LABELLA Associates, D.P.C.
Engineering
Architecture
Environmental
Planning

Property-Specific Soil Vapor Intrusion Investigation Report: 1640 Emerson Street

Former Emerson Street Landfill
NYSDEC Site #828023

Location:

Former Emerson Street Landfill
1640 Emerson Street
Rochester, New York

Prepared for:

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

LaBella Project No. 210173

July 2017

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I. Executive Summary

1640 Emerson Street ("the Site") is located on the Former Emerson Street Landfill (FESL) which operated as a municipal landfill by the City of Rochester ("the City") from sometime between the 1940s and 1951 until 1971. Based on an initial assessment of all buildings across the FESL conducted from 2009-2011 by LaBella Associates D.P.C. ("LaBella") on behalf of the City, the building at the Site was recommended for soil vapor intrusion (SVI) testing. Subsequently, LaBella conducted SVI testing at the Site on behalf of the City to evaluate the presence of SVI due to the FESL. This report documents the SVI testing completed and presents the findings and conclusions of the testing.

Summary of Testing

The SVI testing was completed on March 30, 2017 and consisted of the collection of two (2) sub-slab samples with collocated indoor air samples in the manufacturing area, one (1) standalone indoor air sample in the office area, and one (1) outdoor air sample to evaluate background conditions. The samples were collected over an approximate 6-hour timeframe and analyzed for a select list of volatile organic compounds (VOCs) known to be associated with the FESL.

The testing was completed in accordance with a New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) approved *Soil Vapor Intrusion Investigation Work Plan: Phase II: Parcel Specific Investigation* dated January 2016 and the *NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006 and subsequent updates dated September 2013 and August 2015 ("NYSDOH Guidance"). It should be noted the NYSDOH Guidance Decision Matrices were updated in May 2017. The action for one (1) compound, trichloroethene (TCE) changed from *"Take reasonable and practical actions to identify source(s) and reduce exposure"* to *"No further action"*.

Conclusions and Recommendations

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

1.0 Introduction

This Property-Specific Soil Vapor Intrusion Investigation report is for the property located at 1640 Emerson Street, City of Rochester, Monroe County, New York ("the Site"). The Site is located within the Former Emerson Street Landfill (FESL) which operated as a municipal landfill by the City of Rochester ("the City") from the sometime between the 1930s and 1951 until 1971. The City entered into an Order-on-Consent with the New York State Department of Environmental Conservation (NYSDEC) in August 2009 which requires an evaluation of soil vapor intrusion (SVI) due to FESL-related releases. The Order-on-Consent also requires additional remedial investigations, remedial measures, and other mitigation and corrective actions associated with the FESL.

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

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

This property-specific SVI report summarizes the investigation completed at the Site. The Site has an approximate 25,000 square feet (sq. ft.) building occupied by Laird Plastics and is used for plastic warehousing and distribution, with an area on the north-central side for fabrication and at the northeast corner for plastic cutting. Office space is located at the southeast corner. The second floor, located at the southeast corner, is designed as office space but is currently vacant. The fabrication operations use several chemicals, including VOCs in the form of glues, solvents, and oils. The SVI testing was completed in the office areas as well as the warehouse and distribution portion of the Site Building. This report details the testing completed and the results.

2.0 Former Emerson Street Landfill Description and History

The FESL consists of approximately 250-acres of land comprised of 45 individual parcels, seven (7) of which are owned by the City. The remaining 38 parcels are owned by 25 private owners. The FESL is predominantly occupied by industrial and commercial properties (15 and 20, respectively based on use codes). In addition, City use codes indicate 5 parcels as vacant land, one (1) parcel as unknown (McCrackenville Street) and four (4) parcels are listed as community/public service (one of which is a

school, Edison Tech). The surrounding area also contains industrial and commercial properties; however, residential properties are also located to the northeast. Figure 1 provides a project locus map that indicates the area of the FESL.

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

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

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

- Municipal Incinerator Ash - generally consisting of ash, cinders, charred refuse, glass and metal slag. Most ash observed in site investigations appears to be fly ash and bottom ash (clinker) from the municipal solid waste incinerators. This generally consists of soil and rock fill with traces of plastic, metal, wood, concrete, bricks, tiles, and asphalt. Construction and demolition debris observed in past investigations generally fits the definition of construction demolition debris contained in NYSDEC's Part 360. Construction demolition debris fill is common in areas adjacent to current and former roadways on site, and particularly in the lobe of fill south of Emerson Street and east of Colfax Street.
- Soil and Municipal Refuse - This material generally consists of silty sand cover material and disposed, un-incinerated municipal refuse.
- Low-activity Radioactive Waste - This material generally consisted of a sludge-like waste material associated with glass lenses. The sludge was found to contain low levels of radioactive thorium. This material was primarily encountered in the southwest portion of the FESL and was believed to be associated with incinerator ash and refuse fills. This material was removed by Sevenson Environmental Services on behalf of the City of Rochester (refer to Section 3.0 Previous Investigations).

- The majority of the existing landfill has a soil cover. Cover ranges in thickness from 0 ft. up to approximately 6 ft. Cover materials generally consist of topsoil with grass, gravel, asphalt, or glacial till-derived sandy silt.

A majority of the Site has been delisted; however, three (3) parcels (1660,1740, and 1700 Emerson Street (formerly 1655 Lexington Avenue) comprising approximately sixteen (16) acres are currently listed as a Class "3" site (No. 828023) on the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites (IHWDS). A "3" classification indicates a site "at which contamination does not presently constitute significant threat to public health or the environment." The most recent delisting occurred when LaBella submitted a Delisting Petition on December 9th, 2014, for the parcel currently addressed as1655 Lexington Avenue (formerly 1635 Lexington Avenue and a portion of former 1655 Lexington Avenue) to delist approximately 13.3 acres of land from the NYSDEC Registry of IHWDS. NYSDEC approved this delisting on March 19th, 2015, and the newly delisted land was combined into one parcel with address 1655 Lexington Avenue. The remaining portion of former 1655 Lexington Avenue was renamed 1700 Emerson Street.

3.0 Previous Investigations Related to Soil Vapor Intrusion

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

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

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

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

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

roadways surrounding the landfill;

- soil samples for select Chlorinated-VOCs from borings across the landfill; and
- groundwater samples for select Chlorinated-VOCs from wells installed across the landfill.

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

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

- Vinyl chloride concentrations ranged from 0.02 milligrams per cubic meter (mg/m3) to 9 mg/m3
- Benzene concentrations ranged from 0.02 mg/m^3 to 0.6 mg/m^3
- Total BTEX concentrations ranged from 0.48 mg/m^3 to 499 mg/m^3
- Chlorobenzene concentrations ranged from 0.02 mg/m^3 to 1.6 mg/m^3
- Methane concentrations ranged from 380 parts per million (ppm) (or 0.038%) to 790,000 ppm (or 79%)

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

Portions of Quadrant A was filled during the 1970's, 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 the landfill during that period. These portions of the landfill are characterized by thicker fill, higher percentage of potentially putrescible solid waste and less incinerated ash, and higher landfill gas flux at the surface relative to other FESL areas sampled. These areas are characterized by landfill gas flux measurements between 100 and 1200 µg/m^2-minute, and/or soil gas methane concentrations above 5,000 ppm. In addition, this quadrant has also been characterized with Chlorinated-VOC contamination in soil gas, soil, and groundwater. Quadrant A has a large area of documented Chlorinated-VOC contamination. The listed IHWDS portions of the landfill are located within Quadrant A.

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

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

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

The Site is located in Quadrant A of the FESL and is approximately 800 feet southeast of the P-1 Plume. The Site building was ranked Tier 1 during the SVI Assessment and was recommended for SVI testing.

4.0 Objectives

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

5.0 Standards, Criteria and Guidelines

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

Sub-Slab Soil Vapor and Indoor Air SCGs: The NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006 and subsequent updates for PCE and TCE in 2013 and 2015, respectively (including the USEPA Building Assessment and Survey Evaluation (BASE) Database (90th Percentile), in Appendix C of the NYSDOH document) is utilized for the

SCG for soil vapor and indoor air. It should be noted the NYSDOH Guidance decision matrices were updated in May 2017 after the testing was completed. The results were also compared to the May 2017 updates.

6.0 Sampling Procedures

Sub-Slab Vapor Point Installations

Two (2) sub-slab soil vapor points were installed on March 30, 2016 in the warehouse and distribution portion of the Site (refer to Figure 2 for locations). The sub-slab vapor sampling points consisted of the Vapor Pin ® sampling system. Points were installed by coring a 1.5-inch diameter hole approximately 2-inches into the floor slab. Subsequently, a 5/8-inch diameter hole was drilled through the center of the 1.5-inch diameter hole using a guide through the floor slab. A 5/8-inch diameter polyethylene sleeve fitted over a metal barbed fitting was installed within the 5/8-inch diameter core hole. Sub-slab soil vapor points were fitted with a threaded cap flush to the finished floor. Figure 3 illustrates the typical construction of a sub-slab vapor sampling point.

Purging Procedures

Sub-slab monitoring points were first evaluated for pressure using a Test Products International Digital Manometer 621. Sub-slab pressures at the SVI monitoring points ranged from 0.000 to 0.001 inches of water column ("wc).

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

A tracer gas evaluation was conducted to verify the integrity of the sub-slab soil vapor probe seal using helium. Tubing was connected to the metal barbed fitting and an enclosure was placed over the sampling point. Subsequently, the enclosure was enriched with the tracer gas. The sub-slab and the enclosure were then tested for the tracer gas using a MDG-2002 Helium Gas Leak Detector. The tracer gas was measured at concentrations between 0% and 2.4% of the enclosure.

Sampling and Handling Procedures

On March 30, 2016, sub-slab soil vapor, indoor air, and outdoor air samples were collected using 1-liter Summa Canisters® equipped with pre-calibrated laboratory supplied flow regulators set for a sampling time of six (6) hours. Sub-slab samples were designated "1640-SVI-2" and "1640-SVI-3". At each sub-slab vapor sample location an indoor air sample was also collected. A sub-slab sampling point was unable to be installed in the office area; however, an indoor air sample was collected from the office area. The indoor air samples were collected from approximately 3 to 5 feet above the floor slab and were collected in the same manner and general time period as the sub-slab sample. Indoor air samples were designated "1640-IAQ-1", "1640-IAQ-2" and "1640-IAQ-3". In addition, an outdoor air sample was collected to evaluate the ambient air conditions. The outdoor ambient air sample was collected from the general upwind direction based on prevailing wind directions. The outdoor air sample was designated "Outdoor-1640". Sampling logs are included in Appendix 3.

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

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

Quality Assurance/Quality Control

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

7.0 Results

SVI sampling and analysis consisted of the collection of two (2) collocated sub-slab and indoor air samples, one (1) standalone indoor air sample within the office area, and one (1) outdoor air sample on March 30, 2016 over an approximate 6-hour timeframe.

Sub-Slab/ Indoor/ Outdoor Air Sampling

SVI sampling results were compared to the decision matrices in *NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York* Guidance Document dated October 2006 and subsequent updates for PCE and TCE in 2013 and 2015, respectively (NYSDOH Guidance Document).

As summarized in the attached tables, trichloroethene (TCE) was detected in indoor air samples at 0.64 micrograms per cubic meter (ug/m^3), 0.43 ug/m^3, and 0.48 ug/m^3 which do not exceed the air guideline of 2 ug/m^3 for TCE derived by the NYSDOH 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 indicates the following:

"Take reasonable and practical actions 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). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures".

It should be noted the NYSDOH Guidance Decision Matrices were updated in May 2017. The action for TCE changed from *"Take reasonable and practical actions to identify source(s) and reduce exposure"* to *"No further action"*. Refer to Figure 2 for sample locations.

8.0 Conclusions

The Site is located southeast of the P-1 Plume in Quadrant A of the FESL. The Site is currently utilized as a plastics warehousing and distribution facility with approximately 3,750 of the 25,000 square feet utilized as office space.

Two (2) collocated sub-slab and indoor air samples, one (1) standalone indoor air sample, and one (1) outdoor air sample, were collected on March 30, 2016 to evaluate SVI in the Site building. The work was conducted in accordance with the NYSDEC and NYSDOH-approved work plan dated January 2016. Based on the lack of detection of compounds in the indoor air with the exception of TCE which was not detected at levels above the minimum action level, there is no SVI concern due to the FESL. Based on the assessments completed to date, no further action related to SVI is warranted at the Site.

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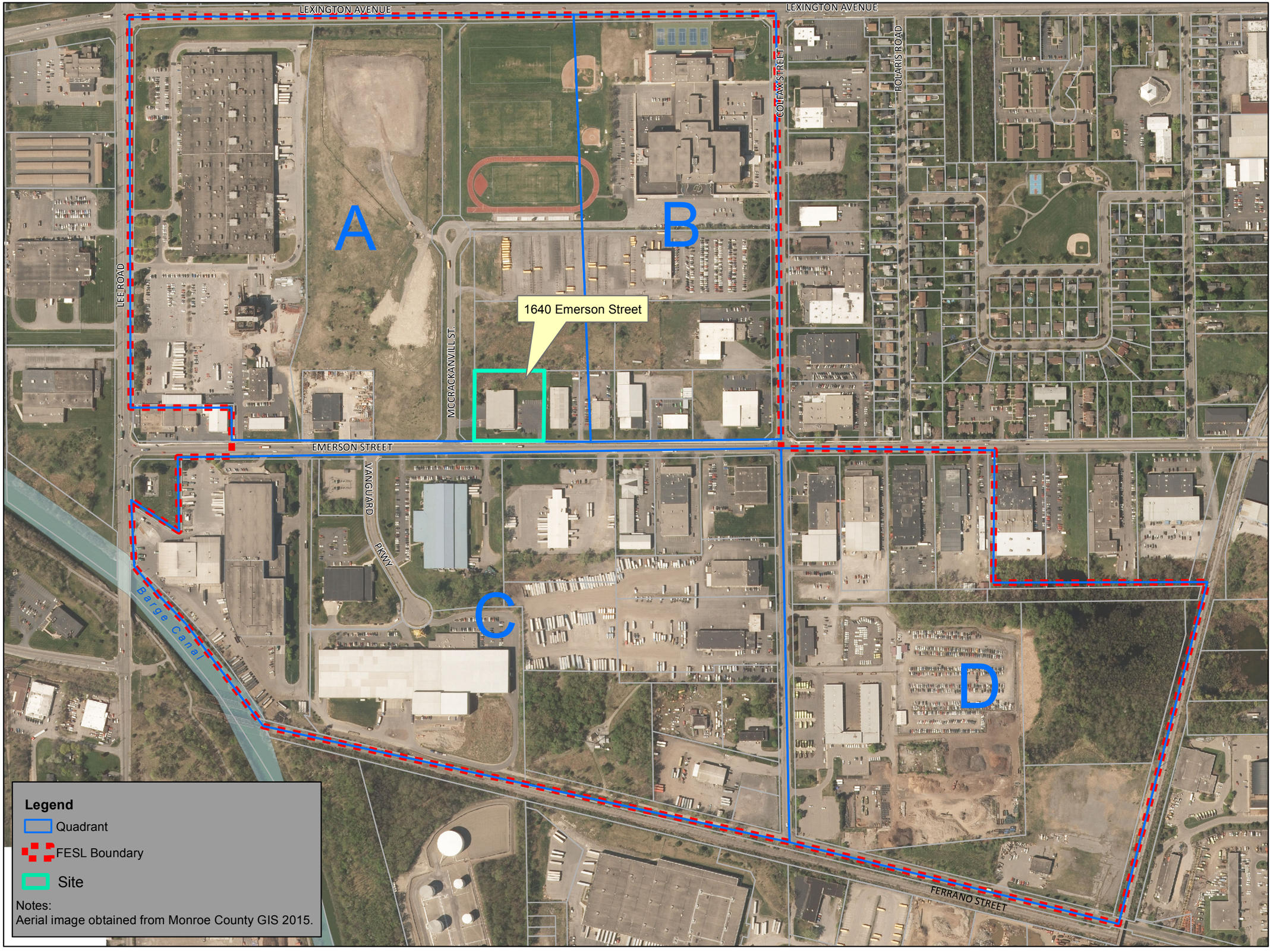
LaBella Associates, D.P.C.
300 State Street

