1-Dichloroethane	< 0.15	0.15	Vdqq	1	3/21/2018 5:44:00 PM
1,1-Dichloroethene	< 0.040	0.040	Vdqq	1	3/21/2018 5:44:00 PM
Chloroethane	< 0.15	0.15	ppb∨	1	3/21/2018 5:44:00 PM
Chloromethane	0.37	0.15	ppbV	1	3/21/2018 5:44:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	ppbV	1	3/21/2018 5:44:00 PM
Tetrachloroethylene	0.18	0.15	Vdqq	1	3/21/2018 5:44:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	3/21/2018 5:44:00 PM
Trichloroethene	0.080	0.030	ppbV	1	3/21/2018 5:44:00 PM
Vinyl chloride	< 0.040	0.040	Vdqq	1	3/21/2018 5:44:00 PM
Surr: Bromofluorobenzene	96.0	70-130	%REC	1	3/21/2018 5:44:00 PM

Qualifiers:

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

Date: 28-Mar-18

CLIENT: LaBella Associates, P.C. Client Sample ID: IAQ-02 March 2018

Lab Order: C1803052 Tag Number: 487,1419

Project: 1740 Emerson St Collection Date: 3/19/2018

Lab ID: C1803052-002A Matrix: AIR

Analyses	Result	**Limit Q	ial Units	DF	Date Analyzed	
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		TO-15			Analyst: RJP	
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	3/21/2018 5:44:00 PM	
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	3/21/2018 5:44:00 PM	
1,1-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 5:44:00 PM	
Chloroethane	< 0.40	0.40	ug/m3	1	3/21/2018 5:44:00 PM	
Chloromethane	0.76	0.31	ug/m3	1	3/21/2018 5:44:00 PM	
cis-1,2-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 5:44:00 PM	
Tetrachloroethylene	1.2	1.0	ug/m3	1	3/21/2018 5:44:00 PM	
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	3/21/2018 5:44:00 PM	
Trichloroethene	0.43	0.16	ug/m3	1	3/21/2018 5:44:00 PM	
Vinvi chloride	< 0.10	0.10	ug/m3	1	3/21/2018 5:44:00 PM	

Ouolifiers:	**	 Opantitation 	Li

B Analyte detected in the associated Method Blank

ND Not Detected at the Limit of Detection

H Holding times for preparation or analysis exceeded

JN Non-routine analyte. Quantitation estimated.

Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

Date: 28-Mar-18

CLIENT: LaBella Associates, P.C. Client Sample ID: 1AQ-03 March 2018

Lab Order: C1803052 Tag Number: 459,381

 Project:
 1740 Emerson St
 Collection Date: 3/19/2018

 Lab ID:
 C1803052-003A
 Matrix: AIR

Analyses	Result	**Limit (Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLI	Ď			Analyst:
Lab Vacuum In	-3			"Hg		3/21/2018
Lab Vacuum Out	-30			"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC	-DCE-1,1DCE	TO-	15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppb∨	1	3/21/2018 8:38:00 PM
1.1-Dichloroethane	< 0.15	0.15		₽₽₽V	1	3/21/2018 8:38:00 PM
1,1-Dichloroethene	< 0.040	0.040		Vdqq	1	3/21/2018 8:38:00 PM
Chloroethane	< 0.15	0.15		₽₽bV	1	3/21/2018 8:38:00 PM
Chloromethane	0.43	0.15		ppbV	1	3/21/2018 8:38:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040		ppbV	1	3/21/2018 8:38:00 PM
Tetrachloroethylene	0.11	0.15	J	ppbV	1	3/21/2018 8:38:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		Vdqq	1	3/21/2018 8:38:00 PM
Trichloroethene	< 0.030	0.030		Vdqq	1	3/21/2018 8:38:00 PM
Vinyl chloride	< 0.040	0.040		ppb∨	1	3/21/2018 8:38:00 PM
Surr: Bromofluorobenzene	97.0	70-130		%REC	1	3/21/2018 8:38:00 PM

Qualifiers:

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

Page 3 of 5

Date: 28-Mar-18

LaBella Associates, P.C. CLIENT:

Lab Order:

C1803052

Project:

1740 Emerson St

Lab ID:

C1803052-003A

Client Sample ID: 1AQ-03 March 2018

Tag Number: 459,381 Collection Date: 3/19/2018

Matrix: AIR

Analyses	Result	**Limit Qua	l Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	3/21/2018 8:38:00 PM
1.1-Dichloroethane	< 0.61	0.61	ug/m3	1	3/21/2018 8:38:00 PM
1.1-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 8:38:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	3/21/2018 8:38:00 PM
Chloromethane	0.89	0.31	ug/m3	1	3/21/2018 8:38:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 8:38:00 PM
Tetrachloroethylene	0.75	1,0 J	ug/m3	1	3/21/2018 8:38:00 PM
trans-1.2-Dichloroethene	< 0.59	0.59	ug/m3	1	3/21/2018 8:38:00 PM
Trichlorgethene	< 0.16	0.16	ug/m3	1	3/21/2018 8:38:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	3/21/2018 8:38:00 PM

Qualifiers:

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

Page 3 of 5

CLIENT: LaBella Associates, P.C.

Lab Order:

C1803052

1740 Emerson St

Project: Lab ID:

C1803052-004A

Date: 28-Mar-18

Client Sample ID: Outdoor March 2018

Tag Number: 290,1152

Collection Date: 3/19/2018

Matrix: AIR

Analyses	Result	**Limit Qua	al Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum in	-2		"Hg		3/21/2018
Lab Vacuum Out	-30		"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC	-DCE-1,1DCE	TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	₽₽bV	1	3/21/2018 9:19:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	1	3/21/2018 9:19:00 PM
1,1-Dichloroethene	< 0.040	0.040	Vdqq	1	3/21/2018 9:19:00 PM
Chloroethane	< 0.15	0.15	ppbV	1	3/21/2018 9:19:00 PM
Chloromethane	0.31	0.15	ppb∨	1	3/21/2018 9:19:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	ppb∨	1	3/21/2018 9:19:00 PM
Tetrachloroethylene	< 0.15	0.15	ppbV	1	3/21/2018 9:19:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	3/21/2018 9:19:00 PM
Trichloroethene	< 0.030	0.030	ppbV	1	3/21/2018 9:19:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	1	3/21/2018 9:19:00 PM
Surr: Bromofluorobenzene	81.0	70-130	%REC	1	3/21/2018 9:19:00 PM

Qualifiers:

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

Client Sample ID: Outdoor March 2018 LaBella Associates, P.C. CLIENT:

Tag Number: 290,1152 C1803052 Lab Order: Collection Date: 3/19/2018 1740 Emerson St Project:

Matrix: AIR C1803052-004A Lab ID:

Analyses	Result	**Limit Qu	al Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		TO-15			Analyst: RJP
1.1.1-Trichloroethane	< 0.82	0.82	ug/m3	1	3/21/2018 9:19:00 PM
1.1-Dichloroethane	< 0.61	0.61	ug/m3	1	3/21/2018 9:19:00 PM
1.1-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 9:19:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	3/21/2018 9:19:00 PM
Chloromethane	0.64	0.31	ug/m3	1	3/21/2018 9:19:00 PM
cis-1.2-Dichtoroethene	< 0.16	0.16	ug/m3	1	3/21/2018 9:19:00 PM
Tetrachioroethylene	< 1.0	1.0	ug/m3	1	3/21/2018 9:19:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	3/21/2018 9:19:00 PM
Trichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 9:19:00 PM
Vinvi chloride	< 0.10	0.10	ug/m3	1	3/21/2018 9:19:00 PM

Qualifiers: Quantitation Limit

Analyte detected in the associated Method Blank В

Holding times for preparation or analysis exceeded ŀĬ

Non-routine analyte. Quantitation estimated. JN

Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

Date: 28-Mar-18

Estimated Value above quantitation range E

Analyte detected below quantitation limit J

ND Not Detected at the Limit of Detection

Page 4 of 5

CLIENT: LaBella Associates, P.C.

Lab Order: C1803052

Project: 1740 Emerson St

Lab ID: C1803052-005A

Date: 28-Mar-18

Client Sample ID: Dupe March 2018

Tag Number: 1181,209 Collection Date: 3/19/2018

Matrix: AIR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
FIELD PARAMETERS	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FLD			Analyst:
Lab Vacuum In	-1		"Hg		3/21/2018
Lab Vacuum Out	-30		"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	Vđqq	1	3/21/2018 9:59:00 PM
1,1-Dichloroethane	< 0.15	0.15	Vđqq	1	3/21/2018 9:59:00 PM
1,1-Dichloroethene	< 0.040	0.040	ppbV	1	3/21/2018 9:59:00 PM
Chloroethane	< 0.15	0.15	Vdqq	1	3/21/2018 9:59:00 PM
Chloromethane	0.30	0.15	ppb∨	1	3/21/2018 9:59:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	ppbV	1	3/21/2018 9:59:00 PM
Tetrachloroethylene	< 0.15	0.15	ppbV	1	3/21/2018 9:59:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	3/21/2018 9:59:00 PM
Trichloroethene	< 0.030	0.030	ppbV	1	3/21/2018 9:59:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	1	3/21/2018 9:59:00 PM
Surr: Bromofluorobenzene	81.0	70-130	%REC	1	3/21/2018 9:59:00 PM

Qualifiers:

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

CLIENT: LaBella Associates, P.C.

Lab Order:

C1803052

1740 Emerson St

Project: Lab ID:

C1803052-005A

Date: 28-Mar-18

Client Sample ID: Dupe March 2018

Tag Number: 1181,209 Collection Date: 3/19/2018

Matrix: AIR

Analyses	Result	**Limit Qu	al Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	3/21/2018 9:59:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	3/21/2018 9:59:00 PM
1,1-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 9:59:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	3/21/2018 9:59:00 PM
Chloromethane	0.62	0.31	ug/m3	1	3/21/2018 9:59:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 9:59:00 PM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	3/21/2018 9:59:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	3/21/2018 9:59:00 PM
Trichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 9:59:00 PM
Vinvi chloride	< 0.10	0.10	ug/m3	1	3/21/2018 9:59:00 PM

Qualifiers:

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

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 QUALITY CONTROL SUMMARY



Date: 28-Mar-18

QC SUMMARY REPORT SURROGATE RECOVERIES

CLIENT:

LaBella Associates, P.C.

Work Order:

C1803052

Project:

1740 Emerson St

Test No:

TO-15

Matrix: A

Sample ID	BR4FBZ	
11.003370.030110		
ALCS1UG-032118	116	
ALCS1UGD-032118	118	
AMB1UG-032118	72.0	
C1803052-001A	92.0	
C1803052-002A	96.0	
C1803052-002A MS	106	
C1803052-002A MSD	98.0	
C1803052-003A	97.0	
C1803052-004A	81.0	
C1803052-005A	81.0	

ľ	Aeronym	Surr	ogate	QC Limits	
	BR4FBZ	= Brome	ofluorobenzene	70-130	
-	,				

^{*} Surrogate recovery outside acceptance limits

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AP032103.D

Tune Time : 21 Mar 2018 12:00 pm

AP032112.D C1803052-001A 92

AP032113.D C1803052-003A 97

AP032114.D C1803052-004A 81

Daily Calibration File : C:\HPCHEM\1\DATA\AP032103.D

	(BFB)	(IS1) 47897	(IS2) 193806	(IS3) 145301
File Sample DL	Surrogate Recovery %	Internal	Standard Resp	onses
AP032104.D ALCS1UG-032118	116	48374	197048	153239
AP032105.D AMB1UG-032118	72	44328	177221	120583
AP032109.D C1803052-002A	96	52789	220422	210982
AP032110.D C1803052-002A MS	106	58783	248824	249590*
AP032111.D C1803052-002A MSI	98	58695	244768	232175

AP032115.D C1803052-005A 81 50312 195257 134671
AP032132.D ALCS1UGD-032118 118 48657 205600 162411

54582 214431 160200

Created: Wed Mar 28 07:48:37 2018 MSD #1/

t - fails 24hr time check * - fails criteria

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 02-Apr-18

LaBella Associates, P.C. CLIENT:

C1803052 Work Order: Project:

1740 Emerson St

TestCode: 0.20 NYS

Sample ID: AMB1UG-032118	SampType: MBLK	TestCo	TestCode: 0.20_NYS	Units: ppbV		Prep Date:	is	RunNo: 13411	<u>-</u>	
Client ID: ZZZZZ	Batch ID: R13411	Test	TestNo: TO-15			4nalysis Date	Analysis Date: 3/21/2018	SeqNo: 155453	453	
Analyte	Result	Pal	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val		%RPD RPDLimit Qual	Qua
1,1,1-Frichloroethane	< 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								
Vimyl chloride	< 0.040	0.040								
Surr: Bromofluorobenzene	0.7200	0	J in	0	72.0	730	130			

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits # * Estimated Value above quantitation range Not Detected at the Limit of Detection ш 🖳 Spike Recovery outside accepted recovery limits Analyte detected below quantitation limit Results reported are not blank corrected c/) Qualifiers:

TestCode: 0.20 NYS

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 28-Mar-18

LaBella Associates, P.C. CLIENT:

C1803052 Work Order: 1740 Emerson St Project:

Client ID:	Sample ID: ALCS1UG-032118	SampType: LCS	TestCor	TestCode: 0.20_NYS	Units: ppbV		Prep Date:	jų.		RunNo: 13411	411	
Challiopethane Challiopethane POL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val Ichloroethane 0.8900 0.15 1 0 87.0 70 130 Idoroethane 0.8700 0.15 1 0 87.0 70 130 Idoroethane 0.8500 0.040 1 0 85.0 70 130 Ichane 0.8500 0.15 1 0 84.0 70 130 Schlotroethane 0.8400 0.040 1 0 84.0 70 130 Schlotroethane 0.8800 0.15 1 0 80.0 70 130 Schichroethane 0.8800 0.15 1 0 80.0 70 130 Schichroethane 0.8700 0.15 1 0 87.0 70 130 Schickene 0.7900 0.040 1 0 70 130 Schickene	Client ID: ZZZZZ	Batch ID: R13411	Test	Vo: TO-15			Analysis Dal	e: 3/21/20	## ##	SeqNo: 15	5454	
0.8900 0.15 1 0 89.0 70 130 0.8700 0.15 1 0 87.0 70 130 0.8500 0.040 1 0 85.0 70 130 0.8500 0.15 1 0 84.0 70 130 0.8400 0.640 1 0 84.0 70 130 0.800 0.040 1 0 84.0 70 130 0.800 0.15 1 0 84.0 70 130 0.800 0.15 1 0 84.0 70 130 0.800 0.15 1 0 86.0 70 130 0.8700 0.030 1 0 87.0 70 130 0.7900 0.040 1 0 79.0 70 130 0.7900 0.040 1 0 79.0 70 130 0.7900 0.040	4nalyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
0.8700 0.15 1 0 87.0 70 130 0.8500 0.040 1 0 85.0 70 130 0.8500 0.15 1 0 84.0 70 130 0.8400 0.15 1 0 84.0 70 130 0.8800 0.15 1 0 88.0 70 130 0.8700 0.15 1 0 88.0 70 130 0.8700 0.030 1 0 87.0 70 130 0.7900 0.030 1 0 87.0 70 130 0.7900 0.040 1 0 70 130 130 0.7900 0.040 1 0 79.0 70 130 0.7900 0.040 1 0 70 130 130 0.7900 0.7900 0.700 1 0 70 130 0.7900	1,1,1-Trichloroethane	0.8900	0.15	-	0	89.0	70	130				
0.8500 0.040 1 0 85.0 70 130 0.8500 0.15 1 0 84.0 70 130 0.8400 0.15 1 0 84.0 70 130 0.8400 0.040 1 0 84.0 70 130 0.8800 0.15 1 0 88.0 70 130 0.8700 0.015 1 0 87.0 70 130 0.7900 0.030 1 0 87.0 70 130 0.7900 0.040 1 0 70 130 0.7900 0.040 1 0 70 130 0.7900 0.040 1 0 70 130 0.7900 0.040 1 0 70 130 0.7900 0.7900 0.7900 0.7900 0.7900 0.7900 0.7900 0.7900 0.7900 0.7900 0.7900 0.7900	1,1-Dichloroethane	0.8700	0.15	-	0	87.0	70	130				
D-032118 SampType: LCSD C 0.15 T 0 0 85.0 70 130 130 130 130 130 130 130 130 130 13	I,1-Dichloroethene	0.8500	0.040	+	0	85.0	22	130				
D-032118 SampType: LCSD TO TO TO TO TO TO TO TO TO TO TO TO TO	Chloroethane	0.8500	0.15	(0	85.0	22	130				
D-032118 SampType: LCSD TestCode: 0.20	Chloromethane	0.8400	0.15	***	0	84.0	23	130				
0.15 1 0 88.0 70 130 0.15 1 0 90.0 70 130 0.030 1 0 87.0 70 130 0.040 1 0 79.0 70 130 TestCode: 0.20_NYS Units: ppbV Prep Date:	is-1,2-Dichloroethere	0.8400	0.040	-	0	84.0	70	130				
0.015 1 0 90.0 70 130 0.030 1 0 87.0 70 130 0.040 1 0 79.0 70 130 TestCode: 0.20 NYS Units: ppbV Prep Date:	etrachloroethylene	0.8800	0.15		0	88.0	70	130				
9 0.030 1 0 87.0 70 130 9 0.040 1 0 79.0 70 130 TestCode: 0.20_NYS Units: ppbV Prep Date:	rans-1,2-Dichloroethene	0.9000	0.15	₩.	o	90.0	70	130				
70 130 130 TestCode: 0.20_NYS Units: ppbV Prep Date:	richloroethene	0.8700	0.030	(0	87.0	70	130				
TestCode: 0.20_NYS Units: ppbV Prep Date:	finyl chloride	0.7900	0.040	₹~	0	79.0	22	130				
	Sample ID: ALCS1UGD-032118	SampType: LCSD	TestCo	de: 0.20_NYS	Units: ppbV		Prep Da	je je		RunNo: 13	411	

Sample ID: ALCS1UGD-032118 SampType: LCSD	SampType: LCSD	TestCor	TestCode: 0.20_NYS	Units: ppbV		Prep Date:	ئۆ		RunNo: 13411	411	
Client ID: ZZZZ	Batch ID: R13411	TestNo	lo: TO-15			Analysis Date: 3/22/2018	e: 3/22/20	6	SeqNo: 155455	5455	
Analyte	Result	Pal	SPK value	SPK value SPK Ref Val	%REC		HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
1,1,1-Trichloroethane	0.9000	0.15	+	0	0.06	70	130	0.89	1.12	30	
1,1-Dichloroethane	0.9100	0.15	+-	0	91.0	70	130	0.87	4.49	8	
1,1-Dichloroethene	0.8700	0.040	~	0	87.0	70	130	0.85	2.33	30	
Chloroethane	0.8300	0.15	***	0	83.0	72	130	0.85	2.38	30	
Chloromethane	0.8900	0.15	Aun	0	89.0	5	130	0.84	5.78	30	
cis-1,2-Dichloroethene	0.8700	0.040	ţ	0	87.0	22	130	0.84	3.51	30	
Tetrachloroethylene	0.8700	0.15	* '''	Q	87.0	70	130	0.88	1,14	30	
trans-1,2-Dichloroethene	0.9400	0.15	•	0	94.0	50	130	6.0	4.35	8	
Trichloroethene	0.8900	0.030	***	ø	89.0	20	130	0.87	2.27	30	

Estimated Value above quantitation range Not Detected at the Limit of Detection u.) g

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits **=** &

Page I of 2

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

X &

Estimated Value above quantitation range Not Detected at the Limit of Detection

ыQ

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

Qualifiers:

CLIENT: LaBella Associate Work Order: C1803052 Project: 1740 Emerson St	LaBella Associates, P.C. C1803052 1740 Emerson St						Tes	TestCode: 0.20 NYS	20_NYS		
Sample ID: ALCS1UGD-032118	SampType: LCSD	TestCode:	TestCode: 0.20 NYS	Units: ppbV		Prep Date:	.;		RunNo: 13411		
Client ID: ZZZZZ	Balch ID: R13411	TestNo: T0-15	TO-15	:	**	Analysis Date:	ie: 3/22/2018		SeqNo: 155455	32	
Analyte	Resuit	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	PD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.8200	0.040	-	0	82.0	70	130	0.79	3.73	30	

TestCode: 0.20 NYS

(CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 28-Mar-18

LaBella Associates, P.C. CLIENT:

C1803052 Work Order: 1740 Emerson St Project:

Sample ID: C1803052-002A MS	SampType: MS	TestCo	TestCode: 0.20_NYS	Units: ppbV		Prep Date:	äi		RunNo: 13411	E	
Clent ID: IAQ-02 March 2018	Batch ID: R13411	Test	TesiNo: TO-15			4nalysis Dat	Analysis Date: 3/21/2018	60	SeqNo: 155462	462	
Analyte	Result	Pal	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	-	0	79.0	7.0	130				
1,1-Dichloroethane	0.8100	0.15	**	0	81.0	22	130				
1,1-Dichloroethene	0.6800	0.040	***	0	68.0	2	130				S
Chloroethane	0.7300	0.15		0	73.0	22	130				
Chloromethane	1.020	0.15	ém	0.37	65.0	70	130				ψ
cis-1,2-Dichloroethene	0.8300	0.040	•	0	83.0	70	130				
Tetrachloroethylene	0.8600	0.15	•	0.18	68.0	70	130				S
trans-1,2-Dichloroethene	0.8500	0.15	•	0	85.0	70	130				
Trichlomethene	0.9200	0.030	•	0.08	84.0	92	130				
Vinyl chloride	0.7100	0.040	-	0	71.0	22	130				
Sample ID: C1803052-002A MS SampType: MSD	SampType: MSD	TeslCo	TestCode: 0.20 NYS	Units: onby		Preo Date:	i i		RueNo: 13411	111	

Sample ID: C1803052-002A MS SampType: MSD	ampType: MSD	TestCo	TestCode: 0.20_NYS	Onts: ppbv		Prep Date:	'ni		RunNo: 13411	11	
Client ID: IAQ-02 March 2018	Batch ID: R13411	TestNo	No: TO-15		~**	Analysis Date: 3/21/2018	3/21/20	82	SeqNo: 155463	463	
Analyte	Result	PO	SPK value	SPK Ref Val	%REC	%REC LowLimit HighLimit		RPD Ref Val	%RPD	%RPD RPDLimit	Qual
1,1,1-Trichtoroethane	0.7900	0.15	-	0	79.0	70	130	0.79	0	30	
1,1-Dichloroethane	0.8100	0.15	-	0	81.0	30	130	0.81	0	æ	
1,1-Dichloroethene	0.6400	0.040	***	0	64.0	70	130	0.68	6.06	30	S
Chloroethane	0.7300	0.15	4	0	73.0	70	130	0.73	0	8	
Chloromethane	0.9300	0.15	den	0.37	56.0	22	130	1.02	9.23	33	ιΩ
cis-1,2-Dichloroethene	0.8300	0.040	-	0	83.0	22	130	0.83	0	30	
Tetrachloroethylene	0.8700	0.15	***	0.18	69.0	70	130	0.86	1.16	30	Ś
Irans-1.2-Dichloroethene	0.8500	0.15	-	0	85.0	70	130	0.85	0	8	
Trichloroethene	0.9000	0.030	-	0.08	82.0	70	130	0.92	2.20	8	

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limit Results reported are not blank corrected ç.c

E Estimated Value above quantitation range ND Not Detected at the Limit of Detection

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits **#** &

LaBella Associates, P.C.	
CLIENT:	

1740 Emerson St C1803052 Work Order: Project:

TestCode: 0.20 NYS

Sample ID: C1803052-002A MS SampType: MSD	S SampType: MSD	TeslCox	TesiCode: 0.20_NYS	Units: ppbV		Prep Date:	i.i		RunNo: 13411	111	
Client ID: IAQ-02 March 2018	8 Batch ID: R13411	TestNo:	Vo: TO-15		•	Analysis Date: 3/21/2018	e: 3/21/20	318	SeqNo: 155463	5463	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Lowimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
Vinyl chloride	0.7000	0.040	***	0	70.0	70	130	0.71	1.42	30	

	Holding times for preparation or analysis exceeded	RPD outside accepted recovery limits
	I	24
	Estimated Value above quantitation range	Not Detected at the Limit of Detection
1	ш	2
	Results reported are not blank corrected	J Analyte detected below quantitation limit
	Qualifiers:	

S Spike Recovery outside accepted recovery limits

Method TO-15 Units=ppb
Period (1947)
fug/m3 Delection Limit October 2017

The control of the	Compound	Amt	10. #I	DL#2	10, #3	101.#4	101. 指	10°L #8	101,#9	AVG	StdDev	%Rec	ď
0.3 0.34 0.35	73	503	0.33	0.33	0.32	0.32	0.37	0.33	0.33	0.33	20.0	111.0%	0.054
e 0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.1 0.4 0.3 0.4 0.3		€.3	0.35	0.35	0.35	0.36	0.35	0,33	0.36	0.35	0.01	116.2%	0.042
0.3 0.3 0.34 0.37 0.38 0.37 0.37 0.32 0.33 0.35 0.35 0.37 117.1% 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	strane	0.3	0.34	0.35	0.34	0.33	0.36	0.34	0.3	200	0.00	112.4%	0.050
0.3 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0	ধ	0.3	0.34	0.37	0.36	0.37	0.37	0,33	0.33	0.35	80	117.1%	200
e 0.3 0.34 0.37 0.39 0.33 0.39 0.3	cride	0.3	0.33	0,32	0.35	0.35	0.34	0.32	6.32	0.33	0.0	1110%	0.063
e 0.3		0.3	0,35	80	0.37	0.37	0.39	0,33	0.35	0.38	80	119.0%	0.065
e 0.3 0.35 0.35 0.39 0.38 0.41 0.35 0.39 0.37 0.41 0.35 0.39 0.37 0.41 0.35 0.39 0.37 0.41 0.35 0.39 0.37 0.44 0.39 0.37 0.44 0.39 0.34 0.37 0.44 0.39 0.34 0.34 0.35 0.34 0.35 0.34 0.39 0.37 0.34 0.39 0.37 0.34 0.39 0.37 0.34 0.39 0.39 0.37 0.34 0.39 0.39 0.37 0.34 0.39 0.39 0.37 0.34 0.39 0.39 0.37 0.34 0.39 0.39 0.37 0.34 0.39 0.39 0.37 0.34 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.37 0.34 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.3	Hene	0.3	6.3	SS	\$	0.35	0.36	0.23	0.31	0.33	0.00	111.0%	50\$0
0.3 0.46 0.35 0.35 0.35 0.44 0.45 0.44 0.45 0.45 0.45 0.45 0.4	ethane	0.3	0.35	88	0.39	0.38	0.37	0.35	0.30	0.37	0.02	121.9%	0.048
0.3 0.44 0.3 0.34 0.32 0.4 0.3 0.34 0.22 0.4 0.34 0.35 0.36 0.37 0.34 0.35 0.37 0.34 0.35 0.37 0.34 0.35 0.37 0.34 0.35 0.37 0.34 0.35 0.37 0.34 0.35 0.37 0.34 0.35 0.37 0.34 0.35 0.37 0.37 0.39 0.35 0.37 0.39 0.37 0.39 0.35 0.39 0.37 0.39 0.35 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39	hane	03	0.36	0.33	0.35	0.38	0.41	0.36	6.34	0.36	830	120.5%	0.084
0.3 0.36 0.35 0.34 0.36 0.37 0.39 0.37 0.39 0.35 0.39 0.37 0.39 0.35 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39		0.3	4.0	0.3	0.34	0.32	0.4	0 0 3	0.35	0.36	908	118.6%	0.152
0.3 0.35 0.35 0.38 0.36 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39		0.3	0.36	0.35	0.34	0.36	0.37	0.36	0.35	900	50	118 6%	0.034
13. 0.34 0.35 0.34 0.35 0.36 0.39 0.37 0.32 0.35 0.35 0.37 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.39 0.37 0.32 0.39 0.39 0.37 0.32 0.39 0.39 0.37 0.32 0.39 0.39 0.37 0.32 0.39 0.39 0.39 0.37 0.32 0.39 0.39 0.39 0.37 0.32 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39	rnide	0.3	0.35	0.35	0.38	0.38	0.37	5.3	0.35	0.38	5	119 0%	0.043
0.3 0.34 0.34 0.39 0.37 0.32 0.35 0.39 0.37 0.32 0.39 0.39 144.3% old 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.38 0.39 0.37 0.39 0.39 0.37 0.39 0.39 0.39 0.39 0.39 0.39 0.39 0.39		0.3	0.35	0.3X	0.35	0.36	0.37	0.33	0.35	0.35	 50	116.7%	0.041
total 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.05 0.35 0.05 0.05 0.05 0.05 0.15 0.15 0.05 <t< td=""><td></td><td>0.3</td><td>0.34</td><td>0.34 24</td><td>0.39</td><td>0.37</td><td>0.32</td><td>0.35</td><td>0.29</td><td>0.34</td><td>80</td><td>114.3%</td><td>0.102</td></t<>		0.3	0.34	0.34 24	0.39	0.37	0.32	0.35	0.29	0.34	80	114.3%	0.102
10 10 10 10 10 10 10 10		0.3	0.36	0.35	0.36	0.35	0.35	0.3	0.38	0.35	0.02	117.1%	0.078
Parison Pari	il atcohol	0.3	0.36	0.35	0.37	0.4	0.33	0,32	0.35	0.36	0.03	121,0%	0.085
10.3 b.3.3 c.0.3	forcethene	6.3	0.37	60	0,33	0.37	0.32	0.28	0.31	0.32	880	108.1%	0,107
10.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	1 3	0.3	0.33	0.3	0.32	0.32	0.32	0.31	0.37	0.32	60	105.2%	0.031
0.3 0.35 0.34 0.35 0.35 0.35 0.35 0.35 0.35 0.33 0.31 0.34 0.025 0.31 0.32 0.32 0.32 0.31 0.32 0.33 0.32 0.32 0.33 0.32 0.33 0.32 0.33 0.32 0.33 0.32 0.34 0.35 0.34 0.33 0.32 0.33 0.32 0.33 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.34 0.35 0.34 0.34 0.35 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34	stccho!	0.3	0.3	0.31	0.32	0.33	0.33	0.24	0.3	0.30	ିପେ:0	101.4%	0.097
0.3 0.35 0.3 0.32 0.31 0.32 0.31 0.32 0.32 0.32 0.32 0.32 0.32 0.32 0.32	ne chloride	63	0.35	8.0	0.35	0.35	0.35	0,33	0.31	0.34	0.02	113.3%	0.048
θ.3 θ.33 θ.32 D.31 0.34 θ.33 θ.32 0.31 0.32 0.31 0.32 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.32 0.32 0.32 0.32 0.32 0.32 0.32 0.32 0.32 0.32 0.31 0.31 0.01 103.38 0.32 0.33 0.32 0.33 0.33 0.32 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.34 0.34 0.34 0.34 0.33 <	orlde	0.3	0.35	0.3	0.32	0.31	0.32	0.32	0.31	0.32	0.02	106.2%	0.049
Heric D.3 D.31 D.3 D.32 D.31 D.3 D.31 D.3 D.31 D.3 D.31 D.3 D.31 D.3 D.31 D.3 D.31 D.3 D.32 D.33 D.33 D.3 D.3 D.3 D.3 D.3 D.3 D.3 D	disutiole	6.3	0.33	0.32	0.31	0.34	0.33	0.32	0.32	0.32	0.01 0.01	108.1%	0.031
11 0.3 0.31 0.32 0.32 0.33 0.31 0.31 0.03 0.	2-dichloroethene	0.3	0.31	0.3	0.33	0.31	0.32	0.31	0.3	0.31	Ю	103.8%	0.034
0.3 0.32 0.31 0.25 0.32 0.32 0.33 0.31 0.31 0.01 103.8% 0.3 0.32 0.32 0.32 0.33 0.32 0.32 0.32 0	ert-butyl edner	e .	0.31	0.3	0.32	0.32	0.33	0.3	0.31	0.31	о. О.О.	104.3%	0.035
0.3	losoethane	03	0.32	031	0.23	0.32	0.32	634	0.33	0.31	0.0 19.0	103.8%	0.034
0.3	elate	03	0.32	0.32	0.29	0.32	0.33	0.32	0.32	0.32	 25.0	105.7%	0.039
6.3 6.32 6.31 6.32 6.31 6.31 6.03 6.31 6.03 6.03 6.34 6.03	Etyl Ketone	0.3	93	0.31	0.34	0,33	0.33	0.28	0.31	0.31	28 28 0	12 SS	0.080
0.3 0.31 0.25 0.32 0.33 0.31 0.31 0.03 101.9% 0.3 0.28 0.32 0.32 0.33 0.33 0.31 0.31 0.31 0.32 0.33 0.31 0.32 0.33 0.31 0.32 0.33 0.31 0.32 0.31 0.32 0.31 0.32 0.33 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.31 0.32 0.32 0.33 0.32 0.01 105.2% 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 <	kchbroethene	0.3	6.32	0.31	0.28	0.31	0.32	0.3	0.31	0,33	0.00	102.4%	0.043
0.3 0.28 0.32 0.32 0.33 0.33 0.31 0.31 0.31 0.02 103.8% 0.3 0.31 0.32 0.3 0.33 0.3 0.31 0.31 0.01 104.8% 0.3 0.33 0.3 0.3 0.3 0.3 0.3 0.31 0.01 104.8% 0.3 0.31 0.32 0.3 0.0 0.3 0.0 0.0 0.0 0.0 0.0 </td <td></td> <td>03</td> <td>0.31</td> <td>0.31</td> <td>0.25</td> <td>0.32</td> <td>0.33</td> <td>0.31</td> <td>0.31</td> <td>0.31</td> <td>0.83</td> <td>101.9%</td> <td>0.081</td>		03	0.31	0.31	0.25	0.32	0.33	0.31	0.31	0.31	0.83	101.9%	0.081
0.3 0.31 0.31 0.32 0.3 0.0 105.2% 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.0 105.2% 0.0 <td< td=""><td>etate</td><td>0.3</td><td>0.28</td><td>0.33</td><td>0.32</td><td>0.33</td><td>0.33</td><td>0.29</td><td>0.37</td><td>0.31</td><td>200</td><td>103.8%</td><td>0.081</td></td<>	etate	0.3	0.28	0.33	0.32	0.33	0.33	0.29	0.37	0.31	200	103.8%	0.081
0.3 0.33 0.3 0.33 0.3 0.3 0.3 0.3 0.31 0.03 0.01 103.8% 0.3 0.31 0.32 0.33 0.31 0.33 0.31 0.32 0.01 105.7% 0.3 0.33 0.34 0.31 0.33 0.31 0.33 0.01 105.7% 0.3 0.31 0.32 0.31 0.33 0.33 0.33 0.32 0.01 0.3 0.31 0.32 0.33 0.32 0.33 0.32 0.01 105.7% 0.3 0.32 0.32 0.33 0.32 0.32 0.01 105.2% 0.3 0.32 0.32 0.33 0.32 0.01 105.2% 0.3 0.32 0.33 0.33 0.32 0.01 105.2%	XIII	0.3	0.31	0.31	0.32	0,3	0.33	0.34	0.32	0.34	50	104.8%	0.031
9,3 0,31 0,32 0,33 0,3 0,3 0,31 0,32 0,32 0,01 105,7% 10,52% 0,33 0,33 0,33 0,33 0,33 0,33 0,33 0,3	drofuran	0,3	0.33	63	0.3	0.33	0.3	0.3	0.32	0.34	0.0	103.8%	0.046
0.3 0.33 0.32 0.33 0.34 0.31 0.33 0.32 0.07 109.5% 0.3 0.31 0.3 0.31 0.3 0.33 0.3 0.32 0.0 109.5% 0.3 0.32 0.31 0.32 0.33 0.33 0.29 0.33 0.32 0.01 105.7% 0.3 0.31 0.32 0.32 0.32 0.32 0.01 105.2% 0.3 0.32 0.33 0.33 0.33 0.32 0.01 105.2% 0.3 0.32 0.32 0.33 0.33 0.32 0.01 105.2%	broethane	ص در	0.31	0.32	0,33	0.3	0.33	0.31	0.32	0.33	5	105.7%	0.035
0.3 0.31 0.3 0.34 0.33 0.31 0.33 0.32 0.32 0.02 105.7% 0.3 0.32 0.31 0.32 0.32 0.33 0.29 0.33 0.32 0.01 105.7% 0.3 0.31 0.32 0.32 0.33 0.32 0.32 0.32 0.01 105.7% 0.3 0.32 0.32 0.33 0.33 0.32 0.32 0.01 105.2%	hiproethare	0.3	0.33	0.32	0,33	0.34	0.34	0.31	0.33	0.33	0.01	109,5%	0.034
0.3 0.32 0.31 0.52 0.32 0.33 0.29 0.33 0.32 0.01 105.7% 0.3 0.3 0.3 0.32 0.01 105.7% 105.2% 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	Kane	0.3	0.31	0.3	0.34	0.33	0.31	0.3	0.33	0.32	0.02	105.7%	0.050
0.3 0.31 0.32 0.33 0.32 0.3 0.32 0.37 0.37 105.7% effectylate 0.3 0.3 0.32 0.31 0.33 0.33 0.32 0.32 0.01 105.2% dential	etrachlorida	03	0.32	0.31	0.32	0.32	0.33	0.29	0.33	0.32	0.01	105.7%	0.043
0.3 0.32 0.31 0.33 0.33 0.32 0.32 0.01 105.2%		0.3	0.31	0.32	0.32	0.33	0.32	0.3	0.32	0.32	00	105.7%	0.030
idential	refracylate	0.3	63	0,32	0.31	0.33	0.33	0.3	8.0	0.32	0.01	105.2%	0.040
	denia										n as eigenes		***
											ville, es		
_											New A		

Centek Laboratories IDL Study

Confidential

¢./‡

ති වී			
Melhod TO-15 Units-pab	ತ	0.031	
Meht.	%Rec	120.0% 100.0% 100.0%	
	StdDev	Fig. :	147.t
	AVG	Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q	
	IDE, #10	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
	即、数	90000 90000 90000	
alon Limit 047	10T #2	25 C C C C C C C C C C C C C C C C C C C	
6.2 ug/m3 Detection Limit October 2017	101.#4	2 C C C C C C C C C C C C C C C C C C C	
6.2 ug	101.#3	20	
	DL #2		
	D H	00000	
	Amt	5 - 	
Centek Laboratories IOL Study	Compound	Confidential	

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

$$RRF = Ax * Cis$$
 $Ais * Cx$

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)

Percent Difference (%D)

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

Sample Calculations

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

Date: 28-Mar-18

CLIENT: LaBella Associates, P.C. Client Sample ID: 1AQ-01 March 2018

Lab Order: C1803052 Tag Number: 202,402

Project: 1740 Emerson St Collection Date: 3/19/2018

Lab ID: C1803052-001A Matrix: AIR

Analyses	Result	**Limit (Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FL	D.			Analyst:
Lab Vacuum In	-4			'Hg		3/21/2018
Lab Vacuum Out	-30			'Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC	DCE-1,1DCE	TO-	15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	ş	ppb∨	1	3/21/2018 7:58:00 PM
1,1-Dichloroethane	< 0.15	0.15	F	ppbV	1	3/21/2018 7:58:00 PM
1,1-Dichloroethene	< 0.040	0.040	ţ	∨dqq	1	3/21/2018 7:58:00 PM
Chloroethane	< 0.15	0.15	F	ppbV	1	3/21/2018 7:58:00 PM
Chloromethane	0.28	0.15	ı	ppb∨	1	3/21/2018 7:58:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	F	ppbV	1	3/21/2018 7:58:00 PM
Tetrachloroethylene	0.12	0.15	J	ppbV	1	3/21/2018 7:58:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	š	opb∨	1	3/21/2018 7:58:00 PM
Trichloroethene	< 0.030	0.030	5	ppbV	1	3/21/2018 7:58:00 PM
Vinyl chloride	< 0.040	0.040	,	ppbV	1	3/21/2018 7:58:00 PM
Surr: Bromofluorobenzene	92.0	70-130		%REC	1	3/21/2018 7:58:00 PM

Qualifiers:

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

Page 1 of 5

Date: 28-Mar-18

CLIENT: LaBella Associates, P.C.

Lab Order: C1803052

Project: 1740 Emerson St

Lab ID: C1803052-001A

Client Sample ID: IAQ-01 March 2018

Tag Number: 202,402

Collection Date: 3/19/2018

Matrix: AIR

Analyses	Result	**Limit Qu	al Units	DF	Date Analyzed
1UG/M3 W/ 0,2UG/M3 CT-TCE-V	C-DCE-1,1DCE	TO-15	***************************************		Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichloroethane	< 0. 6 1	0.61	ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 7:58:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	3/21/2018 7:58:00 PM
Chloromethane	0.58	0.31	ug/m3	1	3/21/2018 7:58:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 7:58:00 PM
Tetrachioroethylene	0.81	1.0	ug/m3	1	3/21/2018 7:58:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	3/21/2018 7:58:00 PM
Trichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 7:58:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	3/21/2018 7:58:00 PM

Qualifiers:

- ** Quantitation Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- JN Non-routine analyte. Quantitation estimated.
- S Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- E Estimated Value above quantitation range
- J Analyte detected below quantitation limit
- NO Not Detected at the Limit of Detection

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032112.D Vial: 4 Acq On : 21 Mar 2018 7:58 pm Operator: RJP Sample : C1803052-001A Misc : A318_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Time: Mar 22 10:57:17 2018

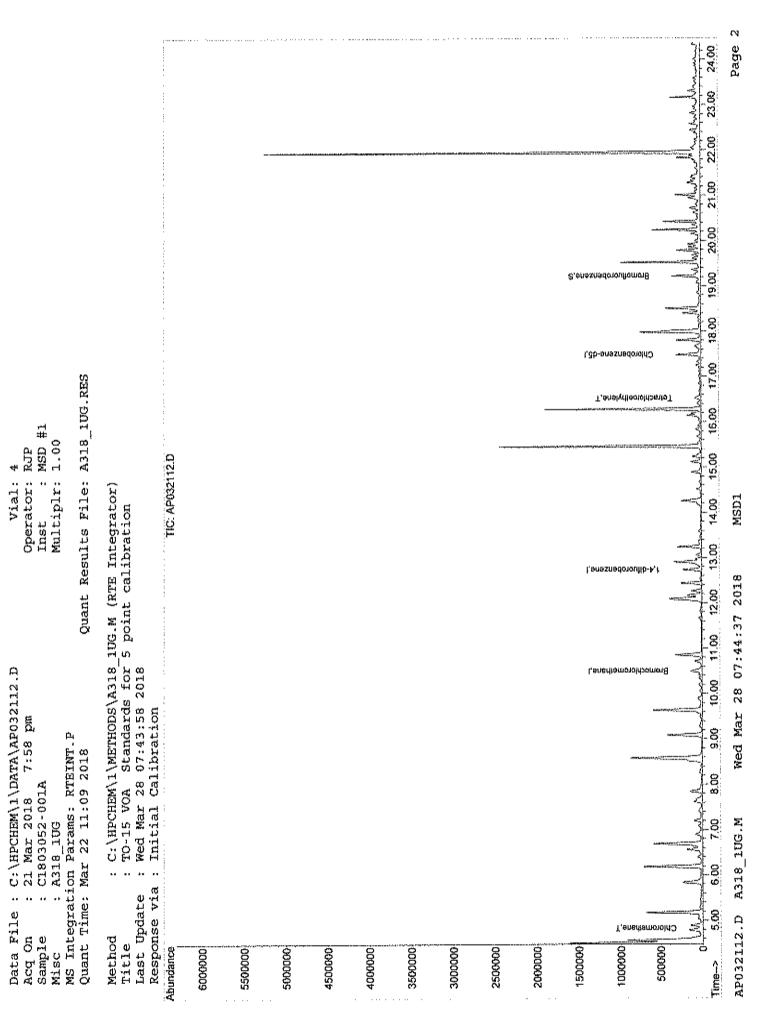
Quant Results File: A318_1UG.RES

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

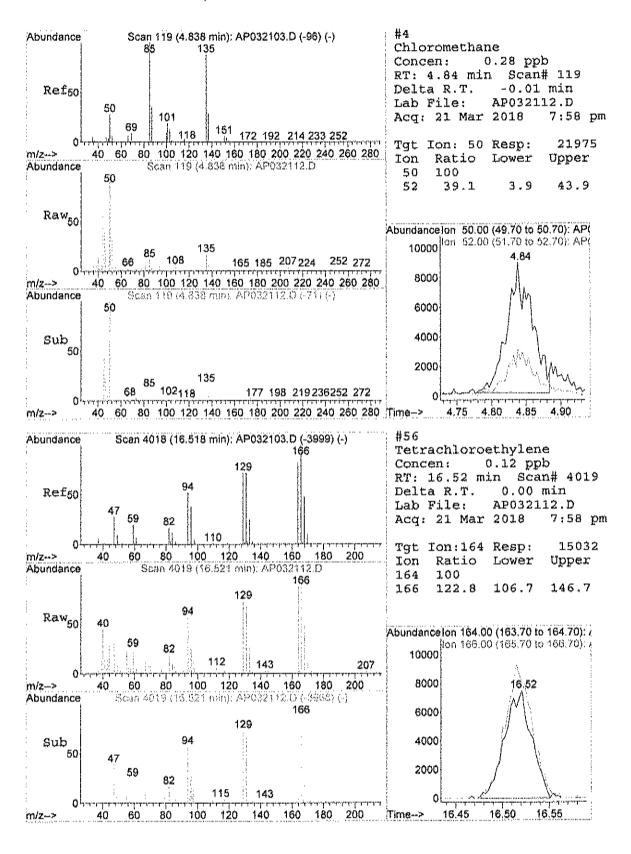
Internal Standards	R.T.	QIon	Response C	one Ur	nits De	v(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.50 12.74 17.48	128 114 117	53864 224944 200948	1.00 1.00 1.00	ppb	0.00 0.00 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.21 Range 70	95 - 130	127888 Recovery	0,92	ppb 92.00	0.00
Target Compounds 4) Chloromethane 56) Tetrachloroethylene	4.84 16.52	50 164	21975 15032	0.28 0.12	ppb	value 69 97

(QT Reviewed)

Quantitation Report



Page 43 of 148



Date: 28-Mar-18

CLIENT: LaBella Associates, P.C. Client Sample ID: IAQ-02 March 2018

Lab Order: C1803052 Tag Number: 487,1419

 Project:
 1740 Emerson St
 Collection Date:
 3/19/2018

 Lab ID:
 C1803052-002A
 Matrix:
 AIR

Analyses	Result	**Limit Qua	l Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-3		"Hg		3/21/2018
Lab Vacuum Out	-30		"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC	D-DCE-1,1DCE	TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	ppbV	1	3/21/2018 5:44:00 PM
1,1-Dichloroethane	< 0.15	0.15	Vdqq	1	3/21/2018 5:44:00 PM
1,1-Dichloroethene	< 0.040	0.040	ppb∨	1	3/21/2018 5:44:00 PM
Chloroethane	< 0.15	0.15	ppb∨	1	3/21/2018 5:44:00 PM
Chloromethane	0.37	0.15	ppb∨	1	3/21/2018 5:44:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	ppbV	1	3/21/2018 5:44:00 PM
Tetrachloroethylene	0.18	0.15	ppbV	1	3/21/2018 5:44:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppbV	1	3/21/2018 5:44:00 PM
Trichloroethene	0.080	0.030	ppb∨	1	3/21/2018 5:44:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	1	3/21/2018 5:44:00 PM
Surr: Bromofluorobenzene	96.0	70-130	%REC	1	3/21/2018 5:44:00 PM

Qualifiers:

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

Page 2 of 5

Date: 28-Mar-18

CLIENT: LaBella Associates, P.C. Client Sample ID: 1AQ-02 March 2018

 Lab Order:
 C1803052
 Tag Number: 487,1419

 Project:
 1740 Emerson St
 Collection Date: 3/19/2018

Lab ID: C1803052-002A Matrix: AIR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
1UG/M3 W/ 0,2UG/M3 CT-TCE-V	C-DCE-1,1DCE	TO-1	5		Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	3/21/2018 5:44:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	3/21/2018 5:44:00 PM
1,1-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 5:44:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	3/21/2018 5:44:00 PM
Chloromethane	0.76	0.31	ug/m3	1	3/21/2018 5:44:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 5:44:00 PM
Tetrachloroethylene	1.2	1.0	ug/m3	1	3/21/2018 5:44:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	3/21/2018 5:44:00 PM
Trichloroethene	0.43	0.16	ug/m3	1	3/21/2018 5:44:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	3/21/2018 5:44:00 PM

Qualifiers:

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

Page 2 of 5

Quantitation Report (QT Reviewed)

Vial: 1 Data File : C:\HPCHEM\1\DATA\AP032109.D Operator: RJP Acq On : 21 Mar 2018 5:44 pm Inst : MSD #1 Sample : C1803052-002A Misc : A318_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A318_1UG.RES Ouant Time: Mar 22 10:57:14 2018

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

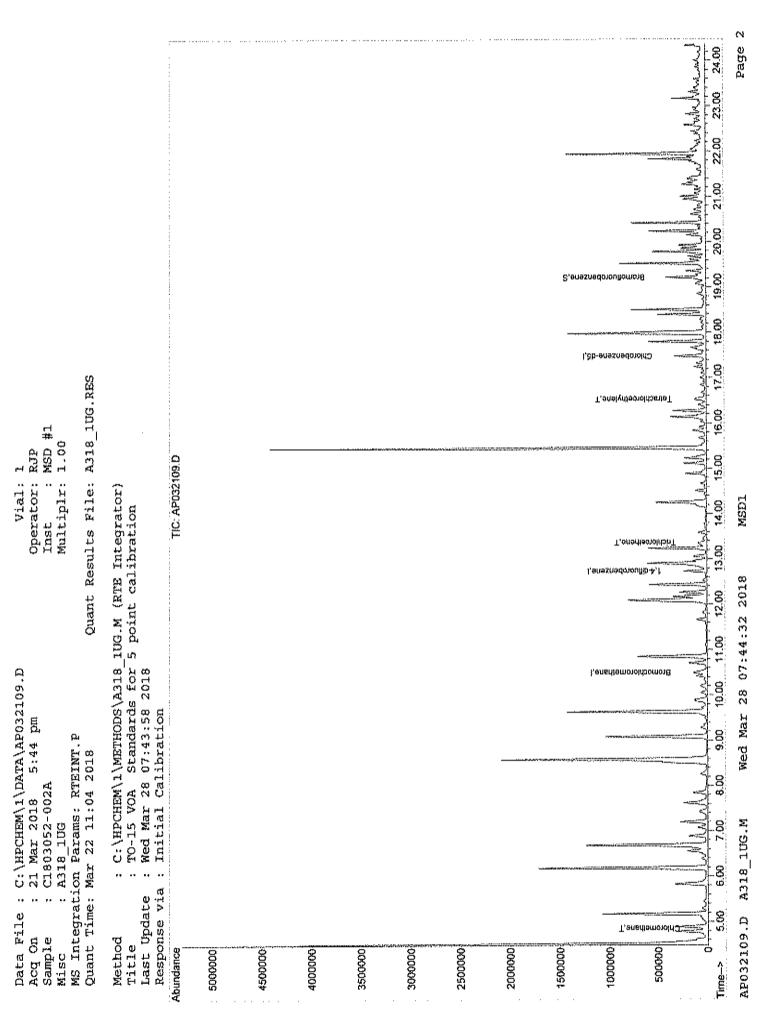
Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

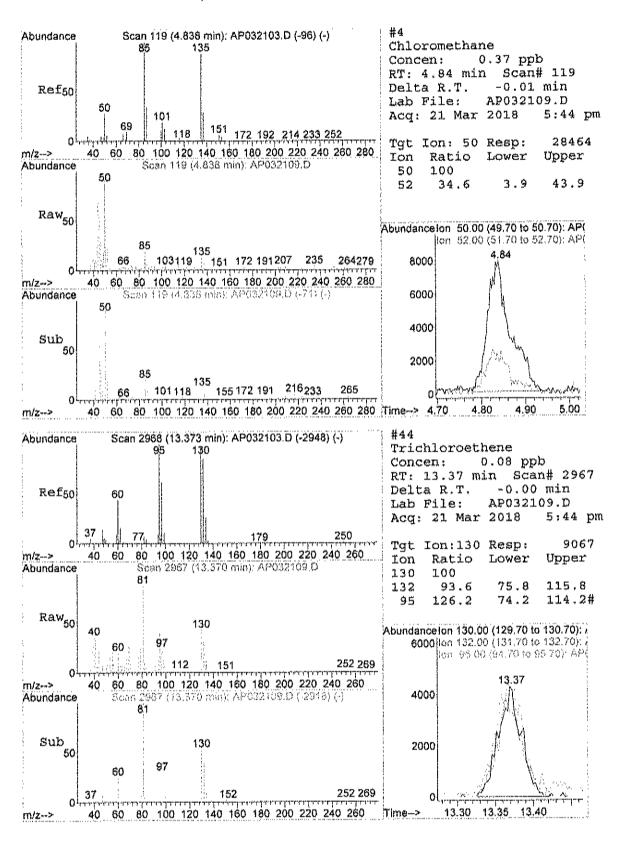
Internal Standards	R.T.	QIon	Response C	one Ui	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.49 12.73 17.48	128 114 117	52789 220422 210982	1.00 1.00 1.00	dqq	0.00 0.00 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.21 Range 70	95 - 130	140118 Recovery	0.96 =		0.00
Target Compounds 4) Chloromethane 44) Trichloroethene 56) Tetrachloroethylene	4.84 13.37 16.52	50 130 164	28464 9067 22537	0.37 0.08 0.18	ppb	Qvalue 78 # 82 99

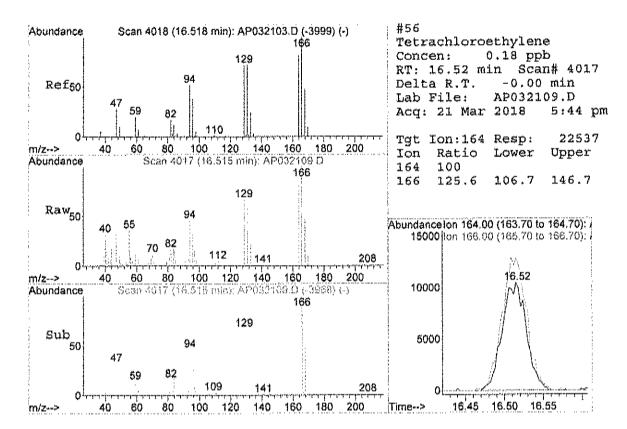
(QT Reviewed)

Quantitation Report



Page 48 of 148





MSD1

Date: 28-Mar-18

CLIENT:

LaBella Associates, P.C.