Rochester, New York 14614

Figures



LABELLA Associates, D.P.C.
300 STATE STREET
ROCHESTER, NY 14614
P: (585) 454-6110
F: (585) 454-3066
www.labellapc.com

CITY OF ROCHESTER

FORMER EMERSON STREET LANDFILL ROCHESTER, NEW YORK

SOIL VAPOR INTRUSION INVESTIGATION

FORMER EMERSON STREET LANDFILL PROJECT MAP

N
W E
S

0 400 Feet

1 inch = 400 feet

210173

FIGURE 1

Legend

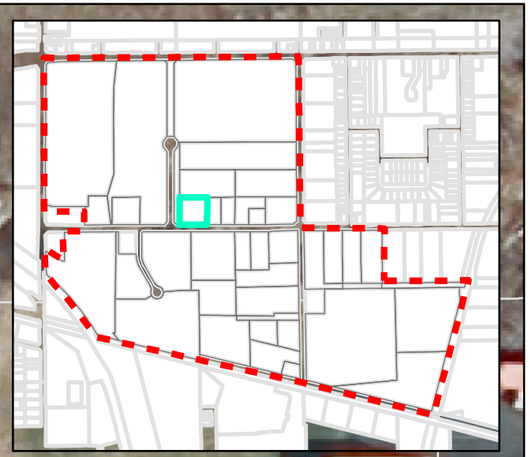
- Indoor Air Only Sample Location
- Outdoor Air Sample Location
- Sub-slab/ Indoor Air Sample Location
- LaBella Monitoring Well
- Office Area
- FESL Boundary
- Parcel Boundaries
- Site

Notes:
Sub-slab, indoor, and outdoor air concentrations expressed in micrograms per cubic meter (ug/m3).
Samples collected on March 30, 2016.
The NYSDOH decision matrices result is based on worst-case concentrations.
Pressure readings in inches water column ("wc)

March 30, 2016
SAMPLE TYPE: Sub-slab
SAMPLE ID: 1640-SVI-2
Sub-slab pressure= 0.00
Tetrachloroethylene 0.75
Trichloroethene 0.91

SAMPLE TYPE: Indoor Air
SAMPLE ID: 1640-IAQ-2
Trichloroethene 0.43

NYSDOH Guidance
Decision Matrices Result:
Take reasonable and practical actions to identify source(s) and reduce exposures



1640 EMERSON

LAB-109

Office

March 30, 2016
SAMPLE TYPE: Sub-slab
SAMPLE ID: 1640-SVI-3
Sub-slab pressure= 0.001
Tetrachloroethylene 0.81
Trichloroethene 1.6

SAMPLE TYPE: Indoor Air
SAMPLE ID: 1640-IAQ-3
Trichloroethene 0.48

NYSDOH Guidance
Decision Matrices Result:
Take reasonable and practical actions to identify source(s) and reduce exposures

March 30, 2016
SAMPLE TYPE: Indoor Air
SAMPLE ID: 1640-IAQ-1
Trichloroethene 0.64

March 30, 2016
SAMPLE TYPE: Outdoor Air
SAMPLE ID: 1640-Outdoor Air
Chloromethane 2.1

EMERSON ST

LAB-104

LAB-103

LABELLA Associates, D.P.C.
300 STATE STREET
ROCHESTER, NY 14614
P: (585) 454-6110
F: (585)454-3066
www.labellapc.com

CITY OF ROCHESTER

FORMER EMERSON STREET LANDFILL ROCHESTER, NEW YORK

SOIL VAPOR INTRUSION INVESTIGATION

SOIL VAPOR INTRUSION SAMPLING RESULTS

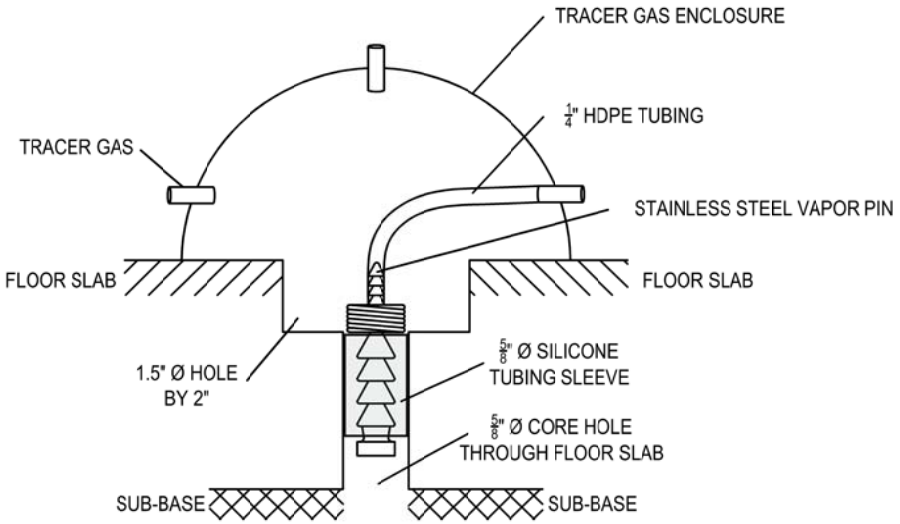
1640 EMERSON ST

N
W E
S
0 50 Feet
1 inch = 50 feet

210173

FIGURE 2

Path: \\Projects2\ProjectsNZ-2\Rochester, City\210173 FESL\Drawings\SVI Testing\For Property Specific Reports\Figure 2 1640 Emerson.mxd



DETAIL 1

SUB-SLAB SOIL VAPOR SAMPLING POINT DETAIL

LABELLA Associates, D.P.C.
300 STATE STREET
ROCHESTER, NY 14614
P: (585) 454-6110
F: (585) 454-3066
www.labellapc.com

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

DRAWING TITLE
SUB-SLAB SOIL VAPOR POINT DETAILS

ISSUED FOR:
FINAL

DESIGNED BY: DPN
DRAWN BY: DEP
REVIEWED BY: DPN

DATE: MARCH, 2017

PROJECT/DRAWING NUMBER
210173

FIGURE 3

J:\Rochester, City\210173 FESL\Drawings\SVI Testing\For Property Specific Reports\SSDS_details

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

Rochester, New York 14614

Tables

Former Emerson Street Landfill
1640 Emerson Street
Table 1
Soil Vapor Intrusion Testing Results
March 2016

Sample ID	1640-SVI-2	1640-SVI-3	1640-IAQ-1	1640-IAQ-2	1640- Blind Duplicate (1640-IAQ-2)	1640-IAQ-3	1640-Outdoor Air	NYSDOH Sub-Slab Vapor Concentration Decision Matrix (minimum action level) (1)	NYSDOH Indoor Air Concentration (minimum action level) (1)	USEPA (2001) (BASE) Database - 90th Percentile (2)
Sample Location	**Sub-Slab**	**Sub-Slab**	**Indoor Air**	**Indoor Air**	**Indoor Air**	**Indoor Air**	**Outdoor Air**			
Sample Date	**3/30/2016**	**3/30/2016**	**3/30/2016**	**3/30/2016**	**3/30/2016**	**3/30/2016**	**3/30/2016**			
1,1,1-Trichloroethane	<0.82	<0.82	<0.82	<0.82	<0.82	<0.82	<0.82	<100***	<3***	20.6
1,1-Dichloroethane	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	NL	NL	<0.7
1,1-Dichloroethene	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<100***	<3***	<1.4
Chloroethane	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	NL	NL	<1.1
Chloromethane	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	2.1	NL	NL	3.7
cis-1,2-Dichloroethene	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<100***	<3***	<1.9
Tetrachloroethylene	0.75 J	0.81 J	<1.0	<1.0	<1.0	<1.0	<1.0	<100***	<3*** / 30*	15.9
trans-1,2-Dichloroethene	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	NL	NL	NL
Trichloroethene	0.91	1.6	0.64 J	0.43 J	<0.21	0.48	<0.21	<5 **	<0.25** / 2*	4.2
Vinyl Chloride	<0.38	<0.38	<0.10	<0.10	<0.10	<0.10	<0.10	<5**	<0.25**	<1.9

Notes:

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

Samples analyzed by USEPA Method TO-15

< indicates the concentration was not detected above the reporting limit

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

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

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

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

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

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

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

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

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
1640 Emerson Street
Table 1
Soil Vapor Intrusion Testing
March 2016

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

	MATRIX 1- TRICHLOROETHENE INDOOR AIR CONCENTRATION (ug/m^3)					
	Sample IDs			**IAQ-2 (0.43) IAQ-3 (0.48)**		
			<0.25	0.25 to <1	1 to <5.0	5.0 and above
SUB-SLAB VAPOR CONCENTRATION (ug/m^3)	**SVI-2 (0.91) SVI-3 (1.6)**	<5	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposure	3. Take reasonable and practical actions to identify source(s) and reduce exposure	4. Take reasonable and practical actions to identify source(s) and reduce exposure
		5 to <50	5. No further action	6. MONITOR	7. MONITOR	8. MITIGATE
		50 to <250	9. MONITOR	10. MONITOR/ MITIGATE	11. MITIGATE	12. MITIGATE
		250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

	MATRIX 2- TETRACHLOROETHYLENE INDOOR AIR CONCENTRATION (ug/m^3)					
	Sample IDs		**IAQ-2 (<1.0) IAQ-3 (<1.0)**			
			<3	3 to <30	30 to <100	100 and above
SUB-SLAB VAPOR CONCENTRATION (ug/m^3)	**SVI-2 (0.75) SVI-3 (0.81)**	<100	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposure	3. Take reasonable and practical actions to identify source(s) and reduce exposure	4. Take reasonable and practical actions to identify source(s) and reduce exposure
		100 to <1,000	5. MONITOR	6. MONITOR/ MITIGATE	7. MITIGATE	8. MITIGATE
		1,000 and above	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

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

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

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

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

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

Rochester, New York 14614

Appendix 1

Laboratory Report

TO-15 Package Review Checklist

Client: LABELLE Project: 1640 EMERSON SDG: C160309.1

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

Comments:

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

Comments:

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

Comments:

Sample Raw Data	Present and Complete	✓		
	Spectra present for all samples	✓		

Comments:

TO-15 Package Review Checklist

Client: LOBELLA Project: 1640 EMERSON SDG: CJ603091

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

Comments:

Raw Quality Control Data

Tune Criteria Report	Present and Complete	✓		
Method Blank Data	MB Results <PQL	✓		
	Associated results flagged "B"	X		✓
LCS sample data	Present and Complete	✓		
LCSD sample data	Present and Complete	✓		
MS/MSD sample data	Present and Complete	✓		

Comments:

Logbooks

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

Additional Comments:

Section Supervisor: WK Dall Date: 4/27/16

QC Supervisor: Date: 4/27/16

CENTEK LABORATORIES, LLC

143 Midler Park Drive * Syracuse, NY 13206
Phone (315) 431-9730 * Emergency 24/7 (315) 416-2752
NYSDOH ELAP Certificate No. 11830

Analytical Report

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

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

RE: Emerson Landfill

Monday, April 04, 2016
Order No.: C1603091

Dear Daniel Noll:

Centek Laboratories, LLC received 7 sample(s) on 3/31/2016 for the analyses presented in the following report.

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

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

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

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

Centek Laboratories SOP TS-80

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

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

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

Sincerely,

William Dobbin
Lead Technical Director

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

Centek Laboratories, LLC Terms and Conditions

Sample Submission

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

Sample Media

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

Blanks

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

Sampling Equipment

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

Turn Around time (TAT)

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

Reporting

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

Payment Terms

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

Rush Turnaround Samples

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

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

Statement of Confidentiality

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

Limitation on Liability

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

direct, indirect or consequential damages, loss of data, income or profit and or loss of or damage to property and claims of third parties.

ASP CAT B DELIVERABLE PACKAGE
Table of Contents

CENTEK LABORATORIES, LLC

Date: *27-Apr-16*

CLIENT: LaBella Associates, P.C.

Project: Emerson Landfill

Lab Order: C1603091

CASE NARRATIVE

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

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

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

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

Centek Chain of Custody

Centek Laboratories
143 Midler Park Drive
Syracuse, NY 13206
315-431-9730
www.CentekLabs.com
Vapor Intrusion & IAQ

Site Name: Emerson Landfill
Project: 1640 Emerson
PO#: 210173
Quote # Q-SP/130 5706
Other:

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

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

*For Same and Next Day TAT Please Notify Lab

Company: LaBella
Report to:
Address: LaBella
City, State, Zip 300 State St Rochester, NY 14614
Email: dnolla@labellapc.com
Phone: 585-295-6611

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

Sample ID	Date Sampled	Canister Number	Regulator Number	Analysis Request	Comments	Vacuum "Hg Start/Stop
~~1640-Outdoor Air~~	~~3/30/16~~	~~88~~	~~1156~~	(TO 15 select list)		~~28~~
1640-IAQ-1	3/30/16	85	272			30+/8
1640-IAQ-2	3/30/16	496	403			30/6
1640-SVI-2	3/30/16	3666	1169			30+/6
1640-SVI-3	3/30/16	1318	304			30/5
1640-*IAQ-3	3/30/16	1207	299		MS/MSD	30/5
1640-Blind Duplicate	3/30/16	336	403			30/8
1640-Outdoor Air	3/30/16	290	48			30+/6

Chain of Custody	Print Name	Signature	Date/Time	Courier: CIRCLE ONE
Sampled by: Ann Aquilina	Ann Aquilina		3/30/16 1600	FedEx UPS Pickup/Dropoff
Relinquished by:				For LAB USE ONLY
Received at Lab by:	Jan Scalo		3-31-16	Work Order # C1603091

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

CENTEK LABORATORIES, LLC

Date: *27-Apr-16*

CLIENT: LaBella Associates, P.C.
Project: Emerson Landfill
Lab Order: C1603091

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1603091-001A	1640-IAQ-1	85,272	3/30/2016	3/31/2016
C1603091-002A	1640-IAQ-2	496,403	3/30/2016	3/31/2016
C1603091-003A	1640-SVI-2	366,1169	3/30/2016	3/31/2016
C1603091-004A	1640-SVI-3	1318,304	3/30/2016	3/31/2016
C1603091-005A	1640-IAQ-3	1207,299	3/30/2016	3/31/2016
C1603091-006A	1640-Blind Duplicate	336,403	3/30/2016	3/31/2016
C1603091-007A	1640-Outdoor Air	290,48	3/30/2016	3/31/2016

CENTEK LABORATORIES, LLC

Sample Receipt Checklist

Client Name LABELLA - ROCHESTER | Date and Time Receive 3/31/2016

Work Order Numbe C1603091 | Received by JDS

Checklist completed by 3-31-16 (Signature / Date) | Reviewed by WJD 3/31/16 (Initials / Date)

Matrix: | Carrier name FedEx Ground

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

Adjusted? _____ Checked b _____

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

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Lab Order: C1603091
Client: LaBella Associates, P.C.
Project: Emerson Landfill

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C1603091-001A	1640-IAQ-1	3/30/2016	Air	ug/m3 w/ 0.25ug/M3 CT-TCE-VC			4/4/2016
C1603091-002A	1640-IAQ-2			ug/m3 w/ 0.25ug/M3 CT-TCE-VC			4/4/2016
C1603091-003A	1640-SVI-2			ug/M3 by Method TO15			4/4/2016
C1603091-004A	1640-SVI-3			ug/M3 by Method TO15			4/4/2016
C1603091-005A	1640-IAQ-3			ug/m3 w/ 0.25ug/M3 CT-TCE-VC			4/3/2016
C1603091-006A	1640-Blind Duplicate			ug/m3 w/ 0.25ug/M3 CT-TCE-VC			4/4/2016
C1603091-007A	1640-Outdoor Air			ug/m3 w/ 0.25ug/M3 CT-TCE-VC			4/4/2016

CANISTER ORDER

CENTEK LABORATORIES, LLC
Air Quality Testing...It's a Gas
143 Midler Park Drive * Syracuse, NY 13206
TEL: 315-431-9730 * FAX: 315-431-9731

5706

27-Apr-16

SHIPPED TO:

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

Submitted By:
MadeBy: rjp
Ship Date: 3/24/2016
VIA: FedEx Ground
Due Date: 3/25/2016

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

Can / Reg ID	Description
48	Time-Set Reg - 545 VI
85	1L Mini-Can - 1098 VI
88	1L Mini-Can - 1107 VI
207	1L Mini-Can - 1162 VI
234	1L Mini-Can - 1165 VI
272	Time-Set Reg - 710 VI
290	1L Mini-Can - 1266 VI
299	Time-Set Reg - 722 VI
304	Time-Set Reg - 727 VI
336	1L Mini-Can - 1299 VI
403	Time-Set Reg - 782 VI
405	Time-Set Reg - 784 VI
496	1L Mini-Can - 1388 VI
1156	Time-Set Reg-0682 VI
1169	Time-Set Reg-0794 VI
1207	1.4L Mini-Can - 1367 VI
1318	1 L Mini-Can -0108 VI

Comments: 8 1L @ 6hr + dupe + 1.4 L @ 6hr + 10'tubing wac 021916 j-k, 030416 d-l

1 of 1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-1
Lab Order:	C1603091	**Tag Number:**	85,272
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-001A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-8			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
Trichloroethene	0.12	0.040		ppbV	1	4/4/2016 1:28:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/4/2016 1:28:00 AM
Surr: Bromofluorobenzene	122	70-130		%REC	1	4/4/2016 1:28:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-1
Lab Order:	C1603091	**Tag Number:**	85,272
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-001A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 1:28:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 1:28:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 1:28:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 1:28:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 1:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 1:28:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 1:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 1:28:00 AM
Trichloroethene	0.64	0.21		ug/m3	1	4/4/2016 1:28:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 1:28:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-2
Lab Order:	C1603091	**Tag Number:**	496,403
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-002A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-6			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
Trichloroethene	0.080	0.040		ppbV	1	4/4/2016 2:08:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/4/2016 2:08:00 AM
Surr: Bromofluorobenzene	125	70-130		%REC	1	4/4/2016 2:08:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-2
Lab Order:	C1603091	**Tag Number:**	496,403
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-002A	**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	4/4/2016 2:08:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 2:08:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:08:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 2:08:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 2:08:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:08:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 2:08:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:08:00 AM
Trichloroethene	0.43	0.21		ug/m3	1	4/4/2016 2:08:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 2:08:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-SVI-2
Lab Order:	C1603091	**Tag Number:**	366,1169
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-6			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
Tetrachloroethylene	0.11	0.15	J	ppbV	1	4/4/2016 2:47:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
Trichloroethene	0.17	0.15		ppbV	1	4/4/2016 2:47:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
Surr: Bromofluorobenzene	119	70-130		%REC	1	4/4/2016 2:47:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-SVI-2
Lab Order:	C1603091	**Tag Number:**	366,1169
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 2:47:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 2:47:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:47:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 2:47:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 2:47:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:47:00 AM
Tetrachloroethylene	0.75	1.0	J	ug/m3	1	4/4/2016 2:47:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:47:00 AM
Trichloroethene	0.91	0.81		ug/m3	1	4/4/2016 2:47:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	4/4/2016 2:47:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-SVI-3
Lab Order:	C1603091	**Tag Number:**	1318,304
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-004A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-5			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
Tetrachloroethylene	0.12	0.15	J	ppbV	1	4/4/2016 3:26:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
Trichloroethene	0.29	0.15		ppbV	1	4/4/2016 3:26:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
Surr: Bromofluorobenzene	116	70-130		%REC	1	4/4/2016 3:26:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-SVI-3
Lab Order:	C1603091	**Tag Number:**	1318,304
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-004A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 3:26:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 3:26:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 3:26:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 3:26:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 3:26:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 3:26:00 AM
Tetrachloroethylene	0.81	1.0	J	ug/m3	1	4/4/2016 3:26:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 3:26:00 AM
Trichloroethene	1.6	0.81		ug/m3	1	4/4/2016 3:26:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	4/4/2016 3:26:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-3
Lab Order:	C1603091	**Tag Number:**	1207,299
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-6			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
Trichloroethene	0.090	0.040		ppbV	1	4/3/2016 11:24:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/3/2016 11:24:00 PM
Surr: Bromofluorobenzene	119	70-130		%REC	1	4/3/2016 11:24:00 PM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-3
Lab Order:	C1603091	**Tag Number:**	1207,299
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/3/2016 11:24:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/3/2016 11:24:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/3/2016 11:24:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/3/2016 11:24:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	4/3/2016 11:24:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/3/2016 11:24:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/3/2016 11:24:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/3/2016 11:24:00 PM
Trichloroethene	0.48	0.21		ug/m3	1	4/3/2016 11:24:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/3/2016 11:24:00 PM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-Blind Duplicate
Lab Order:	C1603091	**Tag Number:**	336,403
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-8			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	4/4/2016 4:06:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/4/2016 4:06:00 AM
Surr: Bromofluorobenzene	118	70-130		%REC	1	4/4/2016 4:06:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-Blind Duplicate
Lab Order:	C1603091	**Tag Number:**	336,403
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 4:06:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 4:06:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:06:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 4:06:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 4:06:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:06:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 4:06:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:06:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	4/4/2016 4:06:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 4:06:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-Outdoor Air
Lab Order:	C1603091	**Tag Number:**	290,48
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		**FLD**				Analyst:
Lab Vacuum In	-6			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
Chloromethane	1.0	0.15		ppbV	1	4/4/2016 4:45:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	4/4/2016 4:45:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/4/2016 4:45:00 AM
Surr: Bromofluorobenzene	114	70-130		%REC	1	4/4/2016 4:45:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-Outdoor Air
Lab Order:	C1603091	**Tag Number:**	290,48
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 4:45:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 4:45:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:45:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 4:45:00 AM
Chloromethane	2.1	0.31		ug/m3	1	4/4/2016 4:45:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:45:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 4:45:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:45:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	4/4/2016 4:45:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 4:45:00 AM

Qualifiers:

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

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

QUALITY CONTROL SUMMARY

Date: 27-Apr-16

CENTEK LABORATORIES, LLC

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill
Test No: TO-15 **Matrix:** A

Sample ID	BR4FBZ							
ALCS1UG-040316	112							
AMB1UG-040316	88.0							
C1603091-001A	122							
C1603091-002A	125							
C1603091-003A	119							
C1603091-004A	116							
C1603091-005A	119							
C1603091-005A MS	123							
C1603091-005A MSD	119							
C1603091-006A	118							
C1603091-007A	114							
C1603092-013A MS	126							
C1603092-013A MSD	124							

Acronym		Surrogate	QC Limits
BR4FBZ	=	Bromofluorobenzene	70-130

*** Surrogate recovery outside acceptance limits**

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN040302.D
Tune Time : 3 Apr 2016 11:40 am

Daily Calibration File : C:\HPCHEM\1\DATA\AN040302.D

			(BFB)	(IS1)	(IS2)	(IS3)
				16244	37337	27087
File	Sample	DL	Surrogate Recovery %	Internal Standard Responses		
AN040303.D	ALCS1UG-040316		112	15355	33728	24096
AN040304.D	AMB1UG-040316		88	14032	33917	30527
AN040319.D	C1603091-005A		119	14883	37891	28556
AN040320.D	C1603091-005A	MS	123	16262	40411	24211
AN040321.D	C1603091-005A	MSD	119	17352	46934	25902
AN040322.D	C1603091-001A		122	15199	40864	26354
AN040323.D	C1603091-002A		125	14903	39943	26736
AN040324.D	C1603091-003A		119	15528	43280	26603
AN040325.D	C1603091-004A		116	16444	42195	29354
AN040326.D	C1603091-006A		118	16917	45571	30473
AN040327.D	C1603091-007A		114	13714	33839	30298

t - fails 24hr time check * - fails criteria

Created: Tue Apr 26 16:30:39 2016 MSD #1/

CENTEK LABORATORIES, LLC

Date: *26-Apr-16*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID **ALCS1UG-040316** SampType: **LCS** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10821**
Client ID: **ZZZZZ** Batch ID: **R10821** TestNo: **TO-15** Analysis Date: **4/3/2016** SeqNo: **127147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.370	0.15	1	0	137	70	130				S
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130				
1,1-Dichloroethene	1.070	0.15	1	0	107	70	130				
Chloroethane	1.170	0.15	1	0	117	70	130				
Chloromethane	1.280	0.15	1	0	128	70	130				
cis-1,2-Dichloroethene	1.070	0.15	1	0	107	70	130				
Tetrachloroethylene	0.9000	0.15	1	0	90.0	70	130				
trans-1,2-Dichloroethene	1.130	0.15	1	0	113	70	130				
Trichloroethene	1.270	0.040	1	0	127	70	130				
Vinyl chloride	1.220	0.040	1	0	122	70	130				

Qualifiers:

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

CENTEK LABORATORIES, LLC

Date: *26-Apr-16*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID **AMB1UG-040316** SampType: **MBLK** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10821**
Client ID: **ZZZZZ** Batch ID: **R10821** TestNo: **TO-15** Analysis Date: **4/3/2016** SeqNo: **127146**

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

Qualifiers:

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

CENTEK LABORATORIES, LLC

Date: *27-Apr-16*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID C1603091-005A MS	SampType: MS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 10821
Client ID: 1640-IAQ-3	Batch ID: R10821	TestNo: TO-15		Analysis Date: 4/4/2016	SeqNo: 127156

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.220	0.15	1	0	122	70	130				
1,1-Dichloroethane	1.140	0.15	1	0	114	70	130				
1,1-Dichloroethene	1.140	0.15	1	0	114	70	130				
Chloroethane	1.280	0.15	1	0	128	70	130				
Chloromethane	1.380	0.15	1	0	138	70	130				S
cis-1,2-Dichloroethene	1.130	0.15	1	0	113	70	130				
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130				
trans-1,2-Dichloroethene	1.280	0.15	1	0	128	70	130				
Trichloroethene	1.180	0.040	1	0.09	109	70	130				
Surr: Bromofluorobenzene	1.230	0	1	0	123	70	130				

Sample ID C1603091-005A MS	SampType: MSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 10821
Client ID: 1640-IAQ-3	Batch ID: R10821	TestNo: TO-15		Analysis Date: 4/4/2016	SeqNo: 127158

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.160	0.15	1	0	116	70	130	1.22	5.04	30	
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130	1.14	2.60	30	
1,1-Dichloroethene	1.100	0.15	1	0	110	70	130	1.14	3.57	30	
Chloroethane	1.170	0.15	1	0	117	70	130	1.28	8.98	30	
Chloromethane	1.590	0.15	1	0	159	70	130	1.38	14.1	30	S
cis-1,2-Dichloroethene	1.140	0.15	1	0	114	70	130	1.13	0.881	30	
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130	0.88	0	30	
trans-1,2-Dichloroethene	1.210	0.15	1	0	121	70	130	1.28	5.62	30	
Trichloroethene	1.180	0.040	1	0.09	109	70	130	1.18	0	30	

Qualifiers:

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	C1603091-005A MS	SampType:	MSD	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	10821
Client ID:	1640-IAQ-3	Batch ID:	R10821	TestNo:	TO-15			Analysis Date:	4/4/2016	SeqNo:	127158

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Bromofluorobenzene	1.190	0	1	0	119	70	130	0	0	30	

Qualifiers:

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

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

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

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

Percent Relative Standard Deviation (%RSD)

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

Percent Difference (%D)