Client Sample ID: 1AQ-03 March 2018

Lab Order:

C1803052

Tag Number: 459,381

Project:

1740 Emerson St

Collection Date: 3/19/2018

Lab ID:

C1803052-003A

Matrix: AIR

Analyses	Result	**Limit Qua	i Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-3		"Hg		3/21/2018
Lab Vacuum Out	-30		"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC	DCE-1.1DCE	TO-15			Analyst: RJP
1.1.1-Trichloroethane	< 0.15	0.15	Vdqq	1	3/21/2018 8:38:00 PM
1.1-Dichloroethane	< 0.15	0.15	ppbV	1	3/21/2018 8:38:00 PM
1.1-Dichloroethene	< 0.040	0.040	ppbV	1	3/21/2018 8:38:00 PM
Chloroethane	< 0.15	0.15	Vdqq	1	3/21/2018 8:38:00 PM
Chloromethane	0.43	0.15	ppb∨	1	3/21/2018 8:38:00 PM
cis-1,2-Dichtoroethene	< 0.040	0.040	ppbV	1	3/21/2018 8:38:00 PM
Tetrachloroethylene	0.11	0.15 J	ppb∨	1	3/21/2018 8:38:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	Vdqq	1	3/21/2018 8:38:00 PM
Trichloroethene	< 0.030	0.030	ppbV	1	3/21/2018 8:38:00 PM
Vinyl chloride	< 0.040	0.040	ppb∨	1	3/21/2018 8:38:00 PM
Surr: Bromofluorobenzene	97.0	70-130	%REC	1	3/21/2018 8:38:00 PM

Qualifiers:

Quantitation Limit

В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded H

Non-routine analyte. Quantitation estimated. Νţ

Spike Recovery outside accepted recovery limits S

Results reported are not blank corrected

Е Estimated Value above quantitation range

Analyte detected below quantitation limit j

ND Not Detected at the Limit of Detection

Page 3 of 5

CLIENT: LaBella Associates, P.C. Client Sample ID: IAQ-03 March 2018

Lab Order: C1803052 Tag Number: 459,381

 Project:
 1740 Emerson St
 Collection Date: 3/19/2018

 Lab ID:
 C1803052-003A
 Matrix: AIR

Analyses	Result	**Limit Q	Qual Unit	s DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-V	C-DCE-1,1DCE	TO-1	5		Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	սց/m:	3 1	3/21/2018 8:38:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m	3 1	3/21/2018 8:38:00 PM
1,1-Dichloroethene	< 0.16	0.16	ug/m:	3 1	3/21/2018 8:38:00 PM
Chloroethane	< 0.40	0.40	ug/m	3 1	3/21/2018 8:38:00 PM
Chloromethane	0.89	0.31	ug/m	3 1	3/21/2018 8:38:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16	ug/m:	3 1	3/21/2018 8:38:00 PM
Tetrachloroethylene	0.75	1.0	J ug/m:	3 1	3/21/2018 6:38:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m:	3 1	3/21/2018 8:38:00 PM
Trichloroethene	< 0.16	0.16	ug/m:	3 1	3/21/2018 8:38:00 PM
Vinyl chloride	< 0.10	0.10	ug/m	3 1	3/21/2018 8:38:00 PM

Qualifiers:

- ** Quantitation Limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- JN Non-routine analyte, Quantitation estimated.
- S Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected

Date: 28-Mar-18

- E Estimated Value above quantitation range
- J Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Quantitation Report (QT Reviewed)

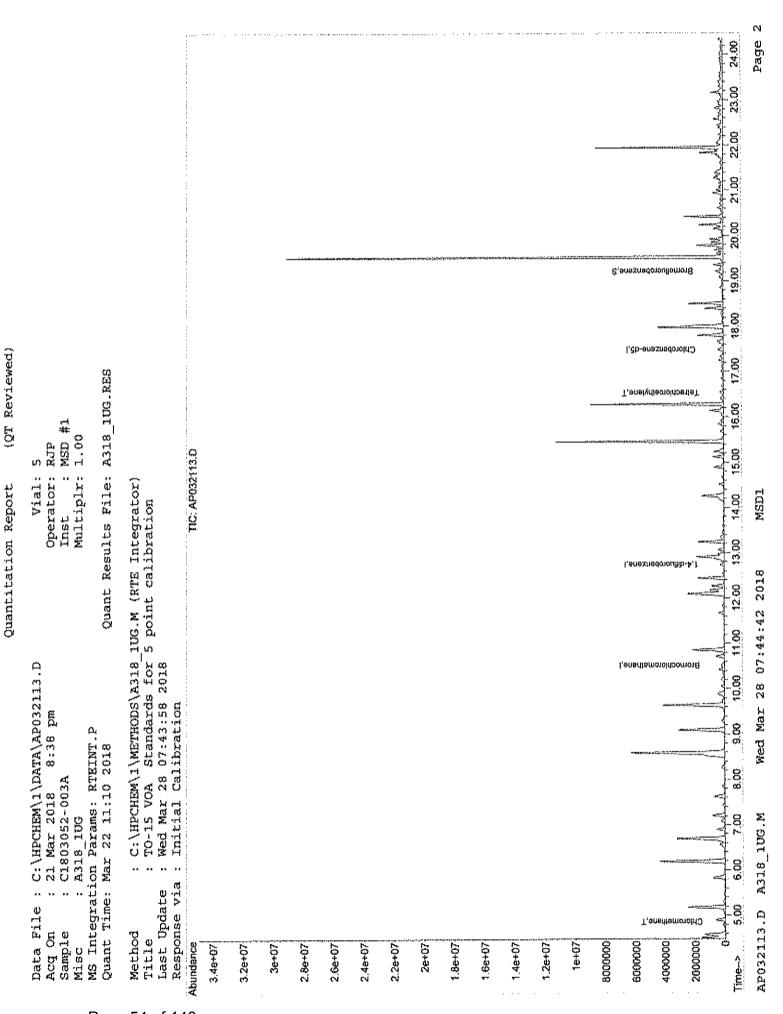
Data File : C:\HPCHEM\1\DATA\AP032113.D Vial: 5 Acq On : 21 Mar 2018 8:38 pm Operator: RJP Sample : C1803052-003A Misc : A318_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

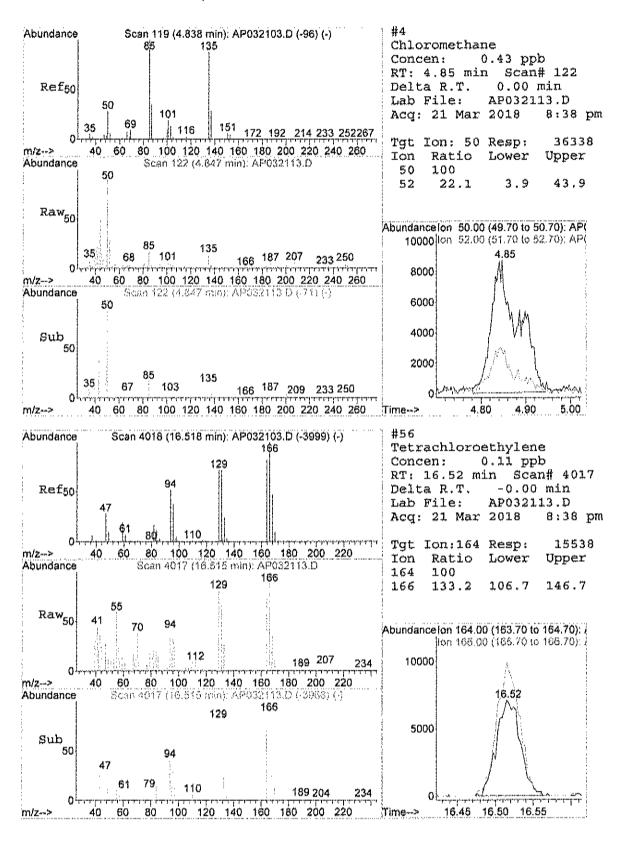
Quant Time: Mar 22 10:57:18 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 21 12:56:38 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	onc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.50 12.73 17.48	128 114 117	59062 248077 240796	1.00	ppb ppb dqq	0.00 0.00 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.21 Range 70	95 - 130	160703 Recovery		ppb 97.	0.00
Target Compounds 4) Chloromethane 56) Tetrachloroethylene	4.85 16.52		36338 15538		dqq	Qvalue 96 94



Page 54 of 148



MSDl

CLIENT: LaBella Associates, P.C.

Lab Order:

C1803052

Project:

1740 Emerson St

Lab ID:

C1803052-004A

Date: 28-Mar-18

Client Sample ID: Outdoor March 2018

Tag Number: 290,1152

Collection Date: 3/19/2018

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-2		"Hg		3/21/2018
Lab Vacuum Out	-30		"Hg		3/21/2018
IUG/M3 W/ 0.2UG/M3 CT-TCE-VC-	DCE-1.1DCE	TO-15			Analyst: RJP
1.1.1-Trichloroethane	< 0.15	0.15	ppbV	1	3/21/2018 9:19:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	1	3/21/2018 9:19:00 PM
1,1-Dichloroethene	< 0.040	0.040	ppbV	1	3/21/2018 9:19:00 PM
Chloroethane	< 0.15	0.15	ppb∨	1	3/21/2018 9:19:00 PM
Chloromethane	0.31	0.15	ppbV	1	3/21/2018 9:19:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	ppbV	1	3/21/2018 9:19:00 PM
Tetrachlorgethylene	< 0.15	0.15	ppbV	1	3/21/2018 9:19:00 PM
trans-1.2-Dichloroethene	< 0.15	0.15	ppbV	1	3/21/2018 9:19:00 PM
Trichloroethene	< 0.030	0.030	ppb∨	1	3/21/2018 9:19:00 PM
Vinyl chloride	< 0.040	0.040	Vaqq	1	3/21/2018 9:19:00 PM
Surr: Bromoßuorobenzene	81.0	70-130	%REC	1	3/21/2018 9:19:00 PM

Qualifiers:

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

, LLC Date: 28-Mar-18

CLIENT: LaBella Associates, P.C. Client Sample ID: Outdoor March 2018

 Lab Order:
 C1803052
 Tag Number:
 290,1152

 Project:
 1740 Emerson St
 Collection Date:
 3/19/2018

Lab ID: C1803052-004A Matrix: AIR

Analyses	Result	**Limit Qu	al Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-V	C-DCE-1.1DCE	TO-15			Analyst: RJP
1.1.1-Trichloroethane	< 0.82	0.82	ug/m3	1	3/21/2018 9:19:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	3/21/2018 9:19:00 PM
1.1-Dichloroethene	< 0.16	0.16	սց/m3	1	3/21/2018 9:19:00 PM
	< 0.40	0.40	ug/m3	1	3/21/2018 9:19:00 PM
Chloroethane	0.64	0.31	ug/m3	1	3/21/2018 9:19:00 PM
Chloromethane	< 0.16	0.16	ug/m3	1	3/21/2018 9:19:00 PM
cis-1,2-Dichloroethene	< 1.0	1.0	ug/m3	1	3/21/2018 9:19:00 PM
Tetrachloroethylene	< 0.59	0.59	ug/m3	1	3/21/2018 9:19:00 PM
trans-1,2-Dichloroethene		0.16	ug/m3	1	3/21/2018 9:19:00 PM
Trichloroethene	< 0.16		•	•	3/21/2018 9:19:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	0/2/12010 0/10/00 1 1/1

Qualifiers:

Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

JN Non-routine analyte, Quantitation estimated.

S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 4 of 5

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032114.D Vial: 6 Acq On : 21 Mar 2018 9:19 pm Sample : C1803052-004A Misc : A318_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

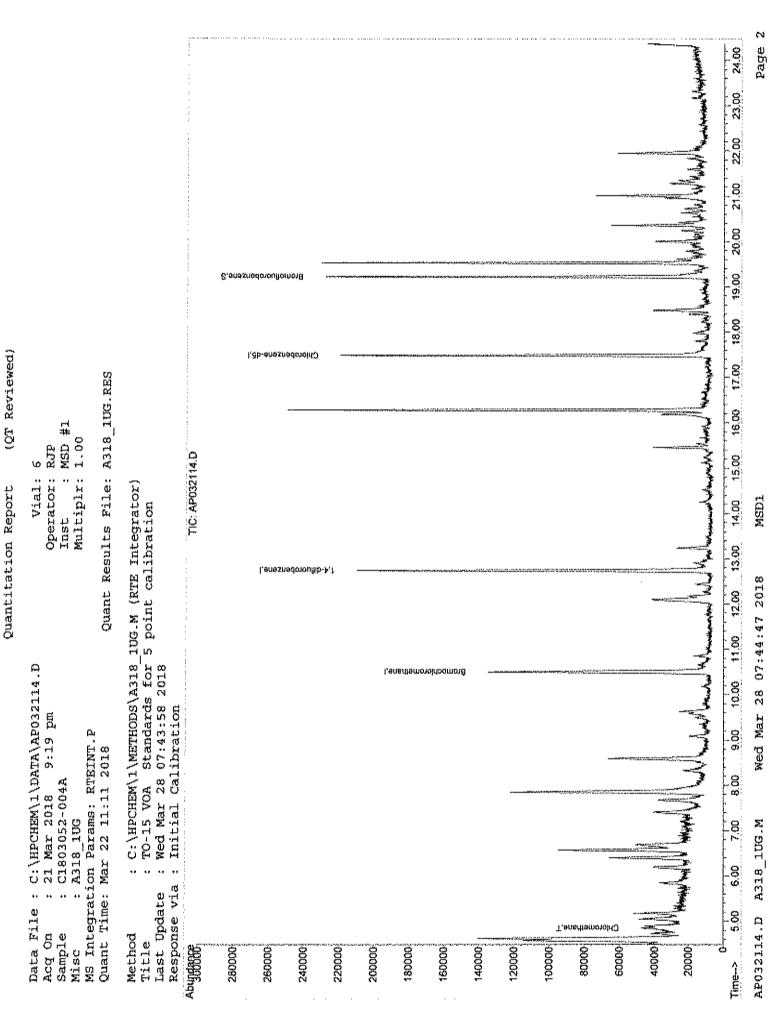
Quant Time: Mar 22 10:57:19 2018 Quant Results File: A318_1UG.RES

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

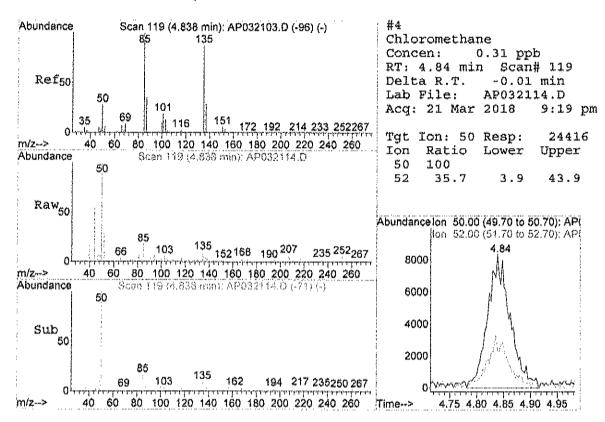
Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response (Conc Un	its Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.50 12.73 17.48	128 114 117	54582 214431 160200	1.00 1.00 1.00	ppb 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.22 Range 70	95 - 130	90061 Recovery	0.81	ppb 0.00 81.00%
Target Compounds 4) Chloromethane	4.84	50	24416	0.31	Qvalue ppb 76



Page 59 of 148



CLIENT: LaBella Associates, P.C. Client Sample ID: Dupe March 2018

 Lab Order:
 C1803052
 Tag Number:
 1181,209

 Project:
 1740 Emerson St
 Collection Date:
 3/19/2018

Lab ID: C1803052-005A Matrix: AIR

Lab 19: C1003032-003A					
Analyses	Result	**Limit Qua	l Units	DF	Date Analyzed
FIELD PARAMETERS		FLD			Analyst:
Lab Vacuum In	-1		"Hg		3/21/2018
Lab Vacuum Out	-30		"Hg		3/21/2018
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC	DCE-1.1DCE	TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15	ppb∨	1	3/21/2018 9:59:00 PM
1,1-Dichloroethane	< 0.15	0.15	ppbV	1	3/21/2018 9:59:00 PM
1.1-Dichloroethene	< 0.040	0.040	∨dqq	1	3/21/2018 9:59:00 PM
Chloroethane	< 0.15	0.15	Vdqq	1	3/21/2018 9:59:00 PM
Chloromethane	0.30	0.15	ppb∨	1	3/21/2018 9:59:00 PM
cis-1,2-Dichloroethene	< 0.040	0.040	γρbV	1	3/21/2018 9:59:00 PM
Tetrachloroethylene	< 0.15	0.15	ppbV	1	3/21/2018 9:59:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15	ppb∨	1	3/21/2018 9:59:00 PM
Trichloroethene	< 0.030	0.030	ppbV	1	3/21/2018 9:59:00 PM
Vinyl chloride	< 0.040	0.040	ppbV	1	3/21/2018 9:59:00 PM
Surr: Bromofluorobenzene	81.0	70-130	%REC	1	3/21/2018 9:59:00 PM

Qualifiers: ** Quantitation Limit

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

Date: 28-Mar-18

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Page 5 of 5

Date: 28-Mar-18

CLIENT:

LaBella Associates, P.C.

Lab Order:

C1803052

Project:

1740 Emerson St

Lab ID:

C1803052-005A

Client Sample ID: Dupe March 2018

Tag Number: 1181,209

Collection Date: 3/19/2018

Matrix: AIR

Analyses	Result	**Limit Qua	Units	DF	Date Analyzed	
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC-DCE-1,1DCE		TO-15			Analyst: RJF	
1.1.1-Trichloroethane	< 0.82	0.82	ug/m3	1	3/21/2018 9:59:00 PM	
1.1-Dichloroethane	< 0.61	0.61	ug/m3	1	3/21/2018 9:59:00 PM	
1.1-Dichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 9:59:00 PM	
Chloroethane	< 0.40	0.40	ug/m3	1	3/21/2018 9:59:00 PM	
Chloromethane	0.62	0.31	ug/m3	1	3/21/2018 9:59:00 PM	
cis-1.2-Dichloroetheле	< 0.16	0.16	ug/m3	1	3/21/2018 9:59:00 PM	
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	3/21/2018 9:59:00 PM	
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	3/21/2018 9:59:00 PM	
Trichloroethene	< 0.16	0.16	ug/m3	1	3/21/2018 9:59:00 PM	
Vipyl chloride	< 0.10	0.10	ug/m3	1	3/21/2018 9:59:00 PM	

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032115.D Vial: 7 Acq On : 21 Mar 2018 9:59 pm Operator: RJP Sample : C1803052-005A Misc : A318_1UG Inst : MSD #1 Multiplr: 1.00

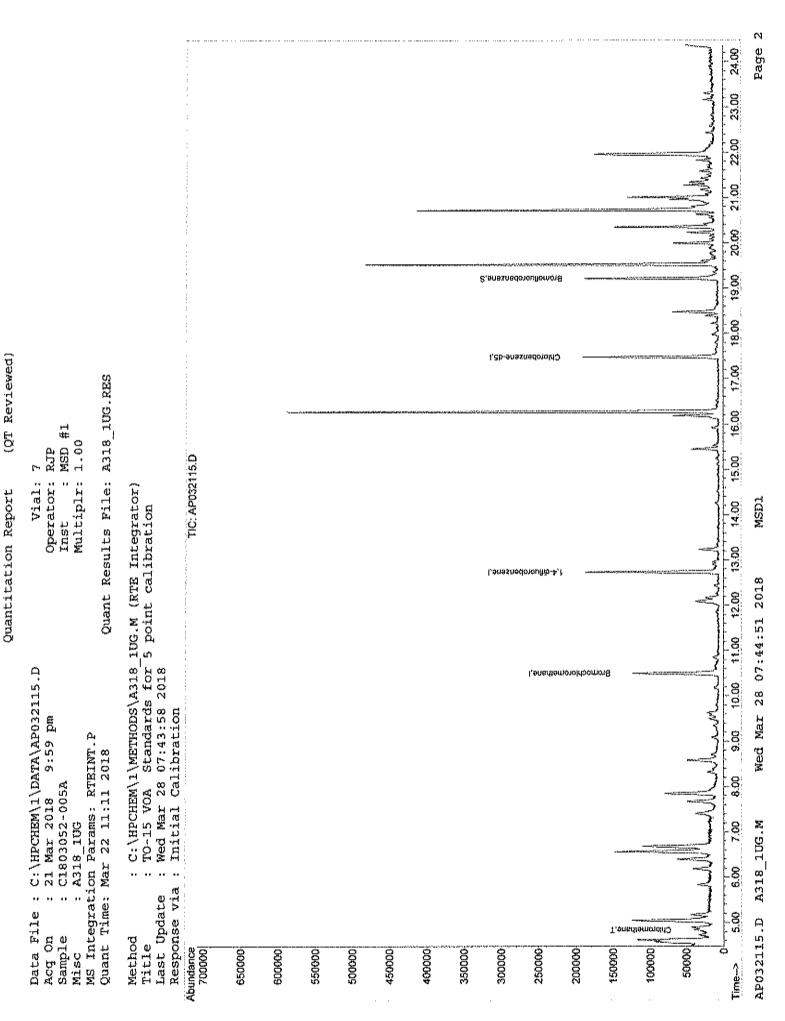
MS Integration Params: RTEINT.P

Quant Time: Mar 22 10:57:20 2018 Quant Results File: A318_1UG.RES

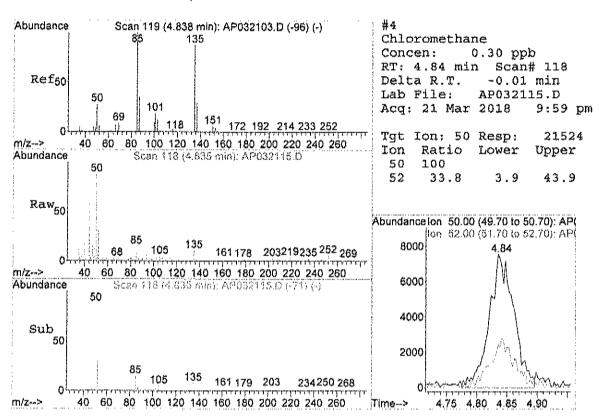
Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 21 12:56:38 2018
Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response	Conc Unit	s Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.50 12.73 17.48	128 114 117	50312 195257 134671	1.00 pp 1.00 pp 1.00 pp	ob 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.22 Range 70	95 - 130	75013 Recovery	0.81 pp	
Target Compounds 4) Chloromethane	4.84	50	21524	0.30 pg	Qvalue b 80



Page 64 of 148



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

1.25 =AP031806.D #AP031804.D 1.5 **=AP031805.D** #AP031807.D 0.75 =AP031808.D 0.5 =AP031809.D 1

		Compound	2		1.25		0.75	0.5	Avg	%RSD
		Bromochloromethan					``~ ~ ~ ~ ·			
1) 2)	I T	Propylene							1.300	
3)	Ţ	Freon 12	T.443	# * 24T	E 560	E 666	5 687	5 788	5.814	6.58
	'n	Chloromethane	3.333	3.020 3.064	3.300	1 223	7 355	1 361	1.445	16.09
4)			4.32/	1.4504	4.544	7 520	4 747	4 727	4.917	10.88
5)	T T	Freon 114	4.000	* 100	1.178	1 107	7 106	1 227	1 320	19.67
6)	_	Vinyl Chloride	1.175	3.107	1.431	1,197	7 457	1 505	1.330	13.51
7)	T	Butane	7.477	1.434	0.915	7 . 434	7.40	7.500	1,000	15.88
8)	T	1,3-butadiene	0.944	0.936	0.375	0.70/	0.211	T.003	1.050	10.40
9)	T	Bromomethane	0.496	1.433	1.463	1.4/0	7.440	A E 22	T.255	11.21
10)	T		0.430	0.472	0.316	0.402	0.431	ዕ. ጋፉጋ	0.341	18.46
11)	T	Ethanol			0.294					12.33
12)	T	Acrolein Vinyl Bromide	0.319	0.298	0.294	0.237	0.344	1 405	ገ ለልን	7.86
13)	T		T. 775	1.384	1.380	7.301	T.#00	1,400	T. 37 7 /	9.35
14)	T	Freon 11	5.702	5.042	5.570 0.378	3.742	D 202	0.020	0.274	2.98
1.5)	T	Acetone		0.369	0.378	0.808	0.307	0.3/0	0.272	24.15
16)	T	Pentane	0.792							25.46
17)	T	Isopropyl alcoh	T . T 2 T	2.121	1.136	T.TOA	1 600	1.244	1 715	16.73
18)	T	1,1-dichloroeth	T.233	1.480	3.715	7.004	7.002	2 262	# 444 # 144	5.84
19)	T	Freen 113	3.706	3.623	2.522	3.734	3,707	2 400	2.140	4.26
20)	t	t-Butyl alcohol	2.479	2.396	2.544	2.435	2.532	2.450	2,510 1,510	9.43
21)	T	Methylene chlor	1.455	1.429	1.419	T.44%/	T.400	1.403	T.DES	6.85
22)	T	Allyl chloride	1.801	1.756	1.774	7.860	1./30	1./MZ	7.0%0	8.40
23)	T	Carbon disulfid	3.369	3.318	3.351	3.347	3.440	3.411	3.333	3.16
24)	Ţ	trans-1,2-dichl	1.979	1.965	1.940	7.300	1.704	1.0%/	7.301	4.43
25)	Ţ	methyl tert-but	3.357	3.171	3.207	3,180	3.230	3.033	2,233	7.83
26)	Ŧ	1,1-dichloroeth	3.075	3.016	3.020	3.051	3.004	3,033	3.137	5.60
27)	T	Vinyl acetate	3.150	2.983	2.948 0.631	2.707	2.//3	A.017	0.011	4.83
28)	T	Methyl Ethyl Ke	0.678	0.034	1.907	0.030	7 000	V.030	2 054	13.89
29)	T	cis-1,2-dichlor	1.976	1.891	1.979	1,744	7.003	1.004	1 000	4.02
30)	r	Hexane	2.041	2.003	7.3/3	7,331	1.700	7.023	3.018	2.73
31)	Ţ	Ethyl acetate	3.121	3.014	2.985 3.643	2.399	2.300	2.747	3.010	5.66
32)	T	Chloroform	3.657	3.588	1,393	3.0/3	3.007	2.020	3.730	4.80
33)	T	Tetrahydrofuran	T . 203	1,420	T,333	1.39/	7.702	7.233	7.474	4.40
34)	T	1,2-dichloroeth	2,339	2,280	2.267	2.311	4,403	2.342	&	4.40
35)	I	1,4-difluorobenze								
36)	${f T}$	1,1,1-trichloro	0.849	0.852	0.831	0.845	0.840	0.872	0.873	5.92
37)	${f T}$	Cyclohexane Carbon tetrachl	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)	Ť	and the state of t	_,,,							
40)	T	Methyl methacry	0.456	0.425	0.398	0.378	0.365	0.354	0.380	11.66
41)	Ť	1,4-dioxane	0.220	0.219	0.207	0,203	0.202	0.191	0.200	8.35
	Ţ	2,2,4-trimethyl	1.669	1.601	1,564	1.525	1.472	1.467	1.523	5.45
43)	\mathbf{T}	Heptane	0.601	0.580	0.544	0.528	0.508	0.491	0.524	9.29
44)	\mathbf{T}	Trichloroethene	0.461	0.468	0.451	0.455	0.451	0.450	0.489	11.06
45)	\mathbf{r}	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	3.45
47)	${f T}$	cis-1,3-dichlor	0.583	0.561	0.534	0.517	0.496	0.480	0.511	8.93
48)		trans-1,3-dichl	0.417	0.394	0.381	0.365	0.342	0.329	0.363	8.71
49)		1,1,2-trichloro	0.473	0.474	0.460	0.452	0.466	0.468	0.471	2.79
E // \	T	Chlorobenzene-d5	·			Terr)			
50)		Toluene							0.743	8.52
51)	1	r OT Merre	V.040	0.100	J.,.J	~	, - <u>-</u>			

^{(#) -} Out of Range ### Number of calibration levels exceeded format ### Wed Mar 28 06:58:37 2018 MSD1 A318_1UG.M

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

1.5 =AP031804.D =AP031805.D 1.25 =AP031806.D 0.5 =AP031809.D 1 =AP031807.D 0.75 =AP031808.D

		Compound	2	1.5	1.25	1	0.75	0.5	Avg	%RSD
52)	T	Methyl Isobutyl	0.919	0.842						5.64
53)	T	Dibromochlorome	1.105	1.075	1,104		1.097		1.125	4.80
54)	${f T}$	Methyl Butyl Ke	0.851	0.742	0,768	0.724	0.681		0.715	10.02
55)	T	1,2-dibromoetha	0.866	0.841	0.841	0.843		0.825	0.848	2.73
56)	\mathbf{T}	Tetrachloroethy	0.598	0.576	0.578	0.576	0.577	0.599		7.74
57)	T	Chlorobenzene	1.154	1.116	1.113	1.122	1.096	1.078	1.124	4.62
58)	${f T}$	Ethylbenzene	1.848	1.715	1.651	1.538	1.444	1.337	1,526	12.89
59)	${f T}$	m&p-xylene	1.612	1.521	1,495	1.449	1.333	1.168	1.329	17.33
60)	Ť	Nonane	1.181	1,089	1.079	1.031	0.940	0.864	0.958	17.32
61)	T	Styrene		1,163	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)	Ť	o-xvlene	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)	Š	Bromofluorobenz	0.794	0.785	0.778	0.772	0.766	0.723	0,690	14.35
66)	\mathbf{T}	1,1,2,2-tetrach	1.384	1.357	1.381	1.419	1.415	1.481	1.459	7.60
67)	Ť	Propylbenzene		0.524		0.478	0.443	0.418	0.469	13.08
68)	T	2-Chlorotoluene	0.616	0.592	0.502	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)	Ť	1,3,5-trimethyl	1.958	1.865		1.828	1.731	1,616	1.693	14.32
71)	T	1,2,4-trimethyl	1.657	1,525			1,238	1.131	1.311	16.47
72)	Ť	1.3-dichloroben	1.239		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)	Ť	1,4-dichloroben	1.239	1.180	1,171	1.117	1.082	0.999	1.073	12.10
75)	Ť	1,2,3-trimethyl	1.784	1.667	1.534	1.576	1.471	1.274	1.449	18,56
76)	Ŧ	1,2-dichloroben				1.116	1.067	1.069	1.090	7.22
77)	Ť	1,2,4-trichloro		0.398	0.377	0.349	0.323	0.299	0.340	17.64
78)	Ť	Naphthalene		0.796	0.759	0.694	0.641	0.569	0.646	18.86
79)	$ar{\mathbf{r}}$	Hexachloro-1,3-		0.878				0.899	0.885	3.14

Data File : C:\HPCHEM\1\DATA\AP031804.D Vial: 4 Acq On : 18 Mar 2018 5:47 pm Operator: RJP : A1UG_2.0 : A318_1UG Sample Inst : MSD #1 Misc 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) : TO-15 VOA Standards for 5 point calibration Title

Last Update : Mon Mar 19 08:33:45 2018
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D
DataAcq Meth : LUG_RUN

Internal Standards		QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.49	120	50967	1 00 556	
35) 1 4-difluorobenzene	12.73	734	210664	1.00 ppb	0.00
<pre>35) 1,4-difluorobenzene 50) Chlorobenzene-d5</pre>	17.48	117	166843	dqq 00.1	0.00
7.4.1	A. / + T. G	etr eta 4	210664 166841	±.00 ppp	0.00
System Monitoring Compounds					
65) Bromofluorobenzene	19.21				0,00
Spiked Amount 1.000	Range 70	- 130	Recove	ry = 103	.00%
					A 3
Target Compounds	4 58		***	1 00	Qvalue
2) Propylene	4.57		126873	1.98 ppb	95
3) Freon 12	4.63		566028	1.96 ppb	
4) Chloromethane	4.84	50		2.01 ppb	
5) Freon 114	4.85	85	468698 119808	1.97 ppb	
6) Vinyl Chloride	5.06	62	119808	1.96 ppb	100
7) Butane	5.18			1.94 ppb	98
8) 1,3-butadiene	5.18	39	96192 154625	1.97 ppb	
9) Bromomethane	5.55	94	154625	2.06 ppb	100
10) Chloroethane	5.74	64	50602	2.03 စို့စုံစ	97
11) Ethanol	5.84	45	29812m / 32518	7 1.83 ppb	
12) Acrolein	6.46	56	32518	2.15 ppb	95
13) Vinyl Bromide	6.10	106	142191	2.04 ppb	
14) Freon 11	6.40	101 58	581181 38617	1.99 ppb	
15) Acetone	6.57	58	38617	2.06 ppb	
16) Pentane	6.69	42	80699 117298 156858	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	
19) Freon 113	7.41	101	377762	1.99 ppb	
20) t-Butyl alcohol	7.43 7.68	59	252646 148361	2.04 ppb	92
21) Methylene chloride	7,68	84	148361	2.04 ppb	
22) Allyl chloride	7.66	41	183542	1.94 ppb	
23) Carbon disulfide	7.85	76	343430 201759	2.03 ppb	
24) trans-1,2-dichloroethene			201759	2.01 ppb	
25) methyl tert-butyl ether	8.66	73	342194	2.11 ppb	88
26) 1,1-dichloroethane	9,08	63	313456 321947	2.02 ppb	
27) Vinyl acetate	9.06	43	321947	2.14 ppb	
28) Methyl Ethyl Ketone	9.57	72	69082 201433	2.15 ppb	
29) cis-1,2-dichloroethene		61	201433 208022	2.06 ppb	
30) Hexane	9.63	57	208022	2.04 ppb	96
31) Ethyl acetate	10.18	43	318091	2.08 ppb 1.99 ppb 2.15 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		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	
44) Trichloroethene	13.37		194412	2.03 ppb	93
45) 1,2-dichloropropane		63	184699		99

(#) = qualifier out of range (m) = manual integration AP031804.D A318_LUG.M Wed Mar 28 06:59:17 2018

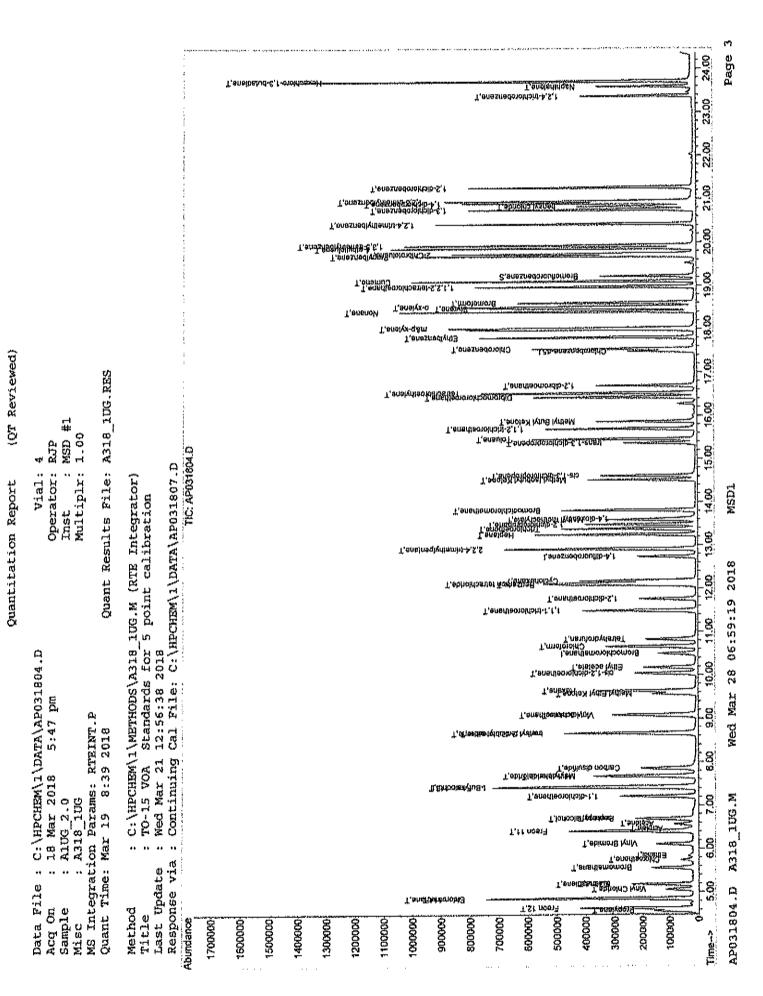
Page 1

Data File : C:\HPCHEM\1\DATA\AP031804.D Vial: 4 Operator: RJP Acq On : 18 Mar 2018 5:47 pm Sample : A1UG_2.0
Misc : A318_1UG
MS Integration Params: RTEINT.P Inst : MSD #1 Multiplr: 1.00

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\I\DATA\AP031807.D
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
461	Bromodichloromethane	12 00	83	389340	2.02 ppb	99
46)	cis-1,3-dichloropropene	13.80 14.51	75	245534	2.25 ppb	96
47) 48)	trans-1,3-dichloropropene	15.36		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)		14.51	43	306639	2.21 ppb	93
53)	Dibromochloromethane	16.43		368735	2.02 ppb	100
54)	Methyl Butyl Ketone	15,86	43	283807	2.35 ppb	94
55)	1,2-dibromoethane	16.69		289106	2.05 ppb	99
56)	Tetrachloroethylene	16.52	164	199489	2.08 ppb	99
57)	Chlorobenzene	17.53		385007	2.06 ppb	94
58)	Ethylbenzene	17.80	91	616655	2.40 ppb	98
59)	m&p-xylene	18.01		1075965	4.45 ppb	99
60)	Nonane	18.39		394211	2.29 ppb	6.5
61)	Styrene	18.47		412570	2.16 ppb	99
62)	Bromoform	18.60		360364	2.06 ppb	99
63)	o-xylene	18.50		600779	2.09 ppb	100
64)	Cumene	19.10		699652	2.37 ppb	99
66)	1,1,2,2-tetrachloroethane	18.97	83	461698	1.95 ppb	99
67)	Propylbenzene	19.68		190391	dqq 88, S	85
68)	2-Chlorotoluene	19.73	126	205452	2.12 ppb	94
69)	4-ethyltoluene	19.86	105	765965	2.27 ppb	300
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		401096	2.15 ppb	98
77)	1,2,4-trichlorobenzene	23,38	180	143843	2.47 ppb	97
78)	Naphthalene	23.59		280997m /		
79)	Hexachloro-1,3-butadiene	23,71	225	295829	2.06 ppb	98



Vial: 5 Data File : C:\HPCHEM\1\DATA\AP031805.D : 18 Mar 2018 Operator: RJP Acq On 6:28 pm Inst : MSD #1 : AlUG_1.50 Sample Misc : A318_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A318_1UG.RES Quant Time: Mar 19 08:34:41 2018

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		QIon	Response	Cone Ur	iits	Dev	(Min)
		470	61100				0.00
1) Bromochloromethane	10.50	774	51190 208236 167267	7.00	ממק		0.00
35) 1,4-difluorobenzene 50) Chlorobenzene-d5	12.73 17.48	117	167267	1.00	ppp		0.00
20) Curotobeuseue-da	17.40	·	10/20/	****	PPL		***
System Monitoring Compounds							
65) Bromofluorobenzene	19.22	95	131230	1.02	dqq		0.00
Spiked Amount 1.000	Range 70	- 130	Recove	ry =	102.	00%	
				-			
Target Compounds						Q٧٤	alue
2) Propylene	4.56	41	101405 432007 96298	1.58			90
3) Freon 12	4.62	85	432007	1.49			99
4) Chloromethane	4.84	50	96298	1.42	\mathbf{ppp}		98
5) Freon 114	4.85	85	347832 89793	1.45			98
Vinyl Chloride	5.05	52	89793	1,46			98 98
7) Butane	5.17	43	109918 71884 110011 36269	1.48			
8) 1,3-butadiene	5.18	39	71884	1.47	ppp		97
Bromomethane	5.55	94	110011	1.46	ppp		97 96
10) Chloroethane							96 86
11) Ethanol	5.85 6.45	45	22289 22898	1.36			96
12) Acrolein	6.45	56	22898	1.51			
13) Vinyl Bromide	5.10	1.06	106301 433197 28300	1.52			98
14) Freon 11	6.40	101	433197	1.47			100
15) Acetone	6.56	58	28300	1.50			85
16) Pentane	6.69	4.2	122620	2.96			96 93
17) Isopropyl alcohol	5.58	4.5	162878 113626	2.70			
18) 1,1-dichloroethene	7.20	96	113626	1.40			81 87
19) Freon 113	7.41	101	278168	1.46			
20) t-Butyl alcohol	7,44	59	278168 184003 109706	1.48	ppo	# #	80
21) Methylene chloride	7.68	84	109706	1.50			87
22) Allvi chioride	/.6/	41	134800	1.42			99
23) Carbon disulfide 24) trans-1,2-dichloroethene	7.85	76	134800 254743 150884	1.50 1.50	ppp		89
24) trans-1,2-dichloroethene	8.65	ρŢ	150884	7.50			84
25) methyl tert-butyl ether	8.66	/3	245031 231620 229046	1.51			1.00
26) 1,1-dichloroethene	9.08 9.06	63	23104U	1.48 1.51			95
27) Vinyl acetate	9.06	43	7577C	1.51			
28) Methyl Ethyl Ketone	70.57	/ A	48709 145171	1.48			90
29) cis-1,2-dichloroethene	9.63	6.T	153815	1.50			97
30) Hexane	7.03	43 43	153815 231418 275518 109467	1.51			99
31) Ethyl acetate	10.55	43	227470	1.47			100
32) Chloroform33) Tetrahydrofuran	10.00	43	100467	1.53			84
33) Teeranydrotutan	11.76	62	175068	1.48			99
34) 1,2-dichloroethane 36) 1,1,1-trichloroethane	11.49						
	12.17	56	151260	1,58	daa		87
37) Cyclohexane 38) Carbon tetrachloride	12.12	117	289277	1,51	ppp		98
	12.08	78	326985	1.53			98
39) Benzene	13.58	41	132891	1.69		#	85
40) Methyl methacrylate	13.61	88	68256	1.62			88
41) 1,4-dioxane 42) 2,2,4-trimethylpentane	12.91	57		1.57			97
	13,24	43	181014	1.65			86
43) Heptane 44) Trichloroethene	13.38		146288				94
45) 1,2-dichloropropane		63	138823	1.58			100
45) 1,2-dicintoropropane							

(#) = qualifier out of range (m) = manual integration Wed Mar 28 06:59:21 2018 AP031805.D A318_1UG.M

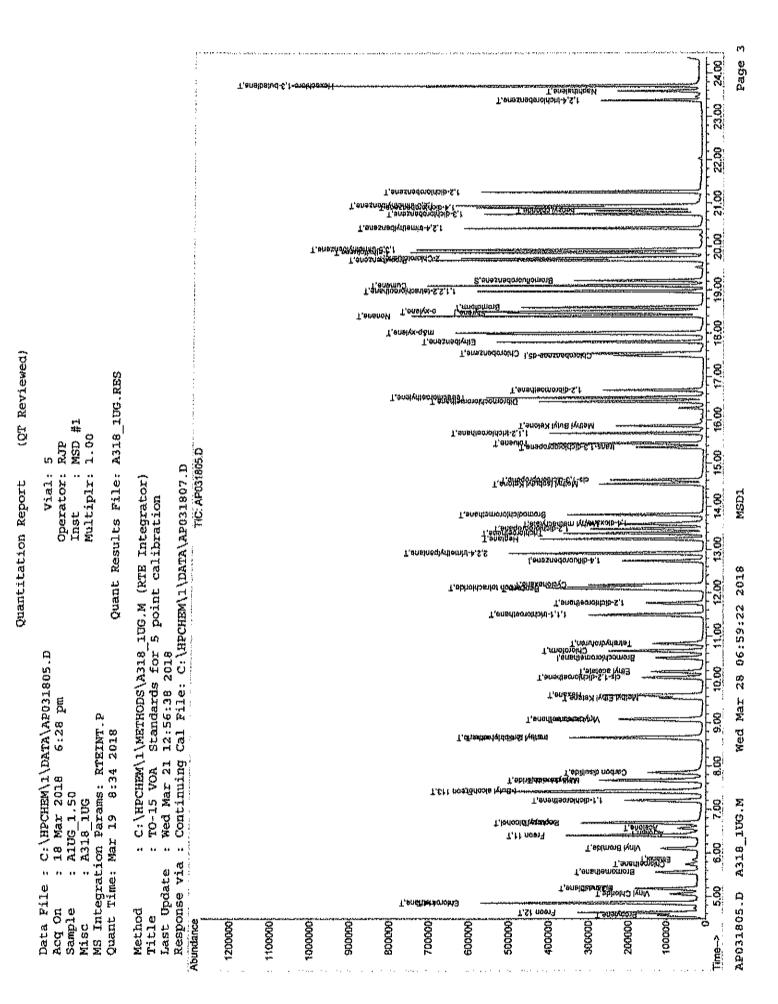
Vial: 5 Data File : C:\HPCHEM\1\DATA\AP031805.D Acq On : 18 Mar 2018 6:28 pm Sample : AlUG_1.50 Misc : A318_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A318_1UG.RES Quant Time: Mar 19 08:34:41 2018

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

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
4.5		10 00		288092	1 21 444	99
46)		13.80	83	175264	1.51 ppb 1.63 ppb	97
47)	cis-1,3-dichloropropene	14.61	75		1.62 ppb	97
48)	trans-1,3-dichloropropene	15.36	75	122974		100
49)	1,1,2-trichloroethane	15.69	97	148122	1.57 ppb	99
51)	Toluene	15.45	92	200346	1.59 ppb	91
52)	Methyl Isobutyl Ketone	14.51	43	211228	1.52 ppb	100
53)	Dibromochloromethane	16.43	129	269609	1.47 ppb	93
54)	Methyl Butyl Ketone	15.86	43	186079	1.54 ppb	99
55)	1,2-dibromoethane	16.69	107	211071	1.50 ppb	98
56)	<u>-</u>	16.52	164	144405	1.50 ppb	94
57)	Chlorobenzene	17.54	112	280498	1.49 ppb	
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		273193	1.58 ppb	85
61)	Styrene	18.47	1.04	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	19.66	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



Data File : C:\HPCHEM\1\DATA\AP031806.D Acq On : 18 Mar 2018 7:09 pm Sample : AlUG_1.25 Vial: 6 Operator: RJP Inst : MSD #1 Misc : A318_1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A318_1UG.RES Quant Time: Mar 19 08:34:24 2018

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			Response		nits	Dev	(Min)
					daa		0.00
35) 1.4-difluorobenzene	12.74	114	51032 209013	1.00	dag		0.00
 Bromochloromethane 1,4-difluorobenzene Chlorobenzene-d5 	17.48	117	161243	1.00	daa		0.00
					# 4		
System Monitoring Compounds							
65) Bromofluorobenzene	19.22			1.01	dqq .		0.00
Spiked Amount 1.000	Range 70	- 130	Recove	ry ≠	101	.00%	
Target Compounds							alue
Propylene	4.56	41	80709 355209	1.26	ppb		95
3) Freon 12	4.62	85	355209	1.23	ppb		99
4) Chloromethane	4.84	50	84456 288644 75167	1.25	dag		100
5) Freon 114	4.85 5.05	85	288644	1.23	dqq .		98 97
6) Vinyl Chloride		62	75167	1.23	dqq		
7) Butane	5.18	43	91267	3.23	ppb		98
8) 1,3-butadiene	5.18 5.56	39	91267 58373 93300	1.20	dqq		100
9) Bromomethane	5.56	94	93300	1,24	dqq		97 81
10) Chloroethane	5.75	64 45 56	30460 20169m/	1.22	ppb		OT
11) Ethanol	5.84	45	2016am t	1.24	ppb		0.1
12) Acrolein	6.46	56	18750	1.24	ppb		91
13) Vinyl Bromide	6,11	106	88023	1.20	dqq		98
14) Freon 11	6.40	101	88023 355314 24090	1.21	. ppb	11	100
15) Acetone	6.57	58	24090	1.46	ppb		80
16) Pentane	6.70	42	49591 72466	3.20	ppb		95 98
17) Isopropyl alcohol	6.68	45	72466	7.20	dqq		84
18) 1,1-dichloroethene	7.20	96	99749	1.4	ppb		88
19) Freon 113	7.41	7.0 T	236964 160875	1.24	dqq		93
19) Freon 113 20) t-Butyl alcohol 21) Methylene chloride	7.44	23	90524	1.43	ppb	#	
21) Methylene Chioride	7.08	84	772104	7.40	dqq :		85
www write curoting	7.66 7.85	41 76	113184 213760	1 26	dqq		98
23) Carbon disulfide 24) trans-1,2-dichloroethene	7.03	61	123758	1 23	pp		89
24) Crans-1,2-dichrotoethene	0.05		204567	1 26	qqq		86
25) methyl tert-butyl ether 26) 1,1-dichloroethane	0.07	63	204567 192673	1 24	ppp		99
26) 1,1-dichloroethane 27) Vinyl acetate	9.06	43	188061	ጎ ጋር	ppb		93
2/) Villyi accure	9.00		40253	1 20	ppb		
28) Methyl Ethyl Ketone 29) cis-1,2-dichloroethene	30.04	67	40251 121638	3 24	dqq		90
30) Hexane	9.63	57	126240	1.24	dqq		97
31) Ethyl acetate	9.05 91 At	43	190401	1 24	ppb		98
32) Chloroform	10.56	83	190401 232403	1.24	ppb		99
33) Tetrahydrofuran	70.83	42	88884	1.25	ppb		84
34) 1,2-dichloroethane	11.76	62	88884 144615	1.23	dqq		99
36) 1,1,1-trichloroethane	11.49	97	217079	1.23	dqq		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	dqq		98
40) Methyl methacrylate	13.59	41	104107		dqq		85
41) 1,4-dioxane	13.62	88	54189	1.28	dąą		87
42) 2,2,4-trimethylpentane	12.91	57	104107 54189 408726	1.28	dqq		99
43) Heptane	13,24	43	142018		dqq		88
44) Trichloroethene	13.38		117723		ppb		94
45) 1,2-dichloropropane	13.48	63	117723 111174		ppb		99

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

AP031806.D A318_1UG.M Wed Mar 28 06:59:24 2018

MS Integration Params: RTEINT.P

Quant Time: Mar 19 08:34:24 2018 Quant Results File: A318_1UG.RES

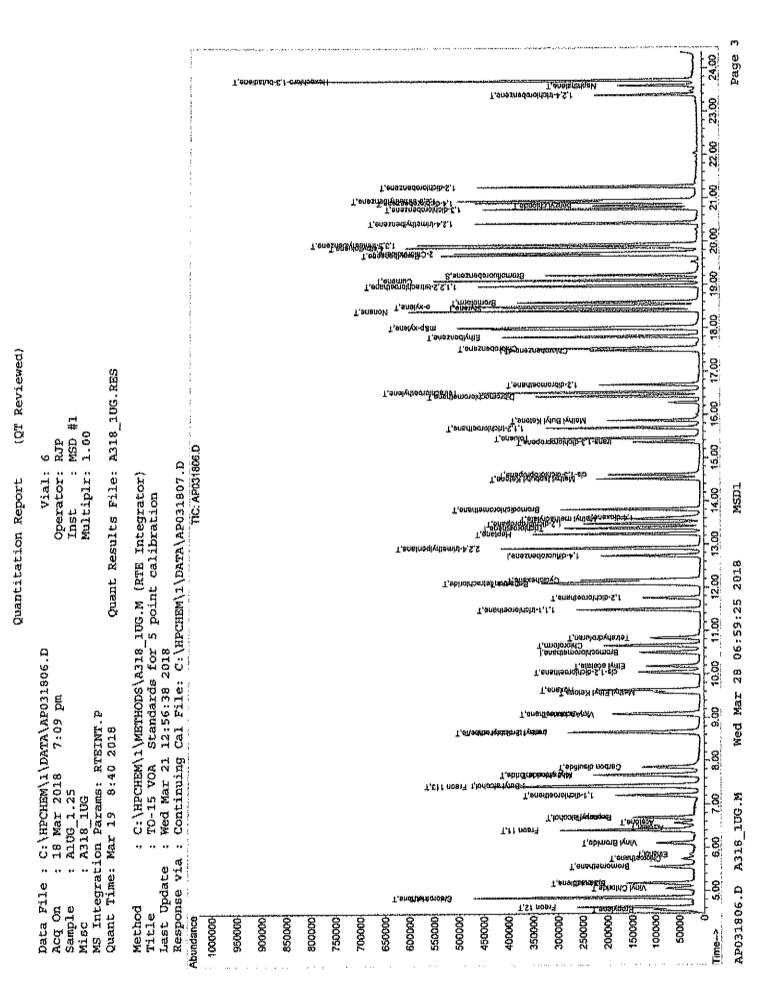
Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Mon Mar 19 08:33:45 2018

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D

Compound	R.T.	QIon	Response	Cone Unit	Qvalue
ACL Decomposing law and the second		83	237460	7 24 nnh	99
46) Bromodichloromethane	13.81		139424	1.24 ppb 1.29 ppb	96
47) cis-1,3-dichloropropene	14.61	75 75		1.31 ppb	98
48) trans-1,3-dichloropropene	15.36	75 97	99658 120085		98
49) 1,1,2-trichloroethane	15.69	97		1.27 ppb 1.29 ppb	99
51) Toluene	15.46	92	155862 171648	1.28 ppb	91
52) Methyl Isobutyl Ketone	14.51	43			98
53) Dibromochloromethane	16.42	129	222616 154812	1.26 ppb 1.33 ppb	91
54) Methyl Butyl Ketone	15.86	43			98
55) 1,2-dibromoethane	16.69		169571		98
56) Tetrachloroethylene	16.52	164	116527	1.26 ppb	94
57) Chlorobenzene	17.54		224429	1.24 ppb	98
58) Ethylbenzene	17.80	91	332813	1.34 ppb	99
59) m&p-xylene	18.01		602639	2.58 ppb	84
60) Nonane	18.39		217563	1.31 ppb	99
61) Styrene	18.47		232973	1.26 ppb	99
62) Bromoform	18.60		209084	1.23 ppb	
63) o-xylene	18.51	91	350846	1.26 ppb	100
64) Cumene	19.10		376696	1.32 ppb	100
66) 1,1,2,2-tetrachloroethane	18.97	83	278418	1.22 ppb	99
67) Propylbenzene	19.68		102030	1.32 ppb	84
68) 2-Chlorotoluene	1.9.73		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		236093	1.31 ppb	99
75) 1,2,3-trimethylbenzene	20.95		329296	1.30 ppb	700
76) 1,2-dichlorobenzene	21.26		230811	1.28 ppb	99
77) 1,2,4-trichlorobenzene	23.38		75954	1.35 ppb	99
78) Naphthalene	23.59		152973	1.37 ppb	95
79) Hexachloro-1,3-butadiene	23.71	225	172651	1.24 ppb	98

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AP031806.D A318_LUG.M Wed Mar 28 06:59:24 2018 MSD1



Vial: 7 Data File : C:\HPCHEM\1\DATA\AP031807.D Acq On : 18 Mar 2018 7:48 pm Operator: RJP Inst : MSD #1 : A1UG_1.0 : A318_1UG Sample Multiplr: 1.00 Misc

MS Integration Params: RTEINT.P

Quant Results File: A318_1UG.RES Quant Time: Mar 19 08:33:58 2018

Quant Method : C:\HPCHEM\1\METHODS\A318__IUG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration Title

Last Update : Mon Mar 19 08:33:45 2018

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AP031807.D

DataAcg Meth : 1UG RUN

Inte	rnal Standards	R.T.	QIon	Response	Conc U	nits	Dev	(Min)
				49633	1 00	 		0.00
1/	Bromochloromethane	10.42	111	49622 205236 155903	1.00	non		0.00
35)	1,4-difluorobenzene Chlorobenzene-d5	17.48	717	155903	3.00	daa		0.00
50)	CHIOLODGUSene-03	11,140	44.	200000	2.00	L L		
	em Monitoring Compounds							
	Bromofluorobenzene	19.21	95	120375				0.00
Sp	iked Amount 1.000	Range 70	- 130	Recove	ry =	100	.00%	
							/Nr.	alue
	et Compounds	4,56	41	62241	1.00	daa		98
	Propylene	4.63	85	62241 281128	1.00			100
	Freon 12	4.84	50	65633	1.00	pp		97
	Chloromethane		85	22222	1.00			99
	Freon 114	4.85 5.06	62	232191 59422	1 00			99
	Vinyl Chloride	00.0	43	72138 47497 73191 24252 15850 14714	1.00			98
	Butane	5.18	4.3	72130	1.00	Thr		96
	1,3-butadiene	5.18 5.56	39	47477	1.00	વવવ		99
	Bromomethane	5.56	94	73191	1.00	ppp		
	Chloroethane	5.75	64	24252	1.00			98
	Ethanol	5.84	45	15850	1.00	ppp		
	Acrolein	6.47	56	14714	1.00			93
	Vinyl Bromide	6.11	1,06	67822	1,00			95
14)	Freon 11	6.40	101	67822 284917 18257	1.00			100
15)	Acetone	6,57	58	18257	1.00			90
	Pentane	6.70	42	40099 58530 78622	1.00	dqq		96
17)	Isopropyl alcohol	6.69	45	58530	1.00	dqq		99
701	1 1 - dichlaraethere	7.20	96	78622	1.00	ppb	Ħ	85
19)	Freon 113 t-Butyl alcohol Methylene chloride	7.41	101	185264	1.00	ppb		88
20)	t-Butvl alcohol	7.44	59	120830	1.00	ppb	#	88
231	Methylene chloride	7.67	84	70792	1.00	dqq	#	77
221	Allyl chloride	7.66	41	92274	1.00			84
	Carbon disulfide	7.85	76	92274 165081 97533	1.00			88
24	trans-1,2-dichloroethene	8.65	61	97533	1.00	daa		87
261	methyl tert-butyl ether	8 66	73	157817	1.00	daa		84
221	meenya cere-bacya cemer	0.00 0.00		157817 151395	1.00	daa		100
20/	1,1-dichloroethane Vinyl acetate	9.06	43	146808	1.00	daa		94
2//	Methyl Ethyl Ketone	9.57	72	31281	1,00			
28)	Mecual graph recore	3.57	61	31281 95358	1.00			89
	cis-1,2-dichloroethene	9.63	¢.2	99088	1.00			97
30)	Hexane	7,03	43	1/60/00	1.00			96
31)	Ethyl acetate Chloroform Tetrahydrofuran 1,2-dichloroethane	10.10	43	140002	1.00	ppb		99
32)	Curolororu	10.66	40	102203	1.00	DD:		79
33)	Tetranydroturan	10.84	42	07341	1.00	FFT		99
34)	1,2-dichioroethane	77.76	5 Z	T14007	1.00			
	1,1,1-trichloroethane			173362	1.00	ppp		87
37)	Cyclohexane	12,17	56	94630	1.00	PDD		99
	Carbon tetrachloride	12.11	1.1.7	188787	1.00			
	Benzene	12.08	78	211165	1.00			98
	Methyl methacrylate	13.59	41	77578	1,00	ppo	#	81
41)	1,4-dioxane	13.62	88	41640	1.00	ppo		84
42)	2,2,4-trimethylpentane	12.91	57	313051	1.00			97
	Heptane	13.24	43	108426	1.00			87
44)	Trichloroethene	13.37	130	93392	1.00			95
45)	1.2-dichloropropane	13.48	63	DOSTO	*.00			100

^{(#) =} qualifier out of range (m) = manual integration AP031807.D A318_1UG,M Wed Mar 28 06:59:27 2018

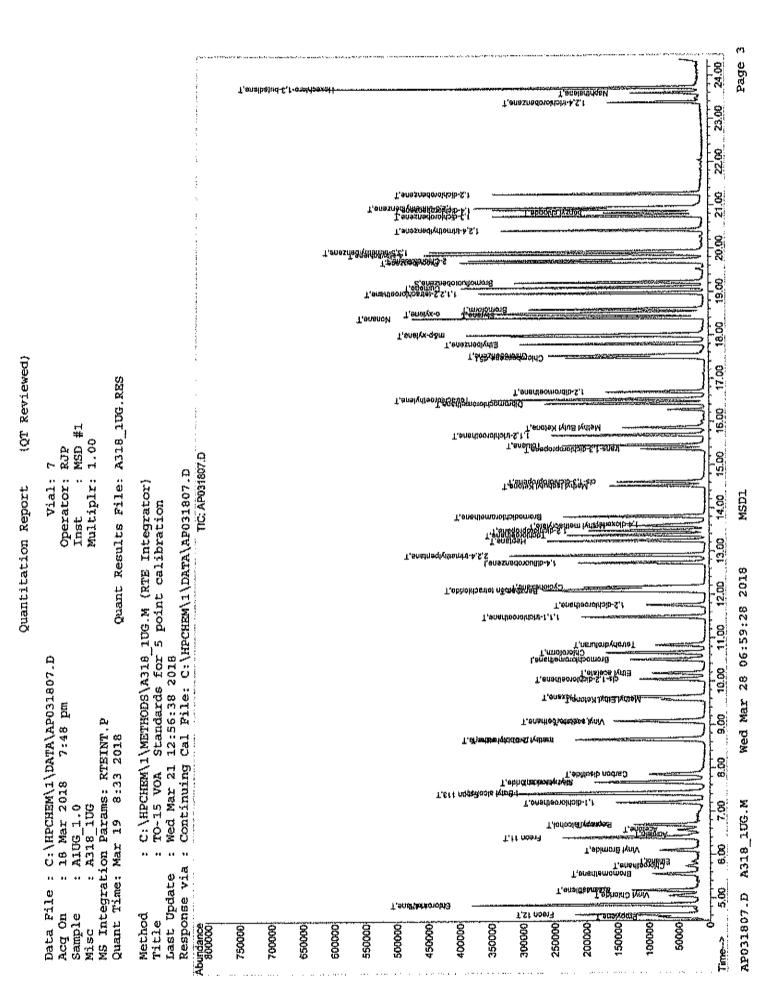
Vial: 7 Data File : C:\HPCHEM\1\DATA\AP031807.D Acq On : 18 Mar 2018 7:48 pm Sample : AlUG_1.0 Misc : A318_1UG Operator: RJP That : MSD #1 Multiplr: 1.00

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

	Compound	R.T.	QIon	Response	Cone Unit	Qvalue
461	Bromodichloromethane	13.81	83	187818	1.00 ppb	99
46)	*****	14.60	75	106128	1.00 ppb	97
47)	cis-1,3-dichloropropene trans-1,3-dichloropropene	15.37		74885	1.00 ppb	98
48)		15.69	97	92692	1.00 ppb	99
49)	1,1,2-trichloroethane	15.45	92	117111	1.00 ppb	100
51)	Toluene	14.51	43	129739	1.00 ppb	90
52)	Methyl Isobutyl Ketone	16.42	129	170691	1.00 ppb	99
53)	Dibromochloromethane	15.87	43	112943	1.00 ppb	90
54)	Methyl Butyl Ketone	16.69	107	131477	1.00 ppb	99
55)	1,2-dibromoethane	16.52	164	89724	1.00 ppb	97
	Tetrachloroethylene Chlorobenzene	17.53		174911	1.00 ppb	94
		17.80	91	239806	1.00 ppb	100
	Ethylbenzene	18.01	91	451935	2.00 ppb	99
59)	m&p-xylene	18.40		160690	1.00 ppb	84
60)	Nonane	18.47		178893	1.00 ppb	99
61)	Styrene	18.60		163797	1.00 ppb	100
62)	Bromoform	18.50	91	269049	1.00 ppb	100
63)	o-xylene			275349	1.00 ppb	99
64)	Cumene	19.10 18.97	83	221158	1.00 ppb	وَّوَ
66)	1,1,2,2-tetrachloroethane	19.68		74467	1.00 ppb	81
67)	Propylbenzene	19.73	126	90476	1.00 ppb	93
68)	2-Chlorotoluene	19.86	105	315348	1.00 ppb	99
69)	4-ethyltoluene	19.93	105	285012	1.00 ppb	99
70)	1,3,5-trimethylbenzene	20.42	105	208516	1.00 ppb	100
71)	1,2,4-trimethylbenzene	20.75	146	178944	1.00 ppb	98
72)	1,3-dichlorobenzene	20.75	91	141324	1.00 ppb	97
73)	benzyl chloride	20.90		174182	1.00 ppb	98
74)	1,4-dichlorobenzene	20.95	105	245637	1.00 ppb	99
75)	1,2,3-trimethylbenzene		146	174055	1.00 ppb	98
76)	1,2-dichlorobenzene	21.27		54418	1.00 ppb	99
	1,2,4-trichlorobenzene	23.38	180 128	108235	1.00 ppb	95
78)	Naphthalene	23.59	225	134494	1.00 ppb	98
79)	Hexachloro-1,3-butadiene	23.71	~ ~ 3	エコネオンス	مريزي ٢٠٥٠	- 0



Page 81 of 148

Data File : C:\HPCHEM\1\DATA\AP031808.D Vial: 8 Operator: RJP Acq On : 18 Mar 2018 8:27 pm Sample : AlUG_0.75 Misc : A318_lUG Inst : MSD #1 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

DataAcg Meth : 1UG RUN

DataA	.cq Meth : 1UG_RUN							
Inte	rnal Standards		QIon	Response (Conc Ur	its	Devi	(Min)
1)	Bromochloromethane	10.49	128	49170	1.00	ppb		0.00
35)	1,4-difluorobenzene	12.74	114	201576	1,00	dqq		0.00
50)	Bromochloromethane 1,4-difluorobenzene Chlorobenzene-d5	17.48	117	152194	1.00	ppb		0.00
	em Monitoring Compounds							
	Bromofluorobenzene	19.21						0.00
Sp	iked Amount 1.000	Range 70	- 130	Recovery	Y ==	99.	00%	
	et Compounds						Qva	lue
	Propylene	4.57		44573	0.72	ppb		99
	Freon 12	4.63	85	209721	0.75	dqq		99
	Chloromethane	4.85	50	49972 175066 44113	0.77	ppb		98
	Freon 114	4.85	65	175066	0.76	ppp		99
	Vinyl Chloride	5.07	62	44113	0.75	bbp		96
	Butane	5.18	43	54085 33577 53405	0,76	cqqq		100
	1,3-butadiene	5.17	39	33577	0.71	ppb		94
	Bromomethane	5.55	94	53405	0.74	dad		97
	Chloroethane	5.74		18114	0.75	ppp		89
-	Ethanol	5.85	45	10726 11856m / 0	0.68	ppo		82
	Acrolein	6.47	56	11856m'	0.81			
	Vinyl Bromide	6.10	106 101	51621 211337	0.77	bbp		98
	Freon 11	6.40	101	211337	0.75	ББр		98
15)		6.57	58	14258	0.79	ppb		88
	Pentane	6.69	42	29644 45419	0.75	ppp		90
	Isopropyl alcohol	6.69	45	45419	0.78	dqq		97
	1,1-dichloroethene	7.21	96	59071	0.76			84
19)		7.41 7.44	101	138918 93374	0.76			88
20)	t-Butyl alcohol	7.44	59	93374	0.78			91
21)	Methylene chloride	7.68	64	54892 63984 127162	0.78	qqq	#	
	Allyl chloride	7.66 7.86	41	63984	0.70	dąą		85
	Carbon disulfide		76	127162	0.78			100
	trans-1,2-dichloroethene		61 ,	73162 119349 112986	0.76			87
25)	methyl tert-butyl ether 1,1-dichloroethane	8.67	73	119349	0.76	bbp		84
			63	112986	0.75	ppp		99
411	ATITAT SCECACE	9.00	43	102261	0.70			89
28)	Methyl Ethyl Ketone	9.57	72	23065 69427	0.74			
	cis-1,2-dichloroethene	10.05	61	69427	0.73	ppo		91
	Hexane	9.63	57	70361 107120 135289	0.72	ppp		97
	Ethyl acetate	10.18	43	107120	0.73	ppp		97
	Chloroform			135289	0.75	ppp		99
33)	Tetrahydrofuran	10.83	42	50958	0.74	ppp		82
	1,2-dichloroethane				0.74	pp		100
	1,1,1-trichloroethane	11.49	97	127003	0.75	ppb		100
	Cyclohexane	12.17	56	67780	0.73	ppp		88
	Carbon tetrachloride	12.11	117	136561	0.74	aqq		99
39)	Benzene	12.08	78	153355	0.74		ы	97 0.5
	Methyl methacrylate	13.59	41	55246	0.73	agg	#	86
	1,4-dioxane	13.62	88	30494	0.75	ppp		77
42)	2,2,4-trimethylpentane	12.91	57	222529	0.72	ppp		95
	Heptane	13.24	43	76785	0.72			87
	Trichloroethene	13.37	130	68123	0.74			93
45)	1,2-dichloropropane	13.48	63	65142				99
	· · · · · · · · · · · · · · · · · · ·							

^{(#) =} qualifier out of range (m) = manual integration AP031808.D A318_1UG.M Wed Mar 28 06:59:31 2018

Vial: 8 Data File : C:\HPCHEM\1\DATA\AP031808.D Acq On : 18 Mar 2018 Sample : A1UG 0.75 Misc : A318 1UG Operator: RJP 8:27 pm Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

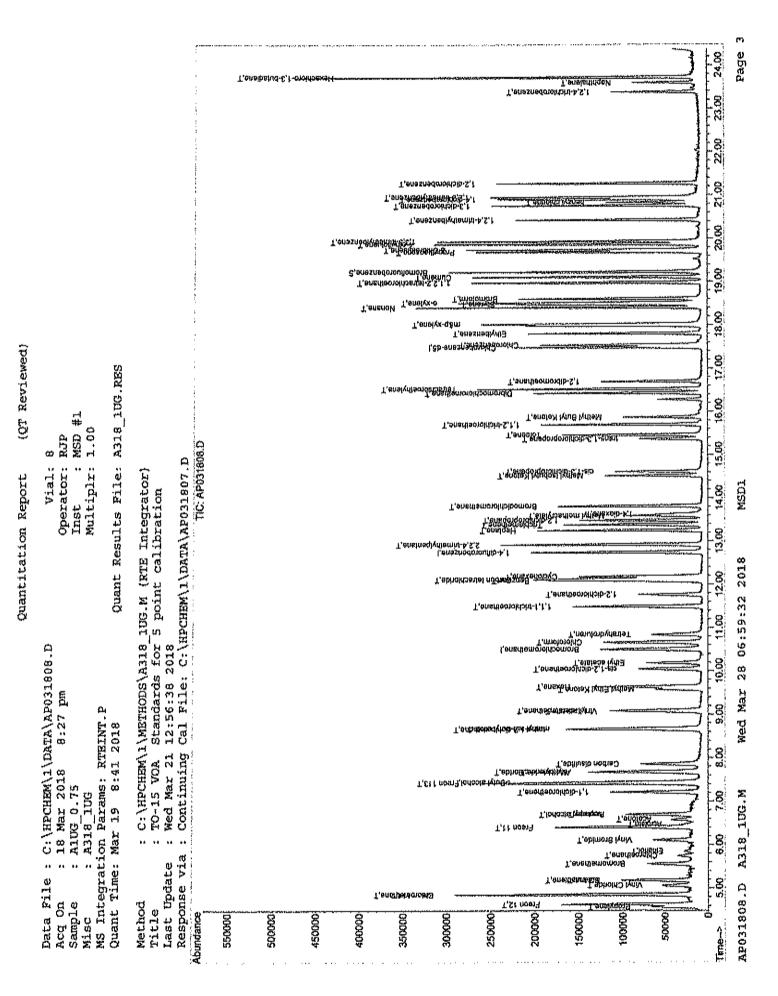
Quant Results File: A318_1UG.RES Quant Time: Mar 19 08:35:43 2018

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

	Compound	R.T.	QIon	Response	Cone Unit	Qvalue
46)	Bromodichloromethane	13.80	93	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		94325	0.73 ppb	99
56)	Tetrachloroethylene	16.52		65902	$0.75 \stackrel{\frown}{ppb}$	96
57)		17.54		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		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)		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		121765	0.72 ppb	98
77)	1,2,4-trichlorobenzene	23.38		36872	0.69 ppb	99
78)	Naphthalene	23.59		73133	0.69 ppb	90
79)	Hexachloro-1,3-butadiene	23.72	225	98159	0.75 ppb	98

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AP031808.D A318_1UG.M Wed Mar 28 06:59:31 2018 MSDL



Page 84 of 148

Vial: 9 Data File : C:\HPCHEM\1\DATA\AP031809.D : 18 Mar 2018 : Alug_0.50 Operator: RJP Acq On 9:05 pm Inst : MSD #1 Sample Misc : A318_lUG Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A318_1UG.RES Quant Time: Mar 19 08:36:20 2018

Quant Method: C:\HPCHEM\l\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\l\DATA\AP031807.D

DataAcq Meth : 1UG RUN

Internal Standards		QIon	Response	Cone U	nits	Dev	(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.50	128	49052	1.00	daa		0.00
35) 1.4-difluorobenzene	12.73	114	195249	1.00	daa		0.00
50) Chlorobenzene-d5	17.48	117	143473	1.00	ppb		0.00
Jo, directordinate de	2011						
System Monitoring Compounds							
65) Bromofluorobenzene	19,21	95			dqq		0.00
Spiked Amount 1.000	Range 70	- 130	Recover	ry ≂	94.	00%	
						_	
Target Compounds						QV	alue
2) Propylene	4.57		31577				93 98
3) Freon 12	4.63		141953				99
4) Chloromethane	4.84		33370	0.51 0.51			100
5) Freon 114	4.85 5.07	85 62	116181 30088	0.51	PDP		98
6) Vinyl Chloride 7) Butane	5.19	4.3 4.3	36043	0.52			97
	5.19		36943 24589 36934	0.52			98
8) 1,3-butadiene	5.56	33	26024	0.51			97
9) Bromomethane	5.75	74 64	12818	0.53			97
10) Chloroethane		64 45	8383m /	0.54			
11) Ethanol	5.85 6.47	45	9079m /	0.56			
12) Acrolein	6.11	106	8078m / 34482	0.51			98
13) Vinyl Bromide		106 101	142743	0.51			100
14) Freon 11	6.40 6.59	58	9076	0.50			95
15) Acetone	6.22	42					98
16) Pentane 17) Isopropyl alcohol	6.70 6.70	45	20784 30507	0.53			97
18) 1,1-dichloroethene	7.20		38112	0.49			85
	7.41	101	30112 99971	0.50			88
19) Freon 113 20) t-Butyl alcohol	7,44	59	92271 61070	0.51	DDP.		93
		84	36034	0.51			78
21) Methylene chloride 22) Allyl chloride	7.66	43	42714	0.47			85
23) Carbon disulfide	7.86	41 76	42714 85207	0.52	bbp.		100
24) trans-1,2-dichloroethene		61	45296				91
25) methyl text-butyl ether			75848	0.49			80
26) 1,1-dichloroethane	8.67 9.09	63	75848 74889	0.50			99
27) Vinyl acetate	9,07	43	65653				86
28) Methyl Ethyl Ketone	9.58	72	15659				100
29) cis-1,2-dichloroethene	10.04	61	15659 46201	0.49			8.9
30) Hexane	9.64	57	46427	0.47			95
31) Ethyl acetate		43	72336	0.49			99
32) Chloroform	10.19 10.65	83	72336 89224	0.50			100
33) Tetrahydrofuran		42	31719	0.46			82
34) 1,2-dichloroethane	11.76	42 62	57431	0.51	daa		97
36) 1,1,1-trichloroethane			85115		daa		97
37) Cyclohexane	12.17	56	42154	0.47	daa		86
38) Carbon tetrachloride	12.11	117	91492	0.51	dag		99
39) Benzene	12.08	78	102803	0.51			98
40) Methyl methacrylate	13.59	41	34591	0.47	daa	#	82
41) 1,4-dioxane		88	18690	0.47	ppb		80
42) 2,2,4-trimethylpentane	12.91	57	143185	0.48	dqq		97
43) Heptane	13.24	43	47912	0.46			85
44) Trichloroethene	13.38	130	43927	0.49	dqq		94
45) 1,2-dichloropropane	13.48	63	47912 43927 42188	0.51			98

(#) = qualifier out of range (m) = manual integration Wed Mar 28 06:59:35 2018 AP031809.D A318_1UG.M

MS Integration Params: RTEINT.P

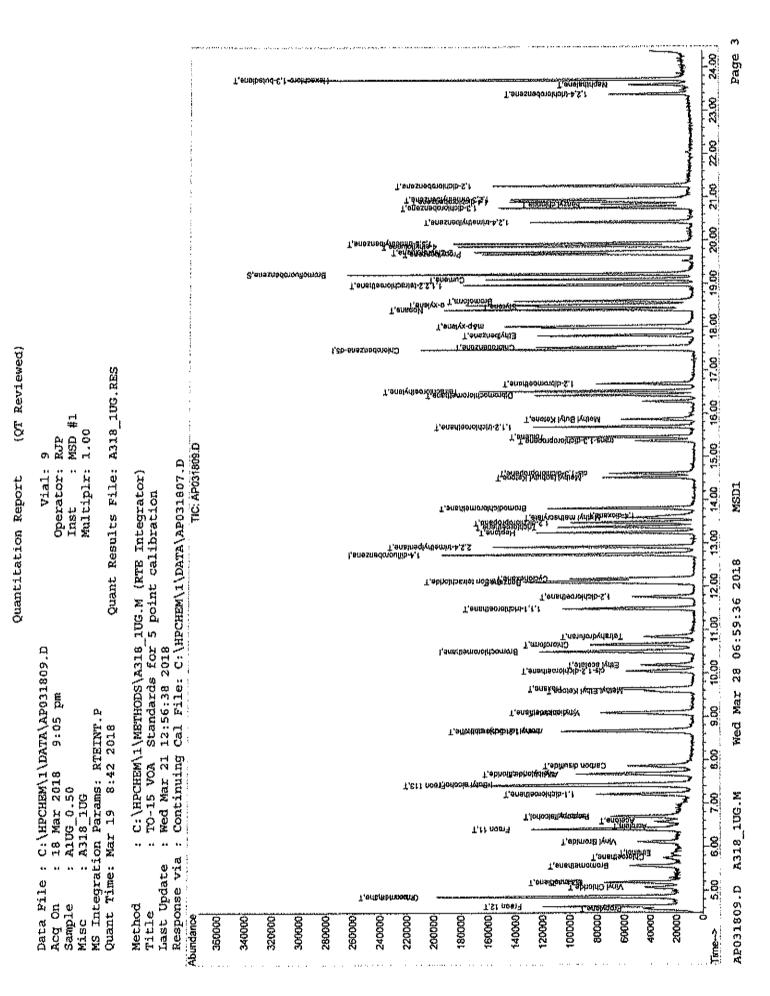
Quant Time: Mar 19 08:36:20 2018 Quant Results File: A318_1UG.RES

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

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.81	83	88922	0.50 ppb	99
	cis-1,3-dichloropropene	14.61	75	46908	0.46 ppb	96
48)		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)		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	1.05	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 დებ	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



Page 87 of 148

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		Conc U		Dev	(Min)
1) Bromochloromethane	10.49	128	45565	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.73	114	185586		dqq		0.00
50) Chlorobenzene-d5	17.48	117	136295	1.00	dqq		0.00
System Monitoring Compounds							
65) Bromofluorobenzene	19.21	95			ppb		0.00
Spiked Amount 1.000	Range 70	- 130	Recover	Y **	89	.00₹	
**							
Target Compounds						Qva	alue
<pre>2) Propylene</pre>	4.57	41.	19407				92
3) Freon 12	4.63	85	80730	0.31			99
4) Chloromethane	4.85	50 85	26121 81099	0,43	$_{ m ppb}$		99
5) Freon 114	4.85	85	81099	0.38	dqq		95
6) Vinyl Chloride	5.06	62	22133	0.41	dqq		95
7) Butane	5.19	43	26441	0.40			93
8) 1,3-butadiene	5,19	39	22133 26441 18180 25367 8607	0.42	ppb		97
9) Bromomethane		94	25367	0.38			96
10) Chloroethane	5.57 5.74	64	8607	0.39	daa		91
11) Ethanol	5 84	45	5883m P	0.40			
12) Acrolein	6.47	56	5667m	0.42			
13) Vinyl Bromide	6,11	106	5667m 21376 90270	0.34			98
14) Freon 11	6.41	101	90270	0.35			99
15) Acetone	6.59	202	E402m	0.33			
• •		 	207000	0.49			
16) Pentane	6.69 6.70	58 42 45	5492m 18190m 24145m	0.45			
17) Isopropyl alcohol	0.70	45	22E20	ביביים			85
18) 1,1-dichloroethene	7.22	96	22570 56387	0.31	PPN	11	86
19) Freon 113	7.41 7.45		5050/	0.33			85
20) t-Butyl alcohol	7.45	59	34535	0.31			
21) Methylene chloride	7.68 7.67	84	22329 25119	0.34	ppp	#	81 79
22) Allyl chloride	7.67	41.	25119	0.30			
23) Carbon disulfide	7.85	76	52532	0.35			87
24) trans-1,2-dichloroethene 25) methyl tert-butyl ether 26) 1,1-dichloroethane	8,65	61 73	27086 43958	0.30	ppo		91
25) methyl tert-butyl ether	8.68	73					76
26) 1,1-dichloroethane	9.09	63	44444	0.32			98
27) Vinvi acetate			37629 8524	0.28	$_{\rm ppp}$		94
28) Methyl Ethyl Ketone	9,58	72	8524				
29) cis-1,2-dichloroethene	10.04	61	26769	0.31	qqq		92
30) Hexane	9.64	57 43	27646 41229	0.30	dqq		98
31) Ethyl acetate	10.18	43	41229	0.30	ppb		89
32) Chloroform	10.66	83 42 62	55164		ppb		100
33) Tetrahydrofuran	10.84	42	19366 32988	0.30			79
34) 1,2-dichloroethane	11.76	62	32988	0.31	dqq		99
36) 1,1,1-trichloroethane	11.49	97	50617	0.32			98
37) Cyclohexane	12.18	56	24531	0.29	daa		87
38) Carbon tetrachloride	12.12	117	54344	0.32	ppb		99
39) Benzene	12.08	78	58979	0.31			98
40) Methyl methacrylate	13.58	41	19222	0.27		#	84
41) 1,4-dioxane	13.54	88	9838	0.26		**	86
AS S S A - buduabhedhants-	12.91	57	79692	0.28			90
42) 2,2,4-trimethylpentane		43	26126	0.27			87
43) Heptane	13.25						95
44) Trichloroethene	13,38		26138	0.31			67
45) 1,2-dichloropropane	13.47	63	26203	0.33	Իրս		

(#) = qualifier out of range (m) = manual integration AP031810.D A318_LUG.M Wed Mar 28 06:59:38 2018

MS Integration Params: RTEINT.P

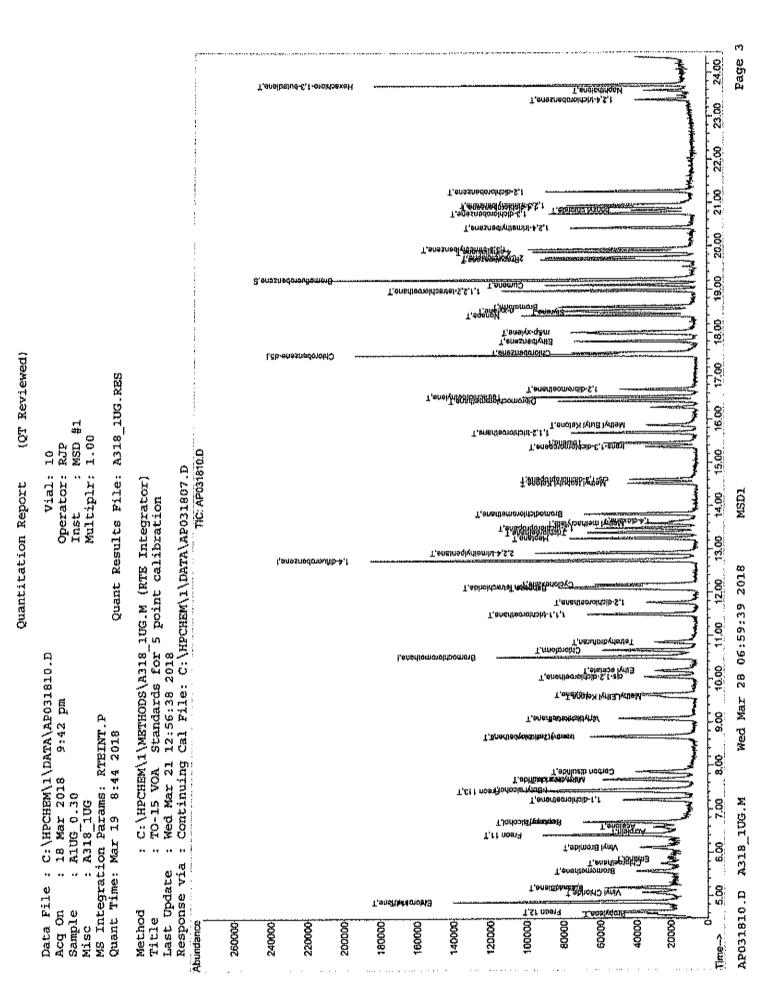
Quant Time: Mar 19 08:36:46 2018 Quant Results File: A318_1UG.RES

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

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.80	83	54074	0.32 ppb	98
47)		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	dqq 08.0	99
56)	Tetrachloroethylene	16.52	164	26451	0.34 ppb	97
57)		17.54	112	43882	0.29 ppb	92
58)		17.80	91	54048	0.26 ppb	100
59)	m&p-xylene	18.01	91	86493	0.44 ppb	100
60)	Nonane	18.40	43	31943m /	0.23 ppb	
61)	Styrene	18.47	104	37970	0.24 ppb	99
62)	Bromoform	18.60	173	43814	0.31 ppb	98
63)	o-xylene	18.51	91,	59190	0 25 ppb	99
64)	Cumene	19.10	105	60251	0.25 დდა	98
66)	1,1,2,2-tetrachloroethane	18.97	83	63345	dqq 88.0	99
67)	Propylbenzene	19.68	120	16429	0.25 ppb	86
68)	2-Chlorotoluene	19.74	126	20762	0.26 ppb	99
69)		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		37662	0.25 ppb	98
75)	1,2,3-trimethylbenzene	20.94		47481	0.22 ppb	97
76}	1,2-dichlorobenzene	21.26	146	41143	0.27 ppb	96
77)	1,2,4-trichlorobenzene	23.38		11185	0.24 ppb	96
78)	Naphthalene	23.59	128	19659	0.21 ppb	96
79)	Hexachloro-1,3-butadiene	23.71	225	36783	dąą IE.O	99



Data File : C:\HPCHEM\1\DATA\AP031811.D Vial: 11 Operator: RJP Acq On : 18 Mar 2018 10:19 pm Sample : AlUG_0.15 Misc : A318_1UG Inst : MSD #1 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.						
1) Bromochloromethane	10.49		44941) ppb		0.00
35) 1,4-difluorobenzene	12.74	114	184489	1,00	daa (0.00
<pre>35) 1,4-difluorobenzene 50) Chlorobenzene-d5</pre>	17.48	117	129043	1,00	व्यव्यव्य (0.00
System Monitoring Compounds							
65) Bromofluorobenzene	19.21	95	77409	0.78	dqq 8		0.00
Spiked Amount 1.000	Range 70	- 130	Recovery	У =	78	.00%	
Target Compounds						Qva	alue
2) Propylene	4.57	41	9446	0.17	dqq 7		95
3) Freon 12	4.63	85	45273	0.18	dgg (99
4) Chloromethane	4.85	50	11471	0,19	dgg 🤅		84
5) Freon 114	4.86	85 62 43	37668 🦼	0.18	dag (96
6) Vinyl Chloride	5.07	62	9054m	0.17	dgg 7		
7) Butane	5.18	43	12587	0.19	ppb		89
8) 1,3-butadiene	5.18	39	8416m		dgg (
9) Bromomethane	5,57	94	8416m 11969	0.18	daa E		92
10) Chloroethane	5.74	64	4005m i	0.18	daa E		
11) Ethanol	5.85	45	3013π 🛂	0.21	daa J		
12) Acrolein	5.85 6.47	56	2408	0.18	dqq (91
13) Vinyl Bromide	6.10	106	11343	0.18	dgg 8		92
14) Freon 11	6.41	101	48012	0,19	dag 6		97
15) Acetone	6.58	58	2543	0,19	તવવ ટ		90
16) Pentane	6.70	42	4754	0.13	daa 8	#	41
17) Isopropyl alcohol	6.70	45	9204	0.17	ppb		93
18) 1,1-dichloroethene	6.70 7,21	96	12588	0.18	dag i		89
19) Freon 113	7.41	101	22446	0.13	dag t		86
20) t-Butyl alcohol	7.45	101 59 84	2408 11343 48012 2543 4754 9204 12588 22446 18574	0.17	dgg 1	Ħ	83
		84	וגוניי	י או	3 YYYY	**	
22) Allyl chloride	7.68 7.67 7.86	41 76 61	14272 27864 13972	0.17	dgg 7	#	60
23) Carbon disulfide	7.86	76	27864	0.19	daa (90
24) trans-1,2-dichloroethen	e 8.65	61	13972	0.16	daa t		89
25) methyl tert-butyl ether	8.68	73	24016	0.17	dqq v		79
26) 1,1-dichloroethane	9.09	63	24279	0.18	dqq E		95
27) Vinyl acetate		43	24279 18625 ,	0.14	dqq ₽		81
28) Methyl Ethyl Ketone	9.60	72	4793m /1 14608	0.17	dqq v		
29) cis-1,2-dichloroethene	10.04	61	14608	0.17	අල්ලූ 7		87
30) Hexane	9.54	57	14438	0.16	તવુવું દ		97
31) Ethyl acetate	10.19 10.66 10.84	43	21247	0.16	dqq		97
32) Chloroform	10.66	83	21247 27994 10134	0.17	dgg V		96
33) Tetrahydrofuran	10.84	42	10134	0.16	dqq ?		31
34) 1,2-dichloroethane	11,76	62	17392	0.17	dqq 7		100
36) 1,1,1-trichloroethane	11.49	97	27279		daa E		98
37) Cyclohexane	12.17		11961		dqq i		88
38) Carbon tetrachloride	12.12	117	28227		7 ppb		97
39) Benzene	12.08	78	32242		7 ppb		94
40) Methyl methacrylate	13.59		8862		તવુવ દ		84
41) 1,4-dioxane	13.64	88	4915		ďą̃ą̃ 8		85
42) 2,2,4-trimethylpentane	12.91	57	40251		dqq i		90
43) Heptane	13.24	43	13026		dqq		88
44) Trichloroethene	13.37		13631		dqq 3		93
45) 1,2-dichloropropane	13.48		13037		dqq v		79
45) 1,2-dichiolopiopane							

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

AP031811.D A318_1UG.M Wed Mar 28 06:59:41 2018

Vial: 11 Data File : C:\HPCHEM\1\DATA\AP031811.D Acq On : 18 Mar 2018 10:19 pm Sample : A1UG_0.15 Operator: RJP Inst : MSD #1 Multiplr: 1.00 Misc : A318 1UG