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

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

Sample Calculations

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

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

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDL#6	IDL#7	Average	StdDev	%Rec	IDL
Propylene	0.15	0.16	0.15	0.16	0.14	0.16	0.14	0.16	0.153	0.010	98.1	0.030
Freon 12	0.15	0.18	0.17	0.17	0.17	0.18	0.17	0.17	0.173	0.005	86.8	0.015
Chloromethane	0.15	0.19	0.18	0.16	0.18	0.18	0.2	0.17	0.180	0.013	83.3	0.041
Freon 114	0.15	0.18	0.17	0.17	0.17	0.18	0.17	0.18	0.174	0.005	86.1	0.017
Vinyl Chloride	0.15	0.17	0.16	0.16	0.15	0.16	0.15	0.15	0.157	0.008	95.5	0.024
Butane	0.15	0.18	0.16	0.17	0.18	0.18	0.19	0.19	0.179	0.011	84.0	0.034
1,3-butadiene	0.15	0.21	0.2	0.2	0.22	0.17	0.18	0.23	0.201	0.021	74.5	0.066
Bromomethane	0.15	0.18	0.2	0.21	0.18	0.22	0.16	0.21	0.194	0.021	77.2	0.068
Chloroethane	0.15	0.19	0.19	0.16	0.19	0.19	0.18	0.19	0.184	0.011	81.4	0.036
Ethanol	0.15	0.16	0.16	0.18	0.17	0.19	0.18	0.19	0.176	0.013	85.4	0.040
Acrolein	0.15	0.22	0.17	0.19	0.16	0.18	0.21	0.17	0.186	0.022	80.8	0.070
Vinyl Bromide	0.15	0.17	0.15	0.16	0.16	0.17	0.17	0.17	0.164	0.008	91.3	0.025
Freon 11	0.15	0.18	0.17	0.17	0.18	0.19	0.17	0.18	0.177	0.008	84.7	0.024
Acetone	0.15	0.2	0.17	0.18	0.15	0.15	0.18	0.14	0.167	0.021	89.7	0.067
Pentane	0.15	0.18	0.17	0.18	0.16	0.17	0.2	0.16	0.174	0.014	86.1	0.044
Isopropyl alcohol	0.15	0.22	0.2	0.19	0.2	0.19	0.21	0.19	0.200	0.012	75.0	0.036
1,1-dichloroethene	0.15	0.2	0.17	0.19	0.19	0.19	0.18	0.18	0.186	0.010	80.8	0.031
Freon 113	0.15	0.17	0.16	0.18	0.18	0.18	0.17	0.17	0.173	0.008	86.8	0.024
t-Butyl alcohol	0.15	0.21	0.2	0.2	0.21	0.2	0.2	0.18	0.200	0.010	75.0	0.031
Methylene chloride	0.15	0.2	0.18	0.19	0.18	0.2	0.19	0.17	0.187	0.011	80.2	0.035
Allyl chloride	0.15	0.18	0.17	0.16	0.18	0.18	0.2	0.18	0.179	0.012	84.0	0.038
Carbon disulfide	0.15	0.2	0.17	0.19	0.19	0.2	0.18	0.19	0.189	0.011	79.5	0.034
trans-1,2-dichloroethene	0.15	0.15	0.14	0.14	0.14	0.16	0.14	0.15	0.146	0.008	102.9	0.025
methyl tert-butyl ether	0.15	0.14	0.14	0.14	0.13	0.15	0.14	0.13	0.139	0.007	108.2	0.022
1,1-dichloroethane	0.15	0.17	0.15	0.16	0.15	0.17	0.16	0.16	0.160	0.008	93.8	0.026
Vinyl acetate	0.15	0.14	0.13	0.14	0.13	0.13	0.13	0.12	0.131	0.007	114.1	0.022
Methyl Ethyl Ketone	0.15	0.17	0.17	0.16	0.16	0.15	0.13	0.12	0.151	0.020	99.1	0.061
cis-1,2-dichloroethene	0.15	0.15	0.14	0.16	0.15	0.16	0.15	0.14	0.150	0.008	100.0	0.026
Hexane	0.15	0.12	0.14	0.13	0.13	0.13	0.12	0.12	0.127	0.008	118.0	0.024
Ethyl acetate	0.15	0.16	0.17	0.14	0.15	0.14	0.16	0.13	0.150	0.014	100.0	0.044
Chloroform	0.15	0.16	0.16	0.16	0.16	0.17	0.16	0.17	0.163	0.005	92.1	0.015
Tetrahydrofuran	0.15	0.15	0.13	0.15	0.15	0.15	0.15	0.14	0.146	0.008	102.9	0.025
1,2-dichloroethane	0.15	0.16	0.15	0.16	0.16	0.17	0.16	0.17	0.161	0.007	92.9	0.022
1,1,1-trichloroethane	0.15	0.17	0.16	0.17	0.17	0.16	0.17	0.17	0.167	0.005	89.7	0.015
Cyclohexane	0.15	0.14	0.14	0.14	0.15	0.15	0.14	0.14	0.143	0.005	105.0	0.015
Carbon tetrachloride	0.15	0.13	0.15	0.15	0.15	0.15	0.15	0.16	0.149	0.009	101.0	0.028
Benzene	0.15	0.15	0.16	0.16	0.15	0.16	0.16	0.16	0.157	0.005	95.5	0.015
Methyl methacrylate	0.15	0.15	0.15	0.14	0.14	0.14	0.15	0.11	0.140	0.014	107.1	0.044
1,4-dioxane	0.15	0.18	0.18	0.19	0.18	0.15	0.17	0.12	0.167	0.024	89.7	0.076

Centek Laboratories
IDL Study

1ug/M3 Detection Limit
January 2016

Method TO-15A
Units=ppb

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDL#6	IDL#7	Average	StdDev	%Rec	IDL
2,2,4-trimethylpentane	0.15	0.15	0.15	0.15	0.16	0.14	0.16	0.15	0.151	0.007	99.1	0.022
Heptane	0.15	0.12	0.13	0.13	0.12	0.13	0.13	0.13	0.127	0.005	118.0	0.015
Trichloroethene	0.15	0.14	0.15	0.14	0.15	0.15	0.14	0.15	0.146	0.005	102.9	0.017
1,2-dichloropropane	0.15	0.16	0.17	0.17	0.16	0.17	0.16	0.16	0.164	0.005	91.3	0.017
Bromodichloromethane	0.15	0.16	0.16	0.16	0.15	0.16	0.17	0.16	0.160	0.006	93.8	0.018
cis-1,3-dichloropropene	0.15	0.13	0.13	0.14	0.14	0.13	0.13	0.13	0.133	0.005	112.9	0.015
trans-1,3-dichloropropene	0.15	0.16	0.13	0.13	0.14	0.14	0.14	0.16	0.143	0.013	105.0	0.039
1,1,2-trichloroethane	0.15	0.16	0.15	0.16	0.15	0.16	0.18	0.17	0.161	0.011	92.9	0.034
Toluene	0.15	0.14	0.14	0.14	0.13	0.16	0.14	0.15	0.143	0.010	105.0	0.030
Methyl Isobutyl Ketone	0.15	0.18	0.18	0.18	0.18	0.16	0.18	0.15	0.173	0.013	86.8	0.039
Dibromochloromethane	0.15	0.16	0.16	0.17	0.18	0.16	0.17	0.18	0.169	0.009	89.0	0.028
Methyl Butyl Ketone	0.15	0.17	0.16	0.18	0.17	0.16	0.17	0.14	0.164	0.013	91.3	0.040
1,2-dibromoethane	0.15	0.16	0.17	0.16	0.16	0.16	0.16	0.17	0.163	0.005	92.1	0.015
Tetrachloroethylene	0.15	0.16	0.17	0.16	0.16	0.16	0.17	0.17	0.164	0.005	91.3	0.017
Chlorobenzene	0.15	0.16	0.16	0.16	0.17	0.15	0.17	0.17	0.163	0.008	92.1	0.024
1,1,1,2-tetrachloroethane	0.15	0.17	0.17	0.17	0.18	0.16	0.18	0.17	0.171	0.007	87.5	0.022
Ethylbenzene	0.15	0.13	0.14	0.14	0.14	0.12	0.14	0.13	0.134	0.008	111.7	0.025
m&p-xylene	0.3	0.25	0.25	0.25	0.23	0.25	0.25	0.25	0.247	0.008	121.4	0.024
Nonane	0.15	0.11	0.11	0.11	0.11	0.1	0.1	0.11	0.107	0.005	140.0	0.015
Styrene	0.15	0.12	0.13	0.13	0.11	0.12	0.13	0.12	0.123	0.008	122.1	0.024
Bromoform	0.15	0.15	0.15	0.16	0.15	0.15	0.17	0.16	0.156	0.008	96.3	0.025
o-xylene	0.15	0.11	0.12	0.12	0.14	0.14	0.12	0.11	0.123	0.013	122.1	0.039
Cumene	0.15	0.12	0.13	0.13	0.12	0.13	0.13	0.13	0.127	0.005	118.0	0.015
Bromofluorobenzene	1	0.88	0.9	0.9	0.87	0.89	0.89	0.9	0.890	0.012	112.4	0.036
1,1,2,2-tetrachloroethane	0.15	0.16	0.16	0.17	0.16	0.17	0.17	0.16	0.164	0.005	91.3	0.017
Propylbenzene	0.15	0.13	0.12	0.13	0.13	0.11	0.13	0.11	0.123	0.010	122.1	0.030
2-Chlorotoluene	0.15	0.13	0.13	0.13	0.14	0.13	0.12	0.13	0.130	0.006	115.4	0.018
4-ethyltoluene	0.15	0.11	0.12	0.12	0.12	0.13	0.13	0.11	0.120	0.008	125.0	0.026
1,3,5-trimethylbenzene	0.15	0.12	0.13	0.14	0.12	0.13	0.13	0.13	0.129	0.007	116.7	0.022
1,2,4-trimethylbenzene	0.15	0.12	0.13	0.12	0.12	0.13	0.12	0.12	0.123	0.005	122.1	0.015
1,3-dichlorobenzene	0.15	0.14	0.14	0.14	0.13	0.14	0.13	0.14	0.137	0.005	109.4	0.015
benzyl chloride	0.15	0.13	0.16	0.13	0.15	0.13	0.15	0.16	0.144	0.014	104.0	0.044
1,4-dichlorobenzene	0.15	0.13	0.11	0.12	0.12	0.12	0.12	0.13	0.121	0.007	123.5	0.022
1,2,3-trimethylbenzene	0.15	0.12	0.11	0.12	0.12	0.12	0.11	0.11	0.116	0.005	129.6	0.017
1,2-dichlorobenzene	0.15	0.13	0.14	0.14	0.14	0.14	0.14	0.13	0.137	0.005	109.4	0.015
1,2,4-trichlorobenzene	0.15	0.1	0.11	0.1	0.11	0.11	0.12	0.1	0.107	0.008	140.0	0.024
Naphthalene	0.15	0.13	0.13	0.14	0.11	0.12	0.14	0.12	0.127	0.011	118.0	0.035
Hexachloro-1,3-butadiene	0.15	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.164	0.005	91.3	0.017

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

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

SAMPLE DATA

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-1
Lab Order:	C1603091	**Tag Number:**	85,272
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-001A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-8			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 1:28:00 AM
Trichloroethene	0.12	0.040		ppbV	1	4/4/2016 1:28:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/4/2016 1:28:00 AM
Surr: Bromofluorobenzene	122	70-130		%REC	1	4/4/2016 1:28:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-1
Lab Order:	C1603091	**Tag Number:**	85,272
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-001A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 1:28:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 1:28:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 1:28:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 1:28:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 1:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 1:28:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 1:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 1:28:00 AM
Trichloroethene	0.64	0.21		ug/m3	1	4/4/2016 1:28:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 1:28:00 AM

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040322.D Vial: 18
Acq On : 4 Apr 2016 1:28 am Operator: RJP
Sample : C1603091-001A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 04 04:41:55 2016 Quant Results File: A316_1UG.RES

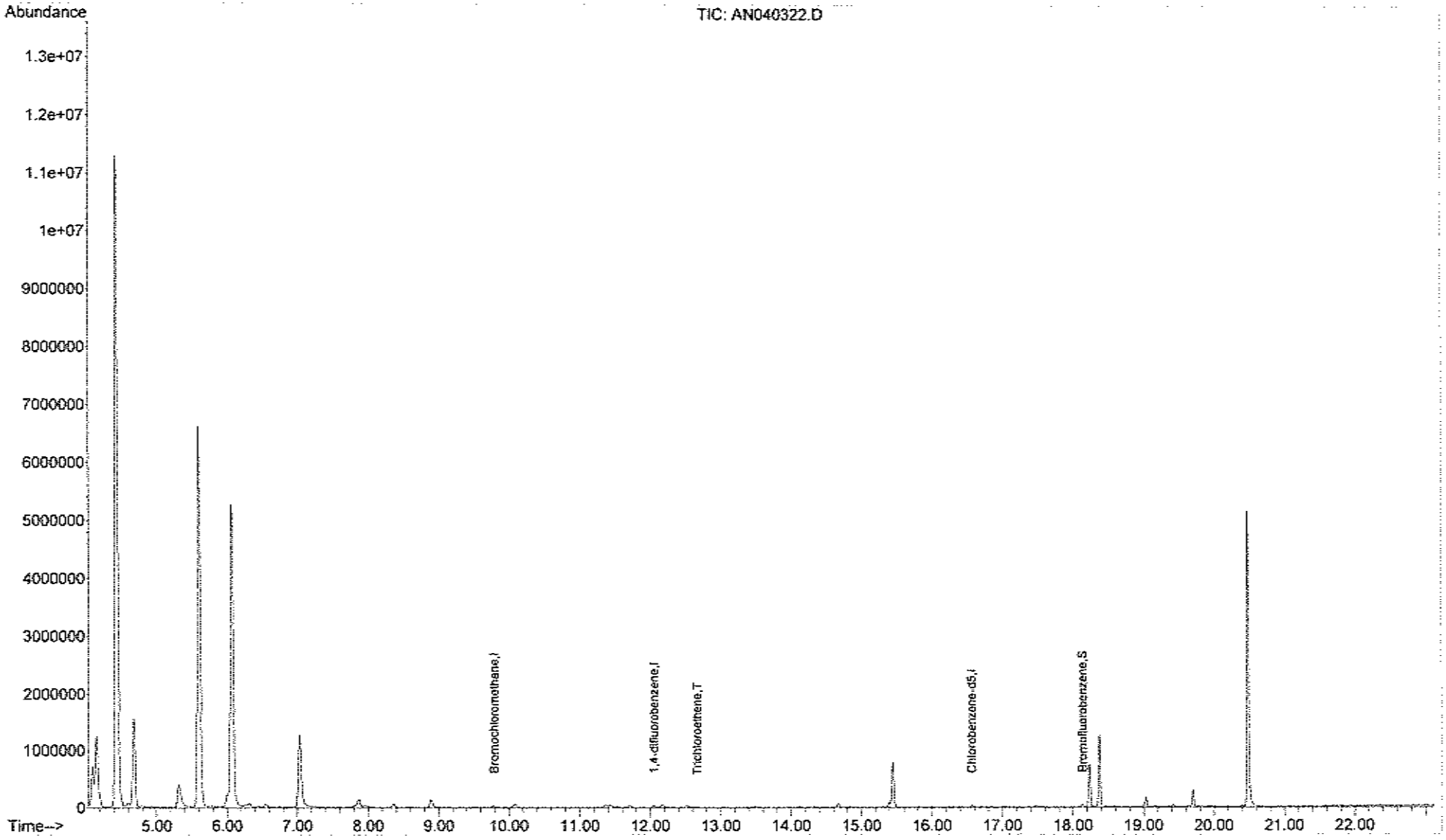
Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

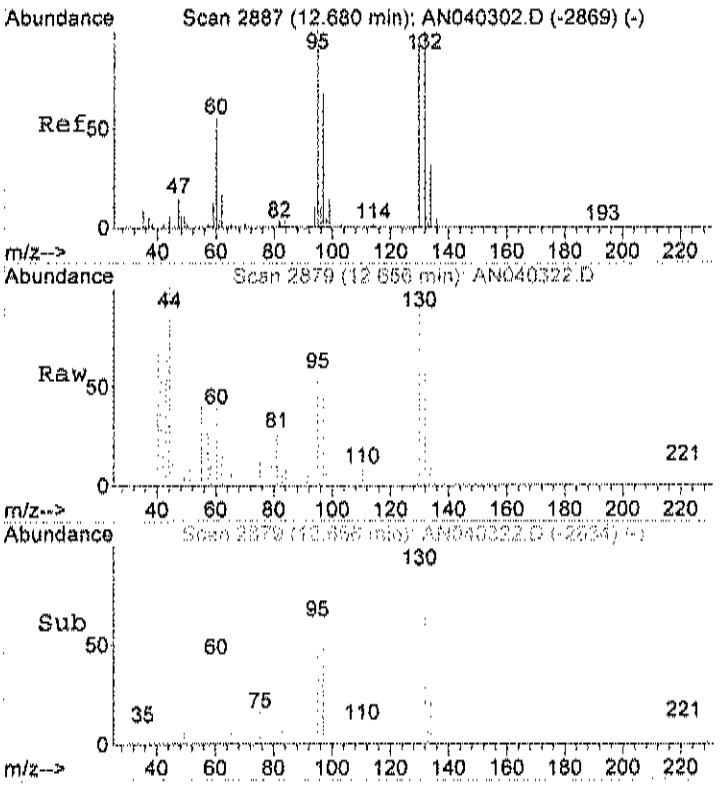
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.79	128	15199	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.05	114	40864	1.00	ppb	-0.01
50) Chlorobenzene-d5	16.56	117	26354	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.14	95	20737m	1.22	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 122.00%			
Target Compounds						Qvalue
44) Trichloroethene	12.66	130	2153	0.12	ppb	95

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

Data File : C:\HPCHEM\1\DATA\AN040322.D Vial: 18
Acq On : 4 Apr 2016 1:28 am Operator: RJP
Sample : C1603091-001A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 4 9:24 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration

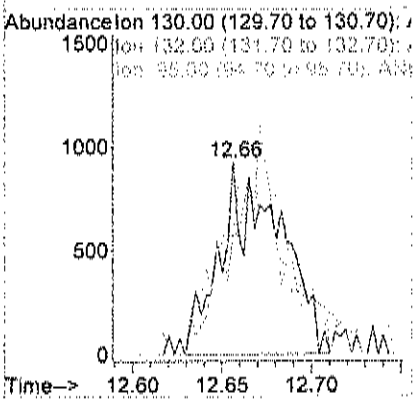




#44
Trichloroethene
Concen: 0.12 ppb
RT: 12.66 min Scan# 2879
Delta R.T. -0.01 min
Lab File: AN040322.D
Acq: 4 Apr 2016 1:28 am

Tgt Ion:130 Resp: 2153

Ion	Ratio	Lower	Upper
130	100		
132	99.8	76.1	116.1
95	111.1	85.0	125.0



Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-2
Lab Order:	C1603091	**Tag Number:**	496,403
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-002A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-6			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:08:00 AM
Trichloroethene	0.080	0.040		ppbV	1	4/4/2016 2:08:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/4/2016 2:08:00 AM
Surr: Bromofluorobenzene	125	70-130		%REC	1	4/4/2016 2:08:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-2
Lab Order:	C1603091	**Tag Number:**	496,403
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-002A	**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	4/4/2016 2:08:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 2:08:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:08:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 2:08:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 2:08:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:08:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 2:08:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:08:00 AM
Trichloroethene	0.43	0.21		ug/m3	1	4/4/2016 2:08:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 2:08:00 AM

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040323.D Vial: 19
Acq On : 4 Apr 2016 2:08 am Operator: RJP
Sample : C1603091-002A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 04 04:41:56 2016 Quant Results File: A316_1UG.RES

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

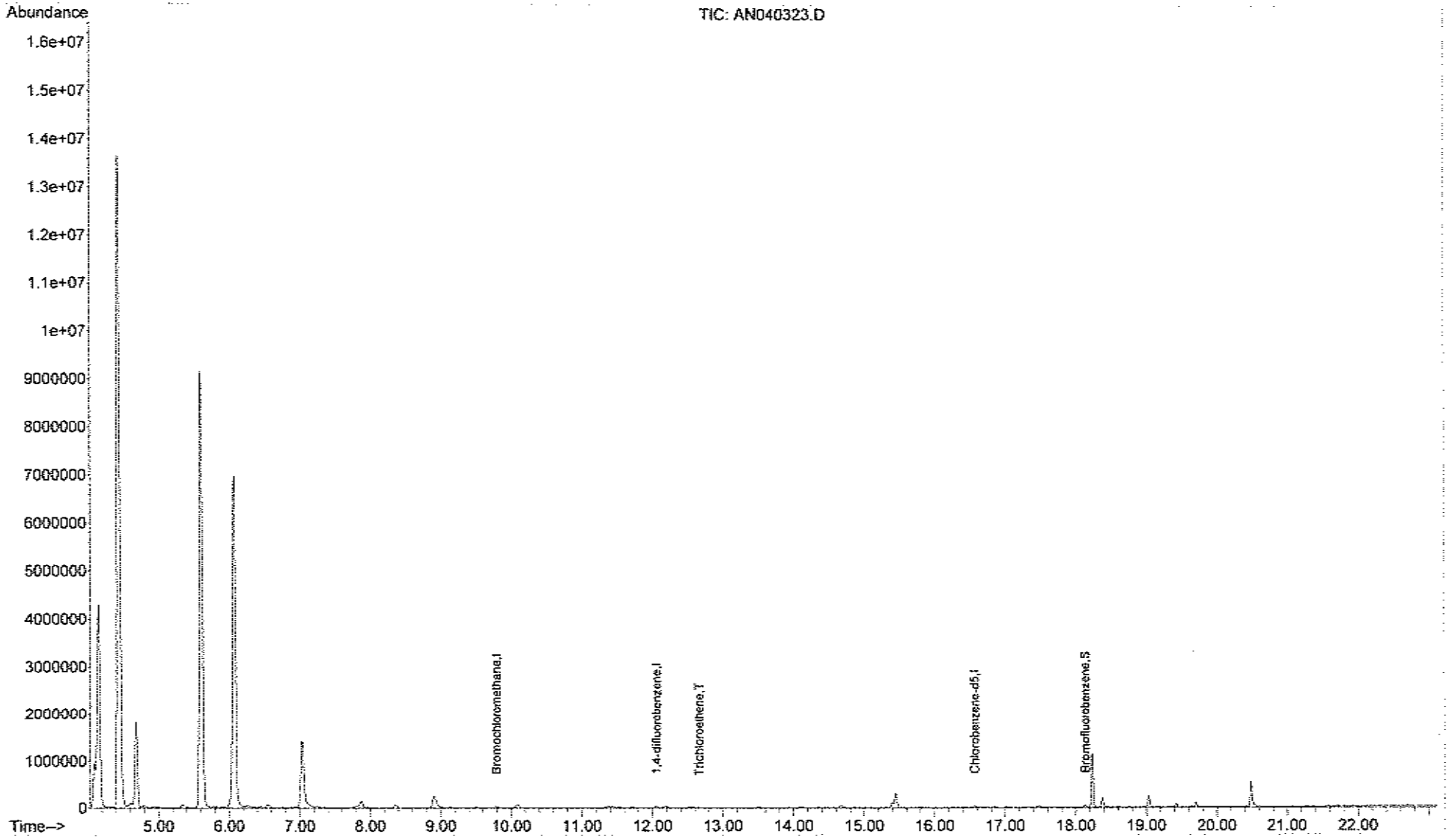
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.79	128	14903	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.05	114	39943	1.00	ppb	0.00
50) Chlorobenzene-d5	16.57	117	26736	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.13	95	21451m	1.25	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 125.00%			
Target Compounds						Qvalue
44) Trichloroethene	12.66	130	1416	0.08	ppb	97

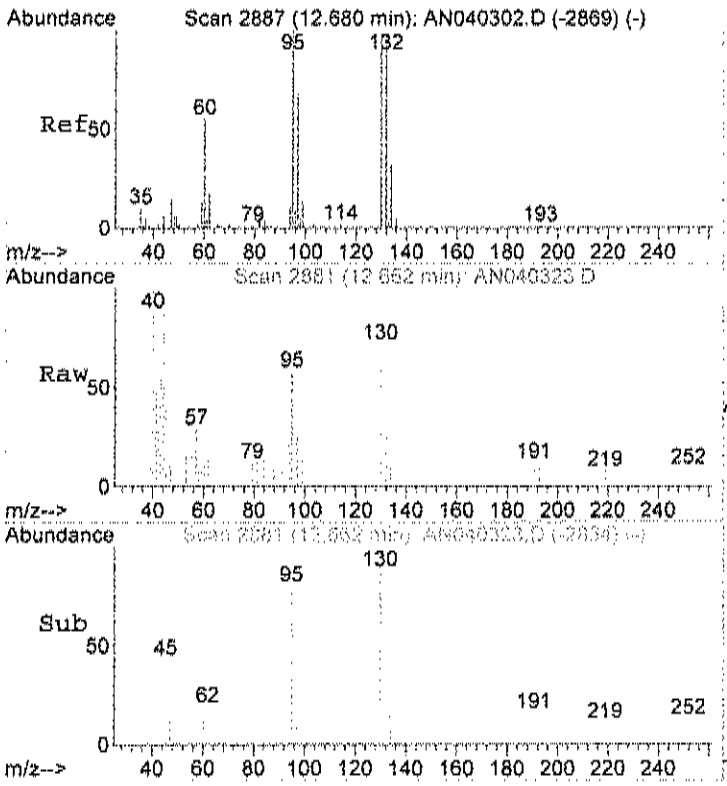
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040323.D Vial: 19
Acq On : 4 Apr 2016 2:08 am Operator: RJP
Sample : C1603091-002A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 4 9:25 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration

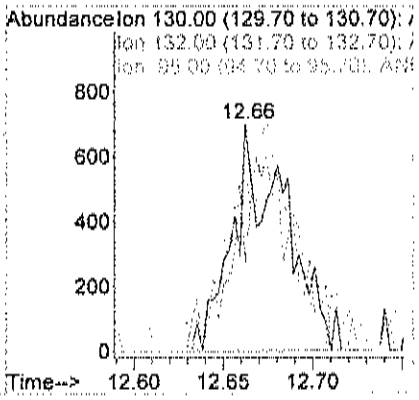




#44
Trichloroethene
Concen: 0.08 ppb
RT: 12.66 min Scan# 2881
Delta R.T. -0.01 min
Lab File: AN040323.D
Acq: 4 Apr 2016 2:08 am

Tgt Ion:130 Resp: 1416

Ion	Ratio	Lower	Upper
130	100		
132	92.7	76.1	116.1
95	103.0	85.0	125.0



Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-SVI-2
Lab Order:	C1603091	**Tag Number:**	366,1169
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-6			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
Tetrachloroethylene	0.11	0.15	J	ppbV	1	4/4/2016 2:47:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
Trichloroethene	0.17	0.15		ppbV	1	4/4/2016 2:47:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	4/4/2016 2:47:00 AM
Surr: Bromofluorobenzene	119	70-130		%REC	1	4/4/2016 2:47:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-SVI-2
Lab Order:	C1603091	**Tag Number:**	366,1169
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 2:47:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 2:47:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:47:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 2:47:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 2:47:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:47:00 AM
Tetrachloroethylene	0.75	1.0	J	ug/m3	1	4/4/2016 2:47:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:47:00 AM
Trichloroethene	0.91	0.81		ug/m3	1	4/4/2016 2:47:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	4/4/2016 2:47:00 AM

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040324.D Vial: 20
Acq On : 4 Apr 2016 2:47 am Operator: RJP
Sample : C1603091-003A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 04 04:41:57 2016 Quant Results File: A316_1UG.RES

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

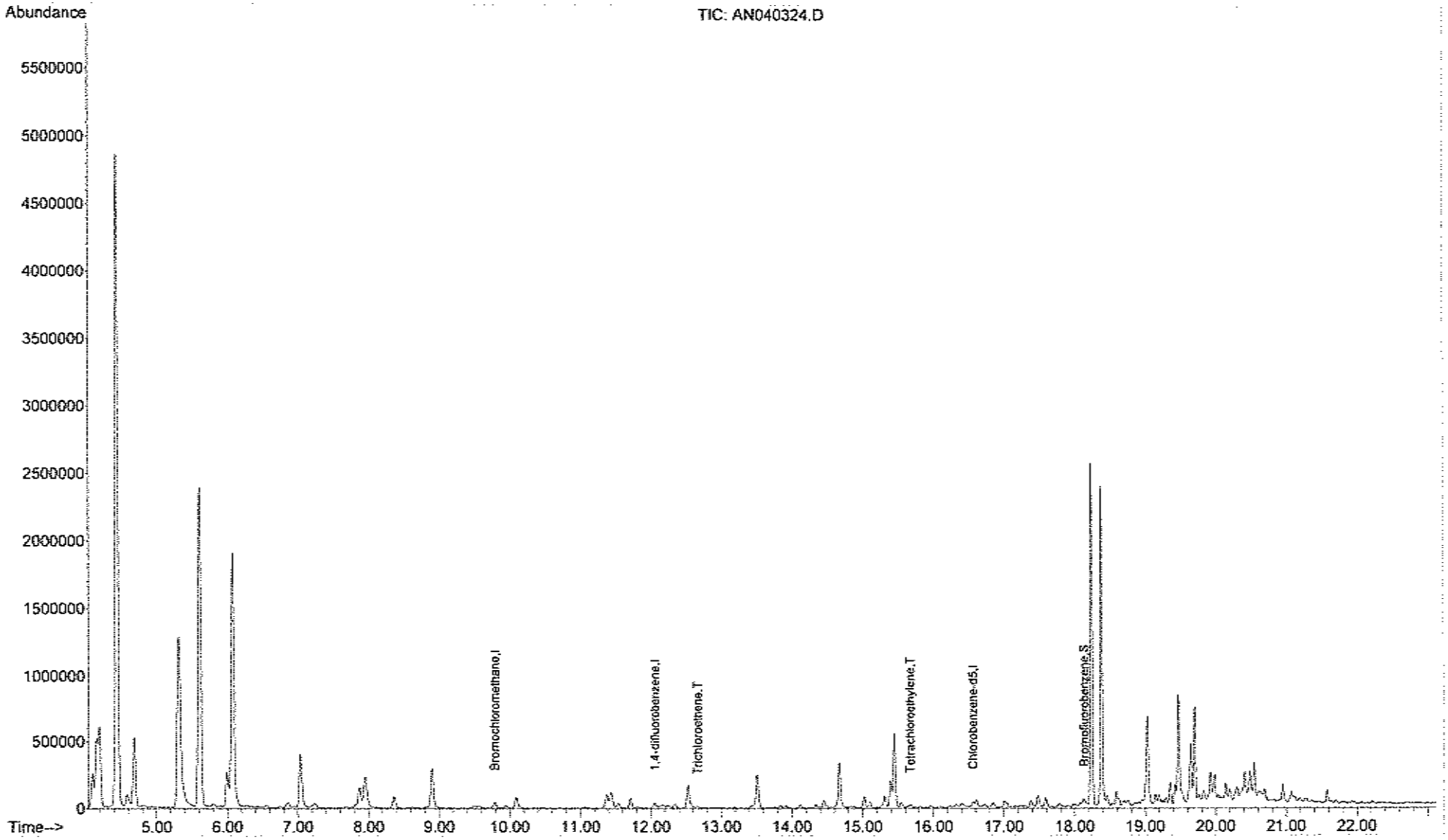
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.79	128	15528	1.00	ppb	-0.01
35) 1,4-difluorobenzene	12.06	114	43280	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	26603	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.14	95	20441m	1.19	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 119.00%			
Target Compounds						Qvalue
44) Trichloroethene	12.67	130	3133	0.17	ppb	93
56) Tetrachloroethylene	15.66	164	1818	0.11	ppb	95

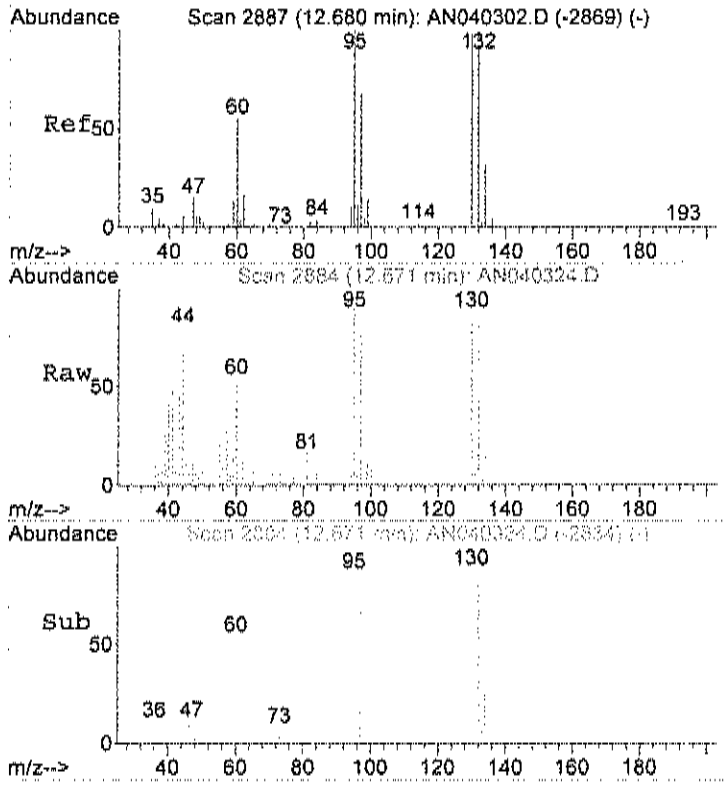
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040324.D Vial: 20
Acq On : 4 Apr 2016 2:47 am Operator: RJP
Sample : C1603091-003A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 4 9:27 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration

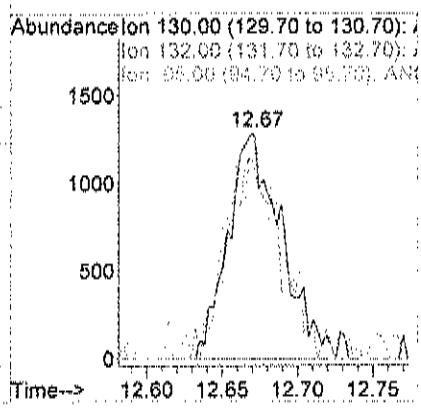


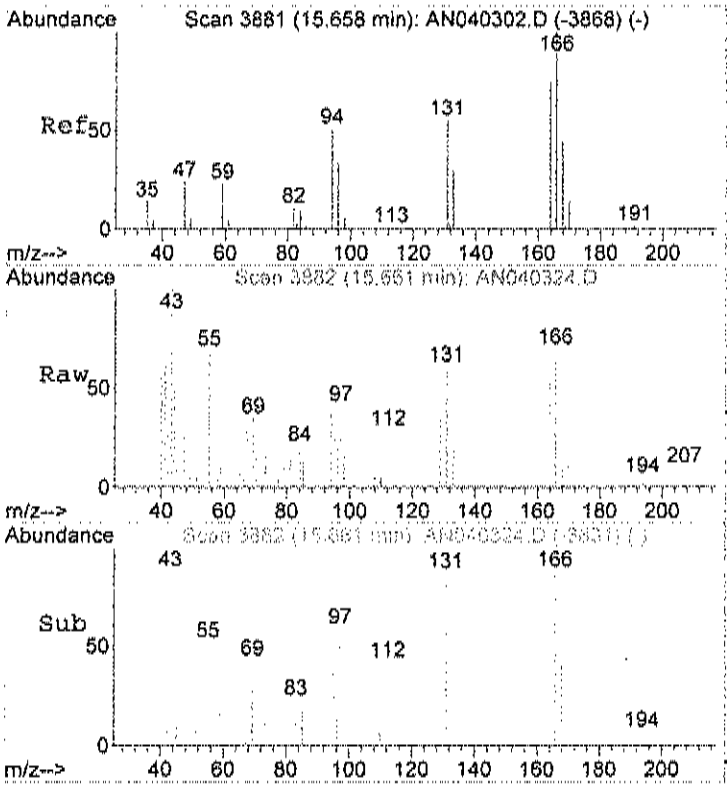


#44
Trichloroethene
Concen: 0.17 ppb
RT: 12.67 min Scan# 2884
Delta R.T. 0.00 min
Lab File: AN040324.D
Acq: 4 Apr 2016 2:47 am

Tgt Ion:130 Resp: 3133

Ion	Ratio	Lower	Upper
130	100		
132	89.8	76.1	116.1
95	97.6	85.0	125.0

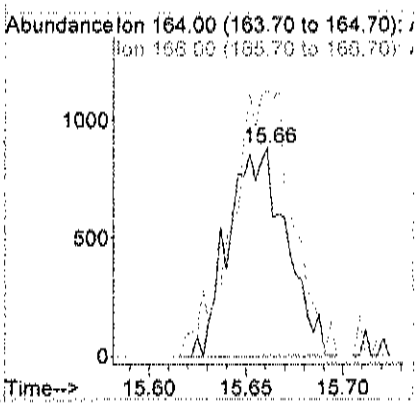




#56
Tetrachloroethylene
Concen: 0.11 ppb
RT: 15.66 min Scan# 3882
Delta R.T. 0.00 min
Lab File: AN040324.D
Acq: 4 Apr 2016 2:47 am

Tgt Ion:164 Resp: 1818

Ion	Ratio	Lower	Upper
164	100		
166	134.0	108.6	148.6



Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-SVI-3
Lab Order:	C1603091	**Tag Number:**	1318,304
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-004A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-5			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 BY METHOD TO15		TO-15				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
Tetrachloroethylene	0.12	0.15	J	ppbV	1	4/4/2016 3:26:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
Trichloroethene	0.29	0.15		ppbV	1	4/4/2016 3:26:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	4/4/2016 3:26:00 AM
Surr: Bromofluorobenzene	116	70-130		%REC	1	4/4/2016 3:26:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-SVI-3
Lab Order:	C1603091	**Tag Number:**	1318,304
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-004A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 3:26:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 3:26:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 3:26:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 3:26:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 3:26:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 3:26:00 AM
Tetrachloroethylene	0.81	1.0	J	ug/m3	1	4/4/2016 3:26:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 3:26:00 AM
Trichloroethene	1.6	0.81		ug/m3	1	4/4/2016 3:26:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	4/4/2016 3:26:00 AM

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040325.D Vial: 21
Acq On : 4 Apr 2016 3:26 am Operator: RJP
Sample : C1603091-004A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 04 04:41:58 2016 Quant Results File: A316_1UG.RES

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

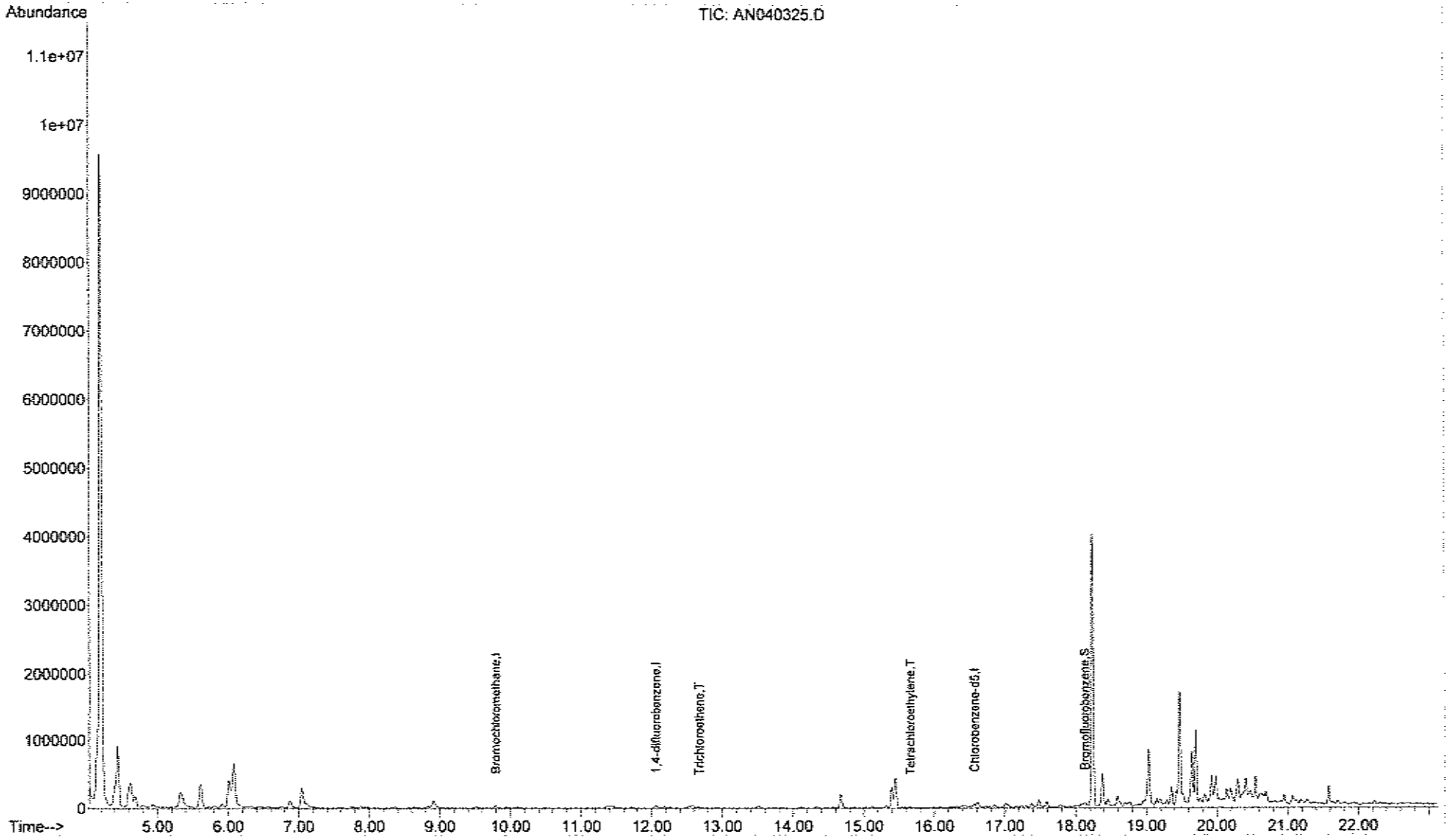
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.80	128	16444	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.06	114	42195	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	29354	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.14	95	21979m	1.16	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 116.00%			
Target Compounds						Qvalue
44) Trichloroethene	12.68	130	5178	0.29	ppb	99
56) Tetrachloroethylene	15.65	164	2235	0.12	ppb	96

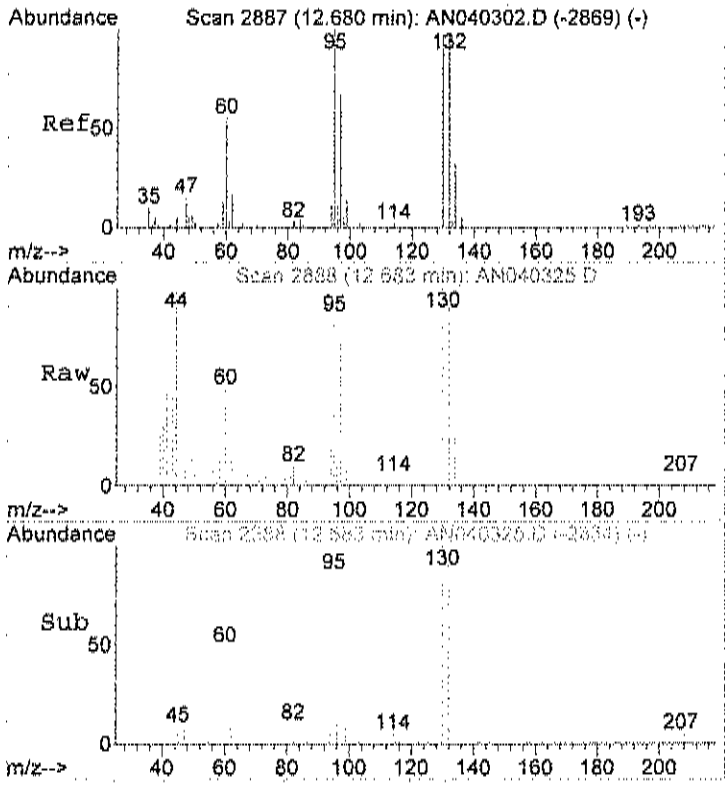
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040325.D Vial: 21
Acq On : 4 Apr 2016 3:26 am Operator: RJP
Sample : C1603091-004A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 4 9:28 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration

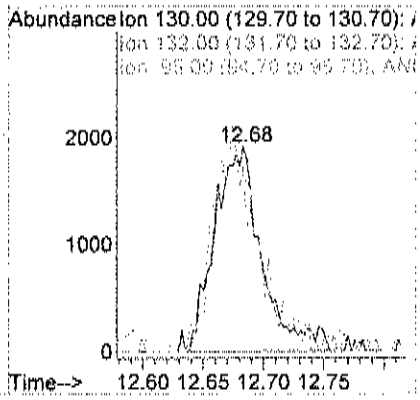


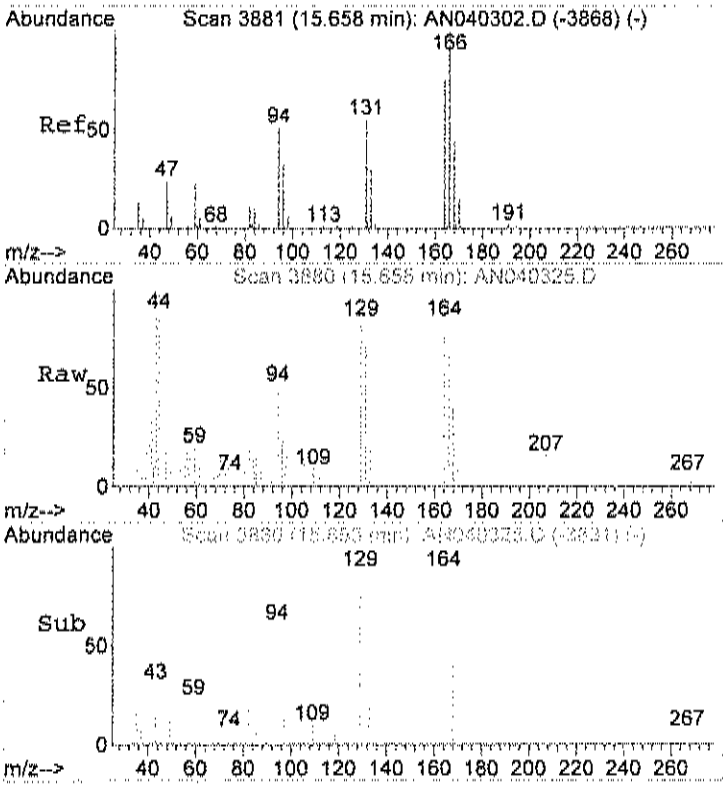


#44
Trichloroethene
Concen: 0.29 ppb
RT: 12.68 min Scan# 2888
Delta R.T. 0.01 min
Lab File: AN040325.D
Acq: 4 Apr 2016 3:26 am

Tgt Ion:130 Resp: 5178

Ion	Ratio	Lower	Upper
130	100		
132	94.8	76.1	116.1
95	105.5	85.0	125.0

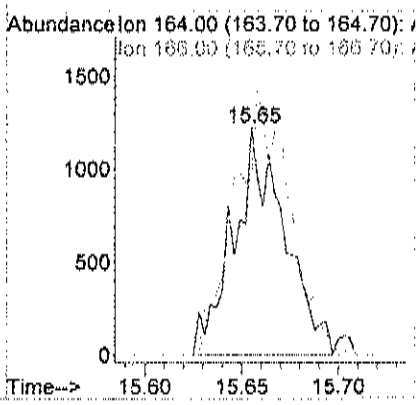




#56
Tetrachloroethylene
Concen: 0.12 ppb
RT: 15.65 min Scan# 3880
Delta R.T. -0.00 min
Lab File: AN040325.D
Acq: 4 Apr 2016 3:26 am