MS Integration Params: RTEINT.P

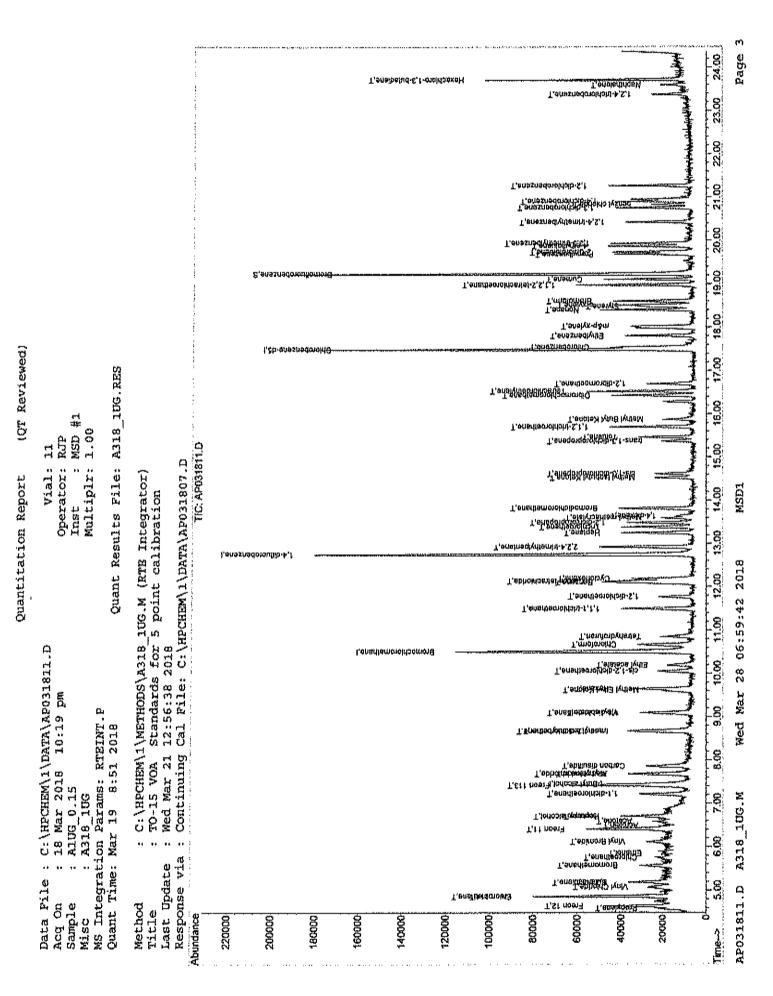
Quant Time: Mar 19 08:37:18 2018 Quant Results File: A318_1UG.RES

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

	Compound	R.T.	QIon	Response	Conc Unit	Qva	alue
	• • • • • • • • • • • • • • • • • • •						
46)		13.81	83	27331	0.16 ppb	11	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)		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	dqq E1.0		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		8991	0.12 ppb	#	84
69)	4-ethyltoluene	19.86	105	28629	0.11 ppb		80
70)	1,3,5-trimethylbenzene	19.93		23905	0.10 ppb		99
71)		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
	1,2,4-trichlorobenzene	23,37	180	5132	0.11 ppb		88
78)	Naphthalene	23.58	128	10281m /			
79)	Hexachloro-1,3-butadiene	23.71	225	18197	0.16 ppb		97
	There is a man white the second secon	****			FF-		- •

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AP031811.D A318_1UG.M Wed Mar 28 06:59:41 2018 MSD1



Page 93 of 148

Vial: 12 Data File : C:\HPCHEM\1\DATA\AP031812.D Operator: RJP Acq On : 18 Mar 2018 10:56 pm Inst : MSD #1 Sample : Alug_0.10 Misc : A318_lug Multiplr: 1.00

MS Integration Params: RTEINT.P

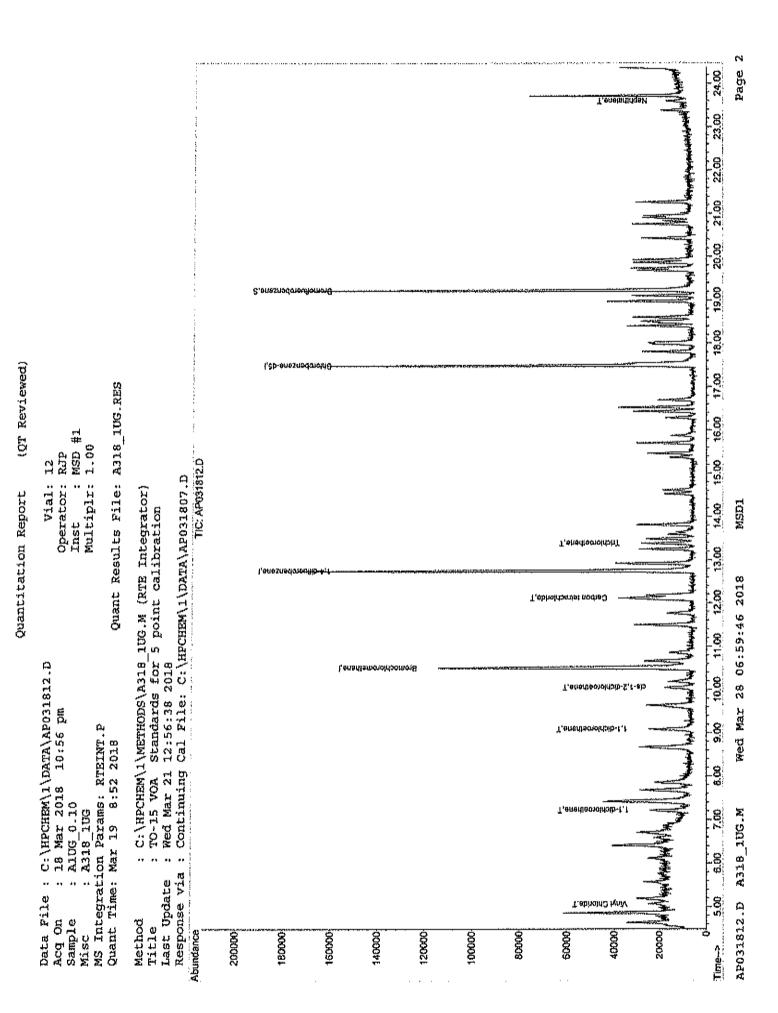
Quant Results File: A318_1UG.RES Quant Time: Mar 19 08:37:37 2018

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

Internal Standards	R.T.	QIon	Response (Conc U	nits	Dev (Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.50 12.74 17.48	128 114 117	46119 179993 122701		dqq dqq dqq		0.00 0.00 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1,000	19.22 Range 70	95 - 130	71966 Recovery	0.76 Y =		. 00%	0.00
Target Compounds						Öva	lue
6) Vinyl Chloride	5.06	62	5711	0.10	dqq		91
18) 1,1-dichloroethene	7.21	96	8649	0.12		#	82
26) 1,1-dichloroethane	9,09	63	16786	0.12			99
29) cis-1,2-dichloroethene	10.05	61	9586	0.11		#	76
38) Carbon tetrachloride	12.12	117	20538	0.12			98
44) Trichloroethene	13.38	130	8999	0.11			89
78) Naphthalene	23.58	128	6809m / f	0.08	ppp		

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AP031812.D A318_1UG.M Wed Mar 28 06:59:45 2018 MSD1



Page 95 of 148

Vial: 13 Data File : C:\HPCHEM\1\DATA\AP031813.D Acq On : 18 Mar 2018 11:32 pm Sample : AlUG 0.04 Operator: RJP Inst : MSD #1 Misc : A318 1UG Multiplr: 1.00

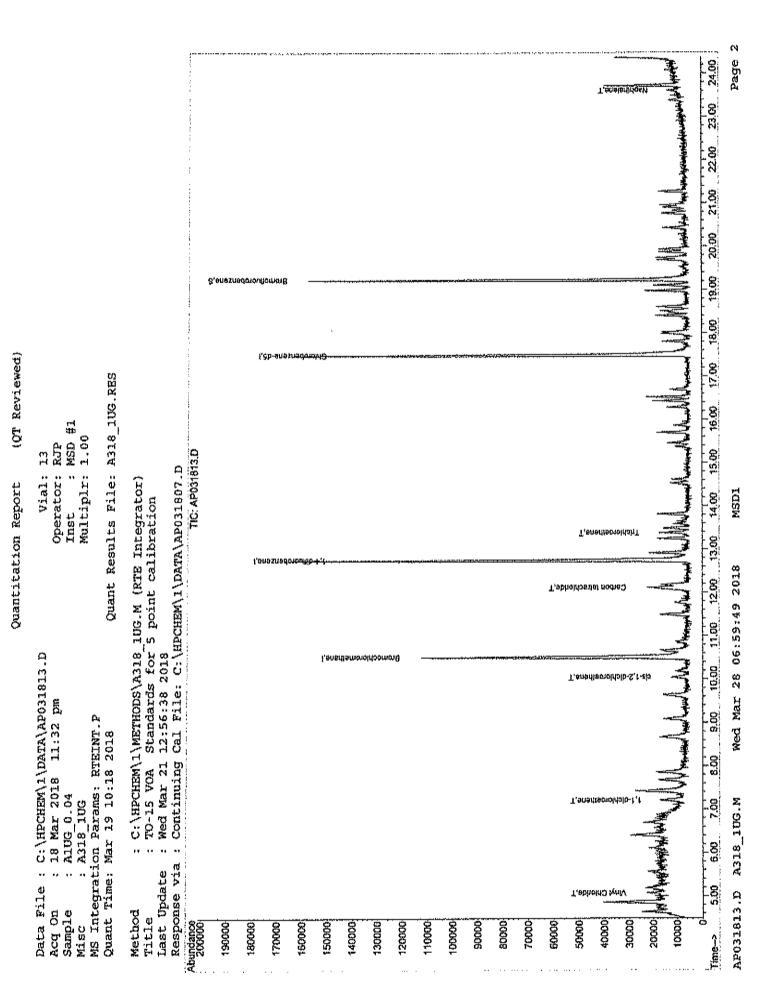
MS Integration Params: RTEINT.P

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

Internal Standards	R.T.	QIon	Response (Conc (Jnits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.50 12.74 17.48	128 114 117	44739 175091 115441	1.00	dqq (dqq (
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.21 Ranga 70					0.00
Target Compounds						Qvalue
6) Vinyl Chloride	5.06	62	3611	0.07	dqq 7	79
18) 1,1-dichloroethene	7.19	96	4364	0,06	તવુવ ર	# 74
29) cis-1,2-dichloroethene	10.04	61	5131m /V		dqq i	
38) Carbon tetrachloride	12.11	117	9776 1		dqq 3	
44) Trichloroethene	13.37	130	4263		dqq 6	
78) Naphthalene	23.59	128	2731	0.03	dqq 8	82



Page 97 of 148

Vial: 14 Data File : C:\HPCHEM\1\DATA\AP031814.D Operator: RJP Acq On : 19 Mar 2018 12:09 am Inst : MSD #1 Sample : Alug_0.03 Misc : A318_lug Multiplr: 1.00

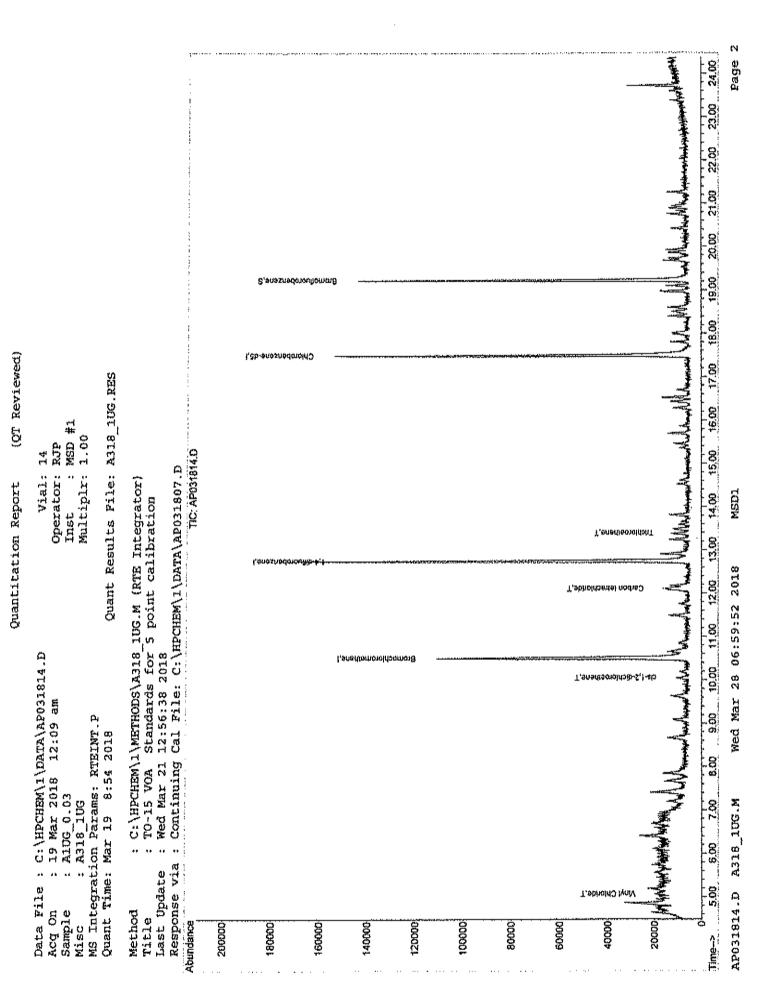
MS Integration Params: RTEINT.P Quant Results File: A318_lUG.RES Quant Time: Mar 19 08:38:12 2018

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

- -						
Internal Standards	R.T.	QIon	Response Co	onc U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.50 12.73 17.48	128 114 117	44468 171032 113766	1.00 1.00 1.00	ppb	0.00 0.00 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.21 Range 70	95 - 130	62889m/N Recovery			0.00
Target Compounds 6) Vinyl Chloride 29) cis-1,2-dichloroethene 38) Carbon tetrachloride 44) Trichloroethene	5.06 10.05 12.11 13.39	62 61 117 130	1991 2744 6660 2957	0.04 0.03 0.04 0.04	ppb	

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



Page 99 of 148

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Data File: C:\HPCHEM\1\DATA\AP032103.D
Acq On: 21 Mar 2018 12:00 pm
Sample: AlUG_1.0
Misc: A318_1UG

Vial: 3 Operator: RJP Inst : MSD #1

Multiplr: 1.00

MS Integration Params: RTEINT.P

: C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator) Method : TO-15 VOA Standards for 5 point calibration Title

Last Update : Wed Mar 28 07:43:58 2018 Response via : Multiple Level Calibration

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

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

		Compound	AvgRF	CCRF	%Dev A	reat	Dev(min)
, ,	ĭ	Bromochloromethane	1.000	1.000	0.0	97	0.00
2	Ť	Propylene	1.300	1.066	18.0	82	0.00
3		Freon 12	5.814	5.249	9.7	89	0.00
4		Chloromethane	1.445		21.1	83	0,00
5	Ť	Freon 114	4.91.7	3.977	19.1	82	0.00
6	Ť	Vinyl Chloride	1,350	0.994	26.4	80	0.00
	$\dot{ ilde{\mathbf{r}}}$	Butane	1.563	1.219	22.0	81	0.00
ģ	Ť	1,3-butadiene	1.030	0.806	21.7	81.	0.00
9	Ť	Bromomethane	1.559	1.298	16.7	85	0.00
10	Ť	Chloroethane	0.522	0.417	20.1	82	0.00
11		Ethanol	0.341	0.251	26.4	76	0.00
12	Ť	Acrolein	0.329	0.246	25.2	80	0.00
1.3		Vinyl Bromide	1.447	1.206	16.7	85	0.00
14		Freon 11	5.991	4.903	18.2	82	0.00
1.5		Acetone	0.379	0.297	21.6	78	0.00
16		Pentane	0.866	0.691	20.2	83	0.00
17		Isopropyl alcohol	1.399	1.014	27.5	83	0.00
18		1,1-dichloroethene	1.715	1.270	25.9		0.00
19		Freon 113	3.720		6.3	90	0.00
20		t-Butyl alcohol	2.517	2.049	18.6	81	0.00
21		Methylene chloride	1.519	1.289	15.1	87	0.00
22		Allyl chloride	1.828	1.481	19.0	77	0.00
23		Carbon disulfide	3.533	2.908	17.7	84	0.00
24		trans-1,2-dichloroethene	1.967	1.661	15.6	82	0.00
25		methyl tert-butyl ether	3.255	2.593	20.3		0.00
26		1,1-dichloroethane	3.13/	2.619	18.1		0.00
27	\mathbf{T}	Vinyl acetate	2.877	2.248	21.9	73	0.00
		Methyl Ethyl Ketone	0.646	0.500	22.6	77	0.00
29	T	cis-1,2-dichloroethene	2,054	1.683	18.1	85	0.00
30	\mathbf{T}	Hexane	1.999	1.625	18.7	79	0.00
31	T	Ethyl acetate	3.018	2.362	21.7	76	0.00
32	\mathbf{T}	Chloroform	3.756	3.199	14.8	84	0.00
33	${f T}$	Tetrahydrofuran	1.414	1.084	23.3	75	0.00
34	T	1,2-dichloroethane	2.352	1.956	16.8	82	0.00
35	I	1,4-difluorobenzene	1.000	1.000	0.0	94	0.00
	Ť	1,1,1-trichloroethane	0.873	0.729	16.5	81	0.00
37		Cyclohexane	0.461	0.390	15.4	80	0.00
38	Ť	Carbon tetrachloride	1.033	0.781	24.4	80	0.00
39		Benzene	1.059	0.915	13.6	84	0.00
40		Methyl methacrylate	0.380	0.291	23.4	73	0.00
41		1,4-dioxane	0,200	0.145	27.5	67	0.00
	T	2,2,4-trimethylpentane	1.523	1.271	16.5	79	0.00
43		Heptane	0.524	0.424	19.1	76	0.00
44		Trichloroethene	0.489	0.404	17.4	84	0.00
45		1,2-dichloropropane	0.442	0.369	16.5	83	0.00
	Ÿ	Bromodichloromethane	0.930	0.766	17.6	79	0.00
	Ť	cis-1,3-dichloropropene	0.511	0.416	18.6	76	0.00
	Ť	trans-1,3-dichloropropene	0.363	0.274	24.5	71	0.00
	Ť	1,1,2-trichloroethane	0.471	0.394	16.3	82	0.00
2		• • • • • • • • • • • • • • • • • • •					

Page 1

Centek Laboratories, LLC

Evaluate Continuing Calibration Report

Data File: C:\HPCHEM\1\DATA\AP032103.D
Acq On : 21 Mar 2018 12:00 pm
Sample : AlUG_1.0
Misc : A318_1UG Vial: 3 Operator: RJP Inst : MSD #1 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 : Wed Mar 28 07:43:58 2018
Response via : Multiple Level Calibration

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

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	T	Toluene	0.743	0.605	18.6	75	0.00
52	$\dot{\mathbf{T}}$	Methyl Isobutyl Ketone	0.827	0.589	28.8	66	0.00
53	T	Dibromochloromethane	1.125	0.909	19.2		0.00
⇒ → 54	T	Methyl Butyl Ketone	0.715	0.502	29.8		0.00
55	T	1,2-dibromoethane	0.848	0.716	15.6		0.00
56	T	Tetrachloroethylene	0.607	0.515	15.2	83	0.00
57	Ť	Chlorobenzene	1.124	0.950	15.5	79	0.00
58	${f T}$	Ethylbenzene	1.526	1.191	22.0		0.00
59	Ť	m&p-xylene	1.329	1.144	13.9		0.00
60	T	Nonane	0.958	0.794	17.1		0.00
61	Ť	Styrene	1.072	0.937	12,6		0.00
62	T	Bromoform	1.060	0.846	20.2		0.00
63	Ť	o-xylene	1.621	1.445	10.9		0.00
64	T	Cumene	1.711	1.374	19.7		0.00
65	ŝ	Bromofluorobenzene	0.690	0.810	-17.4		0.00
66	T	1,1,2,2-tetrachloroethane	1.459	1.216	16.7		0.00
67	$\dot{\mathbf{r}}$	Propylbenzene	0.469	0.371	20.9	72	0.00
68	Ť	2-Chlorotoluene	0.557	0.490	12.0	79	0.00
69	$\hat{\mathbf{T}}$	4-ethyltoluene	1.911	1.646	13.9	76	0.00
70		1,3,5-trimethylbenzene	1.693	1,470	13.2	75	0.00
71		1,2,4-trimethylbenzene	1.311	1.040	20.7	72	0.00
72	Ť	1,3-dichlorobenzene	1.113	0.953	14.4	77	0.00
73		benzyl chloride	0.897	0.704	21.5	72	0.00
74		1,4-dichlorobenzene	1,073	0.933	13.0	78	0.00
75		1,2,3-trimethylbenzene	1.449	1.250	13.7	74	0.00
76		1,2-dichlorobenzene	1.090	0.942	13.6	79	0.00
77	Ť	1,2,4-trichlorobenzene	0.340	0.276	18.8	74	0.00
78	Ť	Naphthalene	0,646	0.476	26.3	64	0.00
79		Hexachloro-1,3-butadiene	0.885	0.766	13.4	83	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032103.D Vial: 3 Operator: RJP Acq On : 21 Mar 2018 12:00 pm Sample : Alug_1.0 Misc : A318_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 21 12:25:40 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 10:19:13 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

50) Chlorobenzene-d5 17.48 117 145301 1.00 ppb 0	.00
35) 1,4-difluorobenzene 12.73 114 193806 1.00 ppb 0 50) Chlorobenzene-d5 17.48 117 145301 1.00 ppb 0	. 00
50) Chloropenzene-d5 17.48 117 145301 1.00 ppp 0	.00
Control Variation Community	
System Monitoring Compounds	
~ · · · · · · · · · · · · · · · · · · ·	.00
Spiked Amount 1.000 Range 70 - 130 Recovery = 117.00%	
Target Compounds Qval	ue
2) Propylene 4.56 41 51055 0.82 ppb	96
3) Freon 12 4.62 85 251390 0.90 ppb	99
4) Chloromethane 4.84 50 54602 0.79 ppb	98
5) Freon 114 4.84 85 190495 0.81 ppb	96
6) Vinvl Chloride 5.06 62 47631 0.74 ppb	99
7) Butane 5.17 43 58363 0.78 ppb	98
8) 1,3-butadiene 5.17 39 38623 0.78 ppb	94
8) 1,3-butadiene 5.17 39 38623 0.78 ppb 9) Bromomethane 5.55 94 62165 0.83 ppb 10) Chloroethane 5.73 64 19995 0.80 ppb	96
9) Bromomethane 5.55 94 62165 0.83 ppb 10) Chloroethane 5.73 64 19995 0.80 ppb	96
11) Ethanol 5.83 45 12011 0.74 ppb #	73
12) Acrolein 6.46 56 11777 0.75 ppb	88
12) Acrolein 6.46 56 11777 0.75 ppb 13) Vinyl Bromide 6.10 106 57743 0.83 ppb 14) Freon 11 6.40 101 234860 0.82 ppb	100
14) Freon 11 6.40 101 234860 0.82 ppb	100
	93
15) Acetone 6.56 58 14244 0.79 ppb 16) Pentane 6.69 42 33092 3 0.80 ppb	98
	,,
17) Isopropyl alcohol 6.67 45 48577m (0.72 ppb 18) 1,1-dichloroethene 7.19 96 60839m (0.74 ppb	
18) 1,1-dichloroethene 7.19 96 60839m (0.74 ppb 19) Freon 113 7.40 101 166854 0.94 ppb	90
19) Freon 113 7.40 101 166854 0.94 ppb	90
20) t-Butyl alcohol 7.43 59 98127 0.81 ppb 21) Methylene chloride 7.67 84 61761 0.85 ppb #	83
	88
22) Allyl chloride 7.66 41 70959 0.81 ppb	81
23) Carbon disulfide 7.85 76 139282 0.82 ppb 24) trans-1,2-dichloroethene 8.65 61 79573 0.84 ppb 25) methyl tert-butyl ether 8.66 73 124205 0.80 ppb	90
24) trans-1,2-dichloroethene 8.65 61 79573 0.84 ppb	82
25) methyl tert-butyl ether 8.66 73 124205 0.80 ppb 26) 1,1-dichloroethane 9.08 63 125437 0.82 ppb	
26) 1,1-dichloroethane 9.08 63 125437 0.82 ppb	99
27) Vinyl acetate 9.06 43 107667 0.78 ppb	94
26) 1,1-dichloroethane 9.08 63 125437 0.82 ppb 27) Vinyl acetate 9.06 43 107667 0.78 ppb 28) Methyl Ethyl Ketone 9.57 72 23957 0.77 ppb # 29) cis-1,2-dichloroethene 10.04 61 80628 0.82 ppb 30) Heyane 9.63 57 77830 0.81 ppb	100
29) cis-1,2-dichloroethene 10.04 61 80628 0.82 ppb	89
	97
31) Ethyl acetate 10.18 43 113127 0.78 ppb 32) Chloroform 10.66 83 153209 0.85 ppb	97
	100
33) Tetrahydrofuran 10.82 42 51901 0.77 ppb	86
34) 1,2-dichloroethane 11.76 62 93681 0.83 ppb	98
36) 1,1,1-trichloroethane 11.48 97 141204 0.83 ppb	99
37) Cyclohexane 12.17 56 75644 0.85 ppb	87
38) Carbon tetrachloride 12.11 117 151284 0.76 ppb	99
39) Benzene 12.08 78 177362 0.86 ppb	98
40) Methyl methacrylate 13.59 41 56366 0.76 ppb #	86
41) 1,4-dioxane 13.62 88 28011 0.72 ppb	84
42) 2,2,4-trimethylpentane 12.91 57 246280 0.83 ppb	96
43) Heptane 13.24 43 82160 0.81 ppb	89
44) Trichloroethene 13.37 130 78288 0.83 ppb	95
44) Trichloroethene 13.37 130 78288 0.83 ppb 45) 1,2-dichloropropane 13.47 63 71568 0.84 ppb	700
(4) manual from out of warms (w) - manual integration	

^{(#) =} qualifier out of range (m) = manual integration AP032103.D A318_1UG.M Wed Mar 28 07:47:46 2018

(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\AP032103.D

Acq On : 21 Mar 2018 12:00 pm

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

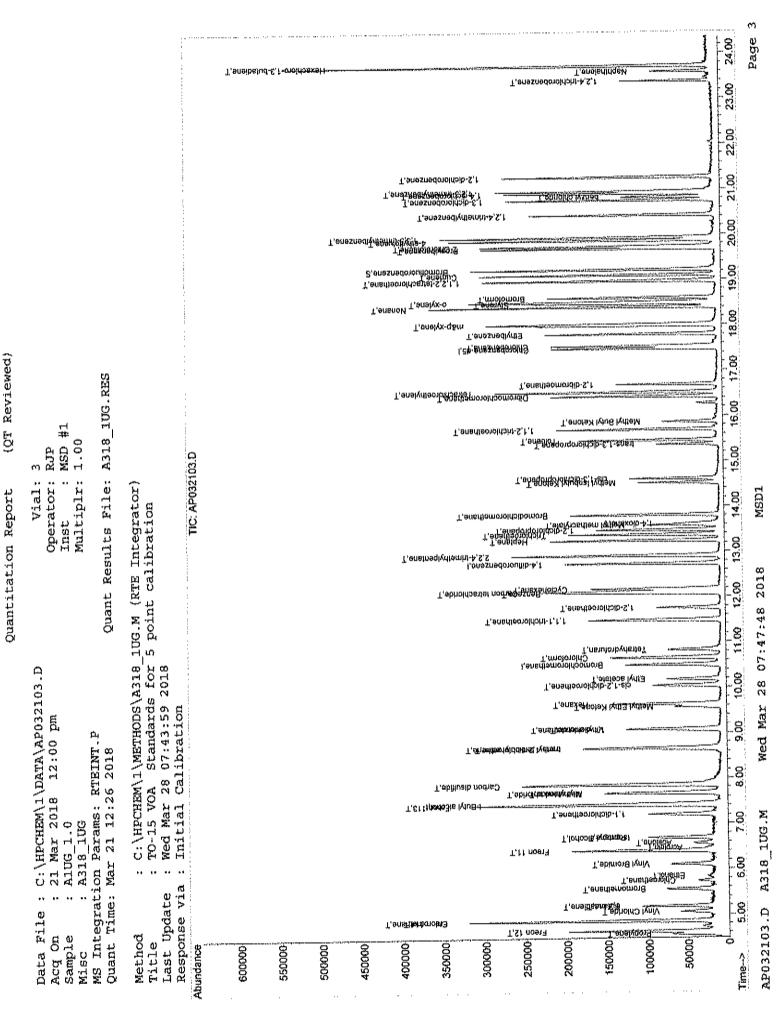
Sample : AlUG_1.0 Misc : A318_1UG

MS Integration Params: RTEINT.P Quant Time: Mar 21 12:25:40 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 10:19:13 2018
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
	,,	* 2 00	83	148396	0.82 ppb	98
46)	Bromodichloromethane	13.80 14.60	75	80662	0.81 ppb	96
47)	cis-1,3-dichloropropene		75	53187	0.76 ppb	99
48)	trans-1,3-dichloropropene	15.36	97	76365	0.84 ppb	99
49)	1,1,2-trichloroethane	15.69	92	87922	dqq 18.0	99
51)	Toluene	15.45		85607m	0.71 ppb	
52)	Methyl Isobutyl Ketone	14.52	43	132099) 0.81 ppb	100
53)	Dibromochloromethane	16.42	129	72991m	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
54)	Methyl Butyl Ketone	15.86	43		0.85 ppb	98
55)	1,2-dibromoethane	16.69		104092	0.85 ppb	99
56)	Tetrachloroethylene	16.52	164	74774	0.85 ppb	97
57)	Chlorobenzene	17.53	112	138075	0.78 ppb	98
58)	Ethylbenzene	17.80	91	173011	1.72 ppb	99
59)	m&p~xylene	18.01	91	332338		85
60)	Nonane	18.40	43	115419	0.83 ppb 0.87 ppb	100
61)	Styrene	18.47		136111		99
62)	Bromoform	18.60		122987	dqq 08.0	100
63)	o-xylene	18.50		209964	dqq e8.0	99
64)	Cumene	19.10		199595	dqq 08.0	99
66)	1,1,2,2-tetrachloroethane	18.97		176662	dqq E8.0	83
67)		19.68		53961	0.79 ppb	96
68)	2-Chlorotoluene	19.73		71183	dqq 88.0	98
69)	4-ethyltoluene	19.86		239128	0.86 ppb	99
70)	1,3,5-trimethylbenzene	19.92		213550	0.87 ppb	
71)		20.42		151104	0.79 ppb	100 99
72)	1,3-dichlorobenzene	20.75		138462	0.86 ppb	
73)		20.83	91	102307	0.78 ppb	98
74)		20.90		135615	0.87 ppb	99
75)	1,2,3-trimethylbenzene	20.95	105	181578	0.86 ppb	
76)	1,2-dichlorobenzene	21.26	146	136924	0.86 ppb	_ +
77)	1,2,4-trichlorobenzene	23.38	180	40128	0.81 ppb	
78)	Naphthalene	23.59	128	69185	0 74 ppb	
79)	Hexachloro-1,3-butadiene	23.72	225	111288	0.87 ppb	99



Page 105 of 148

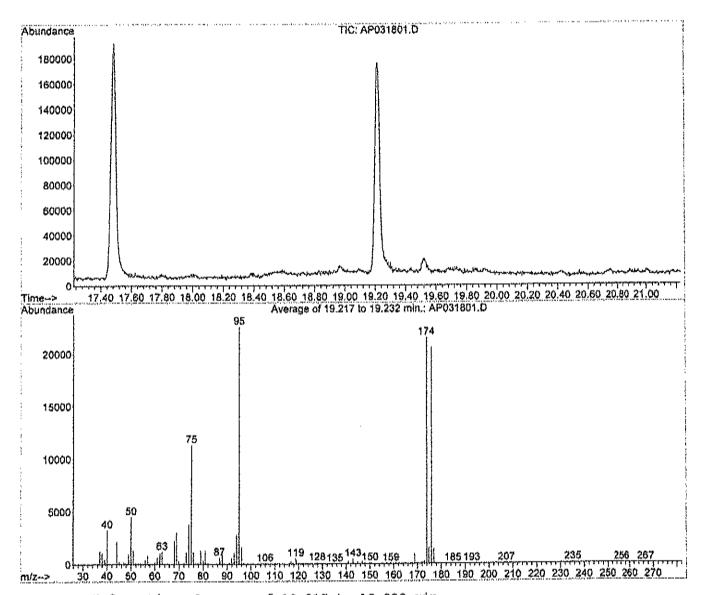
GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW DATA

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 19.217 to 19.232 min.

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
Mass	Mass	Limit%	Limit*	Abn%	Abn	Pass/Fail
50 75 95 96 173 174 175 176	95 95 95 95 174 95 174 174	8 30 100 5 0.00 50 4 95	40 66 100 9 2 120 9	20.1 50.2 100.0 7.1 1.2 95.3 6.9 95.8 7.1	4531 113390 22590 1611 250 21518 1495 20611 1465	PASS PASS PASS PASS PASS PASS PASS

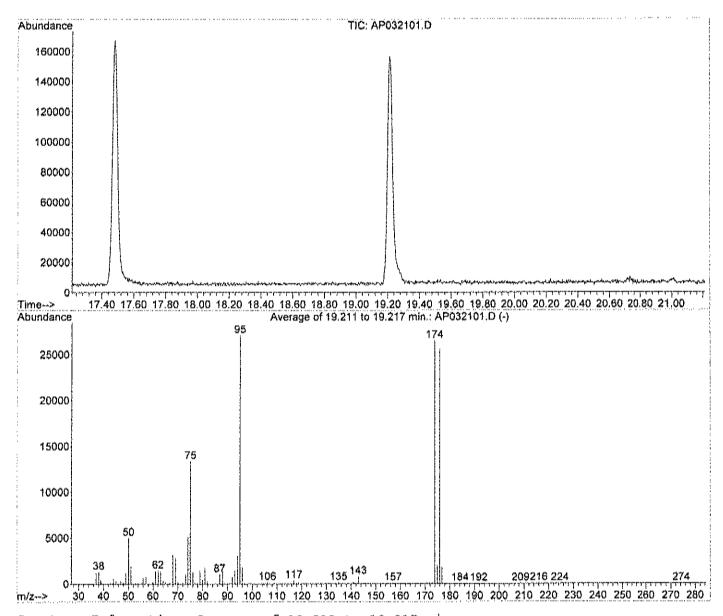
AP031801.D A318_1UG.M

Wed Mar 28 06:58:25 2018 MSD1

BFB

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 19.211 to 19.217 min.

· ·	rget Rel. to Ass Mass	Lower Limit%	Upper Limit*	Rel. Abn%	Raw Abn	Result Pass/Fail
	50 95	 8	40	18.5	5012	PASS
, ,	75 95	30	66	49.3	13367	PASS
	95 95	100	1.00	100.0	27098	PASS
	95	5 1	9	6.9	1859	PASS
1	73 174	0.00	2	0.7	186	PASS
11	74 95	50	120	97.9	26517	PASS
1 17	75 174	4	9	7.6	2010	PASS
11	76 174	95	101	96.4	25557	PASS
1 17	77 176	5	9	7.4	1885	PASS

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15
RAW QC DATA

TestCode: 0.20_NYS

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 28-Mar-18

LaBella Associates, P.C. CLIENT;

C1803052 Work Order: Project:

1740 Emerson St

Sample ID: AMB1UG-032118	SampType: MBLK	TestCoc	TestCode: 0.20 NYS	Units: ppbV		Prep Date:	ie;		RunNo: 13411	11	
Clent ID: 2222	Batch ID: R13411	Testh	TestNo: TO-15			Analysis Date: 3/21/2018	te: 3/21/2(48	SeqNo: 155453	453	
Analyte	Result	PQL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimil	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Quai
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-Dichleroethene	< 0.040	0.040									
Tetrachloroethylene	< 0.15	0.15									

0.15

0.030

< 0.15 < 0.030 < 0.040

Irans-1,2-Dichloroethene

Trichloroethene

Vinyl chłoride

Holding times for preparation or analysis exceeded RPD ourside accepted recovery limits **#** & Estimated Value above quantitation range Not Detected at the Limit of Detection эQ Spike Recovery outside accepted recovery limits Analyte detected below quantitation limit Results reported are not blank corrected

c/o

Qualifiers:

Page 110 of 148

Quantitation Report (QT Reviewed)

MS Integration Params: RTEINT.P

Quant Time: Mar 21 16:24:58 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 : Wed Mar 21 12:56:38 2018

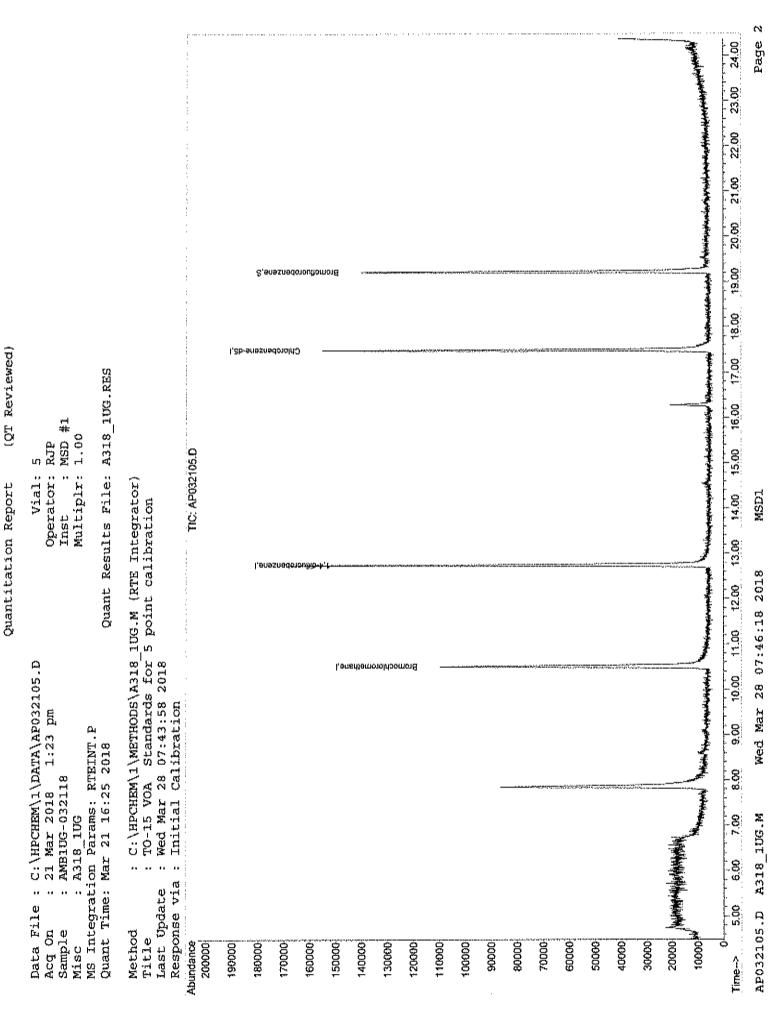
Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	one U	nits Dev	/(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.51 12.74 17.48	128 114 117	44328 177221 120583	1.00	ppb ppb	0.01 0.00 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.21	95 - 130	59848m Recovery		ppb 72.00	0.00
Tarret Compounds					ĊΣ	za ไบด

Target Compounds Qvalue

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AP032105.D A318_1UG.M Wed Mar 28 07:46:17 2018 MSDl



Page 112 of 148

TestCode: 0.20 NYS

(CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 28-Mar-18

LaBella Associates, P.C. CLIENT:

C1803052 Work Order: Project:

1740 Emerson St

Sample ID: C1803052-002A MS SampType: MS	S SampType: MS	TestCoc	TestCode: 0.20 NYS	Units: ppbV		Prep Date:			RunNo: 13411	**	
Client ID: IAQ-02 March 2018	Batch (D: R13411	Test	TestNo: TO-15		2	Analysis Dat	Analysis Date: 3/21/2018		SeqNo: 155462	462	
Analyte	Result	PQ	SPK value	SPK Ref Val	%REC	Loweimit	%REC LowLimit HighLimit RPD Ref Val	D Ref Val	%RPD	%RPD RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	-	0	79.0	70	130				
1,1-Dichbroethane	0.8100	0.15	₩	O	81.0	70	130				
1,1-Dichloroethene	0.5800	0.040	Am	0	68.0	20	130				Ø
Chloroethane	0.7300	0.15	Υ	٥	73.0	70	130				
Chloromethane	1.020	0.15	***	0.37	65.0	70	130				Ø
cis-1,2-Dichloroethene	0.8300	0.040		0	63.0	70	130				
Tetrachloroethylene	0.8600	0.15	₹	0.18	68.0	70	130				Ś
trans-1,2-Dichloroethene	0.8500	0.15	•	0	85.0	70	130				
Trichloroethene	0.9200	0.030	-	0.08	84.0	70	130				
Vinyf chloride	0.7100	0.040	-	0	71.0	70	130				
Sample ID: C1803052-002A MS SampType: MSD	S SampTyne: MSD	TestCor	TestCode: 0.20 NYS	Vdon Spits		Pren Date:	.a		RunNo: 13411	Ŧ	

Client ID: IAQ-02 March 2018	Batch ID: R13411	Test	TestNo: TO-15			Analysis Date: 3/21/2018	e: 3/21/20	18	SeqNo: 155463	463	
Analyte	Result	Po	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.7900	0.15	Υ	o	79.0	70	130	0.79	0	30	
1,1-Dichloroethane	0.8100	0.15	₹°	0	81.0	30	130	0.81	0	30	
1,1-Dichloroethene	0.6400	0.040	-	0	64.0	70	130	0.68	6.06	30	Ś
Chloroethane	0.7300	0.15	-	0	73.0	70	130	0.73	0	39	
Chloromethane	0.9300	0.15	•	0.37	96.0	70	130	1.02	9.23	39	Ś
cis-1,2-Dichloroethene	0.8300	0.040	***	Ö	83.0	2	130	0.83	O.	8	
Tetrachloroethylene	0.8700	0.15		0.18	69.0	2	130	0.86	1.16	8	ഗ
trans-1,2-Dichloroethene	0.8500	0.15	-	0	85.0	70	130	0.85	0	8	
Trichloroethene	0.9000	0.030	***	0.08	82.0	20	139	0.92	2.20	30	

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limit

Results reported are not blank corrected

Qualifiers:

E Estimated Value above quantitation range ND Not Detected at the Limit of Detection

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits **I K**

บ	CLIENT:	LaBella Associates, P.C.	ociates, P.C.										
*	Work Order:	C1803052											
Pr	Project:	1740 Emerson St	on St						Tes	TestCode: 0.20_NYS	.20_NYS		
]] Š	Imple ID: C1803	052-002A MS	Sample ID: C1803052-002A MS SampType: MSD	TestCor	TestCode: 0.20 NYS	Units: ppbV		Prep Date:	i.		RunNo: 13411	111	
٥	Client ID: IAQ-02 March 2018	2 March 2018	Batch ID: R13411	[ma	estNo: TO-15			Analysis Dat	Analysis Date: 3/21/2018		SeqNo: 155463	5463	
₹	Analyte		Result	POL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	PD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
5	Vinyl chloride		0.7000	0.040		0	70.0	70	130	0.71	1,42	30	

	ļ			
Qualifiers:	4	Results reported are not blank corrected	E Estimated Value above quantitation range	H Holding times for preparation or analysis exceeded
	J	Anabyte 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		Page 2 of

Quantitation Report (QT Reviewed)

 Data File : C:\HPCHEM\1\DATA\AP032110.D
 Vial: 2

 Acq On : 21 Mar 2018 6:30 pm
 Operator: RJP

 Sample : C1803052-002A MS
 Inst : MSD #1

 Misc : A318_1UG
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 22 10:57:15 2018 Quant Results File: A318 1UG.RES

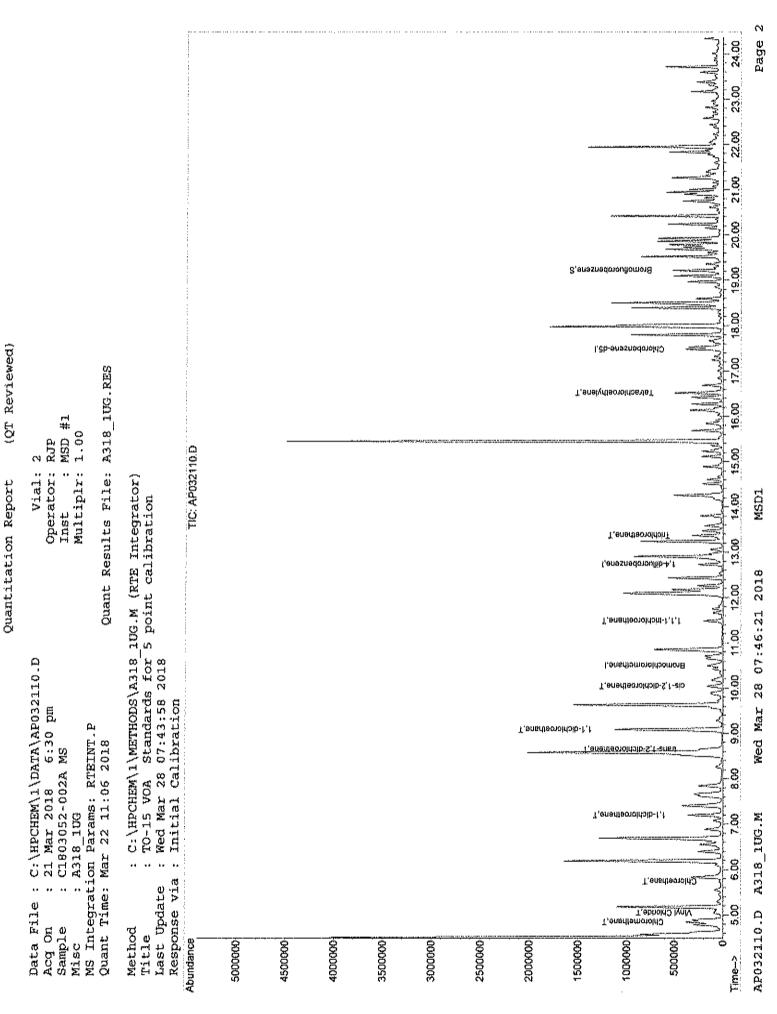
Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

Last Update : Wed Mar 21 12:56:38 2018

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response C	one U	nits	Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene	10.49 12.73	114		1.00	dqq dqq	0.00
50) Chlorobenzene-d5	17.48	117	249590	1.00	dqq	0.00
System Monitoring Compounds	10 01	0.5				
65) Bromofluorobenzene Spiked Amount 1,000	Range 70	95 - 130	181994 Recovery		ppb 106	
Target Compounds						Qvalue
4) Chloromethane	4.84	50	86427	1.02		95
Vinyl Chloride	5.06	62		0.71		
10) Chloroethane	5.74	64			qqq	93
18) 1,1-dichloroethene	7.20	96		0.68		
24) trans-1,2-dichloroethene		6.1	98536	0.85		94
26) 1,1-dichloroethane	9.08	63	152534	0.81		95
29) cis-1,2-dichloroethene	10.04	61	99704	0.83		91
36) 1,1,1-trichloroethane	11.48	97	171510	0.79		98
44) Trichloroethene	13.37	130	111813	0.92		94
56) Tetrachloroethylene	16.51	164	129808	0.86	dqq	1.00



Page 116 of 148

Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032111.D Vial: 3 Acq On : 21 Mar 2018 7:17 pm Operator: RJP Sample : C1803052-002A MSD Misc : A318_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT, P

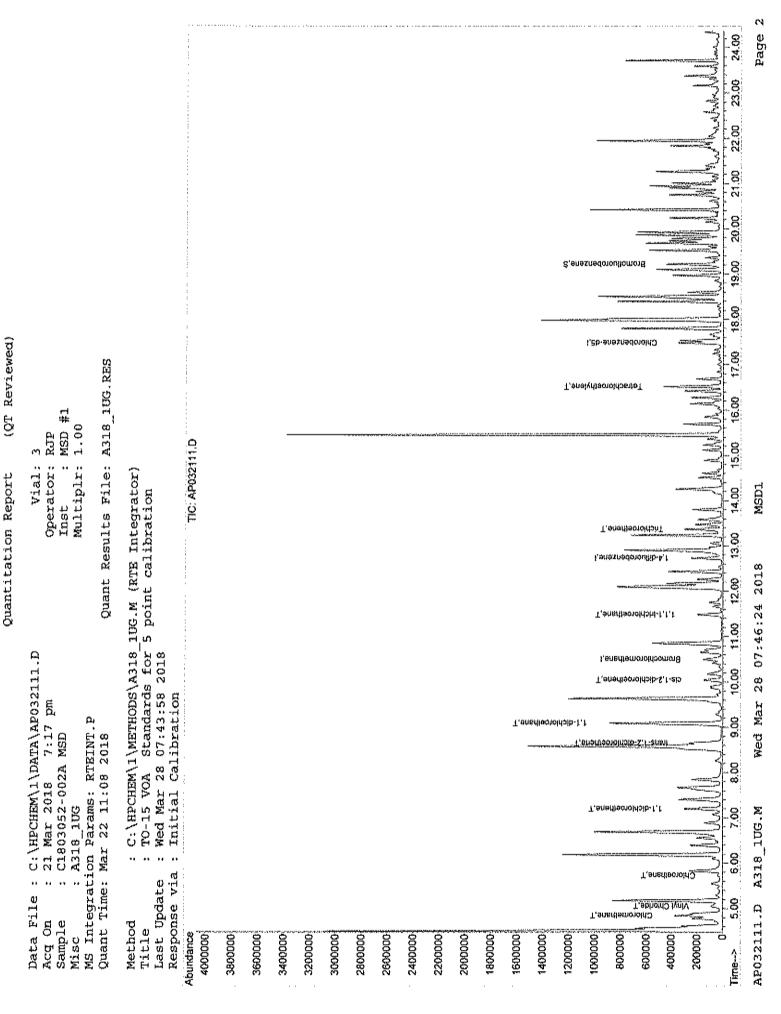
Quant Time: Mar 22 10:57:16 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration
Last Update : Wed Mar 21 12:56:38 2018
Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response (onc Uni	ts Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene	10.49 12.73	128 114	58695 244768	1.00 p	pb 0.00
50) Chlorobenzene-d5	17.48	117	232175	1.00 p	0.00 dq
System Monitoring Compounds					
65) Bromofluorobenzene	19.21	95	156456	0.98 p	pb 0.00
Spiked Amount 1.000	Range 70	- 130	Recovery	, E2	98.00%
Target Compounds					Qvalue
4) Chloromethane	4.84	50	78495 7	0.93 p	pb 95
6) Vinyl Chloride	5.06	62	55790m 🏳	0.70 p	dq
10) Chloroethane	5.73	64	22304	0.73 p	pb 99
18) 1,1-dichloroethene	7.20	96	64910m	0.64 p	dq
24) trans-1,2-dichloroethene	8.64	61	97931	0.85 p	pb 96
26) 1,1-dichloroethane	9.08	63	151678	0.81 p	pb 98
29) cis-1,2-dichloroethene	10.04	61	100608	0.83 p	pb 91
36) 1,1,1-trichloroethane	11.48	97	169156	0.79 p	pb 1.00
44) Trichloroethene	13.37	130	108175	$0.90 \tilde{p}$	
56) Tetrachloroethylene	16.52	164	121990	0.87 p	

^{*******************************} (#) = qualifier out of range (m) = manual integration (+) = signals summed AP032111.D A318_1UG.M Wed Mar 28 07:46:23 2018 MSD1



Page 118 of 148

TestCode: 0.20 NYS

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 28-Mar-18

LaBella Associates, P.C. CLIENT:

C1803052 Work Order: Project:

1740 Emerson St

Sample ID: ALCS1UG-032118	SampType: LCS	TesiCox	TesiCode: 0.20_NYS	Units: ppbV		Prep Date:	œ.		RunNo: 13411	111	
Client ID: ZZZZZ	Batch ID: R13411	Testh	TestNo; TO-15			Analysis Date: 3/21/2018	le: 3/21/20	180 180 180 180 180 180 180 180 180 180	SegNo: 155454	454	
Analyte	Result	Pot	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Q
1,1,1-Trichloroethane	0.8900	0.15	,	0	89.0	٤	130				
1,1-Dichloroethane	0.8700	0.15	4m	0	87.0	70	130				
1,1-Dichloroethene	0.8500	0.040	***	0	85.0	0.2	130				
Chloroethane	0.8500	0.15	y .	٥	85.0	70	130				

888888

22222

000000

94.0 84.0 88.0 90.0 87.0 79.0

0.15 0.040 0.15 0.15

0.8400 0.8400 0.8800

cis-1,2-Dichloroethene Tetrachloroethylene

Chloromethane

trans-1,2-Urchloroethene	0.0000	0.15	•	0	8	20	139				
Trichloroethene	0.8700	0.030	***	0	87.0	70	130				
Vinyl chloride	0.7900	0.040	₩.	0	79.0	70	130				
Sample ID: ALCS1UGD-032118	SampType: LCSD	TestCox	TestCode: 0.20_NYS	Units: ppbV		Prep Date:	āi		RunNo: 13411	11	
Cilent ID: ZZZZ	Batch ID: R13411	Test	TestNo: TO-15			Analysis Date: 3/22/2018	e: 3/22/20	18	SeqNo: 155455	455	
Analyte	Result	201	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	HighLimit RPD Ref Val	%RPD	RPDLimil	Çua <u>.</u>
1, 1, 1-Trichloroethane	0.9900	0.15	-	0	90.0	70	130	0.89	1.12	8	
1,f-Dichloroethane	0.9100	0.15	_	0	91.0	23	130	18.0	4.49	83	
1,1-Dichloroethene	0.8700	0.040	1	0	87.0	70	130	0.85	2.33	30	
Chloroethane	0.8300	0.15	~	0	83.0	70	130	0.85	2.38	8	
Chloromethane	0.8900	0.15	***	Ō	89.0	70	130	0.84	5.78	8	
cis-1,2-Dichloroethene	0.8700	0.040	~~	O	87.0	70	130	0.84	3.51	8	
Tetrachloroethylene	0.8700	0.15		0	87.0	70	130	0.83	1.14	33	
trans-1,2-Dichloroethene	0.9400	0.15	_	0	94.0	23	130	6.0	4.35	8	
Trichloroethene	0.8900	0.030	~~	٥	89.0	70	130	0.87	2.27	30	

Analyte detected below quantitation limit Results reported are not blank corrected

Spike Recovery outside accepted recovery limits

ψ

Estimated Value above quantitation range Not Detected at the Limit of Detection m 8

×

Holding times for preparation or analysis exceeded RPD eutside accepted recovery limits Page 1 of 2

Holding times for preparation or analysis exceeded

RPD outside accepted recovery limits

H &

Estimated Value above quantitation range Not Detected at the Limit of Detection

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

Qualifiers:

CLIENT: Work Order: Project:	LaBella Associate C1803052 1740 Emerson St	LaBella Associates, P.C. C1803052 1740 Emerson St						Évou	TestCode: 0.20 NYS	0.20 NYS		
Sample ID: ALCS1UGD-032118 Client ID: ZZZZ	UGD-032118	SampType: LCSD Batch ID: R13411	TestCod	TesiCode: 0.20_NYS TesiNo: TO-15	Units: ppbV		Prep Date: Analysis Date:	Prep Date: Analysis Date: 3/22/2018	18	RunNo: 13411 SeqNo: 155455	411	
Analyte		Result	POL	SPK value	SPK Ref Val	%REC	LowLimii	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride		0.8200	0.040	-	0	82.0	70	130	0.79	3.73	30	

Centek Laboratories, LLC Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032104.D Vial: 4 Acq On : 21 Mar 2018 12:47 pm Operator: RJP Sample : ALCS1UG-032118 Misc : A318_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 21 13:25:32 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Wed Mar 21 12:56:38 2018

Response via : Initial Calibration

DataAcq Meth : 1UG RUN

1) Bromochloromethane 10.49 128 48374 1.00 ppb 0.00 35) 1,4-difluorobenzene 12.73 114 197048 1.00 ppb 0.00 50) Chlorobenzene-d5 17.48 117 153239 1.00 ppb 0.00 Eystem Monitoring Compounds 65) Bromofluorobenzene 19.21 95 122581 1.16 ppb 0.00 Expiked Amount 1.000 Expiked Amount 1.000 Expiked Amount 1.000 Expiked Expired
35) 1,4-difluorobenzene 12.73 114 197048 1.00 ppb 0.00 50) Chlorobenzene-d5 17.48 117 153239 1.00 ppb 0.00 System Monitoring Compounds 65) Bromofluorobenzene 19.21 95 122581 1.16 ppb 0.00 Spiked Amount 1.000 Range 70 - 130 Recovery = 116.00% Target Compounds Qvalue 2) Propylene 4.56 41 57137 0.91 ppb 91 3) Freon 12 4.62 85 268625 0.96 ppb 98 4) Chloromethane 4.84 50 58839 0.84 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
50) Chlorobenzene-d5 17.48 117 153239 1.00 ppb 0.00 System Monitoring Compounds 65) Bromofluorobenzene 19.21 95 122581 1.16 ppb 0.00 Spiked Amount 1.000 Range 70 - 130 Recovery = 116.00% Target Compounds Qvalue 2) Propylene 4.56 41 57137 0.91 ppb 91 3) Freon 12 4.62 85 268625 0.96 ppb 98 4) Chloromethane 4.84 50 58839 0.84 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
System Monitoring Compounds 65) Bromofluorobenzene 19.21 95 122581 1.16 ppb 0.00 Spiked Amount 1.000 Range 70 - 130 Recovery = 116.00% Target Compounds 2) Propylene 4.56 41 57137 0.91 ppb 91 3) Freon 12 4.62 85 268625 0.96 ppb 98 4) Chloromethane 4.84 50 58839 0.84 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
65) Bromofluorobenzene 19.21 95 122581 1.16 ppb 0.00 Spiked Amount 1.000 Range 70 - 130 Recovery = 116.00% Target Compounds Qvalue 2) Propylene 4.56 41 57137 0.91 ppb 91 3) Freon 12 4.62 85 268625 0.96 ppb 98 4) Chloromethane 4.84 50 58839 0.84 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
Spiked Amount 1.000 Range 70 - 130 Recovery = 116.00% Target Compounds Qvalue 2) Propylene 4.56 41 57137 0.91 ppb 91 3) Freon 12 4.62 85 268625 0.96 ppb 98 4) Chloromethane 4.84 50 58839 0.84 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
Target Compounds Qvalue 2) Propylene 4.56 41 57137 0.91 ppb 91 3) Freon 12 4.62 85 268625 0.96 ppb 98 4) Chloromethane 4.84 50 58839 0.84 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
2) Propylene 4.56 41 57137 0.91 ppb 91 3) Freon 12 4.62 85 268625 0.96 ppb 98 4) Chloromethane 4.84 50 58839 0.84 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
2) Propylene 4.56 41 57137 0.91 ppb 91 3) Freon 12 4.62 85 268625 0.96 ppb 98 4) Chloromethane 4.84 50 58839 0.84 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
3) Freon 12 4.62 85 268625 0.96 ppb 98 4) Chloromethane 4.84 50 58839 0.84 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
4) Chloromethane 4.84 50 58839 0.84 ppb 98 5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
5) Freon 114 4.84 85 205740 0.86 ppb 98 6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
6) Vinyl Chloride 5.06 62 51556 0.79 ppb 98 7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
7) Butane 5.17 43 63807 0.84 ppb 98 8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
8) 1,3-butadiene 5.17 39 43044 0.86 ppb 97
▲ •
2) Browning Bros 24 04042 0.00 bbb 20
10) Chloroethane 5.74 64 21566 0.85 ppb 93
11) Ethanol 5.83 45 12601 0.76 ppb # 70
12) Acrolein 6.46 56 13618 0.86 ppb 100
13) Vinyl Bromide 6.11 106 61942 0.88 ppb 100
14) Freon 11 6.39 101 253963 0.88 ppb 100
· · · · · · · · · · · · · · · · · · ·
24) trans-1,2-dichloroethene 8.64 61 85863 0.90 ppb 89
25) methyl tert-butyl ether 8.66 73 132341 0.84 ppb 84 26) 1,1-dichloroethane 9.08 63 134875 0.87 ppb 100
29) cis-1,2-dichloroethene 10.04 61 83627 0.84 ppb 92
30) Hexane 9.63 57 86652 0.90 ppb 98 31) Ethyl acetate 10.18 43 118239 0.81 ppb 99
32) Chloroform 10.65 83 164376 0.90 ppb 100
33) Tetrahydrofuran 10.83 42 54167 0.79 ppb 83
34) 1,2-dichloroethane 11.75 62 98581 0.87 ppb 99
36) 1,1,1-trichloroethane 11.48 97 153324 0.89 ppb 99
37) Cyclohexane 12.17 56 80579 0.89 ppb 89
38) Carbon tetrachloride 12.11 117 163984 0.81 ppb 100
39) Benzene 12.07 78 187908 0.90 ppb 98
40) Methyl methacrylate 13.59 41 61080 0.82 ppb # 86
41) 1,4-dioxane 13.62 88 28730 0.73 ppb 85
42) 2,2,4-trimethylpentane 12.91 57 265812 0.89 ppb 95
43) Heptane 13.24 43 90640 0.88 ppb 89
44) Trichloroethene 13.37 130 83940 0.87 ppb 93
45) 1,2-dichloropropane 13.47 63 78228 0.90 ppb 98

(#) = qualifier out of range (m) = manual integration AP032104.D A318_1UG.M Wed Mar 28 07:46:13 2018 MSD1

Centek Laboratories, LLC Quantitation Report

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032104.D Vial: 4 Acq On : 21 Mar 2018 12:47 pm Sample : ALCS1UG-032118 Misc : A318_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

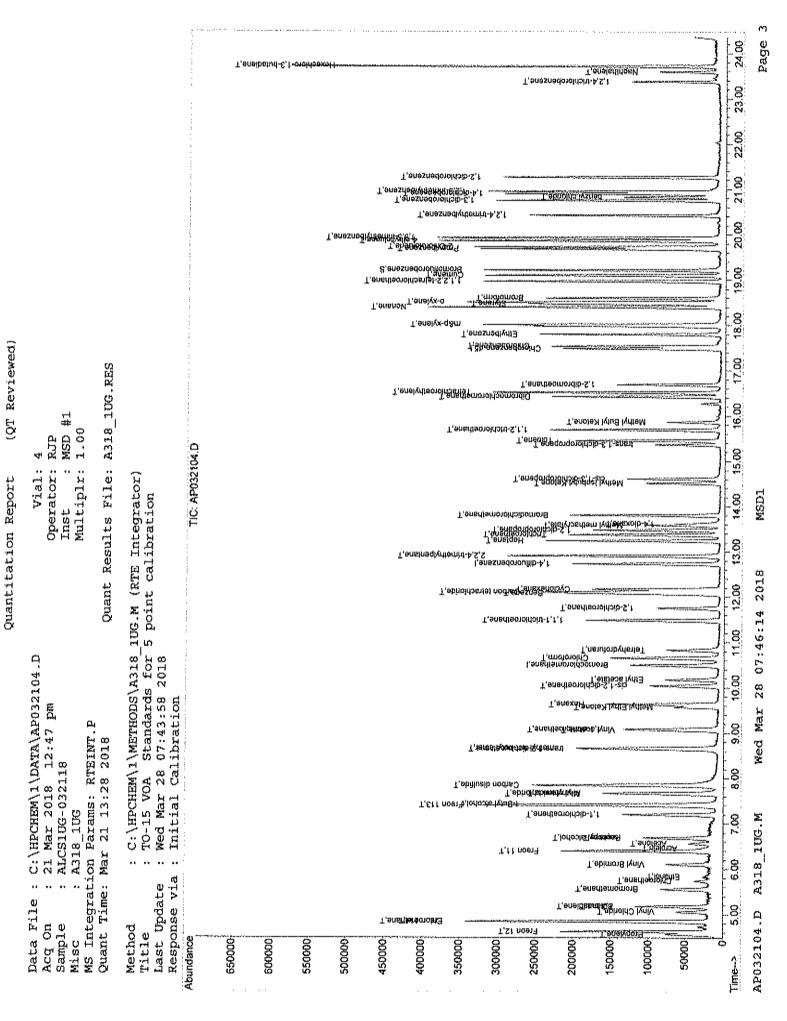
Quant Time: Mar 21 13:25:32 2018 Quant Results File: A318_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A318_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Wed Mar 21 12:56:38 2018

Response via : Initial Calibration

DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.80	83	164300	0.90 ppb	98
47)	cis-1,3-dichloropropene	14.61	75	90414	0.90 ppb	96
48)	trans-1,3-dichloropropene	15.36	75	62077	0.87 ppb	97
49)	1,1,2-trichloroethane	15.69	97	84478	0.91 ppb	99
51)	Toluene	15.45	92	97830	0.86 ppb	98
52)	Methyl Isobutyl Ketone	14.51	4.3	82428m 🖗	0.65 ppb	
53)	Dibromochloromethane	16.42	129	144267	0.84 ppb	98
54)	Methyl Butyl Ketone	15.86	43	67183m 4	0.61 ppb	
55)	1,2-dibromoethane	16.69	107	112424	0.87 ppb	98
56)	Tetrachloroethylene	16.51	164	81476	0.88 ppb	98
57)	Chlorobenzene	17.54	112	151947	dqq 88.0	96
58)	Ethylbenzene	17.80	91	194217	dqq 88.0	99
59)	m&p-xylene	18.01	91	367549	1.81 ppb	99
60)	Nonane	18.40	43	129305	0.88 ppb	84
61)	Styrene	18.47	104	149638	0.91 ppb	100
62)	Bromoform	18.59	173	132745	0.82 ppb	99
63)	o-xylene	18.50	91	229830	0.93 ppb	99
64)	Cumene	19.10	105	223189	0.85 ppb	99
66)	1,1,2,2-tetrachloroethane	18.97	83	190261	0.85 ppb	99
67)	Propylbenzene	19.68	120	60448	0.84 ppb	86
68)	2-Chlorotoluene	19.73	126	79372	0.93 ppb	96
69)	4-ethyltoluene	19.86	105	260086	0.89 ppb	99
70)	1,3,5-trimethylbenzene	19.92	105	240506	0.93 ppb	99
	1,2,4-trimethylbenzene	20.42	105	166632	dqq 88.0	99
72)	1,3-dichlorobenzene	20.75	146	154966	0.91 ppb	1.00
73)	benzyl chloride	20.82	91	113287	0.82 ppb	96
74)	1,4-dichlorobenzene	20.89	146	149562	0.91 ppb	99
75)	1,2,3-trimethylbenzene	20.94	105	198385	dqq e8.0	99
76)	1,2-dichlorobenzene	21.26	146	149388	0.89 ppb	99
77)	• • • • • • • • • • • • • • • • • • • •	23.37	180	45120	0.87 ppb	98
78)	Naphthalene	23.59	128	73010	0.74 ppb	97
79)	Hexachloro-1,3-butadiene	23.71	225	118145	0.87 ppb	99



Page 123 of 148

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032132.D Vial: 24 Acq On : 22 Mar 2018 9:26 am Operator: RJP Sample : ALCS1UGD-032118 Misc : A318_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 22 10:57:37 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 : Wed Mar 21 12:56:38 2018
Response via : Initial Calibration
DataAcq Meth : UG_RUN

Internal Standards	R.T.	QIon	Response	Conc U	nits	Dev(Min)
1) Bromochloromethane	10.50	128	48657	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.73	114	205600	1.00	dqq		0.00
50) Chlorobenzene-d5	17.48	117	162411	1.00	Ьbр		0.00
System Monitoring Compounds							
65) Bromofluorobenzene	19.21	95	131773				0.00
Spiked Amount 1.000	Range 70	- 130	Recover	У 🗠	118	.00%	
Target Compounds						Qva	lue
Propylene	4.56	41	59719 281288	0.94	ppp		93
3) Freon 12	4.62	85	281288	0.99			99
4) Chloromethane	4.85		62463	0.89	ppb		98
5) Freon 114	4.84		215707 54149 65981	0.90	dqq		33
6) Vinyl Chloride	5.05	62 43	54149	0.82	ББр		96
7) Butane	5.17	43	65981	0.87	dag		99
8) 1,3-butadiene	5.18	39	43402	0.87	ppb		95
Bromomethane	5.55 5.75 5.84	94	67803 21014 12815m /0	0.89	qqq		98
10) Chloroethane	5.75	64	21014	0.83	ppb		93
11) Ethanol	5.84	45	12815m /V	0.77	ppb		
12) Acrolein	6.46	56	13242	0.83	dqq		99
13) Vinyl Bromide	6.11	106	61942 258364 15766	0.88			99
14) Freon 11	6.40	101	258364	0.89			100
15) Acetone	6,56	58	15766	0.86	ppb	#	86
16) Pentane	6.70	42	47020	1.12	dqq		93
17) Isopropyl alcohol	6.69	45	51810 72222	0.76			75
18) 1,1-dichloroethene	7.20	96	72222	0.87	ppp	#	88
19) Freon 113	6.70 6.69 7.20 7.41	101	181095	1.00	dqq		88
20) t-Butyl alcohol	7.44	59	82846	0.68			88
21) Methylene chloride	7.68 7.66	84	67846 75907	0.92	dqq	#	79
22) Allyl chloride	7,66	41	75907	0.85			87
23) Carbon disulfide	7.85	76	160308	0.93			96
24) trans-1,2-dichloroethene	8.64	61	89833 129307 141275	0.94			90
<pre>25) methyl tert-butyl ether 26) 1,1-dichloroethane</pre>	8.66	73	129307	0.82	dqq		83
26) 1,1-dichloroethane		63	141275	0.91			100
27) Vinvi acetate	9.06	43	113189	0.81	ppb		93
28) Methyl Ethyl Ketone	9.58	72	22754	0.72	dag	#	
28) Methyl Ethyl Ketone 29) cis-1,2-dichloroethene	10.04	61	86675	0.87			91.
30) Hexane	9.63		62034	0.05			95
31) Ethyl acetate	10,17	43	114125	0.78	ppb		97
32) Chloroform	10.66	83	169179	0.93	qqq		99
33) Tetrahydrofuran	10.83	42	52466		ppb		84
34) 1,2-dichloroethane	11.76	62	104648	0.91	qqq		98
36) 1,1,1-trichloroethane	11.48	97	161934	0.90	ppb		100
37) Cyclohexane	12.18	56	84274		þþþ		87
38) Carbon tetrachloride	12.11	117	172882		dqq		98
39) Benzene	12.08	78	196350	0.90	ppb		98
40) Methyl methacrylate	13.59	41	55030	0.70	dqq	#	87
41) 1,4-dioxane	13.62	88	22825	0.56	ppb		84
42) 2,2,4-trimethylpentane	12.91	57	280570	0.90	daa		96
43) Heptane	13.24	43	94463	0.88	ppb		89
44) Trichloroethene	13.37	130	89186	0.89	dąą		95
45) 1,2-dichloropropane	13.48	63	80284		ppb		99
	-						

MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP032132.D Vial: 24 Acq On : 22 Mar 2018 9:26 am Sample : ALCS1UGD-032118 Misc : A318_1UG Operator: RJP Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 22 10:57:37 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 : Wed Mar 21 12:56:38 2018
Response via : Initial Calibration

DataAcq Meth : 1UG RUN

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46)	Bromodichloromethane	13.81	83	171905	dqq 09.0	99
47)	cis-1,3-dichloropropene	14.60	75	86240	0.82 ppb	์ 97
48)	trans-1,3-dichloropropene	15.36	75 75	62524	0.84 ppb	96
49)	1,1,2-trichloroethane	15.69	97	86862	dqq 00.00	100
51)	Toluene	15.45	92	99736	0.83 ppb	96
52)	Methyl Isobutyl Ketone	14.51	43	51404m P	0.38 ppb	30
53)	Dibromochloromethane	16.43	129	148397	dqq I8.0	99
54)	Methyl Butyl Ketone	15.86	43	37492m	0.32 ppb	,,,
55)	1,2-dibromoethane	16.69	107	115628	0.84 ppb	98
56)	Tetrachloroethylene	16.51	164	86084	0.87 ppb	97
57)	Chlorobenzene	17.53	112	156178	0.86 ppb	97
58)	Ethylbenzene	17.80	91	198976	0.80 ppb	99
59)	m&p-xylene	18.01	91	367606	1.70 ppb	100
60)	Nonane	18.40	43	126499	0.81 ppb	87
61)	Styrene	18.47	104	150505	0.86 ppb	1.00
62)	Bromoform	18.60	173	133935	0.78 ppb	100
63)	o-xylene	18.50	91	234834	0.89 ppb	100
64)	Cumerie	19.10	105	222076	0.80 ppb	98
66)	1,1,2,2-tetrachloroethane	18.97	83	189213	0.80 ppb	99
67)	Propylbenzene	19.68	120	57742	0.76 ppb	87
68)	2-Chlorotoluene	19.73	126	77376	0.86 ppb	95
69)		19.86	105	246063	0.79 ppb	99
70)	1,3,5-trimethylbenzene	19.93	105	223041	0.81 ppb	99
71)	1,2,4-trimethylbenzene	20.42	105	151869	0.71 ppb	100
72)	1,3-dichlorobenzene	20.75	146	147562	0 82 000	98
73)	benzyl chloride	20.83	91	115004m	0.79 ppb	
74)	1,4-dichlorobenzene	20.90	146	141080	0.81 ppb	99
75)	1,2,3-trimethylbenzene	20.95	105	178719	0.76 ppb	100
76)	1,2-dichlorobenzene	21.26	146	140711	, 0.79 ppb	99
77)	1,2,4-trichlorobenzene	23.38	180	42836m	0.78 ppb	
78)	Naphthalene	23.59	128	51126	0.49 ppb	98
79)	Hexachloro-1,3-butadiene	23.71	225	100824	0.70 ppb	98

(QT Reviewed)

Quantitation Report

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15 INJECTION LOG

	Directory:	C:\HPCHEM	\1\DATA	Injection Log	Instrument # Internal Standard Sto	ck# A2449
Line	Vial FileName	Multiplier	SampleName		Standard Stock # LCS Stock # Misc In Method Ref: EP/	ላ አሃናለ
276 277 278 279 280 281 282 283 284 285	1 Ap031801 2 Ap031802 3 Ap031803 4 Ap031804 5 Ap031806 7 Ap031806 7 Ap031808 9 Ap031808 10 Ap031810	1. d 1. d 1. d 1. d 1. d 1. d 1. d 1. d	BFB1UG A1UG A1UG A1UG_2.0 A1UG_1.50 A1UG_1.25 A1UG_1.0 A1UG_0.75 A1UG_0.50 A1UG_0.30		A301_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG	18 Mar 2018 14:19 18 Mar 2018 16:24 18 Mar 2018 17:04 18 Mar 2018 17:47 18 Mar 2018 18:28 18 Mar 2018 19:09 18 Mar 2018 19:48 18 Mar 2018 20:27 18 Mar 2018 21:05 18 Mar 2018 21:42
	11 Ap031811 12 Ap031812 13 Ap031813 14 Ap031814 Ap031815 1 Ap031901 2 Ap031902 3 Ap031903 4 Ap031904 5 Ap031905	.d 1d 1d 1d 1d 1d 1d 1d 1d 1.	A1UG_0.15 A1UG_0.10 A1UG_0.04 A1UG_0.03 No MS or GC data pres BFB1UG A1UG_A1UG_A1UG_1.0 ALCS1UG-031918 AMB1UG-031918	sent	A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG	18 Mar 2018 22:19 18 Mar 2018 22:56 18 Mar 2018 23:32 19 Mar 2018 00:09 19 Mar 2018 09:15 19 Mar 2018 10:06 19 Mar 2018 10:45 19 Mar 2018 11:51 19 Mar 2018 12:27
296 297 298 299 300 301 302 303 304 305	1 Ap031906 2 Ap031907 3 Ap031908 4 Ap031909 5 Ap031911 7 Ap031911 8 Ap031913 9 Ap031914 10 Ap031915	.d 1d 1d 1d 1d 1d 1d 1d 1d 1.	C1803040 C1803040-001A C1803040-002A C1803040-003A C1803040-005A C1803040-005A C1803040-006A C1803040 C1803040-001A 5x C1803040-002A 5x		A318_1UG -007A VA A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG	19 Mar 2018 13:55 19 Mar 2018 14:38 19 Mar 2018 15:18 19 Mar 2018 15:58 19 Mar 2018 16:38 19 Mar 2018 17:18 19 Mar 2018 17:58 19 Mar 2018 18:35 19 Mar 2018 21:38 19 Mar 2018 22:16
310 311 312 313 314	11 Ap031916 12 Ap031917 13 Ap031918 14 Ap031919 15 Ap031920 16 Ap031921 17 Ap031922 Ap031923 1 Ap032001 2 Ap032002	.d 1d 1d 1d 1d 1d 1d 1d 1d 1.	C1803040-003A 5x C1803040-004A 5x C1803040-005A 5x C1803040-006A 10x C1803040-006A 40x ALCS1UGD-031918 No MS or GC data pres BFB1UG A1UG	ent	A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG	19 Mar 2018 22:53 19 Mar 2018 23:30 20 Mar 2018 00:07 20 Mar 2018 00:44 20 Mar 2018 01:20 20 Mar 2018 02:00 20 Mar 2018 08:18 20 Mar 2018 09:48 20 Mar 2018 10:37
316 317 318 319 320 321 322	3 Ap032003 4 Ap032004 5 Ap032005 6 Ap032006 7 Ap032007 8 Ap032008 9 Ap032010 10 Ap032011 11 Ap032011	d 1. d 1. d 1. d 1. d 1. d 1. d 1. d 1.	A1UG_1.0 ALCS1UG-032018 AMB1UG-032018 C1803040-007A C1803040-006A 270X C1803046-001A C1803046-002A C1803046-003A C1803046-001A 10x C1803046-001A 40x		A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG	20 Mar 2018 11:17 20 Mar 2018 12:16 20 Mar 2018 12:53 20 Mar 2018 13:30 20 Mar 2018 14:48 20 Mar 2018 15:45 20 Mar 2018 16:25 20 Mar 2018 17:06 20 Mar 2018 18:17 20 Mar 2018 18:54
326 327 328 329 330	13 Ap032013 14 Ap032014 15 Ap032015 16 Ap032016 17 Ap032017	d 1. d 1. d 1.	C1803046 C1803046-002A 20x C1803046 C1803046-003A 20x C1803045-011A		A318_1UG -002A 10x A318_1UG A318_1UG -003A 10x A318_1UG A318_1UG	20 Mar 2018 19:31 20 Mar 2018 20:08 20 Mar 2018 20:45 20 Mar 2018 21:22 20 Mar 2018 22:02

26 Mar 2018 15:10

	C	Orectory:	С:\НРСНЕМ	\1\DATA	Injection	Internal Standard Stock # Standard Stock # A LCS Stock # A 2	<u>ኢԿ 5 Q</u>	* A2461 * A2462 * 42463
_ine	Vial	FileName	Multiplier	SampleName		MetMisoRafoEPA TO		
331 332 333 334 335 336 337 338 339 340	20 21	Ap032018.c Ap032019.c Ap032021.c Ap032021.c Ap032022.c Ap032023.c Ap032025.c Ap032026.c Ap032027.c	1 1. 1 1. 1 1. 1 1. 1 1. 1 1.	C1803045-011A MS C1803045-011A MSD C1803045-001A C1803045-002A C1803045-003A C1803045-004A C1803045-005A ALCS1UGD-032018 C1803045-006A C1803045-007A		A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG		20 Mar 2018 22:48 20 Mar 2018 23:35 21 Mar 2018 00:16 21 Mar 2018 00:57 21 Mar 2018 01:38 21 Mar 2018 02:18 21 Mar 2018 03:00 21 Mar 2018 03:40 21 Mar 2018 04:21 21 Mar 2018 05:03
341 342 343 344 345 346 347 348 349 350	30 31	Ap032028.c Ap032029.c Ap032031.c Ap032032.c Ap032033.c Ap032034.c Ap032101.c Ap032102.c Ap032103.c	1 1. 1 1. 1 1. 1 1. 1 1. 1 1. 1 1.	C1803045-008A C1803045-009A C1803045-010A C1803045-012A C1803045-013A C1803045 No MS or GC data pres BFB1UG A1UG_1.0	sent	A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG -011 A318_1UG A318_1UG	A 10X	21 Mar 2018 05:44 21 Mar 2018 06:24 21 Mar 2018 07:06 21 Mar 2018 07:47 21 Mar 2018 08:29 21 Mar 2018 09:06 21 Mar 2018 10:36 21 Mar 2018 11:21 21 Mar 2018 12:00
351 352 353 354 355 356 357 358 359 360	4 5 6 7 8 1 2 3	Ap032104.d Ap032106.d Ap032107.d Ap032108.d Ap032109.d Ap032110.d Ap032111.d Ap032111.d Ap032113.d	1 1. 1 1. 1 1. 1 1. 1 1. 1 1.	ALCS1UG-032118 AMB1UG-032118 C1803053-001A C1803053-002A C1803053-001A 10X C1803052-002A C1803052-002A MS C1803052-002A MSD C1803052-001A C1803052-001A	N	A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG	* *	21 Mar 2018 12:47 21 Mar 2018 13:23 21 Mar 2018 15:17 21 Mar 2018 15:57 21 Mar 2018 16:38 21 Mar 2018 17:44 21 Mar 2018 18:30 21 Mar 2018 19:17 21 Mar 2018 19:58 21 Mar 2018 20:38
361 362 363 364 365 366 367 368 369 370	9 10 11 12 13 14	Ap032114.d Ap032115.d Ap032116.d Ap032117.d Ap032118.d Ap032120.d Ap032121.d Ap032123.d Ap032123.d	1 1. 1 1. 1 1. 1 1. 1 1. 1 1.	C1803052-004A C1803052-005A C1803050-002A C1803050-003A C1803050-004A C1803050-006A C1803050-007A C1803050 C1803050-010A C1803050-012A		A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG		21 Mar 2018 21:19 21 Mar 2018 21:59 21 Mar 2018 22:39 21 Mar 2018 23:20 22 Mar 2018 00:01 22 Mar 2018 00:41 22 Mar 2018 01:21 22 Mar 2018 02:04 22 Mar 2018 02:44 22 Mar 2018 03:25
371 372 373 374 375 376 377 378 379 380	17 18 19 20 21 22 23 24	Ap032124.d Ap032125.d Ap032126.d Ap032127.d Ap032128.d Ap032129.d Ap032130.d Ap032131.d Ap032133.d Ap032133.d	1. 1. 1. 1. 1. 1. 1. 1.	C1803050-013A C1803050-014A ALCS1UGD C1803050-001A C1803050-005A C1803050-008A C1803050-011A C1803050-009A ALCS1UGD-032118 C1803050-002A 5x		A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG A318_1UG		22 Mar 2018 04:05 22 Mar 2018 04:45 22 Mar 2018 05:25 22 Mar 2018 06:05 22 Mar 2018 06:45 22 Mar 2018 07:25 22 Mar 2018 08:06 22 Mar 2018 08:46 22 Mar 2018 09:26 22 Mar 2018 10:03
381 382 383 384 385	1 2 3	Ap032134.d Ap032201.d Ap032202.d Ap032203.d Ap032204.d	1. 1. 1.	No MS or GC data pres BFB1UG A1UG A1UG_1.0 ALCS1UG-032218	sent	A318_1UG A318_1UG A318_1UG A318_1UG		22 Mar 2018 11:06 22 Mar 2018 11:51 22 Mar 2018 12:30 22 Mar 2018 13:14

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

GC/MS Calibration Standards Logbook Centek Laboratories, LLC

	CIC	Lab	Olai	COLIC	es, L															·····	
Chkd by																					
Prep by	72,	**)	H	27g	77	Z.											-3	
Final Conc (ppb)	50	500	<u>ي</u>		→	IG PPM	SEC IPPM	bw LCS	50		ر	20		50			500	0'./		وو	
Stock Conc Initial Vol (psig) Finial Vol (psia)	30	->	45		→	2000 PS	F 2200 P	STOISNOW	2)		···	}	43	30		- ₹	45		٥_	
Initial Vol (psig	ر ارک	\rightarrow	<u>ه</u>		\	LINDE		A 1807	7.	M -y	-9	>1	3.0	0,20	3,0	, S,	~_\$	7.5.0		e	
Stock Conc	m od	1000	50/00		→	84 <u>7</u> 2	137Lh-	1 ppm	1001			1000	8000 X	M. 5.40M	\$ 500 PAGE	18270 [Ge	1000	5.6,000		-2	
Stock #	A0270	A0269	A 2304			Г_	亡	A 1807	A2316	A3317	81829	9518	A2322	HUSON	21018 C	17/200 17/8000	A0269	A2315	A2320	42321	
Description	17	H25	TOIS TUGITS		53	105	 	TO15 1 CS	1017 H		537	4 pc.th	# PCH3	FORM	5/40x	SULF	1625	TOIR 106 TS	, <i>1</i> 20	7,65	W
Date Exp	12/15/17				3	20171	7 12 15 18	12 1811 121818 TOIS	7/07 12/2/			. The same of the same								7772	9
Date Prep		-			>	12 Gill 1-1	1	1										gy þrágfirstaðarrið		VR	و
# 55	A. 2311	4-2317	A. 7312	a. 0.312	A-2315	A-2311		7 V 23 K			1. 1.7. A	A-1717	A-1333	A- 722+	A-1725	A-2326	4-23,27	A-2725	A-23329	A-2330	A-493

FORM 153

Logbook
Standards
Calibration
GC/MS (

رCentek Laboratories, LLC و	aborator	ies, LLC			GC/MS Cal	ibration Sta	GC/MS Calibration Standards Logbook	ook		
# pts 1	Date Prep	Date Exp	Description	Stock #	Stock Canc	Stock Conc Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
1	3119 6	3 ଓ ଓ	TOIS HZS	15432 A	15 Journ	S. 28 (S.)	30	500	<u>(3</u>	
54-243)		ç	12	L	1. do03	υ, Ο,	45	4		
% A-24-38				352 H	\ = -					
A-2499	<i>→</i>	<u> </u>	J 455	LCS 12730		→	>	→)	→	
4.244D	3/13/18	3/20/18	TOIS IS	A2316	, 60 Vigo	1.5.	S S	50	Λ ₃	
hh2.4	<u></u>		(L)	(152H)			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	, <u></u>	
4.2442			San	A2318						
A.2443	,	,	T-SG-T	9519	-	${ ightharpoond}$	→	>		
4.2444			4-P.C.19	4PCHS 172443	50,005	3.0	30	10		
4.2445.A			300	Form 17331	11.9 m	61.0	45	50		
A. ZYYYb			(C)11 5	SHOX AIOS	Scopply	3.0	30	50		
A. 2447			72.5	Set A6270	l Oprin	1.5	3.0	S.		
A-2448			S2H ~	A0269	10 00m	73,	30	500		
A.2449			105 ING 15	A2440	50 mb	6.9	151	_		
4.2450			S 力	5-72 (4-244)		, A. 17				
A.245/	\rightarrow	۔ ح	\$37 A	LCS A2442	→	→ >	⊋	7	\rightarrow	
4.2452	3/20/18	3/27/18	705	1 A2316	1 Dom	15	30	S	3	
A.2453			AS	T1824 K				_1,,,		
12454			507	\$ 42318						
A. 2455			HACH		-4	\Rightarrow	->	<i>></i>		
A. 2456	>	>	#34h	4Rest A2455	90005	30	30	ĴÇ	>	

FORM 153

Cente	k k k	abφ	rato	ries	s, LL	.C							ļ			1			İ		ĺ			
Cente	Prep by C	A3						>																
GC/MS Calibration Standards Logbook	Final Conc (ppb)	50	SO	25	SOC	7		>																
	Finial Vol (psia)	45	30	30	30	45		\rightarrow															**************************************	Page #
ibration Sta	Stock Conc Initial Vol (psig)	61.0	3.0	1,5	1.5	6.9		\Rightarrow																
GC/MS Ca	Stock Conc	11.9 som	500005	1.00°	MC0 Q	50,005	-	→										,						
	Stock #	13331	Tasks Factor	Sout ROZTO	1425 A0269	IS A 2452	572 192453	42454																
	Description	12,	Sicol	7105	14.2S	TOIS 146 T.S		J 165																
Centek Laboratories, LLC	Date Exn					17		>																
	Date Pren	2 20 16						\Rightarrow																
Centek	# 7.50	しいさん。	245K	7450	12 - X	A. 246	A-2462	A.2463	A -	Ą	Ą	Α-	Α.	Α.	Ą	A.	¥.	A-	Å	A.	A-	Ą.	EORM 153	

Page 133 of 148

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

Leak Test 24hr Int & Date **QC Canister Cleaning Logbook** 30 8 + 30 + 30 + 30 + 30 + 30 + 30 + 30 + 30 + 30 + 30 £ 33 8 + 39 + 30 + 30 + 30 ± 30 + 30 + 30 + 30 + 30 + 33 + 30 + 30 Detection Limits 1 pt + 0.3 WACDINS/18B QC Batch Number).1
 Canister Number
 Canister Size
 QC Can Number
 # of Cycles
 Int & Date Cleaned

 1005
 113/15

 201
 201
 113/15
 Centek Laboratories, LLC b Instrument: Entech 3100 <u> १</u>३४२ 32 20% 1203 7 50 P 5 X H 1 206 196 (200) 37.2 210 7 $\bar{\zeta}$

QC Canister Cleaning Logbook

נו	
entek Laboratories, L	astrument: Entech 3100
	10

	A Laboratories, LLO																									
Int & Date	3/13/18 +30				. ,		::::::::::::::::::::::::::::::::::::::		······································	og og men e		Ivanarativ		W. J. J. J. J. J. J. J. J. J. J. J. J. J.	Nagly along the second	U		, primerana			フ	·				
Leak Test 24hr Int & Date	//8 +	<u>.</u>	- 1	+	-1 ∳•	. +	+	+	+	+	*	+,	t.	manus de ma	+	-manufu-	<u>+</u>	4+	. †			+	+	+	+	148
Fea	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	÷ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	+ 30	. 90 +	+ 30	+ 30	+ 30	+ 30	+ 30	. 90 +	+ 30	+ 30	+ 30	:
Detection Limits	40.3	· · · · · · · · · · · · · · · · · · ·																		7						
Detect	11/19	10								L LUNG AUTTORIS																
Number	NIKA					B	,				V	,				Q										
OC Batch Number	WAC 030718A																-			-5						
Cleaned	1 4		u.u.iamuum		·				·	***************************************						THE TAKE						ALIPI MUMANIA	THE PROPERTY OF			
Int & Date Cleaned	3/1/1																			5						
# of Cycles	20																								و	
<u> </u>											LF LL TAFFE															
Canister Size QC Can Number	9bh		,		∌	1193				う	248	ļ			⋺	290	<u></u>			\Rightarrow						
ter Size O	,																		.,,							-
-	-								nanasa manaran								ann muranen		-						_	
ეპanister Number	t 557	シュンションションションションションションションションションションションションション	1188	25	767	550	225	98	555	193	275	328	205	8 X //	248	137	207	288	U 59	290						

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2018JAN\AP011506.D Vial: 6 Acq On : 15 Jan 2018
Sample : WAC011517B
Misc : A113_1UG Operator: RJP 1:24 pm Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT,P

Quant Time: Jan 15 15:52:42 2018 Quant Results File: A113_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A113_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

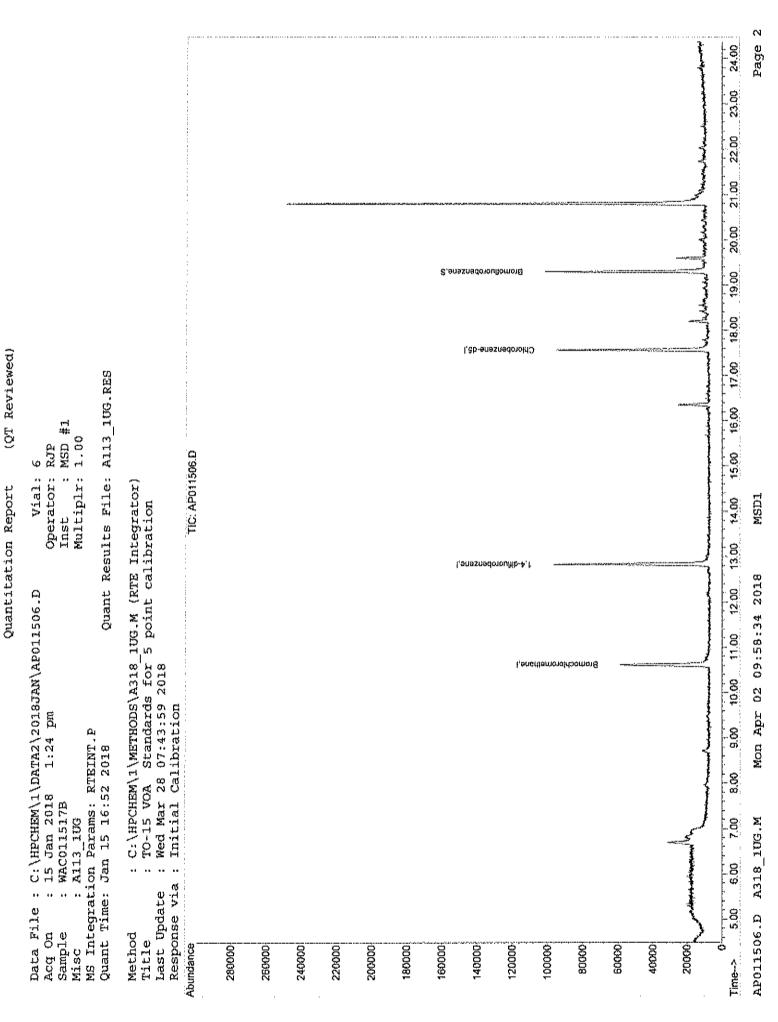
Last Update : Sat Jan 13 19:19:06 2018

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards		R.T.	QIon	Response (one U	nits Dev	(Min)				
1) Bromochloromet 35) 1,4-difluorobe 50) Chlorobenzene-	nzene	10.60 12.82 17.56	128 114 117	26841 101583 73757	1.00 1.00 1.00	ppb	0.01 0.00 0.00				
System Monitoring C 65) Bromofluoroben Spiked Amount		19.29 Range 70	95 - 130	38620 Recovery	0.79	ppb 79.00%	0.00				
Target Compounds											

Target Compounds Qvalue



Page 138 of 148

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 : WAC011517C Inst : MSD #1
Misc : Al13_1UG Multiplr: 1.00

MS Integration Params: RTEINT,P
Quant Time: Jan 15 15:52:32 2018 Quant Results File: Al13_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A113_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

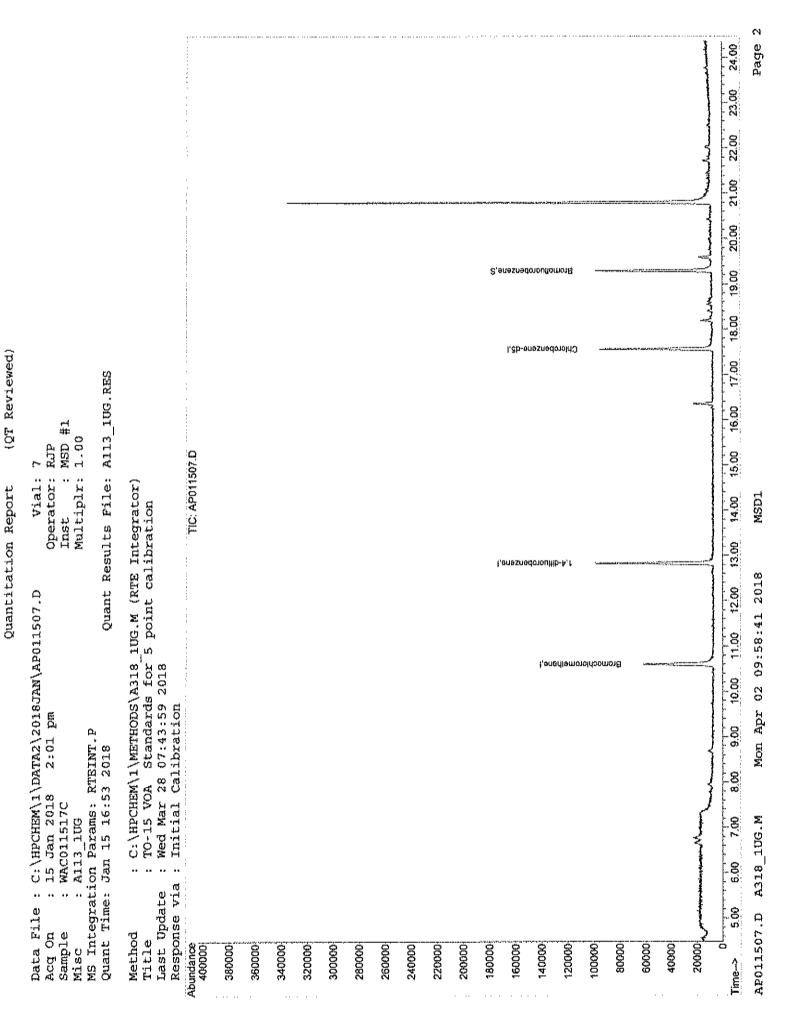
Last Update : Sat Jan 13 19:19:06 2018

Response via : Initial Calibration

DataAcq Meth : 1UG RUN

Internal Standards	R.T.	QIon	Response C	onc U	nits Dev	/(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.60 12.83 17.56	128 114 117	27870 102314 71806	1.00	dąą	0.01 0.00 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.29 Range 70	95 - 130	37132 Recovery	0.78 =	ppb 78.00	0.00