Tgt Ion:164 Resp: 2235

Ion	Ratio	Lower	Upper
164	100		
166	124.2	108.6	148.6



Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-3
Lab Order:	C1603091	**Tag Number:**	1207,299
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-6			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/3/2016 11:24:00 PM
Trichloroethene	0.090	0.040		ppbV	1	4/3/2016 11:24:00 PM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/3/2016 11:24:00 PM
Surr: Bromofluorobenzene	119	70-130		%REC	1	4/3/2016 11:24:00 PM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-3
Lab Order:	C1603091	**Tag Number:**	1207,299
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/3/2016 11:24:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/3/2016 11:24:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/3/2016 11:24:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/3/2016 11:24:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	4/3/2016 11:24:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/3/2016 11:24:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/3/2016 11:24:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/3/2016 11:24:00 PM
Trichloroethene	0.48	0.21		ug/m3	1	4/3/2016 11:24:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/3/2016 11:24:00 PM

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040319.D Vial: 15
Acq On : 3 Apr 2016 11:24 pm Operator: RJP
Sample : C1603091-005A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 04 04:41:52 2016 Quant Results File: A316_1UG.RES

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

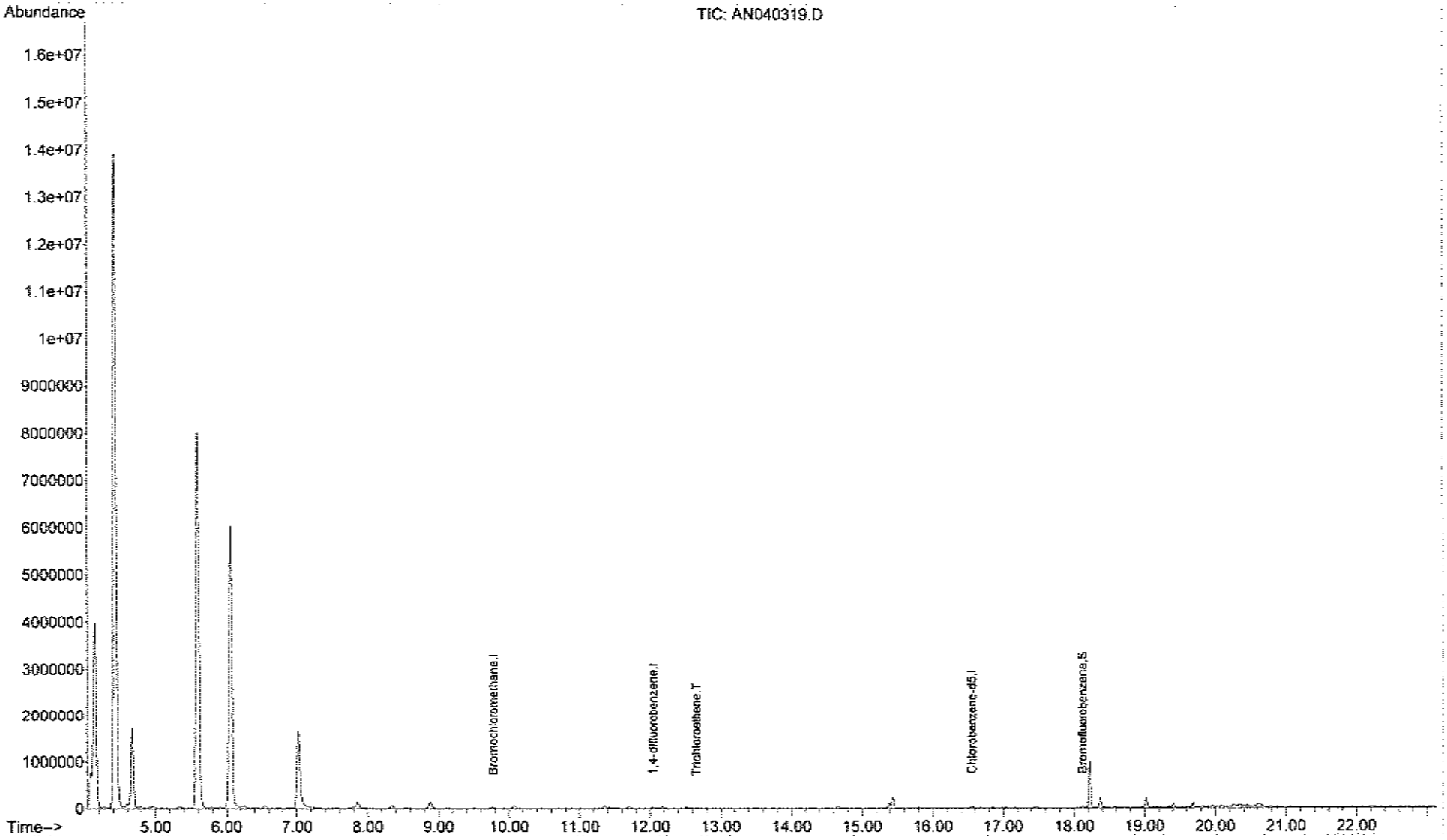
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.77	128	14883	1.00	ppb	-0.03
35) 1,4-difluorobenzene	12.04	114	37891	1.00	ppb	-0.02
50) Chlorobenzene-d5	16.55	117	28556	1.00	ppb	-0.01
System Monitoring Compounds						
66) Bromofluorobenzene	18.12	95	21851m	1.19	ppb	-0.01
Spiked Amount 1.000	Range 70 - 130		Recovery = 119.00%			
Target Compounds						Qvalue
44) Trichloroethene	12.66	130	1441	0.09	ppb	91

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

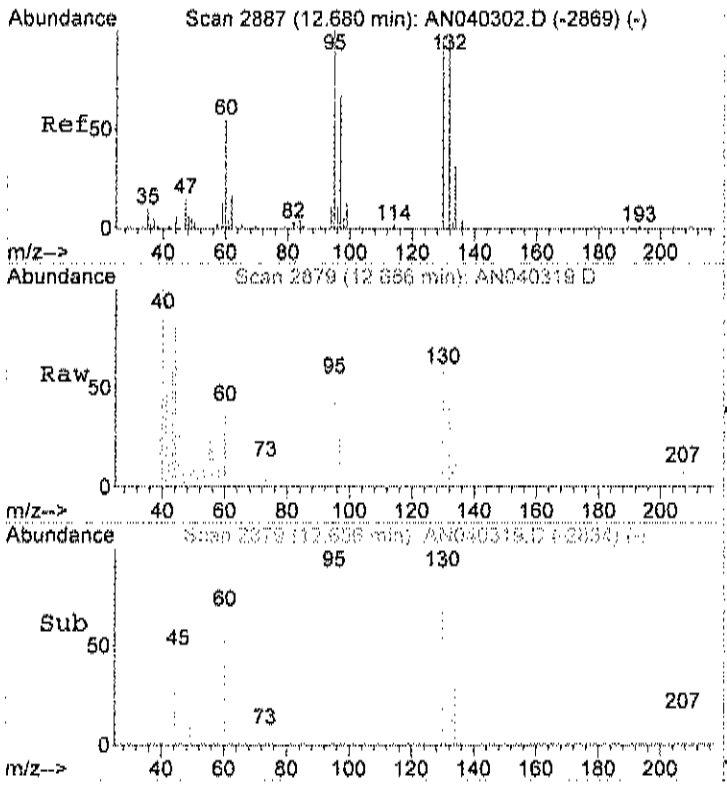
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040319.D Vial: 15
Acq On : 3 Apr 2016 11:24 pm Operator: RJP
Sample : C1603091-005A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 4 9:20 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration



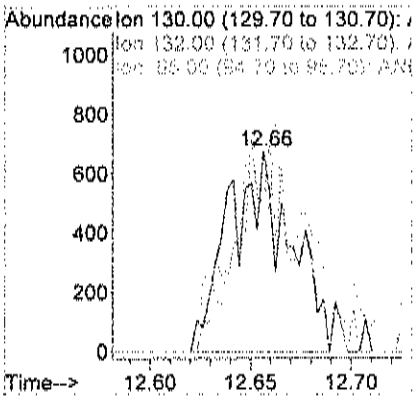
AN040319.D A316_1UG.M Tue Apr 26 16:27:47 2016 MSD1 Page 2



#44
Trichloroethene
Concen: 0.09 ppb
RT: 12.66 min Scan# 2879
Delta R.T. -0.01 min
Lab File: AN040319.D
Acq: 3 Apr 2016 11:24 pm

Tgt Ion:130 Resp: 1441

Ion	Ratio	Lower	Upper
130	100		
132	97.5	76.1	116.1
95	121.9	85.0	125.0



Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-Blind Duplicate
Lab Order:	C1603091	**Tag Number:**	336,403
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-8			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:06:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	4/4/2016 4:06:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/4/2016 4:06:00 AM
Surr: Bromofluorobenzene	118	70-130		%REC	1	4/4/2016 4:06:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-Blind Duplicate
Lab Order:	C1603091	**Tag Number:**	336,403
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 4:06:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 4:06:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:06:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 4:06:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 4:06:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:06:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 4:06:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:06:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	4/4/2016 4:06:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 4:06:00 AM

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040326.D Vial: 22
Acq On : 4 Apr 2016 4:06 am Operator: RJP
Sample : C1603091-006A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 04 04:41:59 2016 Quant Results File: A316_1UG.RES

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

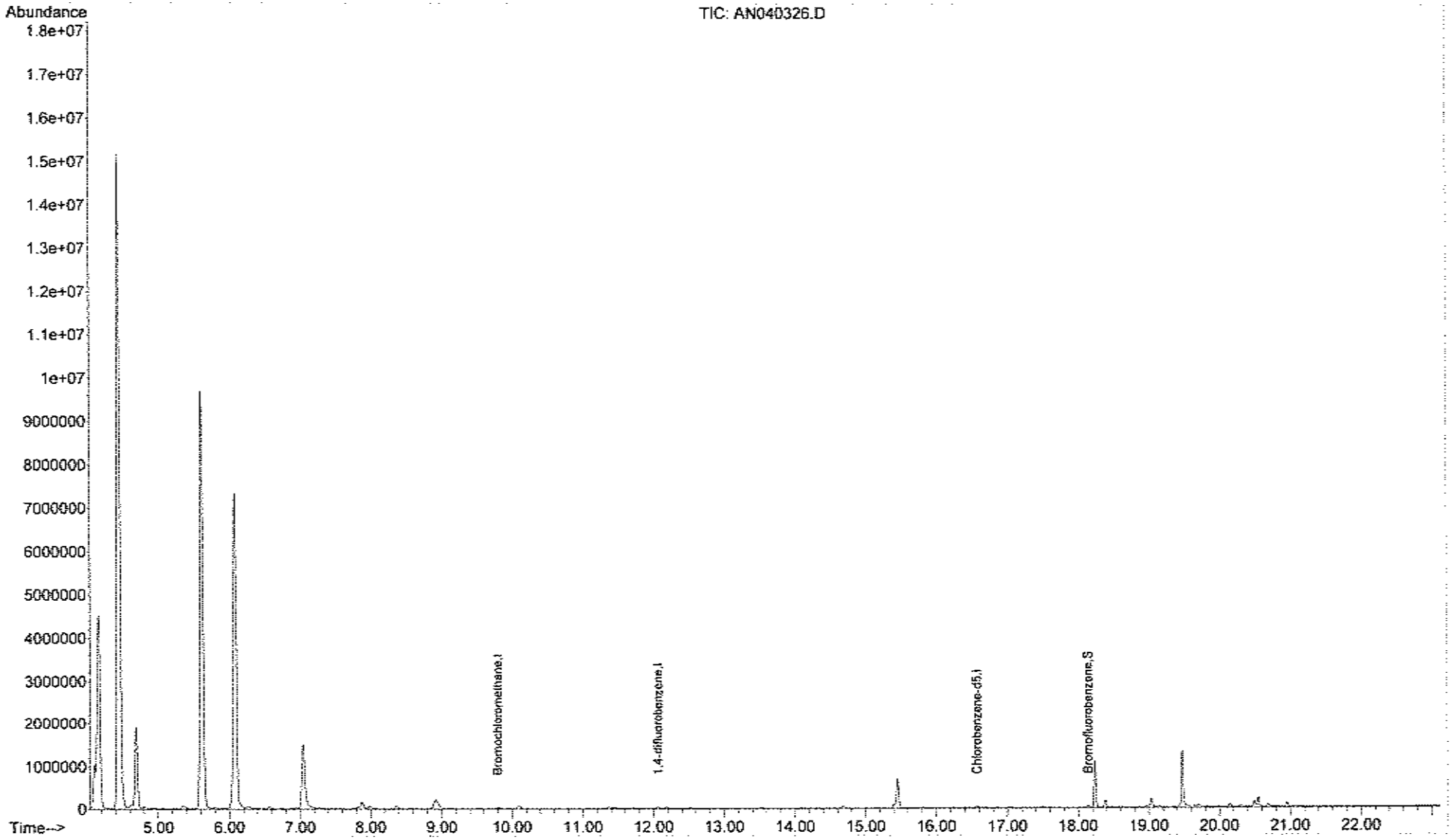
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.79	128	16917	1.00	ppb	-0.01
35) 1,4-difluorobenzene	12.06	114	45571	1.00	ppb	0.00
50) Chlorobenzene-d5	16.57	117	30473	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.14	95	23105m	1.18	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 118.00%			
Target Compounds						Qvalue

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040326.D Vial: 22
Acq On : 4 Apr 2016 4:06 am Operator: RJP
Sample : C1603091-006A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 4 9:28 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration



Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-Outdoor Air
Lab Order:	C1603091	**Tag Number:**	290,48
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD				Analyst:
Lab Vacuum In	-6			"Hg		3/31/2016
Lab Vacuum Out	-30			"Hg		3/31/2016
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
Chloromethane	1.0	0.15		ppbV	1	4/4/2016 4:45:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
Tetrachloroethylene	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	4/4/2016 4:45:00 AM
Trichloroethene	< 0.040	0.040		ppbV	1	4/4/2016 4:45:00 AM
Vinyl chloride	< 0.040	0.040		ppbV	1	4/4/2016 4:45:00 AM
Surr: Bromofluorobenzene	114	70-130		%REC	1	4/4/2016 4:45:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-Outdoor Air
Lab Order:	C1603091	**Tag Number:**	290,48
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: **RJP**
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 4:45:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 4:45:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:45:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 4:45:00 AM
Chloromethane	2.1	0.31		ug/m3	1	4/4/2016 4:45:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:45:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 4:45:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:45:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	4/4/2016 4:45:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 4:45:00 AM

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040327.D Vial: 23
Acq On : 4 Apr 2016 4:45 am Operator: RJP
Sample : C1603091-007A Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 04 08:42:11 2016 Quant Results File: A316_1UG.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	13714	1.00	ppb	0.03
35) 1,4-difluorobenzene	12.08	114	33839	1.00	ppb	0.03
50) Chlorobenzene-d5	16.57	117	30298	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.14	95	22267	1.14	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 114.00%			
Target Compounds						Qvalue
4) Chloromethane	4.40	50	15615	1.02	ppb	92