Target Compounds Qvalue



Page 140 of 148

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP030708.D Vial: 21 Acg On : 7 Mar 2018 3:54 pm Operator: RJP Sample : WAC030718A Misc : A301_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 08 08:02:26 2018 Quant Results File: A301 1UG.RES

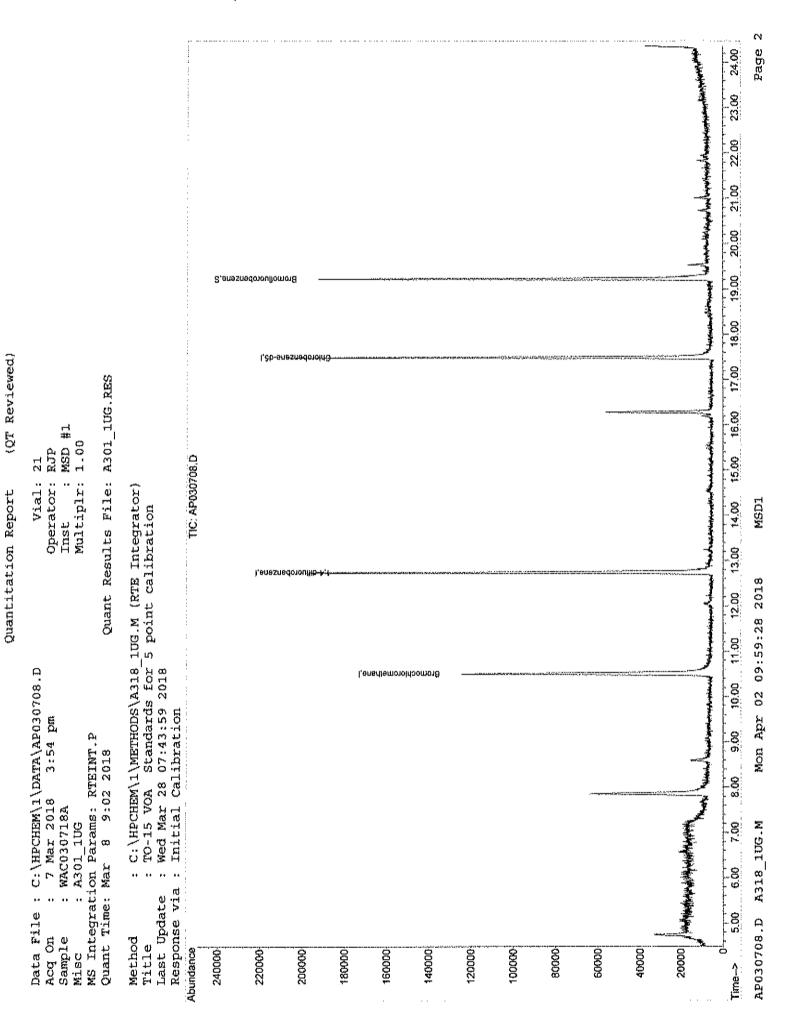
Quant Method : C:\HPCHEM\1\METHODS\A301 1UG,M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Thu Mar 01 21:00:43 2018

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response (Conc Unit	s Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.50 12.74 17.49	128 114 117	52155 212882 145461	1.00 pg 1.00 pg 1.00 pg	b -0.01
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.22 Range 70	95 - 130	78577 Recover	0.83 pg	ь 0.00 3.00%

Qvalue Target Compounds



Page 142 of 148

Quantitation Report

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP030709.D Vial: 22 Acq On : 7 Mar 2018 Operator: RJP 4:32 pm Sample : WAC030718B Misc : A301_1UG Inst : MSD #1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 08 08:02:27 2018 Quant Results File: A301 1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A301_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Thu Mar 01 21:00:43 2018 Response via : Initial Calibration

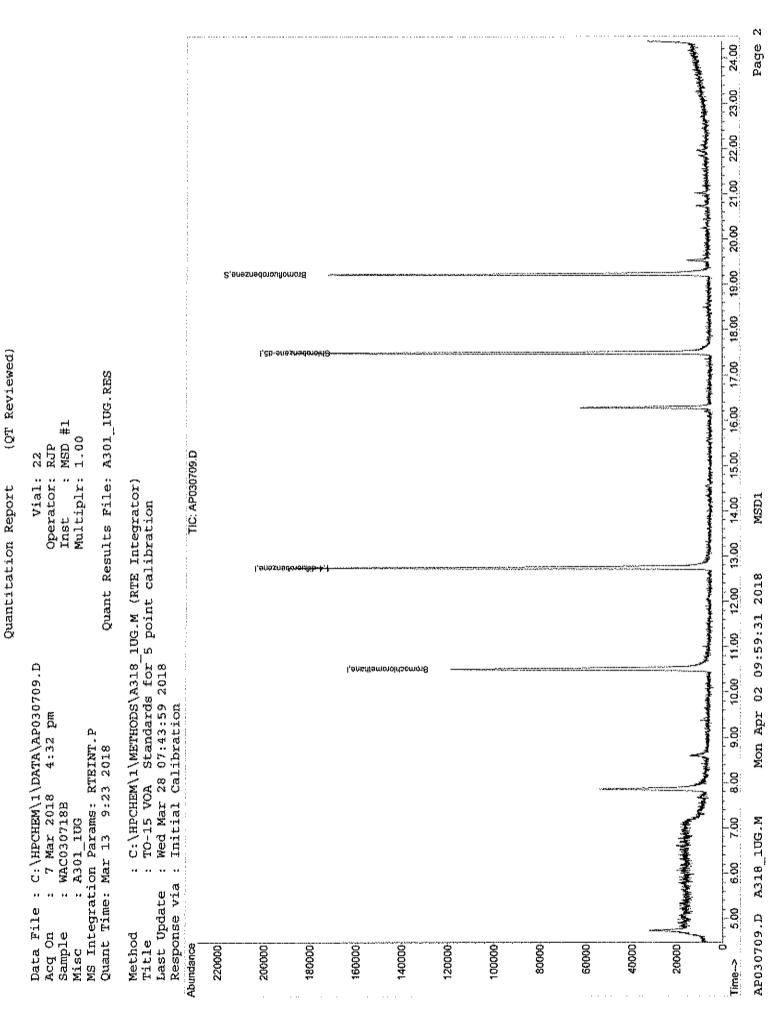
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc U	nits Dev(Mi	n)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.51 12.74 17.49	128 114 117	50324 204900 141559	1.00 1.00 1.00	ppb -0.	
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.22 Range 70	95 - 130	71876m Recover		ppb 0.	00

Target Compounds

Qvalue

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AP030709.D A318_1UG.M Mon Apr 02 09:59:30 2018 MSD1



Page 144 of 148

Quantitation Report

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP030710.D Vial: 23 Acq On : 7 Mar 2018 5:10 pm Operator: RJP Sample : WAC030718C Misc : A301_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A301 1UG.RES Quant Time: Mar 08 08:02:28 2018

Quant Method : C:\HPCHEM\1\METHODS\A301_1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Thu Mar 01 21:00:43 2018

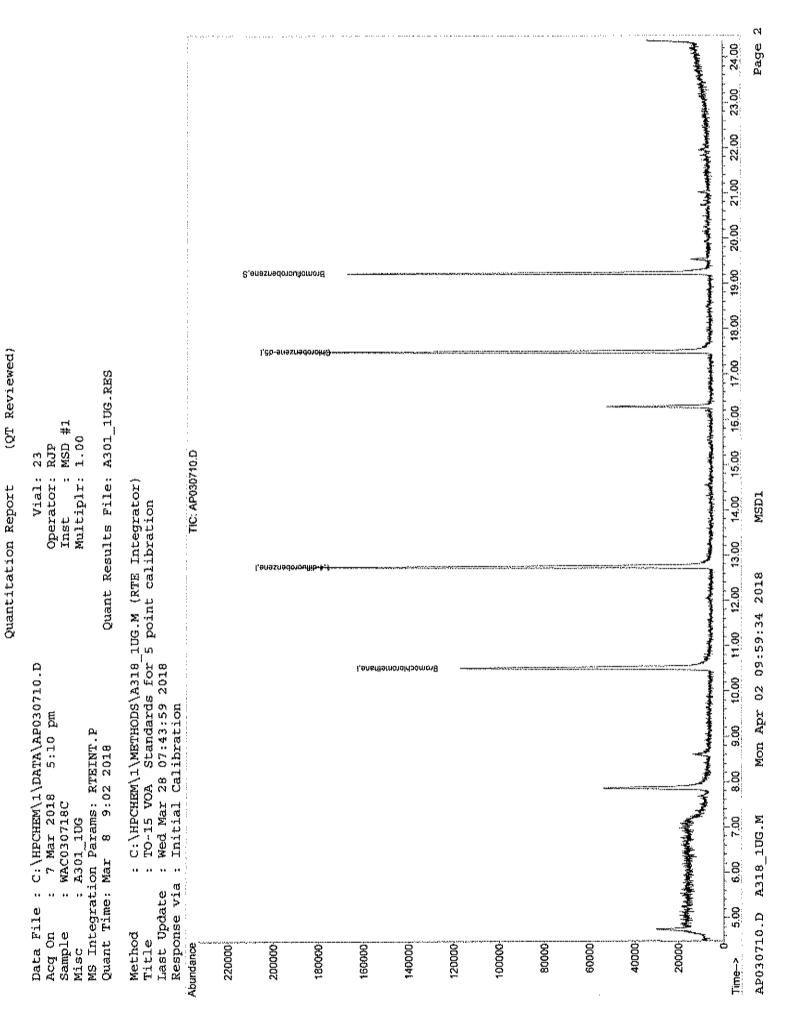
Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc Unit	s Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	10.51 12.74 17.49	128 114 117	51765 201385 138217	1.00 pr 1.00 pr 1.00 pr	0.00 de
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.22 Range 70	95 - 130	66113 Recover	0.74 pr	ob 0.00

Qvalue Target Compounds

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AP030710.D A318_1UG.M Mon Apr 02 09:59:33 2018 MSDl



Page 146 of 148

Quantitation Report

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AP030711.D Vial: 24 Operator: RJP Acq On : 7 Mar 2018 5:47 pm Sample : WAC030718D Misc : A301_1UG Inst : MSD #1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 08 08:02:29 2018 Quant Results File: A301 1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A301 1UG.M (RTE Integrator) Title : TO-15 VOA Standards for 5 point calibration Last Update : Thu Mar 01 21:00:43 2018

Response via : Initial Calibration

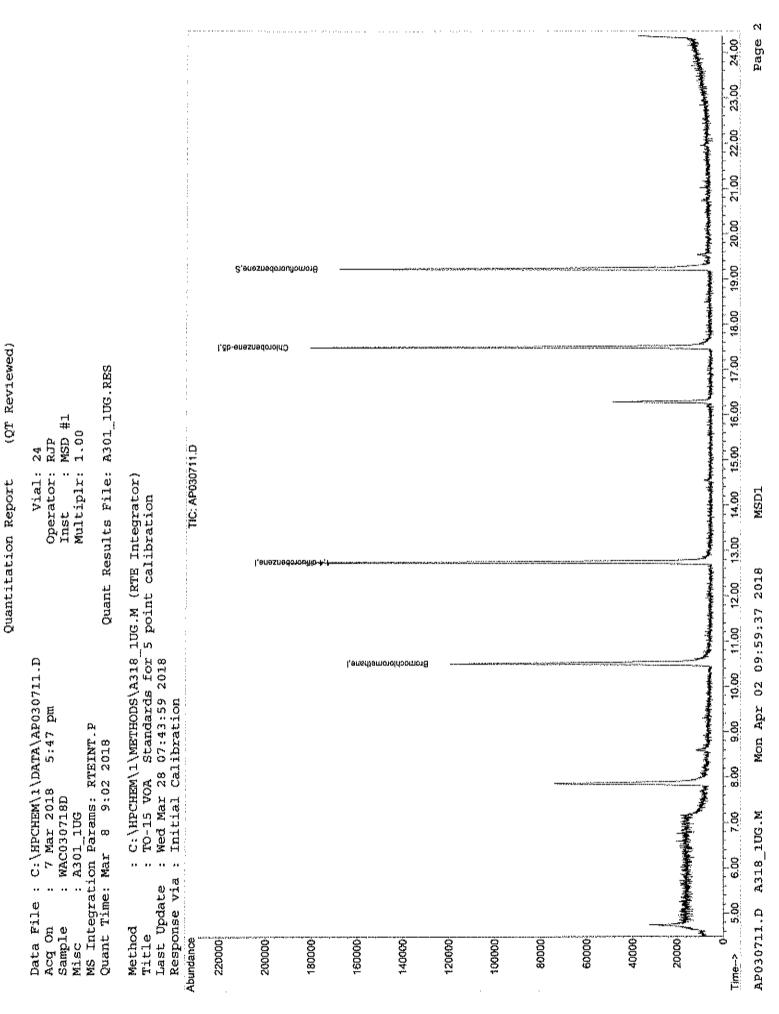
DataAcq Meth : 1UG_RUN

Internal Standards	R.T. Q	Ion Response	Conc Units Dev(Min)
1) Bromochloromethane 35) 1,4-difluorobenzene 50) Chlorobenzene-d5	12,74	128 47144 114 199590 117 134272	1.00 ppb -0.01 1.00 ppb -0.01 1.00 ppb 0.00
System Monitoring Compounds 65) Bromofluorobenzene Spiked Amount 1.000	19.23 Range 70 -	95 65973 130 Recove:	0.76 ppb 0.00 ry = 76.00%

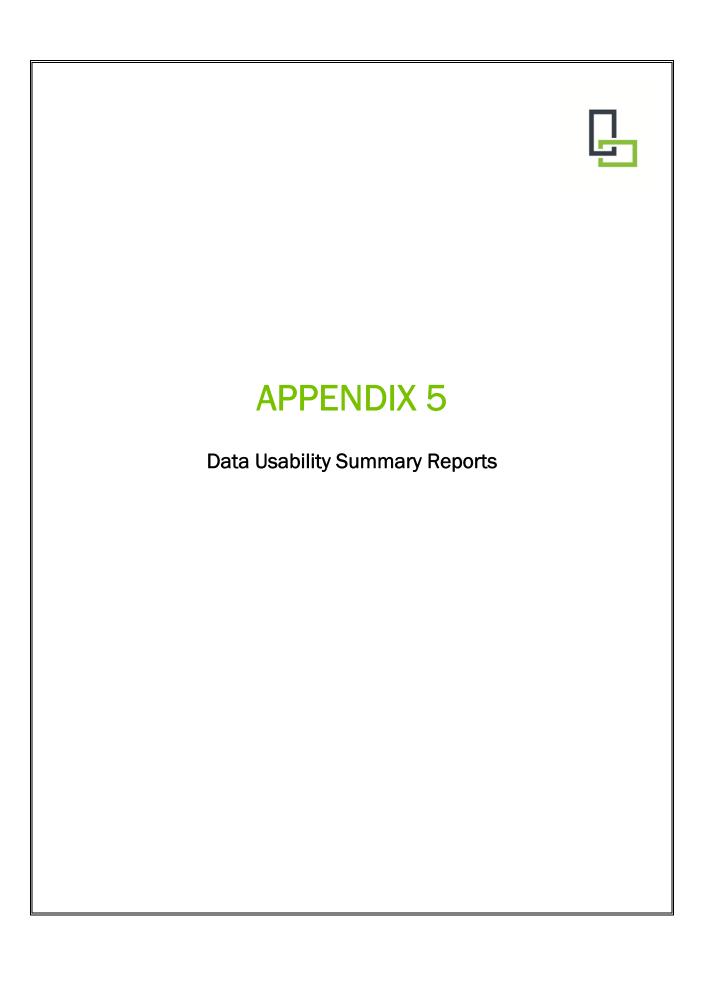
Target Compounds

Qvalue

^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed AP030711.D A318_1UG.M Mon Apr 02 09:59:36 2018



Page 148 of 148



DATA USABILITY SUMMARY REPORT

for

LaBella Associates, P.C.

300 State Street

Rochester, NY 14614

FORMER EMERSON LANDFILL
Project 210173
SDG: C1605057
Sampled 5/19/2016

TO-15 AIR SAMPLES

1740-SVI-1	(C1605057-01)
1740-IAQ-1	(C1605057-02)
1740-SVI-2	(C1605057-03)
1740-IAQ-2	(C1605057-04)
1740-SVI-3	(C1605057-05)
1740-IAQ-3	(C1605057-06)
OUTDOOR AIR	(C1605057-07)
DUPE	(C1605057-08)

DATA ASSESSMENT

One data package containing analytical results for eight TO-15 samples was received from LaBella Associates, P.C. on 19Jul16. The ASP deliverables package included formal reports, raw data, the necessary QC, and supporting information. The samples, taken from the Former Emerson Landfill Site, were identified by Chain of Custody documents and traceable through the work of Centek Laboratories, LLC, the laboratory contracted for analysis. The analyses were performed using US EPA Method TO-15 and addressed measurements of ten volatile organic compounds. Laboratory data was evaluated according to the quality assurance / quality control requirements of the New York State Department of Environmental Conservation's Analytical Services Protocol September 1989, Rev. 07/2005. When the required protocol was not followed, the current EPA Region II Functional Guidelines (SOP HW-31, Rev. #4, October 2006, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15) was used as a technical reference.

The results reported from 1740-SV-1, 1740-SV-3 and 1740-IAQ-3 have been qualified as estimations because the samples were not collected properly and may not be representative.

The presence of cis-1,2-dichloroethene in 1740-SVI-3 and trichloroethene in the DUPE could not be verified, based on the mass spectra references included in the raw data. Trichloroethene and cis-1,2-dichloroethene should be interpreted as undetected in these samples.

CORRECTNESS AND USABILITY

Reported data should be considered technically defensible and completely usable in its present form. Reported concentrations that are felt to provide a usable estimation of the conditions at the time of sampling have been flagged "J", "UJ" or "U". Estimated data should be used with caution. A detailed discussion of the review process follows.

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

Reviewer's signature: James B. Baldwin Date: 20 July 16 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 seven TO-15 samples that were collected in 1-liter SUMMA canisters, and one outdoor air sample that was collected in a 1.4-liter canister. Sampling was completed on 19May16. The canisters were shipped back to the laboratory, via FedEx-ground, on 19May16 and were received on 23May16. Although the sample canisters were received intact and properly labeled, custody seals were not present on the packaging.

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

SAMPLE	PRIOR TO SHIPMENT ("Hg)	PRIOR TO SAMPLING ("Hg)	POST SAMPLING ("Hg)	LAB RECEIPT ("Hg)
1740-SVI-1	-30	-30	-4.5	-5
1740-IAQ-1	-30	-30	-4	-4
1740-SVI-2	-30	-30	-3.5	-4
1740-IAQ-2	-30	-30	-5	-5
1740-SVI-3	-30	-30	-4	-4
1740-IAQ-3	-30	-29	-5	-5
OUTDOOR AIR	-30	-30	-4	-4
DUPE	-30	-30	-4	-4

The canister regulators were set in the laboratory to collect 6-hour samples. The collection of each sample was terminated based on the canister vacuum reading. Every sampling except 1710-SVI-1, 1740-SVI3 and 1740-IAQ-3 was terminated within twenty minutes of the six hour target. 1740-SV-1 and 1740-SV-3 were terminated after three hours, and 1740-IAQ-3 after four. The results reported from 1740-SV-1, 1740-SV-3 and 1740-IAQ-3 have been qualified as estimations because the samples were not collected properly and may not be representative.

The vacuum readings recorded after sampling and at the time of laboratory receipt indicated that the integrity of each sample was maintained during this period. The analysis of this group of samples was completed between 25May16 and 27May16. The ASP holding time limitation was satisfied.

CANISTER CERTIFICATION

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

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

BLANKS

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

Three method blanks were analyzed with this group of samples. Each of these blanks demonstrated acceptable chromatography and was free of targeted analyte contamination.

MS TUNING

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

BFB ion abundance criteria was reported from standards run before the initial instrument calibration and prior to the analysis of program samples. Each of these checks satisfied the ASP acceptance criteria.

CALIBRATION

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

The initial instrument calibration was performed on 05May16. Standards of 0.04, 0.10, 0.15, 0.30, 0.50, 0.75, 1.0, 1.25, 1.50 and 2.0 ppbV were included. Each targeted analyte produced the required levels of instrument response and demonstrated an acceptable degree of linearity during this calibration.

Continuing calibration check standards were analyzed on 24May16, 25May16 and 26May16, prior to the 24-hour periods of instrument operation that included samples from this program. When compared to the initial calibration, an acceptable level of instrument stability was demonstrated by each targeted analyte.

SURROGATES

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

Although surrogate summary sheets were properly prepared, an incorrect acceptance criteria was applied. When compared to the

ASP requirements, however, an acceptable recovery was reported for each surrogate addition to this group of samples,

INTERNAL STANDARDS

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

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

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

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

Three pairs of spiked blanks (LCS/LCSD) were analyzed with this group of samples. Each of these spiked blank pairs demonstrated acceptable levels of measurement precision and accuracy.

DUPLICATES

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

Although a blind duplicate sample was included in this delivery group, it was not identified. It is noted that the previously addressed spiked samples and spiked blanks demonstrated acceptable levels of measurement precision.

REPORTED ANALYTES

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

The identifications of cis-1,2-dichloroethene in 1740-SVI-3 and trichloroethene in the DUPE could not be verified, based on the mass spectra references included in the raw data. Trichloroethene and cis-1,2-dichloroethene should be interpreted as undetected in these samples.

SUMMARY OF QUALIFIED DATA

	FORTER EMENSON DANDELL				
		MASS SPECTRA ID CIS-1,2-DICHLOROETHENE	MASS SPECTRA ID TRICHLOROETHENE	SAMPLING	
40-SVI-	505057-			ALL J/UJ	
1740-IAQ-1	(C1605057-02)				
7	505057-				
1.	505057-				
7	1	0.590		ALL J/UJ	
1	1605057-			ALL J/UJ	
OUTDOOR AIR	1				
DUPE	1		0.210		

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C. Client Sample ID: 1740 -SVI-1

Lab Order: C1605057 Tag Number: 357,278

Project: Emerson Landfill Collection Date: 5/19/2016

Lab ID: C1605057-001A Matrix: AJR

Analyses	Result	**Limit Qua	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15			Analysi: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	5/26/2016 9:02:00 AM
1,1-Dichtoroethane	< 0.61	0.61	ug/m3	1	5/26/2016 9:02:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/26/2016 9:02:00 AM
Chloroethane	< 0.40	D.40	ug/m3	1	5/26/2016 9:02:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	5/26/2016 9:02:00 AM
cis-1,2-Dichtoroethene	< 0.59	0.59	ug/m3	1	5/26/2016 9:02:00 AM
Tetrachloroethylane -	1.7 1	1.0	ug/m3	1	5/26/2018 9:02:00 AM
trans-1,2-Dichtoroethens	< 0.59 U J	0.59	ug/m3	1	5/26/2016 9:02:00 AM
Trichloroethene -	3.3 🚺	0.81	ug/m3	1	5/26/2016 9:02:00 AM
Vinyl chloride -	0.59 1	0,38	Emlgu	3	5/26/2016 9:02:00 AM



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

cis-1,2-Dichloroethene

trans-1,2-Dichtoroethone

Tetrachloroethylene

Trichloroethene

Vinyl chtoride

Date: 05-Jul-16

5/25/2016 4:47:00 AM

5/25/2018 4:47:00 AM

5/25/2016 4:47:00 AM

5/25/2016 4:47:00 AM

5/25/2016 4:47:00 AM

CLIENT: LaBella Associates, P.C. Client Sample ID: 1740-1AQ-1

Lab Order: C1605057 Tag Number: 552,1154

Project: Emerson Landfill Collection Date: 5/19/2016
Lab ID: C1605057-002A Matrix: AlR

< 0.59

< 1.0

< 0.59

< 0.21

< 0.10

**Limit Qual Units DF Date Analyzed Result Analyses Analyst: RJP TO-15 1UG/M3 W/ 0.25UG/M3 CT-TCE-VC 5/25/2016 4:47:00 AM 1,1,1-Trichloroethane < 0.82 0.82 ug/m3 5/25/2016 4:47:00 AM < 0.61 0.61 ug/m3 1 1,1-Dichtoroethane 5/25/2016 4:47:00 AM 0.59 ug/m3 1,1-Dichloroethene < 0.59 5/25/2016 4:47:00 AM Chloroethane < 0.40 0 40 ug/m3 5/25/2016 4:47:00 AM 0.31 ug/m3 Chloromethane < 0.31

0.59

1.0

0.59

0.25

0.10

ug/m3

ug/m3

ug/m3

ug/m3

ug/m3



- ** Quantitation Limit
- B Analyle detected in the associated Method Blank
- H Holding times for proparation or analysis exceeded
- 3N Non-routine analyte. Quantitation estimated.
- S Spike Recovery outside accepted recovery limits

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

Date: 05-Jul-16.

CLIENT:

Laldella Associates, P.C.

Lab Order:

C1605057

Project:

Emerson Landfill

Lab ID:

C1605057-003A

The state of the s Client Sample ID: 1740-SVI-2

Tag Number: 133,300

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
TUG/M3 BY METHOD TO15		TO-	-15			Analyst: RJP
1.1.1-Trichkroethane -	0.76	0.82	\$	ug/m3	1	5/26/2016 1:56:00 PM
1.t-Dichtoroethane	< 0.61	0.61		ug/m3	1	5/26/2016 1:56:00 PM
1.1-Dichtproethene	< 0.59	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Chioroethane	< 0.40	0.40		ug/m3	1	5/26/2016 1:55:CO PM
Chloromethane	< 0,31	0.31		ug/m3	1	5/26/2016 1:56:00 PM
cis-1.2-Dichloroethene -	8.2	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Tetrachloroethylene -	2.5	1.0		นตู/m3	1	5/26/2016 1:56:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	5/26/2016 1:56:00 PM
Trichloroethene -	16	1.6		ug/m3	2	5/27/2018 3:24:00 AM
Vinyl chloride -	1.2	0.38		บฐ/m3	2	5/26/2016 1:56:00 PM



- ** Quantitation Limit
- Analyte detected in the associated Method Blank 13
- Holding times for preparation or analysis exceeded
- Non-contine analyte. Quantitation estimated. IN
- Spike Recovery outside accepted recovery finits
- Results reported are not blank corrected
- Estimated Value above quantitation range E
- Analyte detected below quantitation limit
- ND Not Detected at the Limit of Detection

Date: 05-Jul-16

CLIENT:

LaBella Associates, P.C.

Lab Order:

C1605057

Project:

Emerson Landfill

Lab ID:

C1605057-004A

Client Sample ID: 1740-1AQ-2

Tag Number: 95,266

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qu	al Guits	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1, 1, 1-Trichloroethane	< 0.82	0.82	ug/m3	1	5/25/2016 5:28:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/25/2016 5:28:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 5:28:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 5:28:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	5/25/2016 5:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 5:28:00 AM
Tetrachloroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 5:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 5:28:00 AM
Trichloroethene	< 0.21	0.21	ug/m3	*	5/25/2016 5:28:00 AM
Viny; chloride	< 0.10	0.10	ug/m3	1	5/25/2016 5:28:00 AM



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

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-005A

ssociates, P.C. Client Sample ID: 1740-SVI-3

Tag Number: 237,1172

Collection Date: 5/19/2016

Matrix: AlR

Analyses	Result	**Limit Qua	d Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
†.1.1-Trichtoroethane	< 0.82	0.82	ug/m3	4	5/26/2016 2:36:00 PM
1.1-Dichtoroethane	< 0.61	0.61	ug/m3	1	5/28/2016 2:36:00 PM
1.1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/26/2016 2:36:00 PM
Chloroethana	< 0.40	0.40	ug/m3	1	5/26/2016 2:36:00 PM
Chloromethana	< 0.31	0.31	ug/m3	1	5/26/2016 2:36:00 PM
cis-1,2-Dichloroethene	0.59 7.8 UJ	0.59	ug/m3	1	5/26/2016 2:36:00 PM
Tetrachloroethylene	< 1.0 U	1.0	ug/m3	1	5/25/2016 2:38:00 PM
trans-1.2-Dichtorgethene	< 0.59	0.59	ug/m3	1	5/26/2016 2:36:00 PM
Trichloroethane -	5.9 🗻	0.81	ug/m3	1	5/25/2016 2:36:00 PM
Vinyl chloride	< 0.38 U	0.38	ug/m3	1	5/26/2018 2:35:00 PM



Contitone	**	Ownlitation	t imile
Qualifiers:	4.0	Quantitation	£,]17]11

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- IN Non-routine analyte, Quantitation estimated.
- S Spike Recovery matride accepted recovery limits

Results reported are not blank corrected

- E. Estimated Value above quantitation range
- J Analyte detected below quantitation limit
- ND Not Detreted at the Limit of Detection

Date: 0S-Jul-16

CLIENT: LaBella Associates, P.C. Client Sample ID: 1740-IAQ-3

Lab Order: C1605057 Tag Number: 202,8160

Project: Emerson Landfill Collection Date: 5/19/2016

Lab ID: C1605057-006A Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichlomethane	< 0.82	6.82	ug/m3	1	5/25/2016 6:10:00 AM
1,1-Dichloroethano	< D.61	0.61	ug/m3	1	5/25/2016 6:10:00 AM
1.1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:10:00 AM
Chioroethane	< 0.40	0.40	ug/m3	\$	5/25/2016 6:10:00 AM
Chloromethane	< 0.31	0.31	ug/m3	ī	5/25/2016 6:10:00 AM
cls-1,2-Dichloroethene	< 0.59	0.59	ug/m3	ŧ	5/25/2016 8:10:00 AM
Tetrachlorosthytens	< 1.0	1.0	ug/m3	1	5/25/2016 6:10:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:10:00 AM
Trichloroethene -	0.81 [0.21	ug/m3	1	5/25/2016 8:10:00 AM
Vinyl chloride	< 0.10 U	0.10	ug/m3	1	5/25/2016 6:10:00 AM



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

Date: 05-Jul-16

CLIENT: Lab Order: LaBella Associates, P.C.

Project:

C1605057

Emerson Landfill

Lab ID:

C1605057-007A

Client Sample ID: Outdoor Air

Tag Number: 482,111

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	បច្ចារពាធិ	t	5/25/2016 6:51:00 AM
1,1-Dichloroethane	< 0.61	0.61	աց/m3	1	5/25/2016 6:51:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:51:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 6:51:00 AM
Chloromethane =	1.1	0.31	ug/m3	1	5/25/2016 5:51:00 AM
cis-1,2-Dichlaroethene	< 0.59	0.59	ug/m3	1	5/25/2018 6:51:00 AM
Tetrachioroethylene	< 1.0	1.0	ug/m3	1	5/25/2016 6:51:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 6:51:00 AM
Trichloroethene	< 0.21	0.21	ug/m3	1	5/25/2016 6:51:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	5/25/2016 6:\$1:00 AM



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

Date: 05-Jul-16

CLIENT: LaBella Associates, P.C.

Lab Order: C1605057

Project: Emerson Landfill

Lab ID: C1605057-008A Client Sample 1D: Dupe

Tag Number: 358,1154

Collection Date: 5/19/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1.1.1-Trichtoroethane	< 0.82	0.82	ug/m3	1	5/25/2016 3:45:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	5/25/2016 3:45:00 PM
1,1-Dickloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 3:45:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	5/25/2016 3:45:00 PM
Chloromethane	< 0.31	0.31	£ բայենուց	1	5/25/2016 3.45:00 PM
cls-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 3:45:00 PM
Tetrachlorosthylene	< 1.0	1.0	սց/m3	1	5/25/2016 3:45:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	5/25/2016 3:45:00 PM
Trichloroethene 0,21	0.70 U	0.21	ug/m3	t	5/25/2016 3;45:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	5/25/2016 3:45:00 PM



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

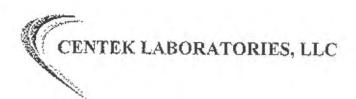
Results reported are not blank corrected

Estimated Value above quantilation renge

Analyte defected below quantitation limit

ND Not Detected at the Limit of Detection

Date: 05-Jul-16



QC SUMMARY REPORT SURROGATE RECOVERIES

CLIENT:

LaBella Associates, P.C.

Work Order:

C1605057

Project:

Emerson Landfill

Test No:

TO-15

Matrix: A

Sample ID	BR4FBZ /	
ALCS1UG-052416	99.0 🗸	
ALCS1UG-052516	95.0	
ALCS1UG-052616	96.0	
ALCSTUOD-052416	98.0	
ALCSTUGD-052516	98.0	
ALCS1UGD-052616	95,0	
AMBIUG-052416	103	· · · · · · · · · · · · · · · · · · ·
AMB1UG-052516	90.0	
AMB1UG-052616	93.0	· · · · · · · · · · · · · · · · · · ·
C1605057-001A	96,0	
C1605057-002A	110	
C1605057-003A	98.0	
C1605057-004A	97.0	· · · · · · · · · · · · · · · · · · ·
C1605057-005A	97.0	
C1605057-006A	92.0	*** * * * * * * * * * * * * * * * * * *
C1605057-007A	93.0	
C1605057-007A MS	96,0	
C1605057-007A MSD	94.0	· · · · · · · · · · · · · · · · · · ·
C1605057-008A	101	the state of the s

BR4FBZ		QC Limits
BRAFDZ	= Bromofluorobenzene	70-130
		:
i		
1		
		i

GC/MS QA-QC Check Report

Fune File : C:\MPCHEM\1\DATA\AN052402.D Fune Time : 24 May 2016 9:01 am

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

(BFB)	(181)	(IS2)	(IS3)
	28909	124023	112008

			727			
File	Sample	DI, Surrogate R	ecovery % Intern	al Standard R	esponses	
AN052403.1	D ALCS1UG-052416	99	2756	9 121586	110436	9
N052404.1	0 AMB1UG-052416	103	3222		130938	
N052424.1	ALCS1UGD-05241	6 98	3088	6 136888	122919	
W052425.I	C1605057-002A	110	3114	6 143773	131129	
M052426.I	C1605057-004A	97	3299	4 151877	134890	
W052427.I	C1605057-006A	92	3403	1 154167	139832	
W052428.I	C1605057-007A	93	3319	7 1.53820	134344	
M052429.1	C1605057-007A	vis 96	3502	3 155307	141397	
LN052430.I	C1605057-007A	MSD 94	3386	3 151029	134777	
						-

t - fails 24hr time check * - fails criteria

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

GC/MS QA-QC Check Report

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

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

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

rile	Sample	DL Surrogate Recovery %		Standard Res	sponses	
M052503.D	ALCS1UG-052516	95	32260	144109	128882	=
W052504.D	AMB1UG-052516	90	29901	138589	122793	
N052511.D	C1605057-008A	101	31435	140644	130607	
M052526.D	ALCS1UGD-05251	6 98	28173	11.9863	110297	
N052537.D	C1605057-001A	96	38693	176249	3.64783	

t - fails 24hr time check * - fails criteria

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

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN052603.D Tune Time : 26 May 2016 11:20 am

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

			(BFB)			(XSI) 36716	(IS2) 162829	(IS3) 147852
File	Sample	DL	Surrogate	Recovery	8	Internal	Standard	Reaponses
AN052605.D	AMB1UG-052616		93	=======	====	35017 V	150418	141574

					and the second s	ra /	
	AMB1UG-052616	93	=========	35017	150418	141574	===
AN052606.D	ALCS1UG-052616	96		33909	160629	142992	
4N052607.D	C1605057-003A	96		35540	169900	156999	
4N052608.D	C1605057-005A	97		36889	194963	178304	
AN052627.D	C1605057-003A 2	X 100		33396	156833	146762	
4N052628.D	ALCS1UGD-052616	95		33398	153762	138123	
		T T T Y M N A W T M - M A					

t - fails 24hr time check * - fails criteria

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



ANALYTICAL QC SUMMARY REPORT

TestCode: 0.25Cl-TCE-VC

CLIENT: LaBella Associates, P.C.

Work Order: C1605057

Project: Emerson Landfill

Arder: C1605057

חמוויים ארכם וחמים מימיוים	SampType: LCS	CC\$	TestCode	TestCode: 0.25CT-TCE-	· Units: ppbV		Prep Cate	,,,		RunNo: 10999	999	
Glient ID: ZZZZZ	Batch ID: R10999	R16999	Testho	Testalo: TO-15			Analysis Date:	5/24/2015	15	SeqNo: 128925	3925	
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Frichloroethane		0.8900	0.15	1	0	99.0	70	130				
1, 1-Dichkraethane		1,020	0.15	Ţ#F	c)	503	70	130				
1, 1-Dichtoroethene		1.020	0.15	*	0	102	70	130				
Chlaroethene		1 145	0,15	5 00	0	114	70	130				
Chloromethane		1.250	6.15	**	0	125	70	130				
cis-f,2-Dictitoroethene		0.9900	0.15	MAC.	0	0.66	70	130				
Tefrachforoethylene		8.04G	0.15	**	Ö	104	70	130				
trans-1,2-Dichtoroetheno		0.9800	0.15	۳	0	98.0	70	130				
Trichloroethene		1.050	0.040	1	D	105	70	130				
Vinyl chloride		1.190	0.040	1	0	119	76	\$30				
Sample 1D ALCS1UG-052516	SampType: LCS	SOT	TestCode	TestCode: 0.25CT-TCE-	- Units: ppbV		Prep Date	340		RunNo: 11806	300	
Client ID: 22222	Batch ID: R11000	R11000	TestNo	TestNo: T0-15			Analysis Date:	5/25/2016	9	SeqNo: 128944	3944	
Analyte		Resuit	POL	SPK value	SPK Ref Val	%REC	Low, imit	HighLimit	RPD Rof Val	048%	RPDLimit	Qual
1,1,1-Trichloroethane		1,010	0.15		0	101	7.0	130				
1.1-Dichloroethane		1.080	0.15	*	0	108	70	130				
1.1-Dichtoroethene		1.050	0.15	~	0	105	70	130				
Chloroethane		1.190	0.15	3	0	119	20	130				
Chloromethane		1.220	0.15	ţm	0	122	70	130				
cis-1,2-Dichloroethene		1.040	0, 15	420	Ü	104	7.0	130				
Tetrachlocoethylene		1.100	0.15	-	0	110	20	130				
trans-1,2-Dichloroethene		1.020	0.15	· free	0	302	70	130				
Trichtonorthane		\$ DOC \$	0.040	+	0	109	7.0	130				

Qualifiers:

Results reported are not black corrected

Analyte detected below quantitation limit

Spike Recovery dutaide accepted necovery limits

E Estimated Value above grantilation range ND Not Detected at the Limit of Detection

H Holding times for proparation or analysis exceeded R RPD outside accepted renovery limits

Page 1 of 3

LaBella Associates, P.C. CLIENT:

C1605057 Work Order:

Emerson Landfill Project:

TestCode: 0.25CT-TCE-VC

TOTAL TOTAL PROPERTY OF THE PR

Sample ID AL	Sample ID ALCS18G-052516	SampType: LCS	TestCoc	e: 6,25CT-TCE	TestCode: 0.25CT-TGE- Units: ppbV		Prep Date:		RunNo: 11000	0	
Client ID: ZZZZZ	7777	Batch ID: R11000	Testh	TestNo: TO-15		4	Analysis Date: 5/25/2016	5/25/2016	SeqNo: 128944	44	
Analyte		Result	Pat	SPK value SPK Ref Val	PK Ref Val	%REC	Lowl.imit H	%REC LowLimit HighLimit RPD Ref Val		%RPD RPDLimit Qual	Qual
Vinyl chloride		1.180	0.040	1	0	118	02	130			

Plotding times for preparation or analysis exceeded I e Estimated Value above quantitation range Not Detected at the Limit of Detection - B Analyte detected below quantitation brait Results reported are turn blank corrected Qualifiers:

Spike Remyery outside accepted recovery limits

LaBella Associates, P.C. CLIENT:

The state of the s

C1605057 Work Order: Emerson Landfill Project:

TestCode: 1ugM3_T015

Sample ID ALCS1UG-052616	SampType, LCS	TestCoc	le; lugM3_TK	TestCade; 1ugM3_TO15 Units: ppbV		Prep Date:	· ·		RunNo: 11001	100	
Client ID: ZZZZZ	Baich ID; R11001	Testh	TestMo; TO-15		A	Analysis Date: 5/26/2016	s: 5/26/20	18	SeqNo: 128976	9269	
Analyte	Result	PQL	SPK value	SPK value SPK Rof Val	%REC	LawLimit	HighLimit	%REC LawLimit HighLimit RPD Ref Vai	%RPD	%RPD RPDUmit	Oual
1,1,1-Trichloroethane	0.9500	0.15	-	0	95.0	7.0	130			1	
1, 1Dichforcethane	1.040	0.15	•	0	104	70	130				
1,7-Dichloroethena	1.040	0.15	•	0	104	7.0	130				
Chloroethane	1,200	0.15		0	120	70	130				
Chloromethane	1,270	0.15	-	0	127	70	130				
cis-1,2-Dichloroathane	1.000	0.15		C	100	70	130				
Tetrachloroethylene	1.060	0.15		C	106	70	130				
(raus-1,2-Dichloroethene	0.9900	0.15	1"	0	99.0	7.0	136				
Trichloroethene	1.070	0,15	·	0	107	70	130				
Vinyt chloride	1.286	0.15		0	128	778	130				

Analyte detected below quantitation limit Results reported are not blank corrected

Spike Recovery outside accepted recovery limits

E Estimated Value above quantitution range ND Not Detected at the Limit of Detection

Holding times for preparation or analysis exceeded
 RPD ouiside accepted recovery finits



ANALYTICAL QC SUMMARY REPORT

LaBella Associates, P.C. CLAENT

C1605057 Work Order: Project;

Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UGD-052416	SampType: LCSD	:SD	TestCode	TestCode: 0.25CT-TCE-	E- Units: ppbV		Prep Date:			RunNo: 10	10999	
Client ID: ZZZZZ	Batch ID: R10999	6560	Testive	Testivo: TO-15			Analysis Date:	5/25/2016	91	SeqNc: 128926	8926	
Analyte	配	Result	Pal	SPK value	SPK Ref Val	%REC	LowLinnit P	HighLinit	RPD Ref Val	%RPD	RPOLIMI	Qual
1,1,1-Trichforoethane		1.080	0.15	1	0	108	70	130	0.99	8.70	30	
1,1-Dichloroethane		1.110	0.15	1	0	111	70	130	1.02	8.45	30	
1,1-Dichtoroethene		1.090	0,15		0	109	70	130	1.02	6.64	30	
Chloroethane		1,200	0.15	***	0	120	70	130	114	5,13	30	
Chlorometrane		1.270	0.15	٢	Q	127	70	130	1.25	1.59	30	
cis-1,2-Dichloroethere		1.040	0.15	***	0	104	70	130	0.99	4.93	30	
Tetrachloroethylene		1.110	0.15	4"	0	1 2 4	70	130	1.04	6.51	30	
trans-1,2-Dichlosoethene		1.050	0.15	~	C	105	70	130	0.93	6.90	30	
Trichloroethene	•	5,100	0.040		0	110	70	130	1.05	4.85	30	
Vinyi chloride		1.220	0,040	**	0	122	202	130	1 18	2.49	30	
Sample ID ALC\$1UGD-062516	SampType: LCSD	OS:	TestCode	TestCode: 0.25CT-TCE-	E- Units: ppbV		Prep Date			RunNo: 11000	000	
Client ID: 22222	Batch ID: R11000	11000	Testly	Testivo: TO-15			Analysis Date:	5/25/2016	91	SeqNo: 128945	3945	
Апађіе	α	Result	Pol	SPK value	SPK Ref Val	%REC	LowLimit P	HighLimis	RPD Ref Val	%RPD	RPDLimit	Qual
1,4,1-Trichloroethane		1.110	0.15	-	Ó	111	7.0	130	1.05	9.43	30	
1,1-Dichloroethane		1,090	0.15	F	0	109	7.0	130	1.08	0.922	30	
1,1-Dichloroethene		1.080	0.15	-	0	108	7.0	\$30	1.05	2.82	30	
Chloroethane		1.230	0.15	r	0	123	62	130	1.19	3.31	8	
Chloromethane		1.160	0.15	-	D	116	7.0	130	1.22	5.00	30	
cis-1,2-Dichloroethene		1.030	0.15	₹7	O	103	7.0	130	1.04	0.966	30	
Tetrachtoroethylene		1.120	0.15	T.	D	112	7.0	130	1.1	1.80	30	
frans-3,2-Dichloroethene		1.040	0.15	-	0	194	70	130	1.02	1.94	30	
Trichfornethana		1.140	0 000	-	0	114	3.0	130	1.09	4.48	30	

Qualifiers:

Analyte detected below quantitation hasis Results reported are not bisnk emrected

Spike Recovery outside accepted recovery limits

Estimated Vulue above quantitation range Not Detected at the Limit of Detection in Ox

I ×

Holding times for proparation or analysis exceeded

RPD outside accepted recovery limits

LaBella Associatos, P.C. CLIENT:

C1605057 Work Order: Emerson Landfill Project:

TestCode: 0.25CT-TCE-VC

THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PE	- Continue and a second				The state of the s			THE RESIDENCE AND ADDRESS OF THE PERSON NAMED IN				
Sample 1D	Sample 1D ALCS/LUGD-052516 SampType: LCSD	SampType: LCSD	TestCoc	le: 0.25CT-TCE	FestCode: 0.25CT-TCE- Units: ppbV		Prep Date:	100		RunNo: 11000	000	
Client ID: ZZZZZ	22222	Batch ID: R11000	Testh	TestNo: TO-15			Analysis Dat	Analysis Date: 5/26/2016	16	SeqNo: 128945	3945	
Analyte		Result	POL	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	HighLimi	"REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Vinyl chloride	8	1,230	0.040	+	0	123	70	130	1.18	4.15	36	

Analyse detected below quantitation limit Results reported are not blank corrected Qualifiers:

Spake Reenvery outside accepted recovery limits

E. Estimated Value above quantitation range NO. Not Detected as the First

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits. **5** 22

LaBella Associates, P.C. CLIENT:

C1605057 Work Order: Emerson Landfill Project;

TestCode: 1ugM3_TO15

1

A CONTRACTOR OF THE PROPERTY O

Sample ID ALCS1UGD-052618 SampType: LCSD	SampType: LCSD	TestCod	de: 1ugm3_Ti	le: 1ugM3_TO15 Units: ppbV		Prep Date:	115		RunNo: 11001	100	
Client 10: 22222	Batch (D; R11001	Test	TesiNo: TO-15			Analysis Date: 5/27/2016	s: 5/27/2(916	SeqNo: 12	128977	
Analyte	Result	POL	SPK value	SPK value SPK Raf Val	%REC	LowLinit	HighLimit	Lawlinif HighLimit RPD Ref Val	%RPD	WRPD RPDLimit	Qual
1,1,1-Trichloroethane	0.9800	0.15	-	0	98.0	70	130	0.95	3.11	30	
1,1-Dichloroethane	1.080	0.15	***	¢,	108	20	130	1.04	3.77	36	
1,1-Dichloroethene	1,070	0.15	3	O	107	7.0	130	1.04	2.84	35	
Chloroethane	1.170	0.15	*	ø	117	20	130	1.2	2.53	30	
Chloromathane	1.210	0.15	_	0	121	70	130	1.27	4.84	30	
cis-1,2-Dichlomethene	1.020	0.15	۲	0	102	70	130	+	1.98	30	
Tetrachloroethylene	1.060	0.15	1	0	106	70	130	1.06	0	30	
trans-1,2-Dichloroethene	1.020	0 15	Ŧ	0	102	02	130	0.99	2.99	30	
Trichloroethene	1.380	0.45	57	0	108	70	130	1.07	0.930	30	
Viryl chloride	1.140	0.15	1	0	114	70	130	1.28	11.6	30	

Estimated Value above quantitation range Not Detected at the Limit of Detection w 2 Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limit Results reported are not blank corrected

- 50

Qualifiers:

Holding times for preparation or analysis exceeded = =

RPD outside accepted repovery limits



ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.

Work Order: C1605057

Project: Enerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID AMB1UG-052416	SameType: MBLK	E G	stCode: 1	TestCode: 9,25CT-TCE-		Units: ppbV		Frep Date:	ate:		RunNo: 10999	99	
Client ID: ZZZZZ	Batch ID: R10999	,	TestNo: TO-15	TO-15				Analysis Date:	ate: 5/24/2016	12016	SeqNo: 128924	924	
Analyte	Result	P	Pat Si	SPK value	SPK Ref Val	ef Vai	%REC	LowLimit	HighLimit	it RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.	0.15										
1,1-Dichloroethane	< 0.15	ø	0.15										
1,1-Cichloroethene	< 0.15	Đ.	0.15										
Chloroethane	< 0.15	0	0.15										
Chloromethane	< 0.15	Đ.	0.15										
cis-1,2-Dichlaraethene	< 0.15	0	0.15										
Tetrachloroethylene	< 0.15	Ó	0.15										
rans-1,2-Dichloroethene	< 0.15	0	0.15										
Trichloroethane	< 0.040	0.040	40										
Vinyt chloride	< 0,040	0.040	40										
Sample ID AMB1UG-052516	SampType: MBLK	Te	siCoda: 1	TesiCoda: 0,25CT-TCE-	1	Units: ppbV		Prep Date:	ate:		RunNo: 11000	26	
Cilent ID: ZZZZZ	Batch ID: R11000		TestNo: YO-15	ro-15				Analysis D.	Analysis Date: 5/25/2016	2016	SeqNo: 128943	843	
Anaiyte	Result	P	PQL Si	SPK value	SPK Ref Val	ef Val	%REC	LowLimit	HighLim	LowLimit HighLimly RPD Refival	%RPD	RPDLimit	Qual
1,1,1-Trickloroethane	< 0.15	0.	0.15									A CONTRACTOR OF THE PERSONS ASSESSED.	
1, t-Dichloroethane	< 0.15	C	0,15										
1,1-Dichloroethene	< 0.15	0	0.15										
Chloroethane	< 0,15	O	0.15										
Chloromethane	< 0.35	0	0.15										
cis-1,2-Dicintoroethene	< 0.15	0	0.15										
Tetrachforoethylene	< 0.45	Ö	0.15										
trans-1,2-Dichloroethene	< 0.15	0	6.15										
Trithlogothan	00000	0.000	45										

Qualifiers:

Results reported are not blank corrected

J. Analyte detected below quantitation timi;

S Spike Recovery misside necepted recovery limits

E. Estimated Value above quantitation range ND. Not Delected at the Limit of Detection

on runge if Holding times for pref

Holding times for preparation or analysis exceeded RPD outside accepted rocovery limits

LaBella Associates, P.C. CLIENT:

C1605057 Work Order:

Emerson Landfill Project:

TestCode: 0.25CT-FCE-VC

Constitution and the constitution of the const

Sample ID AMB1UG-052518	SampType: MBLK	TestCo	de: 0.25CT-T(TestCode: 9.25CT-TGE- Units: ppbv		Prop Date:	-		RunNo: 11000	000	
Client ID: ZZZZZ	Batch ID: R11000	Fest	TestNo: TO-15			Analysis Date	Analysis Date: 5/25/2016		SeqNo: 128943	8843	
Analyte	Result	POE	SPK value	SPK value SPK Ref Val	WREC	LowLimit	WREC LowLimit HighLimit RPD Ref Val	D Ref Val	%RPD	%RPD RPDLimit Quat	Qual
Vinyl chforide	< 0.040	0.040							-		

E. Estimated Value above quantitution range.

ND. Not Detected at the Limit of Detection. Spike Recovery dutside accepted recovery limits Analyte derected below quantitation limit Results reported are not blank corrected

34 Hobding times for preparation in analysis exceeded R RPD partside accepted recovery limits

RPD outside secepted recovery limits

Page 2 of 3

LaBella Associates, P.C. CLIENT:

C1605057 Work Order: Emerson Landfill Project:

TestCode: 1ugM3_TO15

The state of the s

Sample ID AMB1UG-052616	SampType: MBLK	T	esiCode	E tuging TC	TestCode: tugM3_T015 Units: ppbV		Prep Date:	ito:		RunNo: 11001	100	
Client ID: ZZZZZ	Batch ID: R11005		TestNo	Festivo: TO-15			Analysis Da	Analysis Date: 5/26/2016	116	SeqNo: 128975	8975	
Analyte	Result	4	Par	SPK value	SPK value SPK Ref Val	%REC	LowLimit	Hightimit	%REC LowLimit Hightimit RPD Ref Val	WRPD	%RPD RPDLimit Quat	Qua
1,1,1-Trichlordethane	× 0.15	2	0.15				manufacture.					
1,1-Dichloroethane	< 0.15	0	0.15									
1,1-Dichloroethena	< 0.15	0	0.15									
Chloroethane	< 0.15	0	0.15									
Chloromethane	< 0.15	9	0.15									
cis-1,2-Dichloroethane	< 0.15	2	0.15									
Tetrachloroethylene	< 0.15	2	0.15									
trans-1,2-Dichloroethene	< 0.15	3	0.15									
Trichloraethene	< 0.15	9	6,15									
Vinyl chioride	< 0.15	9	6,15									

Estimated Vafor above quantitation (ange-Not Extected at the Littit of Detection N ON

Spike Recovery outside accepted recovery limits

Analyte detected betwee quantitation limit Resides reported are not blank corrected

Qualifiers;

H E

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits



ANALYTICAL QC SUMMARY REPORT

LaBella Associates, P.C. CLIENT:

C1605057 Work Order: Emerson Landfill Project:

TestCode: 0.25CT-TCE-VC

Sample ID C1605057-007A MS	SampType: MS	MS	TestCo	TestCode: 0.25CT-TCE-	E- Units: ppbV		Prep Date.	32		RunNo: 10999	866	
Client ID: Outdoor Air	Betch ID: R10999	R10999	Test	TestNo: TO-15			Analysis Date:	E. 5/25/2016	16	SeqNo: 128941	8941	
Anakyte		Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane		0.9700	0.15	*	0	97.0	70	130	and the same of th			
1,1-Dichloroothane		1,020	0.15	1	0	102	70	130				
1,1-Dichloroethene		1.030	0.15	۳	0	103	70	130				
Chloroethane		1.130	0,15	~	0	113	20	130				
Chioromethane		1.290	0.15	-	9.51	78.0	70	130				
cis-1,2-Dichloroethene		1.010	0.15	-	0	101	70	130				
Tetrachloroethylene		1,040	0.15	-	0	104	70	130				
trans-1,2-Dichlaroethere		1.020	0.15	-	0	505	70	130				
Trichlaroethene		1,150	0.040	r.	0	115	70	130				
Vinyl chloride		1.670	0.040	F	Q.	107	70	130				
Sample ID C1505057-007A MS	SampType: MSD	MSD	TestCox	TestCode: 0,25CT-TCE-	5- Units: ppbV		Prep Date			RunNo: 10999	668	
Client ID: Outdoor Air	Betch ID: R10999	R10999	Test	TestNo: TO-15			Analysis Date: 5/25/2016	5/25/20	16	SegNo: 128942	1942	
Analyte		Result	POL	SPK value	SPK Ret Val	WREC.	LowLinii	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
.1.1-Trichloroefhane		1.010	0.15	4	0	101	70	130	5.97	6.34	30	
,1-Dichloraethane		1.040	0.15	**	0	104	70	430	1.02	1.84	30	
1,1-Dichloraethere		1,040	0.15	٢	0	104	70	130	1.03	0.966	30	
Chloroethane		1.200	0.15	-	0	120	70	130	1.13	6.01	30	
Chloromethane		1.280	0.15	1	0.51	77.0	70	330	1.29	0.778	30	
cis-1.2-Dichloroethene		1.030	0.15	-	0	103	70	130	1.01	1.96	30	
Tetrachlorcethylene		1.080	0.15	-	0	108	70	130	1.04	3.77	30	
trans-1,2-Dichloroethene		1.040	0.15	-	0	104	7.0	130	1.02	1.94	30	
Trichlanothene		1 180	OUT	٠	¢	312	20	430	47.5	04 0	00	

Qualifiers:

Results reported are not blank corrected

Assafyte derected helow quantitation finit

Spike Recovery outside accepted recovery limits

Estimated Value above quantitation range Not Detected at the Limit of Detection ш 6

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits **E** &

Page 2 of 2

LaBella Associates, P.C. CERENT:

C1605057 Work Order: Emerson Laudfill Project:

TestCode: 0.25CT-TCE-VC

THE CONTROL OF THE CO

Sample ID (Sample ID C1605057-007A MS SampType: MSD	SampType:	MSD	TestCoc	16: 0.25CT-TC	TestCode: 0,25CT-TCE- Units: ppbV		Prep Date:	1.7		RunNo: 10999	666	
Client (D.: Outdoor Air	Dutdoor Air	Batch ID: R10999	R10999	Testh	TestNo: To-15			Analysis Date: 5/25/2016	5/25/20	16	SeqNo: 128942	8842	
Analyte			Result	Pal	SPK value SPK Ref Val	SPK Ref Val	%REC	EdwEimit !	HighLimil	%REC LOWLINS HighLimit RPD Ref Val	WRPD	KRPD RPDLIMIL Qual	Qual
Vinyl chlorida			1 140	0.040	*	Q	114	7.0	130	1.07	6.33	30	

Results reported are not blank corrected

Qualificrs:

Analyse detected below gounnitation limit

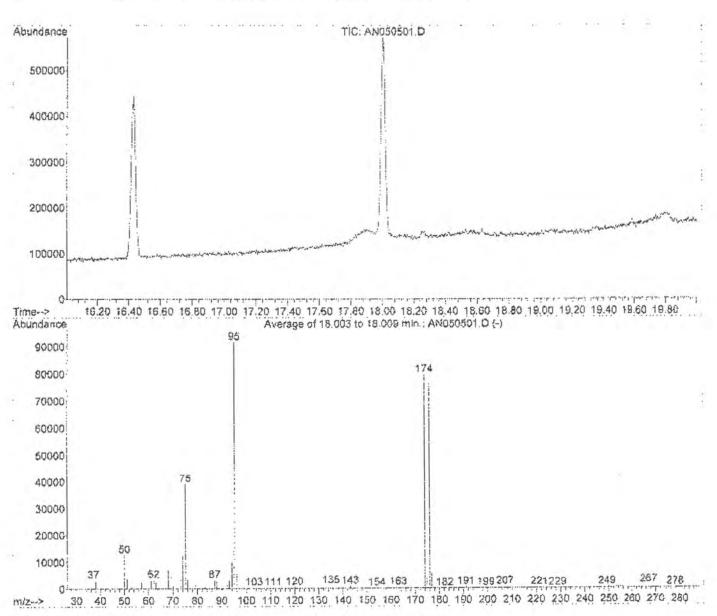
Spike Recovery outside accepted recovery limits v.

E. Estimated Value above quantification range ND. Not Detected at the Limit of Detection

14 Holding times for preparation or analysis expeeded R. KPD outside accepted recovery fimits.

MS Integration Params: RTEINT.F

Method : C:\RPCHEM\1\METHODS\ASOS_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 18.003 to 18.009 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit*	Rel. Abn%	Kaw Abn	Result Pass/Fail
50	95	8	40	13.B	12678	PASS
75	95	30	66	42.7	39147	PASS
95	95	100	100	100.0	91710	PASS
96	95	5	9	6.4	5836	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	86.8	79606	PASS
175	174	4	9	6.9	5515	PASS
176	174	95	101	96.2	76554	PASS
177	176	5	9	7.3	5624	PASS

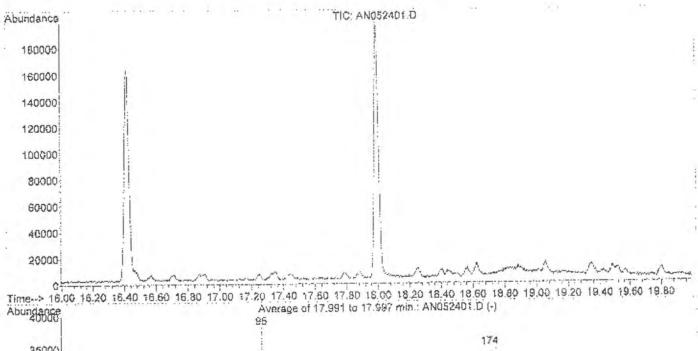
Data File : C:\HPCHEM\1.\DATA\AN052401.D

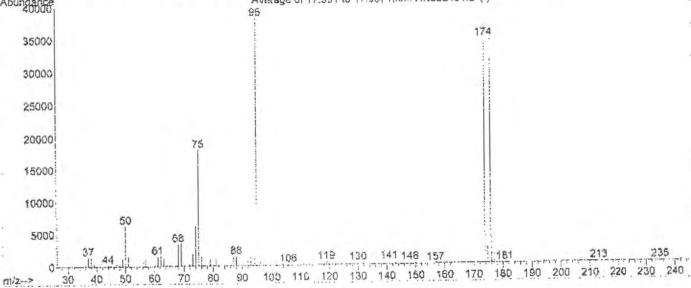
Acq On : 24 May 2016 8:19 am

Sample : BFBlUG Misc : A505_1UG Vial: 1 Operator: RJP Inst : MSD #1. Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration





Spectrum Information: Average of 17.991 to 17.997 min.

Target Mass	Rel. to	Lower Limit*	Upper Limit%	Rel. Abn%	Raw Ahn	Result Pass/Fail
50	95 !	A	40	16.2	6206	PASS
	95	30	66	47.4	18098	PAS5
75	95	100	100	100.0	38210	PASS
95	95	5	9	7.7	2937	PASS
96	174	0.00	1 2	0.4	131	PASS
173	4	50	1.20	91.1	34805	PASS
3.74	95	4	9	7.3	2538	PASS
175	174	95	101	99.8	34725	PASS
176 177	174	5	9	6.7	2317	PASS

Data File : C:\HPCHEM\1\DATA\AN052501.D

: 25 May 2016 Acq On 9:06 am : BFB1UG

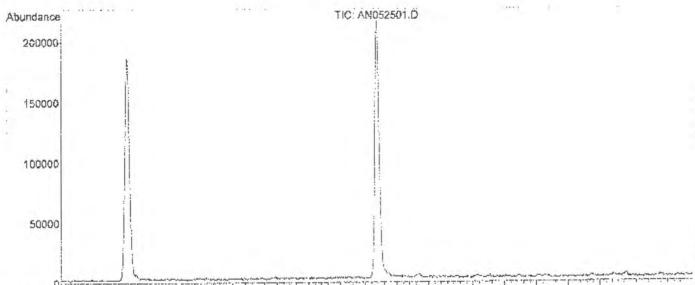
Vial: 1 Operator: RJP : MSD #1 Multiplr: 1.00

: A505_1UG MS Integration Params: RTSINT.P

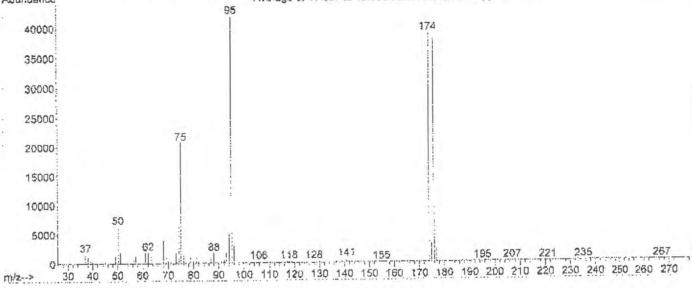
Sample

Misc

: C:\HPCHEM\1\METHODS\ASOS_1UG.M (RTE Integrator) : TO-15 VCA Standards for 5 point calibration



Time-> 16.00 16.20 16.40 16.60 16.80 17.00 17.20 17.40 17.60 17.60 18.00 18.20 18.40 18.60 18.80 19.00 19.20 19.40 19.60 19.80 Average of 17.997 to 18.003 min.: AN052501.D (-) Abundance



Spectrum Information: Average of 17.997 to 18.003 min.

Target Mass	Rel. to	Lower Limit%	Upper Limit*	Rel. Abn%	Raw Abn	Result Pass/Pail
50	(95	Ι β	40	15.2 V	6377	PASS
75	95	30	66	49.4	20768	PASS
95	95	100	100	100.0	42024	PASS
96	95	5	9	7.1	2983	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	1.20	92.9	39042	PASS
175	174	4	9	7.9	3093	PASS
176	174	95	101	97.3	38605	PASS
177	176	5	9	5.6	2127	PASS

Data File : C:\HPCHEM\1\DATA\AN052601.D

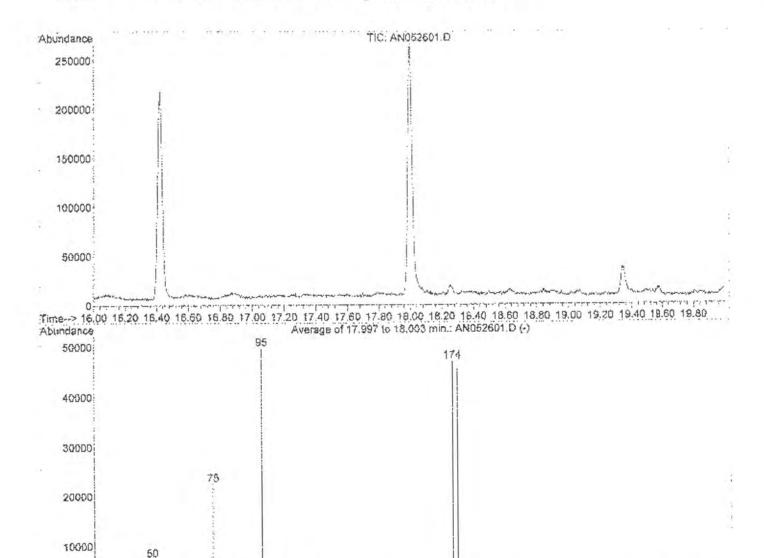
Acq On : 26 May 2016 9:53 am

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

151 119 128 141 155 165 (95 203 267 278

Sample : BFB1UG Misc : A505 1UG

MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\A505_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 17.997 to 18.003 min.

Target Mass	Rel. to Mass	Lower Limit*	Upper Limit*	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	1 8	1 40	14.8	. 7373	PASS
75	95	30	66	45.5	22605	PASS
95	95	100	100	100.0	49675	PASS
96	95	5	9	6.3	31.18	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	3.20	94.4	46906	PASS
175	174	4	9	7.4	3477	PASS
176	174	95	1.01	96.7	45349	PASS
177	176	5	9	6.2	2821	PASS

m/z-> 30 40 50 60 76 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280

DATA USABILITY SUMMARY REPORT

for

LaBella Associates, P.C.

300 State Street

Rochester, NY 14614

FORMER EMERSON LANDFILL Project 210173 SDG: C1611040 Sampled 11/22/2016

TO-15 AIR SAMPLES

1740-SVI-1	(C1611040-01)
1740-IAQ-1	(C1611040-02)
1740-SVI-2	(C1611040-03)
1740-IAQ-2	(C1611040-04)
1740-SVI-3	(C1611040-05)
1740-IAQ-3	(C1611040-06)
1740-OUTDOOR AIR	(C1611040-07)
1740-BLIND DUP	(C1611040-08)

DATA ASSESSMENT

One data package containing analytical results for eight TO-15 samples was received from LaBella Associates, P.C. on 10Jan17. The ASP deliverables package included formal reports, raw data, the necessary QC, and supporting information. The samples, taken from the Former Emerson Landfill Site, were identified by Chain of Custody documents and traceable through the work of Centek Laboratories, LLC, the laboratory contracted for analysis. The analyses were performed using US EPA Method TO-15 and addressed measurements of ten volatile organic compounds. Laboratory data was evaluated according to the quality assurance / quality control requirements of the New York State Department of Environmental Conservation's Analytical Services Protocol September 1989, Rev. 07/2005. When the required protocol was not followed, the current EPA Region II Functional Guidelines (SOP HW-31, Rev. #4, October 2006, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15) was used as a technical reference.

The negative results reported from 1740-SVI-1 and the Blind Dup have been rejected because the samples were not collected properly. Positive results have been qualified as estimations.

The cis-1,2-dichloroethene concentration from 1740-SVI-2 has been qualified as an estimation due to a low spiked sample recovery.

CORRECTNESS AND USABILITY

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

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

Reviewer's signature:

James B. Baldwin

DATAVAL, Inc.

_ Date: 29 Jan 17

SAMPLE HISTORY

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

This sample delivery group contained seven TO-15 samples that were collected in 1-liter SUMMA canisters and one sample, 1740-SVI-2, that was collected in a 1.4-liter canister to facilitate the preparation of MS/MSD samples. Sampling was completed on 22Nov16. The canisters were then delivered to the laboratory the next day. Although the sample canisters were received intact and properly labeled, custody seals were not present on the packaging.

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

SAMPLE	PRIOR TO	PRIOR TO	POST	LAB
	SHIPMENT	SAMPLING	SAMPLING	RECEIPT
	("Hg)	("Hg)	("Hg)	("Hg)
1740-SVI-1	-30	-30	-2	-2
1740-IAQ-1	-30	-30	-4	-3
1740-SVI-2	-30	-30	-6	-4
1740-IAQ-2	-30	-29.5	-4	-3
1740-SVI-3	-30	-30	-4	-3
1740-IAQ-3	-30	-30	-5	-4
1740-OUTDOOR AIR	-30	-29.8	-3.9	-2
1740-BLIND DUP	-30	-30	-2	-2

The canister regulators were set in the laboratory to collect 6-hour samples. However, the collections of 1740-SVI-1 and the Blind Dup were terminated after 1 hour, based on the canister vacuum readings. The positive results from 1740-SVI-1 and the Blind Dup have been qualified as estimations because these samples were not collected properly. Negative results have been rejected. The remaining samples were collected over a period that ranged between six hours and 6 hours and 59 minutes.

The vacuum readings recorded after sampling and at the time of laboratory receipt indicated that the integrity of each sample was maintained during that period. The analysis of this group of samples was completed on 27Nov16 and 28Nov16. The ASP holding time limitation was satisfied.

CANISTER CERTIFICATION

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

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

BLANKS

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

Two method blanks were analyzed with this group of samples. Both of these blanks demonstrated acceptable chromatography and were free of targeted analyte contamination.

MS TUNING

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

BFB ion abundance criteria was reported from standards run before the initial instrument calibration and prior to the analysis of program samples. Each of these checks satisfied the ASP acceptance criteria.

CALIBRATION

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

The initial instrument calibration was performed on 23Nov16. Standards of 0.04, 0.10, 0.15, 0.30, 0.50, 0.75, 1.0, 1.25, 1.50 and 2.0 ppbV were included. Each targeted analyte produced the required levels of instrument response and demonstrated an acceptable degree of linearity during this calibration.

Continuing calibration check standards were analyzed on 27Nov16 and 28Nov16, prior to the 24-hour periods of instrument operation that included samples from this program. When compared to the initial calibration, an acceptable level of instrument stability was demonstrated by each targeted analyte during both checks.

SURROGATES

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

Although surrogate summary sheets were properly prepared, an incorrect acceptance criteria was applied. When compared to the

ASP requirements, however, an acceptable recovery was reported for each surrogate addition to this group of samples,

INTERNAL STANDARDS

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

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

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

1740-SVI-2 was selected for matrix spiking. Each targeted analyte was added to two volumes of this sample. The recoveries reported for these additions included a low result for cis-1,2dichloroethene (38%). The cis-1,2-dichloroethene result from 1740-SVI-2 has been qualified as an estimation based on this indication of negative bias. The remaining targeted analytes demonstrated acceptable levels of measurement precision and accuracy.

Two pairs of spiked blanks (LCS/LCSD) were also analyzed with this group of samples. Both pairs of spiked blanks demonstrated acceptable levels of measurement precision and accuracy.

DUPLICATES

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

A second volume of 1740-SV-1 was collected and submitted as a The trichloroethene and tetrachloroethene blind duplicate. concentrations found in this pair of samples differed by less than 17% RPD. The ASP acceptance criteria was satisfied.

REPORTED ANALYTES

Formal reports were provided for each sample. The data package also included total ion chromatograms and raw instrument print

outs. Reference mass spectra were provided to confirm the identification of each analyte that was detected in this group of samples.

SUMMARY OF QUALIFIED DATA

FORMER EMERSON LANDFIL

SAMPLED NOVEMBER 2016

		IMPROPER	IMPROPER	SPIKES CIS-1,2-DICHLOROETHENE
(C161	C1611040-01)	ALL NEG R	ALL POS J	
(C161	(C1611040-02)			
(C161	(C1611040-03)			173
(C161	1040-04)			
(C161	(C1611040-05)			
(C161	(C1611040-06)			
40-OUTDOOR AIR (C161	1040-07)			
DUP (C161	C1611040-08)	ALL NEG R	ALL POS J	

CLIENT: LaBella Associates, P.C.

Lab Order: Cl

C1611040

Project: 1740 Emerson Street

Lab ID:

C1611040-001A

Date: 28-Dec-16

Client Sample ID: 1740-SVI-1

Tag Number: 419,343

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result *	*Limit Qu	al Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/28/2016 12:40:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/28/2016 12:40:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:40:00 AM
Chloroethane	< 0.40	0.40	ug/m3	1	11/28/2016 12:40:00 AM
Chloromethane	< 0.31	0.31	ug/m3	1	11/28/2016 12:40:60 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:40:00 AM
Tetrachioroethylene	3.9 🗍	1.0	ug/m3	1	11/28/2016 12:40:00 AM
trans-1,2-Dichlorcethene	< 0.59 R	0.59	ug/m3	1	11/28/2016 12:40:00 AM
Trichloroethene	1.0 丁	0.81	ug/m3	1	11/28/2016 12:40:00 AM
Vinyl chloride	< 0.38	0.38	ug/m3	1	11/28/2016 12:40:00 AM



Qualifiers: ** Q

** Quantitation Limit

B Aualyte detected in the associated Method Blank

FI Holding times for preparation or analysis exceeded

JN Non-routine analyte. Quantitation estimated.

S Spike Recovery outside accepted recovery limits

Results reported are not blank corrected

E Estimated Value above quantitation range

J Analyte detected below quantitation limit

ND Not Detected at the Limit of Detection

Date: 28-Dec-16

CLIENT:

LaBella Associates, P.C.

Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID:

C1611040-002A

Client Sample ID: 1740-IAQ-1

Collection Date: 11/22/2016

Tag Number: 193,267

Mat		AI	D
TIGE	111	73.1	2.0

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Applicate D. ID
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3		Analyst: RJP 11/27/2016 10:04:00 PM
1,1-Dichtoroethane	< 0.61	0.61	ug/m3		11/27/2016 10:04:00 PM
1,1-Dichloraethene	< 0.59	0.59	ug/m3		
Chlorpethane	< 0.40	0.40	ug/m3		11/27/2016 10:04:00 PM
Chloromethane-	1.4	0.31			11/27/2016 10:04:00 PM
cis-1,2-Dichloroethene	< 0.59	777	ug/m3	1	11/27/2016 10:04:00 PM
Tetrachicroethylene -	5.70	0.59	ug/m3	1	11/27/2016 10:04:00 PM
그는 그 가는 아니다 나를 보고 있다면 하는 기가 없는데 하는데 보고 있다.	2.6	1.0	Em/gu	1	11/27/2016 10:04:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:04:00 PM
Trichloroethene -	0.75	0.21	ug/m3	1	11/27/2016 10:04:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3	1	11/27/2016 10:04:00 PM



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

Page 2 of 8

Date: 28-Dec-16

CLIENT:

LaBella Associates, P.C.

Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID:

C1611040-003A

.C. Client Sample ID: 1740-SVI-2

Tag Number: 483,249

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Q	ual Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15 1,1,1-Trichloroethane — 1,1-Dichloroethane 1,1-Dichloroethane Chloroethane Chloromethane cis-1,2-Dichloroethene Tetrachloroethylene trans-1,2-Dichloroethene Trichloroethene Vinyl chloride	1.1 1.4 < 0.59 < 0.40 < 0.31 17 150 1.1 92 < 0.38	TO-15 0.82 0.61 0.59 0.40 0.31 5.9 10 0.59 8,1	ug/m3 ug/m3 ug/m3 ug/m3 ug/m3 ug/m3 ug/m3 ug/m3 ug/m3	1 1 1 1 1 10 10 10	Analyst: RJP 11/28/2016 11:42:00 AM 11/28/2016 11:42:00 AM 11/28/2016 11:42:00 AM 11/28/2016 11:42:00 AM 11/28/2016 9:54:00 PM 11/28/2016 9:54:00 PM 11/28/2016 9:54:00 PM 11/28/2016 9:54:00 PM 11/28/2016 9:54:00 PM 11/28/2016 9:54:00 AM



Quali	liers:
-------	--------

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

Page 3 of 8

LaBella Associates, P.C.

CLIENT: Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID:

C1611040-004A

Date: 28-Dec-16

Client Sample ID: 1740-IAQ-2

Tag Number: 168,337

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qua	d Units .	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15		**************************************	Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/27/2016 10:43:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/27/2016 10:43:00 PM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/27/2016 10:43:00 PM
Chloroethane	< 0.40	0.40	ug/m3		11/27/2016 10:43:00 PM
Chloromethane	< 0.31	0.31	ug/m3		
cis-1,2-Dichforoethene	< 0.59	0.59	ug/m3		11/27/2016 10:43:00 PN
Tetrachloroethylene -	2.5	1.0	ug/m3		11/27/2016 10:43:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59			11/27/2016 10:43:00 PM
Trichloroethene -	Ave State State		ug/m3	1	11/27/2016 10:43:00 PM
Vinyl chloride	1.0	0.21	ug/m3		11/27/2016 10:43:00 PM
varyi chilotide	< 0.10	0.10	ug/m3	1	11/27/2016 10:43:00 PM



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

Page 4 of 8

Date: 28-Dec-16

LaBella Associates, P.C.

Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID;

C1611040-005A

Client Sample ID: 1740-SVI-3

Tag Number: 243,342

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Q		DF	Date Analyzed
UG/M3 BY METHOD TO15		TO-1			
1,1,1-Trichioroethane	< 0.82	0.82			Analyst: RJP
1,1-Dichloroethane	< 0.61		ug/m3	1	11/28/2016 3:31:00 AM
1,1-Dichtoroethene		0.61	ug/m3	1	11/28/2016 3:31:00 AM
Chloroethane	< 0.59	0.59	ug/m3	1	11/28/2016 3:31:00 AM
	< 0.40	0.40	ug/m3	1	11/28/2016 3:31:00 AM
Chloromethane	< 0.31	0.31	ug/m3		
cis-1,2-Dichloroethene	< 0.59	0.59			11/28/2016 3:31:00 AM
Tetrachloroethylene	< 1.0		ug/m3	1	11/28/2016 3:31:00 AM
trans-1,2-Dichloroethene		3.0	ug/m3	1	11/28/2016 3:31:0D AM
Trichloroethene -	< 0.59	0.59	ug/m3	1	11/28/2016 3:31:00 AM
	10	0.81	ug/m3	1	11/28/2016 3:31:00 AM
Vinyl chloride	< 0.38	0.38	ug/m3		
		SASS TO SECURITION OF THE PARTY	mgiriio		11/28/2016 3:31:00 AM



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

Page 5 of 8

CLIENT: LaBella Associates, P.C.

Lab Order:

C1611040

Project:

1740 Emerson Street

Lab ID:

C1611040-006A

Date: 28-Dec-16

Client Sample 1D: 1740-1AQ-3

Tag Number: 171,344

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/27/2016 11:22:00 PM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/27/2016 11:22:00 PM
1,1-Olchlorcethene	< 0.59	0.59	ug/m3	1	11/27/2016 11:22:00 PM
Chloroethane	< 0.40	0.40	ug/m3	1	11/27/2016 11:22:00 PM
Chloromethane	< 0.31	0.31	ug/m3	1	11/27/2016 11:22:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3		11/27/2016 11:22:00 PM
Tetrachloroethylene -	1.2	1.0	ug/m3		11/27/2016 11:22:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59	ug/m3		11/27/2016 11:22:00 PM
Trichloroethene	0.81	0.21	ug/m3		11/27/2016 11:22:00 PM
Vinyl chloride	< 0.10	0.10	ug/m3		11/27/2016 11:22:00 PM



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

Page 6 of 8

LaBella Associates, P.C.

Lab Order:

C1611040

Project:

CLIENT:

1740 Emerson Street

Lab ID:

C1611040-007A

Date: 28-Dec-16

Client Sample ID: 1740-Outdoor Air

Tag Number: 542,259

Collection Date: 11/22/2016

Matrix: AIR

Analyses	Result	**Limit Qu	al Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15			Analyst Dan
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3		Analyst: RJP
1,1-Dichloroethane	< 0.61	0.61	ug/m3		11/28/2016 12:01:00 AM
1,1-Dichloroethene	< 0.59	Part Bridge William Co. 1			t1/28/2016 12:01:00 AM
Chloroethane	THE RESERVE OF THE PARTY OF THE	0.59	ug/m3	1	11/28/2016 \$2:01:00 AM
A	< 0.40	0.40	ug/m3	1	11/28/2016 12:01:00 AM
	0.99	0.31	ug/m3	1	11/28/2016 12:01:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 12:01:00 AM
Tetrachloroethylene	< 1.0	1.0	ug/m3	BUT A LANGES	
trans-1,2-Dichloroethene	< 0.59		CONTRACTOR OF THE PARTY		11/28/2016 †2:01:00 AM
Trichloroothene		0.59	ug/m3	1	11/28/2016 12:01:00 AM
	< 0.21	0.21	ug/m3	1	11/28/2016 12:01:00 AM
Vinyl chloride	< 0.10	0.10	ug/m3	1	11/28/2016 12:01:00 AM



- ** Quantitation Limit
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- 1N Non-routine analyte. Quantitation estimated.
- Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- Estimated Value above quantitation range E
- Analyte detected below quantitation fimit 1
- ND Not Detected at the Limit of Detection

Page 7 of 8

Date: 28-Dec-16

CLIENT:

LaBella Associates, P.C.

Lab Order:

C1611040

1740 Emerson Street

Project: Lab ID:

C1611040-008A

Client Sample ID: 1740-Blind Dup

Tag Number: 1190,343

Collection Date: 11/22/2016

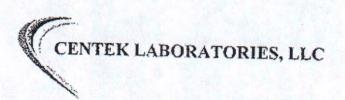
Matrix: AIR

Analyses	Result	**Limit Q	ual Units	ÐF	Date Analyzed
IUG/M3 BY METHOD TO15		TO-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82	ug/m3	1	11/28/2016 4:10:00 AM
1,1-Dichloroethane	< 0.61	0.61	ug/m3	1	11/28/2016 4:10:00 AM
1,1-Dichloroethene	< 0.59	0.59	ug/m3	1	11/28/2016 4:10:00 AM
Chloroethane	< 0.40	0.40	ug/m3		11/28/2016 4:10:00 AM
Chloromethane	< 0.31	0.31	ug/m3		11/28/2016 4:10:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59	ug/m3		11/28/2016 4:10:00 AM
Tetrachloroethylene	3.3]	1.0	ug/m3		11/28/2016 4:10:00 AM
trans-1,2-Dichloroethene	< 0.59 R	0.59	ug/m3		
Trichloroethene	0.91 J	0.61			11/28/2016 4:10:00 AM
Vinyl chloride		Marie Control of the	ug/m3		11/28/2016 4:10:00 AM
1 11 11 11 11 11 11 11 11 11 11 11 11 1	< 0.38 ₹	0.38	ug/m3	1	11/28/2016 4:10:00 AM

Qualifiers:

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

Page 8 of 8



Date: 28-Dec-16

QC SUMMARY REPORT SURROGATE RECOVERIES

CLIENT:

LaBella Associates, P.C.

Work Order:

C1611040

Project:

1740 Emerson Street

Test No:

TO-15

Matrix: A

Sample ID	BR4FBZ /	
ALCS1UG-112716	98.0	
ALCSIUG-112816	96.0	······································
ALCS IUGD-112716	95,0	
ALCS1UGD-112816	ID1	
AMB1UG-112716	90.0	***************************************
AMBIUG-112816	91.0	•••••••••••••••••••••••••••••••••••••••
C1611040-001A	89.0	
C1611040-002A	95.0	
C1611040-003A	95.0	
C1611040-003A MS	98.0	
C1611040-003A MSD	96.0	
C1611040-004A	95.0	
C1611040-005A	114	
C1611040-006A	95.0	
C1611040-007A	94.0	
C1611040-008A	94.0	

	· · · Surrogate	QC Limits
BR4FBZ	= Bromoflyorobenzene	70-130

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA2\AN112703.D Tune Time : 27 Nov 2016 1:55 pm

Daily Calibration File : C:\HPCHEM\1\DATA2\AN112703.D

(IS1) 31325	(IS2) 142911	(IS3) 123835
t Interna	V Standard R	esponses
27668	127234	111596
27752	124751	107782
20444	94783	81389
21277	97087	85898
22463	99701	86559
20718	98544	81376
20374	92370	81682
22033	110343	103314
27945	125984	106358
26130	114607	99370
	31325 % Interna: 27668 27752 20444 21277 22463 20718 20374 22033 27945	31325 142911 * Internal Standard R 27668 127234 1 27752 124751 20444 94783 21277 97087 22463 99701 20718 98544 20374 92370 22033 110343 27945 125984

t - fails 24hr time check * - fails criteria

Created: Wed Dec 28 15:49:57 2016 MSD #1/

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA2\AN112802.D

Tune Time : 28 Nov 2016 9:30 am

AN112809.D C1611040-005A 90x 96

AN112819.D ALCS1UGD-112816 101

AN112821.D C1611040-003A 10x 90

Daily Calibration File : C:\HPCHEM\1\DATA2\AN112802.D

		(E	(FB)		(IS1) 19537	(IS2) 89779	(IS3) 78295
File	Sample 1	DL S	Surrogate Recovery	*	Internal St	andard Resp	onses
AN112803.D	ALCS1UG-112816	- 4 5 2 1 2	96	====	19643	87844	79321
AN112804.D	AMB1UG-112816		91		19032	84899	71392
AN112805.D	C1611040-003A		95		17900	82328	74025
AN112806.D	C1611040-003A	MS	98		19945	88940	83101
AN112807.D	C1611040-003A N	MSD	96		21009	91248	85630
AN112808.D	C1611040-005A	9x 1	33*		20887	99038	89367

90X 96 21099 94551 79844

15560 71068 62512

15575 67352 59215 t - fails 24hr time check * - fails criteria

Created: Wed Dec 28 15:51:20 2016 MSD #1/

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 28-Dec-16

Part Carlotte Part Carlott	Work Order: C1611040 Project: 1740 Emeron Server	C1611040						G		Cir act to a	
Patch SampType: LCS								restro	de. o	74-371-1767	
Result PQL SPK value SPK Ref Val %REC LywLimit HighLimit Light Corrected Light Corrected L	Sample ID ALCS1UG-112716	SampType: LCS	TestCode: 0	25CT-TCE-	Units: ppbV		Prep Date			RunNo: 11704	
POLITION POLITION	Client ID: ZZZZZ	Batch ID: R11704	Testino, T	0-15			Analysis Date			SeqNo: 137004	
0,9000 0,15 1 0 90.0 7 70 130 0,98000 0,15 1 0 96.0 70 130 9.0 0,98000 0,15 1 0 96.0 70 130 9.0 0,98000 0,15 1 0 96.0 70 130 9.0 0,98000 0,15 1 0 96.0 70 130 9.0 0,98000 0,15 1 0 96.0 70 130 9.0 0,9700 0,15 1 0 92.0 70 130 9.0 0,9200 0,15 1 0 92.0 70 130 9.0 9.0 0,9200 0,15 1 0 92.0 70 130 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 <td< td=""><td>Analyte</td><td>Result</td><td></td><td></td><td>K Ref Val</td><td>%REC</td><td></td><td></td><td>ef Val</td><td></td><td>Qual</td></td<>	Analyte	Result			K Ref Val	%REC			ef Val		Qual
0.9500 0.15 1 0 95.0 70 130	1,1,1-Trichloroethane	0.9000	0.15	1	0	90.0	70	130			
0.9800 0.15 1 0 98.0 70 130	f,1-Dichloroethane	0.9500	0.15	1	0	95.0	70	130			
0.9700 0.15 1 0 97.0 70 130 Reserved before the corrected at the Linition of analysis to are deduced at the Linition of analysis to are deduced at the Linition of analysis to are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysis are at the Linition of analysi	1,1-Olchloroethene	0.9800	0.15	1	Q	98.0	70	130			
0.9800 0.15 1 0 98.0 70 130 Recomplementariols 140 0 92.0 70 130 Recomplementariols 1400 0 92.0 70 130 Recomplementariols 170 130 Recomplementariols Recomplementariols 170 170 130 Recomplementariols Recomplementariols 170 130 Recomplementariols Recomplementariols 140 0 92.0 70 130 Recomplementariols 140 0 140 </td <td>Chlorcethane</td> <td>0.9700</td> <td></td> <td>-</td> <td>0</td> <td>97.0</td> <td>70</td> <td>130</td> <td></td> <td></td> <td></td>	Chlorcethane	0.9700		-	0	97.0	70	130			
0.3600 0.15 1 0 96.0 70 130	Shbromethane	0.9800			0	98.0	22	130			
1.010 0.15 1 0 101	is-1,2-Dichloroethene	0.9600		-	0	96.0	70	130			
0.9700 0.15 1 0 97.0 70 130 0.9200 0.040 1 0 92.0 70 130 Samplype: LCS TestCode: 0.25CT-TCE- Units: ppb/ Frep Date: 11/28/2016 RunNo: 11705 Berch ID: R11705 TestNo: TO-15 Analysis Date: 11/28/2016 SeqNo: 137026 Berch ID: R11705 TestNo: TO-15 Analysis Date: 11/28/2016 SeqNo: 137026 Berch ID: R11705 TestNo: TO-15 Analysis Date: 11/28/2016 SeqNo: 137026 Berch ID: R11706 0.15 1 0 101 70 130 1.070 0.15 1 0 95.0 70 130 Analysis core 1.070 0.15 1 0 95.0 70 130 Analysis core 1.070 0.15 1 0 95.0 70 130 Analysis core 1.070 0.15 1 0 95.0 70 130 Analysis core 0.99500 0.15 1 0	etrachloroethylene	1.010	0.15	-	0	101	22	130			
0.92006 0.040 1 0 92.0 70 130 SampType: LCS TestCode: 0.25CT-TCE- Units: pbW Prep Date: Pre	ans-1,2-Dichloroethene	0.9700	0.15	*	0	97.0	70	130			
SampType: LCS TestCode: 0.25CT-TCE- Units: pbbV Prep Date: 1/28/2016 70 130 SampType: LCS TestNo: TO-15 Analysis Date: 11/28/2016 RunNo: 1705 Bartch ID: R11705 TestNo: TO-15 Analysis Date: 11/28/2016 RunNo: 1705 Bartch ID: R11706 TestNo: TO-15 Analysis Date: 11/28/2016 RunNo: 1705 Bartch ID: R11707 TestNo: TO-15 Analysis Date: 11/28/2016 RunNo: 1705 Bartch ID: R1107 SPK Ref Val %REC Low Male Reg National Analysis Date: 11/28/2016 RunD Bartch Val RunD Bartch Val RunD Bartch Running or analysis covereded at the Limit of Detection RunD Bartch Running or Analysis covereded at the Limit of Detection RunD Bartch Running or Analysis covered at the Limit of Detection RunD Bartch Running or Analysis covered at the Limit of Detection RunD Bartch Running or Analysis covered at the Limit of Detection RunD Bartch Running or Analysis covered at the Limit of Detection RunD Bartch Running or Analysis covered at the Limit of Detection RunD Bartch Running or Analysis covered at the Limit of Detection Running or Analysis covered at the Limit of Detection Running or Analysis covered at the Limit of Detection Running or Analysis covered at the Limit of Detection Running or Analysis covered at the Limit of Detection at the Limit of Detection at the Limit of Detection	richloroethene	0.9200	0.040	+	0	92.0	70	130			
SampType: LCS TestCode: 0.25CT-TCE- Units: ppbV Prep Date: 11/28/2016 RunNo: 11705 Batch ID: R11705 TestNo: TO-15 Units: ppbV Analysis Date: 11/28/2016 SeqNo: 137026 Result POL. SPK Ref Val %REC LowLimit RIghLimit RPD Ref Val %RPD RPDLimit 0.9300 0.15 1 0 90.0 70 130 RPD RPDLimit 1.670 0.15 1 0 90.0 70 130 RPD RP	inyl chloride	0.9200	0.040		0	92.0	70	130			
Pack Pack	ample ID ALCS1UG-112816	SampType: LCS	TestCode: 0.	25CT-TCE-	Units: ppbV		Prep Date			RunMo: 11705	
Composition Composition		Batch ID: R11705	TestNo. T	0-15		4	unalysis Date			SeqNo: 137026	
0.9300 0.15 1 0 93.0	nalyte	Result			'K Ref Val	%REC			ef Val		Qua
1,010 0.15 1 0 101 70 130 130 130 101 101 101 100 130 130 13	1,1-Trichloroethane	0.9300	0.15	-	0	93.0	02	130			
0.9500 0.15 1 0 96.0 70 130 130 1.070 0.15 1 0 96.0 70 130 130 1.070 0.15 1 0 107 70 130 130 1.070 0.15 1 0 107 70 130 130 1.070 0.15 1 0 99.0 70 130 1.000 0.15 1 0 99.0 70 130 130 1.000 0.15 1 0 99.0 70 130 130 130 130 130 130 130 130 130 13	.1-Dichloroethane	1,010		-	0	101	70	130			
1,070 0.15 1 0 107 70 130 130 1,070 0.15 1 0 107 70 130 0.9970 0.15 1 0 99.0 70 130 0.9900 0.15 1 0 99.0 70 130 0.9900 0.15 1 0 99.0 70 130 130 0.9500 0.040 1 0 95.0 70 130 130 130 0.9500 0.040 1 1 0 95.0 70 130 130 130 0.9500 0.040 1 1 0 95.0 70 130 130 130 0.9500 0.040 1 1 0 95.0 70 130 130 130 0.9500 0.040 1 1 0 0 95.0 70 130 130 130 0.9500 0.040 1 1 0 0 95.0 70 130 130 130 0.9500 0.040 1 1 0 0 0.040 1 1 0 0 0.040 1 1 0 0 0.040 1 1 0 0 0.040 1 1 0 0 0.040 1 1 0 0 0.040 1 1 0 0 0.040 1 1 0 0 0.040 1 1 0 0 0.040 1 1	.1-Dichloroethene	0.9600		-	0	0.96	70	130			
1,670 0.15 1 0 107 70 130 0.9700 0.15 1 0 99.0 70 130 0.9900 0.15 1 0 99.0 70 130 0.9900 0.15 1 0 99.0 70 130 0.9500 0.040 1 0 95.0 70 130 130 0.9500 0.040 1 Estimated Value above quantitation range H byte detected below quantitation limit ND Not Detected at the Limit of Detection R	Chloroethane	1.070			0	101	70	130			
0.9700 0.15 1 0 97.0 70 130 0.9900 0.15 1 0 99.0 70 130 1 0 99.0 70 130 1 0 95.0 70 130 1 0 95.0 70 130 130 0.9500 0.040 1 0 95.0 70 130 130 130 reported are not blank corrected 1 Estimated Value above quantitation range H yte detected below quantitation limit ND Not Detected at the Limit of Detection R	Chioromethane	1.670		r	0	101	70	130			
0.9900 0.15 1 0 99.0 70 130 1 00 99.0 70 130 1 00 0.9500 0.040 1 0 0.040 1 0 95.0 70 130 130 130 130 130 130 130 130 130 13	cis-1,2-Dichloroethene	0.9700	0.15	1-	0	0.79	70	130			
1.000 0.15 1.00 100 170 130	Tetrachloroethylene	00660	0.15		0	0.66	70	130			
hene 0.9500 0.040 t 0 95.0 70 130 Results reported are not blank corrected is Estimated Value above quantitation range H Analyte detected below quantitation limit ND Not Detected at the Limit of Detection R	trans-1,2-Dichloroethene	1.000	0.15	3	0	100	70	130			
Results reported are not blank corrected If Estimated Vakue above quantitation range H Analyte detected befow quantitation limit ND Not Detected at the Limit of Detection R	richloroethene	0.9500	0.040	+	0	95.0	70	130			
ND Not Detected at the Limit of Detection R	-	ned are not blank corrected	#	Estimated	Vatue above quant	Diation range	and a warm out the second constitution of the second		enes for pr	eparalina os analysis eyeced	99
	J Analyte deter	cted befow quantitation limit	UN		ed at the Limit of 1	Detection			de accept	d recovery limits	

Page 1 of 3

TestCode: 0.25CT-TCE-VC

		1 calcu	lestCode: 0,25CT-TCE.	E- Units: ppby		Prep Date	ni.		RunNo: 11705	705	
Client ID: ZZZZZ	Batch 1D: R11705	Testi	TestNo: TO-15			Analysis Date:	a: 11/28/2016	1016	SeqNo: 137026	7026	
Analyte	Resutt	POL	SPK value	SPK Ref Vat	%REC	LowLimit	HighLimil	HighLimit RPD Ref Val	%RPD	RPDI.imit	Q.
Vinyl chloride	1.040	0.040	-	0	104	70	130			1	
Sample ID ALCS1UGD-112716	SampType: LCSD	TestCoc	TestCode: 0.25CT-TCE.	E- Units: ppbV		Prep Date			RunNo: 11704	104	
Client ID: ZZZZZ	Batch ID: R11704	Test	TestNo: TO-15			Analysis Date:	11/28/2016	910	SeqNo: 137005	7005	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPOL imit	Qual
1,1,1-Trichloroethane	0.7900	0.15	-	0	79.0	70	130	0.9	13.0	30	
1,1-Dichloroethane	0.9200	0.15	1	0	92.0	70	130	0.95	3.21	30	
1,1-Dichloroethene	0.9800	0.15	-	0	98.0	02	130	0.98	0	30	
Chioroethane	0.9500	0.15	1	0	95.0	02	130	16.0	2.08	30	
Chioromethane	0.9200	0.15	-	0	92.0	70	130	0.98	6.32	30	
cis-1,2-Dichloroethene	0.9500	0.15	-	0	95.0	02	130	0.96	1.05	30	
retrachloroethylene	0.9600	0.15		0	0.96	20	130	1.04	5.08	30	
trans-1, 2-Dichloroethene	0.9300	0.15	**	0	93.0	02	130	0.97	4.21	30	
richloroethene	0.9100	0.040	**	0	91.0	70	130	0.92	1.09	30	
Vanyl chionde	0.9500	0.040	-	0	95.0	70	130	0.92	3.21	30	
Sample 1D ALCS1UGD-112816	SampType: LCSD	TestCoc	TestCode: 0.25CT-TCE-	E- Units: ppbV		Prep Date:			RunNo: 11705	05	
Client ID: ZZZZZ	Batch ID: R11705	Testh	Festivo: TO-15			Analysis Date:	11/28/2016	316	SeqNo: 137027	027	
Anslyte	Result	POL	SPK value	SPK Ref Val	"REC	Lowkimi	HighLimit	RPD Ref Val	%RPD	RPDLimit	Oual
1,1,1-Trichforoethane	0.9300	9,15	-	ð	93.0	70 70	130	0.93	0	30	
1,1-Dichtoroethane	1.040	0.15	-	0	104	7.0	130	1.01	2.93	30	
1,1-Dichloroethene	0.9500	0.15		0	95.0	70	130	0.96	1.05	30	
Chloroethane	1.120	0.15	-	0	112	70	130	1.07	4.57	30	
Chloromethane	1,150	0.15	-	0	115	70	130	1.07	7.21	30	
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	0.97	4.04	30	
etrachloroethylene	1.020	0.15		0	102	70	130	66.0	2.99	30	
frans-1,2-Dichloroethene	1.030	0.15	1	0	103	70	130	-	2.96	30	
l (ichloroethene	0.9500	0.040	1	0	95.0	70	130	0.95	0	30	

LaBella Associates, P.C.

1740 Emerson Street

C1611040

CLAENT: Work Order:

Project:

Sample ID ALCS1UGD-112816 SampType: LCSD	SampType: LCSD	TestCor	Je: 0.25CT-TC	FestCode: 0.25CT-TCE- Units: ppbV		Prep Date:			RunNo: 11705	705	
Client ID: ZZZZZ	Batch ID: R11705	Test	TestNo: TO-15			Analysis Dale:	Analysis Date: 11/28/2016		SeqNo: 137027	1027	
Analyte	Resuit	POL	SPK value	SPK value SPK Ref Val	%REC	LawLinsit P	%REC LowLinsit HighLimit RPD Ref Val	tef Val	%RPD	WRPD RPDLimit Qual	Oual
Vinyi chloride	1.100	0.040	1	0	110 V	70	130	1.04	5.61	30	

TestCode: 0.25CT-TCE-VC

~	Analyte detected below quantitation limit	7.	ND Not Detected at the Linui of Detection	. &	R RPD outside accepted recovery limits
S	Spike Recovery masside accepted recovery limits				
					Page 3 of

LaBella Associates, P.C.

1740 Emerson Street

C1611040

Work Order: CLIENT:

Project:



ANALYTICAL QC SUMMARY REPORT

Date: 28-Dec-16

CLIENT: LaBella Associates, P.C.

Work Order: C1611040

	No. of a few states of the sta			THE OWNER WHEN THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.			-				-
Cilent ID: ZZZZZ	SampType: MBLK Batch ID: R11704	TestC	rstCade: 0.25CT-TCI TestINo: TO-15	TestCode: 0.25CT-TCE- Units: ppbV TestIvo: TO-15		Prep Date: 11/27/2016	e. 11/27/	2016	RunNo: 11704 SeqNo: 137003	1704	
Analyte	Result	POL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	Hight.imit	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDtimit	RP	Dim
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	9.15									
cis-1.2-Dichloroethene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
frans-f,2-Dichloroethene	< 0.15	0.15									
Trichloroethene	< 0.040	0.040									
Vinyl chloride	< 0.040	0.040									
Sample ID AMB1UG-112816	SampType: MBLK	TestCo	de: 0.25CT-TCE	FestCode: 0.25CT-TCE- Units: ppbV		Prep Date:			RunNo 11705	705	
Glient ID; ZZZZZ	Batch IO: R11705	Test	TestNo. TO-15		A	Analysis Date: 11/28/2016	11/28/2	910	SeqNo: 137025	7025	
A 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4											

Client ID: ZZZZZ	Batch IO: R11705		TestNo	Testivo. TO-15	Fastivo. Fo-15		Analysis Date: 11/28/2016	te: 11/28/	2016
Analyte	Result	•	PQL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	*REC LowLimit HighLimit RPD Ref Vai
1, 1, 1-Trichloroethane	< 0.15	1	0.15						
1,1-Dichloroethane	< 0.15		0.15						
1,1-Dichloroethene	< 0.15		0.15						
Chloroethane	< 0.15		0.15						
Chloromethana	< 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	٠	0.040						

Quai

%RPD RPDLimit

Oualifiers: Results reported are not blank corrected

Analyte detected below quantitation limit

Spike Recovery outside accepted recovery limits

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

Page 1 of 2

Project: 1740 Eme	1740 Emerson Street		TestCode: 0	TestCode: 0.25CT-TCE-VC
Sample ID AMB1UG-112816	SampType: MBLK	TestCode: 0.25CT-TCE- Units: ppbV Pret	Prep Date:	Risolo: 4470F
Client ID: ZZZZZ	Balch ID: R11705	TestNo. TO-15 Analysis	Analysis Date: 11/28/2016	Seavo: 137025
Analyle	Result	POL SPK value SPK Ref Val %REC LOW	WREC Low imit High Imit DDD Dagwar	
Vinyl chloride	< 0.040	0.040	MED NEI VAR	ARPU RPOLIMIE Orial

Page 2 of 2

LaBella Associates, P.C.

C1611040

Work Order: CLIENT:



ANALYTICAL QC SUMMARY REPORT

Date: 28-Dec-16

LaBella Associates, P.C. CLIENT:

C1611040 Work Order: 1740 Emerson Street Project:

TestCode: 1ugM3 TO15

Sample 10 C1611040-003A MS	SampType: MS	TestCo	TestCode: 1ugM3_TO15 Units: ppbV	5 Units: ppbV		Prep Date:	2,0		RunNo: 11705	1705	
Cilent ID: 1740-5VI-2	Batch ID: R11705	Test	TestNo: TO-15		1	Analysis Cate:	11/28/2016	3016	SeqNo: 137035	17035	
Analyte	Result	POL	SPK value SI	SPK Ref Val	%REC	LowLimit +	High imit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.150	0.15	-	0.2	95.0	202	130	***************************************			
1,1-Dichloroethane	1.290	0.15	-	0.35	94.0	70	130				
1,1-Dichlotoethene	1.030	0.15		0	103	70	130				
Chloroethane	1.120	0.15	•	0	112	02	130				
Chloromethane	1.140	0.15	-	0	114	70	130				
cis-1,2-Dichloroethene	4.500	0.15	+	3,69	81.0	02	130				
Felrachloroethylene	18.34	0.15	3	18.84	-50.0	20	130				v.
Frans-1,2-Dichloroethene	1.260	0.15	-	0.27	0.66	02	130				,
Frichloroethene	14.22	0.15	1	13.76	46.0	70	130				S
Vinyl chloride	1.090	0.15	-	0	109	70	130				,
Sample 1D C1611040-003A MS	SampType: MSD	TestCoc	TestCode: 1ugM3_TO15 Units: ppbV	Units: ppbV		Prep Date:			RunNo: 11705	705	
Client ID: 1740-SVI-2	Batch ID: R11705	Testh	TestNo; TO-15		•	Analysis Date: 11/28/2016	11/28/20	016	SeqNo: 137036	7036	
Analyte	Result	PQL	SPK value SF	SPK Ref Val	%REC	LowLimit F	lighLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.160	0.15	-	0.2	0.96	02	130	1.15	0.856	30	
1,1-Dichloroethane	1.240	0.15	1	0.35	89.0	70	130	1.29	3.95	30	
1,1-Dichloroethene	0.9800	0.15	1	0	98.0	02	130	1.03	4.98	30	
Chloroethane	1.030	0.15	1	0	103	70	130	1.12	9.37	30	
Chloromethane	1.050	0.15	-	0	105	20	130	1.14	8.22	30	
cis-1,2-Dichloroethene	4.070	0.15	1	3.69	38.0	02	130	4.5	10.0	30	S
Tetrachioroethylene	16.02	0.15	-	18.84	-282	02	130	18.34	13.5	30	S
trans-1,2-Dichloroethene	1.190	0.15	1	0.27	92.0	70	130	1.26	5.71	30	
Trichloroethene	12.78	0.15		13.76	-98.0 /	70	130	14.22	10.7	30	S

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

Quafifiers:

Estimated Value shove quantitation range E. Estimated Value shove quantitation ran ND Not Detected at the Limit of Detection

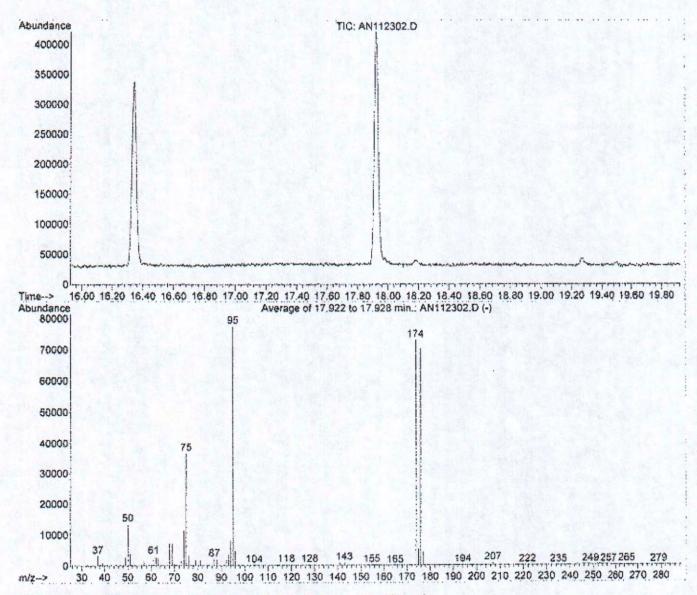
Holding times for preparation or analysis exceeded RPD outside accepted recovery limits I X

Page 1 of 2

CLIENT: Work Order: Project		sociates, P.C.							Control of the Contro		
		nos nos nos						Tes	#Code: 1	TestCode: 1ugM3_TO15	
Sample 1D C1 Client ID: 17	Sample 1D C1611040-003A MS Client ID: 1740-SVI-2	SampType: MSD Batch ID: R11705	TestCor	stCode: 1ugM3_Ti	TestCode: 1ugM3_TO15 Units: ppbV TestNo: TO-15	4	Prep Date: nalysis Date:	Prep Date: Analysis Date: 11/28/2016	9	RunNo: 11705 SeqNo: 137036	
Analyte		Result	Par	SPK value	SPK Ref Val	%REC	LowLimit F	LowLimit HighLimit RPD Ref Val	PD Ref Val	%RPD RPD	RPOLimit Qual
APA CABITA		0.9500	913		a	0.66	R	130	60.1	9.62	30
Qualifiers:	Results report	Results reported are not blank corrected Analyte detected below quantitation fimit		E Estima	Estimated Value above quantitation range	lation range		H Holdi	ng times for pr	Holding times for preparation or analysis exceeded	papago
	S Spike Recover	Spike Recovery outside accepted recovery limits	mis		WELLOU OR 1850 LABOR UF A	Эспосинии			outside accepti	RPD outside accepted recovery limits	

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 17.922 to 17.928 min.

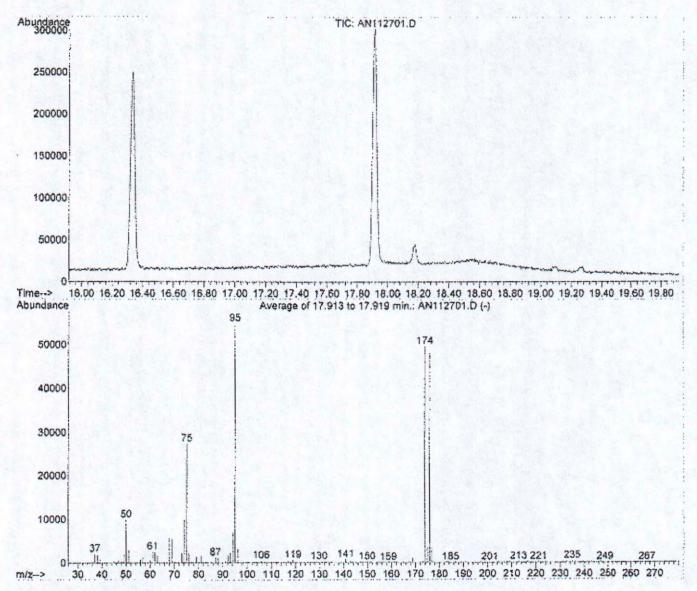
1	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abnt	Raw Abn	Result Pass/Fail
ī	50	1 95	8	40	17.5	13542	PASS
i	75	95	30	66	47.6	36900	PASS
	95	95	100	100	100.0	77555	PASS
	96	95	5	9	6.2	4781	PASS
	173	174	0.00	2	0.0	0	PASS
	174	95	50	120	94.3	73114	PASS
	175	174	4	9	7.1	5176	PASS
	176	174	95	101	96.5	70530	PASS
	1.77	176	5	9	6.4	4526	PASS

Data File : C:\HPCHEM\1\DATA2\AN112701.D

Vial: 1 Acq On : 27 Nov 2016 12:24 pm Operator: RJP Sample : BFB1UG : MSD #1 Inst Misc : AN23 1UG Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator) : TO-15 VOA Standards for 5 point calibration Title

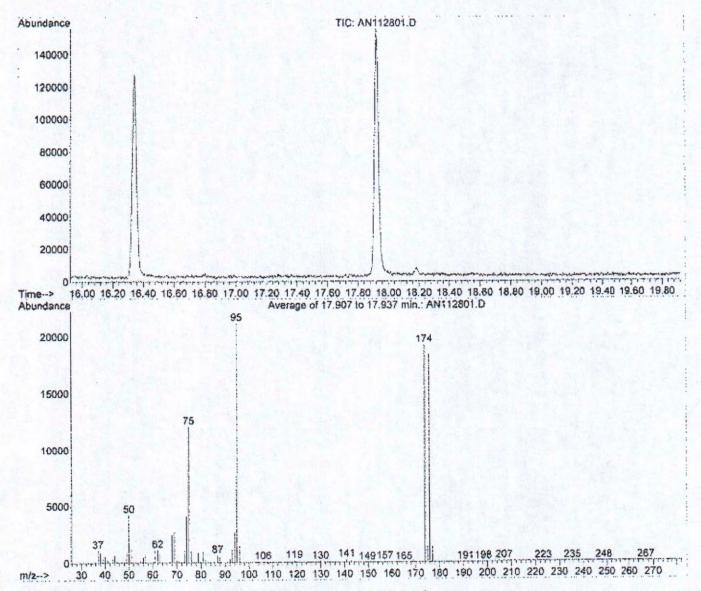


Spectrum Information: Average of 17.913 to 17.919 min.

Target Mass	Rel. to Mass	Lower Limit*	Upper Limit*	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.1 V	9904	PASS
75	95	30	66	50.1	27480	PASS
95	95	100	100	100.0	54842	PASS
96	95	5	9	6.0	3296	PASS
173	174	0.00	2	0.3	145	PASS
174	95	50	120	90.5	49656	PASS
175	174	4	9	7.1	3548	PASS
176	174	95	101	96.9	48128	PASS
3.77	176	5	9	7.4	3574	PASS

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\AN23_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 17.907 to 17.937 min.

Target Mass	Rel. to	Lower Limit*	Upper Limit%	Rel. Abn%	/ Raw Abn	Result Pass/Fail
50	95	8	40	20.0	4230	PASS
75	95	30	66	57.0	12080	PASS
95	95	100	100	100.0	21199	PASS
96	95	5	9	7.1	1510	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.8	19247	PASS
175	174	4	9	7.1	1365	PASS
176	174	95	101	96.0	18483	PASS
177	176	5	9	7.4	1368	PASS

DATA USABILITY SUMMARY REPORT

for

LaBella Associates, P.C. 300 State Street

Rochester, NY 14614

FORMER EMERSON LANDFILL Project 210173 SDG: C1803052 Sampled 03/19/2018

TO-15 AIR SAMPLES

IAQ-01-MARCH 2018	(C1803052-01)
IAO-02-MARCH 2018	(C1803052-02)
IAQ-03-MARCH 2018	(C1803052-03)
OUTDOOR-MARCH 2018	(C1803052-04)
DUPE-MARCH 2018	(C1803052-05)

DATA ASSESSMENT

A TO-15 data package containing analytical results for five air samples was received from LaBella Associates, P.C. on 04Apr18. The ASP deliverables package included formal reports, raw data, the necessary QC, and supporting information. The samples, taken from the Former Emerson Landfill Site, were identified by Chain of Custody documents and traceable through the work of Centek Laboratories, LLC, the laboratory contracted for analysis. The analyses were performed using US EPA Method TO-15 and addressed measurements of ten volatile organic compounds. Laboratory data evaluated according to the quality assurance / quality control requirements of the New York State Department of Environ-Conservation's Analytical Services Protocol September 1989, Rev. 07/2005. When the required protocol was not followed, the current EPA Region II Functional Guidelines (SOP HW-31, Rev. #4, October 2006, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15) was used as a technical reference.

The results reported from OUTDOOR-MARCH 2018 have been rejected and the results from DUPE-MARCH 2018 have been qualified as estimations because the sampling equipment failed to function properly.

The tetrachloroethene results from IAQ-02-MARCH 2018 and IAQ-03-MARCH 2018 have been qualified as estimations due to a high internal standard response.

The 1,1-dichloroethene and chloromethane results from IAQ-02-MARCH 2018 due to low spiked sample recoveries.

CORRECTNESS AND USABILITY

Reported data should be considered technically defensible and completely usable in its present form. Reported concentrations that are felt to provide a usable estimation of the conditions at the time of sampling have been flagged "J" or "UJ". Estimated data should be used with caution. A detailed discussion of the review process follows.

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

Reviewer's signature: James B. Baldwin Date: 13May 18

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 five air samples that were collected from the Former Emerson Landfill Site on 19Mar18. With the exception of IAQ-02-MARCH 2018, the samples were collected in 1-liter SUMMA canisters. IAQ-02-MARCH 2018 was collected in a 1.4-liter canister to facilitate the preparation of MS/MSD samples. The canisters were shipped to the laboratory, via FedEx, on the day of collection and were received on 21Mar18. Although the canisters were received intact, a custody seal was not found on the packaging.

Although each SUMMA canister was set in the laboratory to collect a 6-hour sample, the collection of samples was terminated after between 2.0 and 6.5 hours based on the canister vacuum readings. At that time the vacuum reading from every cylinder except OUTDOOR-MARCH 2018 satisfied the ASP requirement of $-5\pm1^{\prime\prime}$ Hg. The OUTDOOR-MARCH 2018 sample produced a reading of 22.5"Hg prior to sampling and a final reading of $-3^{\prime\prime}$ Hg after two hours of sample collection. The results from this sample have been rejected because the sampling equipment did not function properly.

The results from the DUPLICATE have been qualified as estimations due to the change in vacuum between the end of sample collection and the time of laboratory receipt.

SAMPLE	PRIOR TO	PRIOR TO	POST	LAB	LAB
	SHIPMENT	SAMPLING	SAMPLING	RECEIPT	ANALYSIS
	("Hg)	("Hg)	("Hg)	("Hg)	("Hg)
IAQ-01	-30	-29	- 4	-4	-4
IAQ-02	-30	-30	- 5	-3	- 3
IAQ-03	-30	-30	-4	-3	-3
OUTDOOR	-30	-22.5	-3	-2	-2
DUPLICATE	-30	-26	- 4	-1	-1

CANISTER CERTIFICATION

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

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

BLANKS

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

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

MS TUNING

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

BFB ion abundance criteria was reported from standards run before the initial instrument calibration and prior to the analysis of program samples on 21Mar18. Both of these checks satisfied the ASP acceptance criteria.

CALIBRATION

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

The initial instrument calibration was performed on 18Mar18. Standards of 0.03, 0.04, 0.10, 0.15, 0.30, 0.50, 0.75, 1.0, 1.25, 1.50 and 2.0 ppbV were included. Each targeted analyte produced the required levels of instrument response and demonstrated an acceptable degree of linearity during this calibration.

A continuing calibration check standard was analyzed on 21Mar18, prior to the 24-hour period of instrument operation that included samples from this program. When compared to the initial calibration, each targeted analyte demonstrated an acceptable level of instrument stability during this check.

SURROGATES

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

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

INTERNAL STANDARDS

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

The laboratory recorded the response of each internal standard addition to this group of samples and the response obtained from the preceding CCV standard. Although the control limits based on the response of the CCV were not reported; they were calculated by this reviewer. When compared to these limits, an unacceptably high response was reported for the chlorobenzene-d5 additions to IAQ-02-MARCH 2018 and IAQ-03-MARCH 2018. The tetrachloroethene (1122DCE) results from IAQ-02-MARCH 2018 and IAQ-03-MARCH 2018 have been qualified as estimations based on this performance. It is noted that a high internal standard response produces a negative bias in samples.

Internal standard retention times were not addressed by the laboratory. The ASP retention time acceptance criteria was calculated by this reviewer. The retention times produced by each program sample satisfied these requirements.

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

IAQ-02-MARCH 2018 was selected for matrix spiking. The entire list of targeted analytes was added to two volumes of this sample. The recoveries reported for these additions included low results for 1,1-dichloroethene(64%) and chloromethane (56%). The 1,1-dichloroethene (11DCE) and chloromethane (CLMANE) results from IAQ-02-MARCH 2018 have been qualified as estimations based on these indications of negative bias.

A pair of spiked blanks (LCS/LCSD) was also analyzed with this group of samples. The recoveries reported from these LCS samples demonstrated acceptable levels of measurement precision and accuracy.

DUPLICATES

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

The duplicate sample that was included in this delivery group was not identified.

REPORTED ANALYTES

Formal reports were provided for each sample. The data package also included total ion chromatograms and raw instrument 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

SAMPLED MARCH 2018	•	
	SPIKES	0.765
	SPIKES 11DCE	0.16UJ 0.76J
	INT STD 1122DCE	1.2J 0.75J
	SAMPLING VOC	ALL R ALL J/UJ
690 ST PAUL SITE		IAQ-01-MARCH 2018 (C1803052-01) IAQ-02-MARCH 2018 (C1803052-02) IAQ-03-MARCH 2018 (C1803052-03) OUTDOOR-MARCH 2018 (C1803052-04) DUPE-MARCH 2018 (C1803052-05)

CLIENT: LaBella Associates, P.C.

Lab Order: C1803052

Project: 1740 Emerson St

Lab ID: C1803052-001A

Date: 28-Mar-18

ssociates, P.C. Client Sample ID: IAQ-01 March 2018

Tag Number: 202,402 Collection Date: 3/19/2018

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-V	C-DCE-1.1DCE	TO-	-15	•		Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 7:58:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 7:58:00 PM
1.1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 7:58:00 PM
Chioromethane	0.58	0.31		ug/m3	1	3/21/2018 7:58:00 PM
cis-1.2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Tetrachloroethylene	0.81	1,0	J	ug/m3	1	3/21/2018 7:58:00 PM
trans-1,2-Dichlorosihene	< 0.59	0.59	•	ug/m3	1	3/21/2018 7:58:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 7:58:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 7:58:00 PM



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

CLIENT: LaBella Associates, P.C.

Lab Order:

C1803052

Project:

1740 Emerson St

Lab ID:

C1803052-002A

Date: 28-Mar-18

Client Sample ID: IAQ-02 March 2018

Tag Number: 487,1419 Collection Date: 3/19/2018

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-V0	-DCE-1.1DCE	то	-15			Analyst: RJP
1.1.1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 5:44:00 PM
1.1-Dichioroethane	< 0.61	0.61		ug/m3	1	3/21/2018 5:44:00 PM
1.1-Dichloroethene	< 0.16 U J	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Chioroethane	< 0.40	0.40		ug/m3	1	3/21/2018 5:44:00 PM
Chloromethane	0.76 J	0.31		ug/m3	1	3/21/2018 5:44:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 5:44:00 PM
Tetrachloroethylene	1.2 1	1.0		ug/m3	1	3/21/2018 5:44:00 PM
trans-1.2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 5:44:00 PM
Trichloroethene	0.43	0.16		บุต/m3	1	3/21/2018 5:44:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 5:44:00 PM



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

Date: 28-Mar-18

CLIENT: LaBella Associates, P.C.

Client Sample ID: IAQ-03 March 2018 Tag Number: 459,381 Lab Order: C1803052

Collection Date: 3/19/2018 1740 Emerson St Project:

Matrix: AlR Lab ID: C1803052-003A

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-V	C-DCE-1.1DCE	TO	-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 8:38:00 PM
1.1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 8:38:00 PM
1.1-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/21/2018 8:38:00 PM
Chloromethane	0.89	0.31		ug/m3	1	3/21/2018 8:38:00 PM
cis-1,2-Dichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Tetrachloroethylene	0.75 🕽	1.0	,j	ug/m3	1	3/21/2018 8:38:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/21/2018 8:38:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	1	3/21/2018 8:38:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	3/21/2018 8:38:00 PM



Qualifiers:

- Quantitation Limit
- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded H
- Non-routine analyte, Quantitation estimated.
- Spike Recovery outside accepted recovery limits
- Results reported are not blank corrected
- Estimated Value above quantitation range E
- Analyte detected below quantitation limit 1
- ND Not Detected at the Limit of Detection

Page 3 of 5

LaBella Associates, P.C.

CLIENT:

Lab Order:

C1803052

Project:

1740 Emerson St

Lab ID:

C1803052-004A

Date: 28-Mar-18

Client Sample ID: Outdoor March 2018

Tag Number: 290,1152

Collection Date: 3/19/2018

Analyses	Result	**Llmit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-V	C-DCE-1 1DCE	TO	-15			Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/21/2018 9:19:00 PM
1.1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/21/2018 9:19:00 PM
•	< 0.16	0.16		ug/m3	1	3/21/2018 9:19:00 PM
1,1-Dichloroethene	< 0.40	0.40		ug/m3	1	3/21/2018 9:19:00 PM
Chloroethane	0/64	Q 0.31		ug/m3	1	3/21/2018 9:19:00 PM
Chloromethane	1 7	0.16		ug/m3	1	3/21/2018 9:19:00 PM
cis-1,2-Dichloroethene	< 9.16	1.0		ug/m3	1	3/21/2018 9:19:00 PM
Tetrachloroethylene	41.0			ug/m3	,	3/21/2018 9:19:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		-		3/21/2018 9:19:00 PM
Trichloroethene	< 0.16	0.16		ug/m3	,	3/21/2018 9:19:00 PM
Vinyl chloride	∮ 0.10 /	0.10		ug/m3	1	\$12 1120 10 9, 18,00 FIVE



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

Date: 28-Mar-18

LaBella Associates, P.C. CLIENT:

C1803052 Lab Order:

1740 Emerson St Project:

C1803052-005A Lab ID:

Client Sample ID: Dupe March 2018

Tag Number: 1181,209

Collection Date: 3/19/2018

Analyses	Result	**Lin	it Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.2UG/M3 CT-TCE-VC	-DCF-1.1DCE		TO-15			Analyst: RJP
1.1.1-Trichloroethane	< 0.82 1		82	ug/m3	1	3/21/2018 9:59:00 PM
1.1-Dichloroethane			61	ug/m3	1	3/21/2018 9:59:00 PM
1.1-Dichloroethene	< 0.16	UJ	16	ug/m3	1	3/21/2018 9:59:00 PM
Chloroethane	< 0.40	•	40	ug/m3	1	3/21/2018 9:59:00 PM
Chloromethane	0.62 🗍	_	31	ug/m3	1	3/21/2018 9:59:00 PM
= 111 = 1 = 111 = 1	< 0.16 \		16	ug/m3	1	3/21/2018 9:59:00 PM
cis-1,2-Dichloroethene	< 1.0	•	1.0	ug/m3	1	3/21/2018 9:59:00 PM
Tetrachloroethylene	< 0.59	1	59	ug/m3	1	3/21/2018 9:59:00 PM
trans-1,2-Dichloroethene	< 0.16	-	16	ug/m3	1	3/21/2018 9:59:00 PM
Trichloroethene Vinyl chloride	< 0.10	_	10	ug/m3	1	3/21/2018 9:59:00 PM



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



Date: 28-Mar-18

QC SUMMARY REPORT SURROGATE RECOVERIES

CLIENT:

LaBella Associates, P.C.

Work Order:

C1803052

Project:

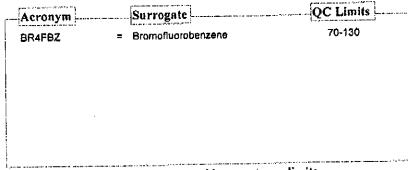
1740 Emerson St

Test No:

TO-15

Matrix: A

Sample ID	BR4F8Z	
ALCS1UG-032118	116	
ALCS1UGD-032118	118	
AMB1UG-032118	(72.0)	
C1803052-001A	92.0	
C1803052-002A	96.0	
C1803052-002A MS	106	
C1803052-002A MSD	98.0	
C1803052-003A	97.0	
C1803052-004A	81.0	
C1803052-005A	81.0	



* Surrogate recovery outside acceptance limits

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AP032103.D Tune Time : 21 Mar 2018 12:00 pm

Daily Calibration File:	(BFB)	10.00 10.10	(705) (151) 47897	27132 8 (IS2) 193806	203421 (IS3) 145301
• •	• -	12.73 /7.48 Recovery % In	28738 iternal Sta	116284 andard Respo	87181 onses
AP032104.D ALCS1UG-032118	116		48374	197048	153239
AP032105.D AMB1UG-032118	(72)		44328	177221	120583
AP032109.D C1803052-002A	96 /0,49	12.73 17.48	52789	220422	210982
AP032110.D C1803052-002A	1S 106		58783	248824 (249590*
AP032111.D C1803052-002A	ISD 98		58695	244768	(232175)
AP032112.D C1803052-001A	92 /0,50	12.74 17.48	53864	224944	200948
AP032113.D C1803052-003A	97 10,50 1	2.73 17.48	59062	248077	240796*)
AP032114.D C1803052-004A	81 <i>10,5</i> 0	12.73 17.48	54582	214431	160200
AP032115.D C1803052-005A	81 10,50	12.73 17.48	50312	195257	134671
AP032132.D ALCS1UGD-032110	118		48657	205600	162411

t - fails 24hr time check * - fails criteria

Created: Wed Mar 28 07:48:37 2018 MSD #1/

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

Date: 02-Apr-18

LaBella Associates, P.C. CLIENT:

C1803052 Work Order: 1740 Emerson St Project:

TestCode: 0.20 NYS

				Marie 1997							
Sample ID: AMB1UG-032118	SampType: MBLK	TestCo	TestCode: 0.20_NYS	Units: ppbV		Prep Date:	ie:		RunNo: 13411	#	
Client ID: ZZZZZ	Batch ID: R13411	Test	TestNo: TO-15			Analysis Da	Analysis Date: 3/21/2018	18	SeqNo: 155453	5453	
Analyte	Result	Pal		SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
1.1.1-Trichloroethane	< 0.15	0.15									
1.1-Dichloroethane	< 0.15	0.15									
1.1-Dichloraethene	< 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									
Viryl chloride	c 0.040	0.040									
Surr. Bromofluorobenzene	0.7200	0	-	Ö	72.0	2	<u>동</u>				

Analyte detected below quantitation limit Results reported are not blank corrected Qualifiers:

E Estimated Value above quantitation range NO Not Detected at the Limit of Detection

H Polding times for preparation or analysis exceeded R RPD outside accepted rocovery limits

Spike Recovery outside accepted recovery limits ιΛ)



ANALYTICAL QC SUMMARY REPORT

Date: 28-Mar-18

LaBella Associates, P.C. CLIENT

C1803052

Work Order:

1740 Emerson St Project:

TestCode: 0.20 NYS

Clean ID: ZZZZZZ Batch ID: R13411 Teable: TO-15 Analyta:	Sample IO. ACCSTOG-052116	SampType: LCS	TestCod	TestCode: 0.20_NYS	Units: ppbV		Prep Date:	ei,		RunNo: 13411	Ξ	
Second S		Batch ID: R13411	TestN	o: TO-15		≪.	nalysis Da		8	SeqNo: 15	5454	
0.8900 0.15 1 0 89.0 70 130	Analyte	Result	Pol	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD		Qual
0.8500 0.040 0.15 1 0 0 87.0 70 130 0.8500 0.040 0.15 1 0 0 85.0 70 130 0.8500 0.040 0.15 1 0 0 84.0 70 130 0.8400 0.0500 0.15 1 0 0 84.0 70 130 0.8200 0.050 0.15 1 0 0 84.0 70 130 0.8200 0.050 0.15 1 0 0 84.0 70 130 0.8200 0.050 0.15 1 0 0 84.0 70 130 0.72018 SampType: LCSD 0.040 1 1 0 0 87.0 70 130 Batch D. R1341 TestCode: 0.24 NRF Val 8 NRF Val 8 NRF Code 9.00 130 0.0500 0.050 0.15 1 0 0 90.0 70 130 Batch D. R1341 TestCode: 0.24 NRF Val 8 NRF Val 8 NRF Code 9.00 130 0.0500 0.15 1 0 0 90.0 10 10 10 10 10 10 10 10 10 10 10 10 10	1.1.1-Trichloroethane	0.8900	0.15	-	0	89.0 🗸	70	130				
Composition Composition	1,1-Dichloroethane	0.8700	0.15	_	0	87.0	20	130				
Page Page	1,1-Dichloroethene	0.8500	0.040	₩.	0	85.0	2	130				
Part Part	Chloroethane	0.8500	0.15		0	85.0	2	130				
Declaration Continuous Co	Chloromethane	0.8400	0.15	•	Đ	84.0	70	130				
0.8800 0.15 1 0 88.0 70 130	cis-1,2-Dichlomethene	0.8400	0.040	-	0	84.0	70	130				
0.5700 0.050 1 1 0 90.0 70 130 0.5700 0.030 1 1 0 0 87.0 70 130 0.5700 0.030 1 1 0 0 87.0 70 130 0.5700 0.030 1 1 0 0 87.0 70 130 0.5700 0.041	Tetrachloroethylene	0.8800	0.15	Ψ-	٥	98.0	70	130				
0.3700 0.030 1 0 87.0 70 130	trans-1,2-Dichloroethene	0006'0	0.15	**	0	90.0	70	130				
SampType: LCSD TestCode: 0.20_NYS Units: ppbV Prep Date: 3/22/2018 RunNo: 13411 Batch ID: R13414 TestCode: 0.20_NYS Units: ppbV Analysis Date: 3/22/2018 SeqNo: 165455 Batch ID: R13414 TestNo: 170-15 Analysis Date: 3/22/2018 SeqNo: 165455 Result PQL SPK Kef Val %REC Jowlinit RIPh Limit RPD Ref Val %RPD 0.9000 0.15 1 0 91.0 70 130 0.87 1.12 30 0.8700 0.040 1 0 91.0 70 130 0.85 2.33 30 0.8700 0.15 1 0 81.0 70 130 0.84 5.78 30 0.8700 0.15 1 0 87.0 70 130 0.84 5.78 30 0.8900 0.15 1 0 87.0 70 130 0.84 5.78 30 0.9900 0.15 1 0 89.0	Trichloroethene	0.8700	0.030	~	0	87.0	22	(S)				
SampType: LCSD TestCode: 6.20_NYS Units: ppb/ Analysis Date: Analys	Vinyi chloride	0.7900	0.040	₹**	0	79.0	70	130				
TSZZZZ Batch IE: R14311 TestINo: TO-15 Analyzis Date: 3/12/20018 GeqNo: 155455 Analyzis Date: 3/12/20018 GeqNo: 155455 Analyzis Date: 3/12/20018 GegNo: 1545 Fig. Lyanilist RPD Ref Val 3/12/20018 GegNo: 1545 1 0 90.0 V 70 130 0.84 1.12 3/8PD RPDLImit rocethane 0.9000 0.15 1 0 91.0 70 120 0.84 1.44 90 90.0 1.20 0.84 1.44 90 90.0 1.20 0.84 1.44 90 90 1.20 0.84 0.84 1.44 90 90 1.20 0.84 0.84 1.44 90 90 1.90 1.90 0.84 1.14 90 1.90 1.90 0.84 1.14 90 1.90 0.84 1.14 90 1.90 1.90 0.84 1.14 90 1.90 0.84 1.90	Sample ID: ALCS1UGD-032118	1	TestCoo	le: 0.20_NYS			Prep Da	क्		RunNo: 13	41 1	
tichloroethane tichloroethan		Batch ID: R13411	Testh	lo: TO-1 5		•	malysis Da		78	SeqNo: 15	5455	
0.9000 0.15 1 0 90.0 V 70 130 0.8700 0.040 1 0 91.0 70 130 0.8300 0.15 1 0 83.0 70 130 0.8300 0.15 1 0 83.0 70 130 0.8700 0.045 1 0 89.0 70 130 0.8700 0.045 1 0 87.0 70 130 0.8700 0.045 1 0 130 130 0.8700 0.05 1 0 130 0.8900 0.015 1 0 87.0 70 130 0.8900 0.015 1 0 130 0.8900 0.015 1 0 130 0.8900 0.015 1 0 130 0.8900 0.015 1 0 130 0.8900 0.015 1 0 130 0.8900 0.015 1 0 130 0.8900 0.015 1 0 89.0 70 130 0.8900 0.015 1 0 89.0 70 130 0.8900 0.015 1 0 89.0 70 130	Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimi≹	RPD Ref Val	%RPD	RPDLimil	Qual
0.9100 0.15 1 0 91.0 70 130 0.8700 0.040 1 0 87.0 70 130 0.8300 0.15 1 0 83.0 70 130 0.8700 0.15 1 0 87.0 70 130 0.8700 0.15 1 0 87.0 70 130 0.8700 0.15 1 0 94.0 70 130 0.8900 0.030 1 0 89.0 70 130 salls reported are not blank corrected E Estimated Yalue above quantitation range H R	1.1.1-Trichloroethane	0.9000	0.15	***	0	y 0.06	82	130	0.89	1.12	୫	
0.8700 0.040 1 0 87.0 70 130 0.8300 0.15 1 0 83.0 70 130 0.8700 0.040 1 0 87.0 70 130 0.8700 0.040 1 0 87.0 70 130 0.8700 0.15 1 0 87.0 70 130 0.8900 0.030 1 0 89.0 70 130 coults reported are not blank corrected Estimated Yalue above quantitation range H H R H	1.1-Dichloroethane	0.9100	0.15	•	0	91.0	70	130	0.87	4.49	용	
0.8300 0.15 1 0 83.0 70 130 130 0.8900 0.15 1 0 83.0 70 130 130 0.8700 0.15 1 0 87.0 70 130 130 0.8700 0.15 1 0 87.0 70 130 130 0.9400 0.15 1 0 87.0 70 130 130 0.8900 0.030 1 0 89.0 70 130 130 130 130 130 130 130 130 130 13	1.1-Dichloroethane	0.8700	0.040	~	0	87.0	70	130	0.85	2.33	30	
0.8700 0.15 1 0 89.0 70 130 0.8700 0.040 1 0 87.0 70 130 0.8700 0.15 1 0 87.0 70 130 0.9400 0.15 1 0 94.0 70 130 0.8900 0.030 1 0 130 130 csults reported are not blank corrected Extimated Value above quantitation firmit ND Not Detected at the Limit of Detection R	Chloroethana	0.8300	0.15	**	0	83,D	5	130	0.85	2.38	33	
0.8700 0.040 1 0 87.0 70 130 0.8700 0.15 1 0 87.0 70 130 0.9400 0.05 1 0 94.0 70 130 0.8900 0.030 1 0 89.0 70 130 esults reported are not blank corrected Eximated Value above quantitation range By the standard value above quantitation range Hadyre detected below quantitation limit ND Not Detected at the Limit of Detection R	Chloromethane	0.8900	0.15	-	0	89.0	5	£1	0.84	5.78	33	
0.8700 0.15 1 0 87.0 70 130 0.9400 0.15 1 0 94.0 70 130 0.8900 0.030 1 0 89.0 70 130 esults reported are not blank corrected E Estimated Value above quantitation range H natyre detected below quantitation limit ND Not Detected at the Limit of Detection R	cls-1,2-Dichloroethene	0.8700	0.040	****	0	87.0	70	130	0.84	3.51	93	
0.9400 0.15 1 0 94.0 70 130 0.8900 0.030 1 0 89.0 70 130 list reported are not blank corrected E Estimated Value above quantitation range H lyte detected below quantitation limit ND Not Detected at the Limit of Detection R	Tetrachloroethylene	0.8700	0.15	चल	Ф	87.0	70	130	0.88	1.14	8	
0.8900 0.030 1 0 89.0 70 130 Uls reported are not blank corrected E Estimated Value above quantitation range H lyte detected below quantitation limit ND Not Detected at the Limit of Detection R	Irans-1.2-Dichloroethene	0.9400	0.15	***	0	94.0	\$	130	0.0	4.35	ଞ	
Results reported are not blank corrected E Estimated Value above quantitation range H J Analyte detected below quantitation limit ND Not Detected at the Limit of Detection R	Trichloroethene	0.8900	0.030		0	89.C	20	130	0.87	2.27	R	
ND Not Detected at the Limit of Detection	-	ned are not blank corrected		}	isted Value above quan	bitation rang		Ŧ,	Holding times for	preparation or a	snalysis exoped	<u> </u>
	J Analyte dete	cted below quantitation limit			Refected at the Littil of	Detection		¥	KPD ouiside acce	ріед ічсолсьу на	9165	

P.C.
a Associates,
LaBell
CLIENT:

C1803052 Work Order: Project:

1740 Emerson St

0.20 NYS	
0.70	,
de:	
TestCode:	

Sample ID: ALCS1UGD-032118 SampType: LCSD	SampType: LCSD	TestCoc	TestCode: 0.20_NYS	Units: ppbV		Prep Date:	ж		RunNo: 13411	111	
Cifent ID: ZZZZZ	Balch ID: R13411	Tess	TestNo: TO-15		∢	nalysis Date	Analysis Date: 3/22/2018	<u>8</u>	SeqNo: 155455	5455	
Analyte	Resuft	Pal	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qua
Vinyl chloride	0.8200	0.040	-	D	82.0 🗸	70	130	62.0	3.73	30	

Spike Recovery outside accepted recovery limits Analyte detected below quantitation Jimit Results reported are not blank corrected

Qualifiers:

TestCode: 0.20 NVS



ANALYTICAL QC SUMMARY REPORT

Date: 28-Mar-18

LaBella Associates, P.C. CLIENT:

C1803052 Work Order:

1740 Emerson St Project:

Samole ID: C1803052-002A MS SampType: MS	SampType: MS	TestCo	TestCode: 0.20_NYS	Units: ppbV		Prep Date:		RunNo: 13411	
Client ID: IAQ-02 March 2018	Batch ID: R13411	Test	TesiNo: TO-15		•	Analysis Date: 3/21/2018	371/2018	SeqNo: 155462	
Analyte	Result	P	SPK value	SPK Ref Val	%REC	LowLimit 1	WREC LOWLIMIT HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1.1.1-Trichloroethane	0.7900	0.15	-	0	79.0 /	70	130		
1.1-Dichloroethane	0.8100	0.15	+-	0	81.0	70	130		
1.1-Dichloroethene	0.6800	0.040	**	o	68.0	K	x65 130135		S
Chloroethane	0.7300	0.15	-	O	73.0	22			
Chloromethane	1.020	0.15	***	0.37	65.0	\$9 PK	S 190 1/35		Ø
cis-1.2-Dichlomethene	0.8300	0.040	-	o	83.0	70	130		
Tetrachloroethylene	0.8600	0.15	**	0.18	68.0	2	20 65 220 135		Ø
trans-1.2-Dichloroethene	0.8500	0.15	•	0	85.0	70	130		
Trichloroethene	0.9200	0.030	-	0.08	84.0	70	130		
Vinyt chloride	0.7100	0.040	₹	0	71.0	7.0	130		
Sample ID: C1803052-002A MS SampType: MSD	SampType: MSD	TestCo	TestCode: 0.20_NYS	Units: ppbV		Prep Date:	Ų	RunNo: 13411	
	Datah ID: 043444	Tech	TeetMo: TO-15		***	Analysis Date	Analysis Date: 3/21/2018	SeqNo: 155463	

Sample ID: C180305Z-00ZA MS Samp lype: MS D	Samplype: won	2	Carone C.to M.S								
Clent ID; IAQ-02 March 2018	Batch ID: R13411	Test	TestNo: TO-15		•	Analysis Date: 3/21/2018	3/21/20	€	SeqNo: 155463	5463	
Analyte	Result	Po		SPK value SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimil	Qual
4 4 Trichlashalburs	0.007.0	0.15	-	0	79.0	92	130	6.79	0	8	
1 Inchisional de la companie de la Contractional de la con	0.8400	0.15	•	0	81.0	92	130	0.81	0	ଛ	
1, 1-Octobrospens	0.6400	000	**	0	(§	70	130	0.68	6.06	8	S
I, i-Oldfilofoetherið	0.7300	0.15	***	0)ç	20	130	0.73	Φ	8	
	0.6300	0.45	***	0.37	(8)	R	5	1.02	9,23	8	S
	00000	0 040	-	¢) 8	2	130	0.83	0	30	
cis-1,Z-Dichlomethene	0.0200	0.15	•	1.0	0.69	286		15 0.86	1.16	30	Ø
Fetrachloroethylene	00200	יי קי	•	5	85.0	92	130		0	8	
trans-1,2-Dichloroethene Trichloroethene	0.9000	0.030	- +	0.08	82.0	70	130	0.92	2.20	æ	
								b)			
	in a second blood more posterior		F Estim	Externated Value above quantitation range	natization cans	يو	I	Holding times for preparation or analysis exceeded	preparation or	analysis excee	ge q
Qualifiers: Kesuits repor	Kestilis reported are not owns corrected						Å	PDD outside accepted recovery limits	mend consumers in	mite	

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limit - v

ND Not Detected at the Limit of Detection

R RPD outside accepted recovery limits

Page I of 2

CLIENT: LaBella Associates, P.C.

Work Order: C1803052

Project: 1740 Emerson St

TestCode: 0.20_NYS

Sample ID: C1803052-002A MS SampType: MSD	SampType: MSD	TesiCode	TesiCode: 0.20 NYS	Units: ppbV		Prep Date:			RunNo: 13411	7	
Client ID: IAQ-02 March 2018 Batch ID: R13411	Batch ID: R13411	TestN	estNo: TO-15		*	4natysis Date: 3/21/2018	3/21/201	ಕು	SeqNo: 155463	463	
Analyte	Result	POL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Quas	Quat
Vinyl chloride	0.7000	0.040	-	C C	70.07	70	130	0.71	1.42	30	