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

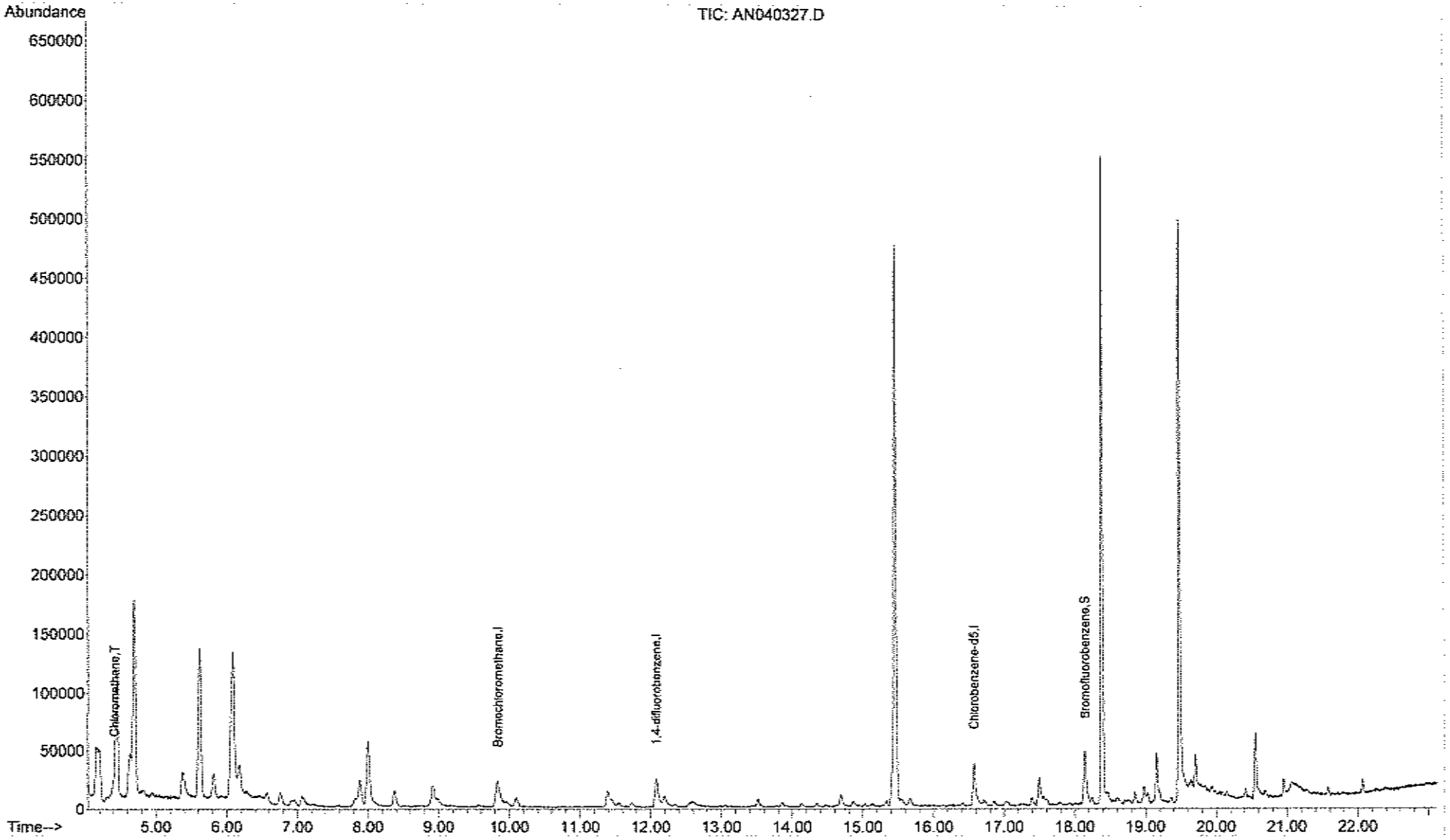
Quantitation Report (QT Reviewed)

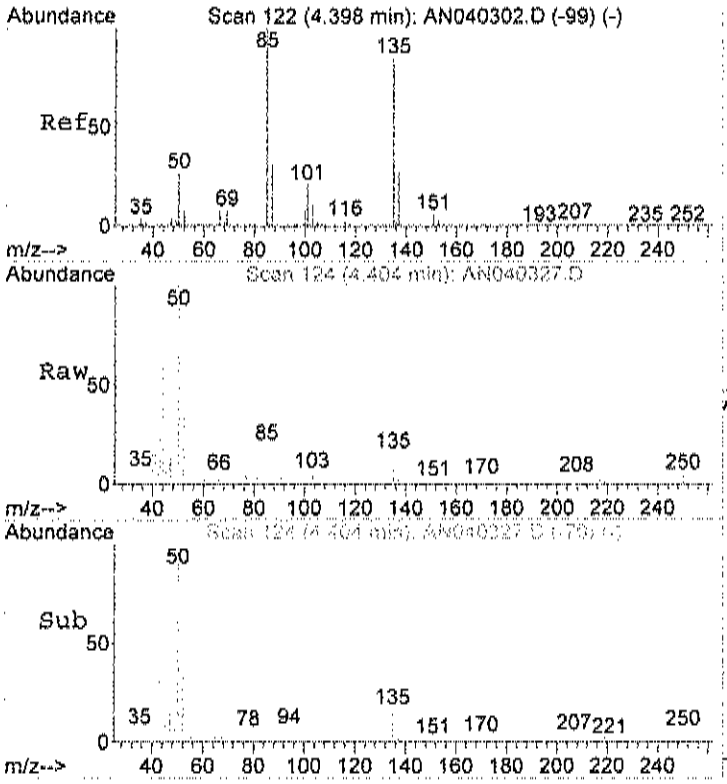
Data File : C:\HPCHEM\1\DATA\AN040327.D
Acq On : 4 Apr 2016 4:45 am
Sample : C1603091-007A
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 4 9:30 2016

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

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration

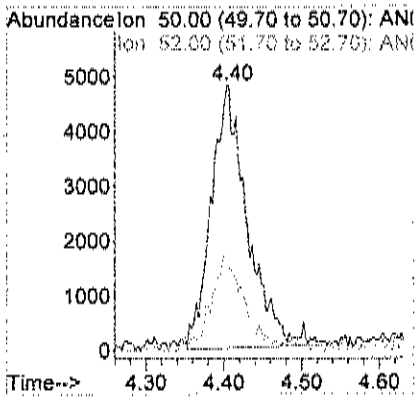




#4
Chloromethane
Concen: 1.02 ppb
RT: 4.40 min Scan# 124
Delta R.T. 0.01 min
Lab File: AN040327.D
Acq: 4 Apr 2016 4:45 am

Tgt Ion: 50 Resp: 15615

Ion	Ratio	Lower	Upper
50	100		
52	33.3	9.2	49.2



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS DATA

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INITIAL CALIBRATION

Response Factor Report MSD #1

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

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

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

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

Response Factor Report MSD #1

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

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

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

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

Quantitation Report (QT Reviewed)

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

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

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.79	128	39696	1.00	ppb		-0.01
35) 1,4-difluorobenzene	12.05	114	119341	1.00	ppb		0.00
50) Chlorobenzene-d5	16.56	117	65204	1.00	ppb		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.13	95	48331	1.15	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 115.00%				
Target Compounds							Qvalue
2) Propylene	4.14	41	52720	1.77	ppb	#	100
3) Freon 12	4.19	85	300982	1.82	ppb		100
4) Chloromethane	4.39	50	75653	1.85	ppb		90
5) Freon 114	4.39	85	252561	1.79	ppb		99
6) Vinyl Chloride	4.58	62	71454	1.80	ppb		89
7) Butane	4.68	43	84007	1.71	ppb		95
8) 1,3-butadiene	4.69	39	60171	1.98	ppb		88
9) Bromomethane	5.03	94	88794	1.75	ppb		93
10) Chloroethane	5.20	64	31848	1.90	ppb	#	85
11) Ethanol	5.34	45	22162	1.89	ppb	#	66
12) Acrolein	5.93	56	19963m	1.92	ppb		
13) Vinyl Bromide	5.54	106	90315	1.77	ppb		96
14) Freon 11	5.80	101	311834	1.84	ppb		99
15) Acetone	6.02	58	31506	2.05	ppb	#	82
16) Pentane	6.06	42	64025	1.75	ppb		99
17) Isopropyl alcohol	6.13	45	95378	1.89	ppb	#	46
18) 1,1-dichloroethene	6.56	96	90887	1.81	ppb		89
19) Freon 113	6.75	101	218149	1.79	ppb		96
20) t-Butyl alcohol	6.87	59	153022	1.79	ppb	#	73
21) Methylene chloride	7.04	84	81781	1.83	ppb		92
22) Allyl chloride	7.00	41	75821	2.00	ppb		88
23) Carbon disulfide	7.19	76	229469	1.81	ppb		97
24) trans-1,2-dichloroethene	7.97	61	109677	1.86	ppb		90
25) methyl tert-butyl ether	8.01	73	217092	1.92	ppb		96
26) 1,1-dichloroethane	8.39	63	155890	1.83	ppb		99
27) Vinyl acetate	8.41	43	139082	1.80	ppb		99
28) Methyl Ethyl Ketone	8.92	72	35109	1.95	ppb	#	100
29) cis-1,2-dichloroethene	9.33	61	95640	1.86	ppb		93
30) Hexane	8.90	57	103745	1.97	ppb		96
31) Ethyl acetate	9.51	43	132681	1.93	ppb		96
32) Chloroform	9.94	83	209422	1.84	ppb		98
33) Tetrahydrofuran	10.15	42	59093	1.80	ppb		85
34) 1,2-dichloroethane	11.07	62	118759	1.86	ppb		87
36) 1,1,1-trichloroethane	10.75	97	211952	1.92	ppb		100
37) Cyclohexane	11.44	56	95560	2.08	ppb		90
38) Carbon tetrachloride	11.39	117	221613	1.95	ppb		97
39) Benzene	11.36	78	193181	1.98	ppb		98
40) Methyl methacrylate	12.91	41	62212	1.99	ppb	#	80
41) 1,4-dioxane	12.99	88	48143	1.87	ppb		97
42) 2,2,4-trimethylpentane	12.18	57	351781	2.00	ppb		98
43) Heptane	12.53	43	86114	2.04	ppb		88
44) Trichloroethene	12.67	130	95479	2.05	ppb		99
45) 1,2-dichloropropane	12.79	63	67226	1.91	ppb		98

(#) = qualifier out of range (m) = manual integration
AN031603.D A316_1UG.M Thu Apr 07 13:05:28 2016 MSD1 Page 1

Quantitation Report (QT Reviewed)

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

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

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

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031603.D A316_1UG.M Thu Apr 07 13:05:29 2016 MSD1 Page 2

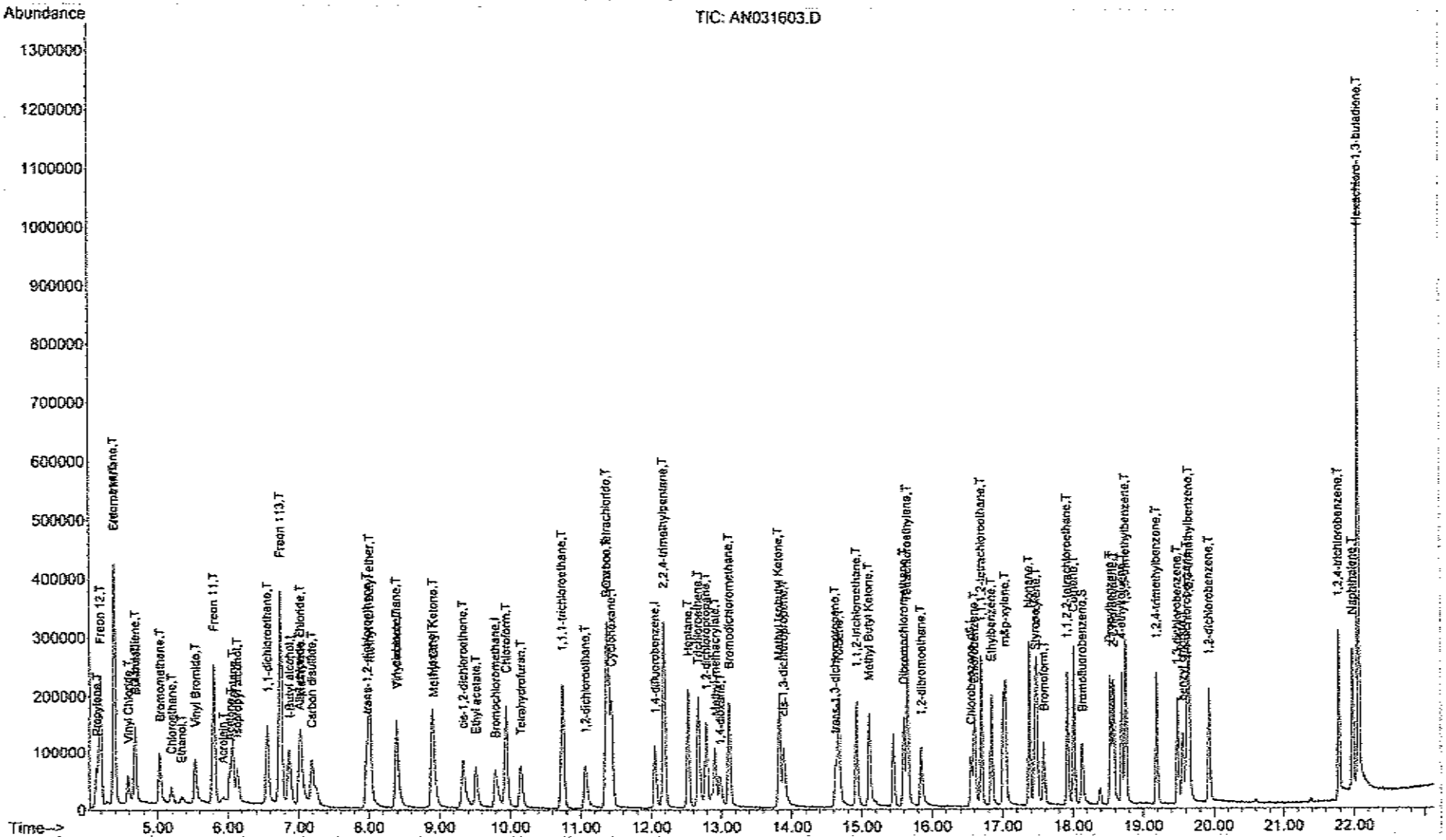
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031603.D
Acq On : 16 Mar 2016 6:50 pm
Sample : A1UG_2.0
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 9:48 2016

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

Quant Results File: A316_1UG.RES

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



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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031604.D Vial: 3
Acq On : 16 Mar 2016 7:30 pm Operator: RJP
Sample : A1UG_1.50 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:18:42 2016 Quant Results File: A316_1UG.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.80	128	37388	1.00	ppb		-0.01
35) 1,4-difluorobenzene	12.06	114	125097	1.00	ppb		0.00
50) Chlorobenzene-d5	16.56	117	71425	1.00	ppb		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.13	95	48889	1.06	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
2) Propylene	4.13	41	41028	1.46	ppb	#	100
3) Freon 12	4.19	85	229102	1.47	ppb		99
4) Chloromethane	4.39	50	56920	1.48	ppb		93
5) Freon 114	4.39	85	192137	1.45	ppb		100
6) Vinyl Chloride	4.58	62	53313	1.42	ppb		92
7) Butane	4.68	43	62790	1.36	ppb		97
8) 1,3-butadiene	4.69	39	42193	1.48	ppb		82
9) Bromomethane	5.03	94	66997	1.40	ppb		93
10) Chloroethane	5.20	64	24605	1.56	ppb		88
11) Ethanol	5.35	45	15188	1.37	ppb	#	66
12) Acrolein	5.94	56	14959m	1.53	ppb		
13) Vinyl Bromide	5.54	106	68982	1.43	ppb		98
14) Freon 11	5.80	101	235962	1.48	ppb		99
15) Acetone	6.03	58	22358m	1.54	ppb		
16) Pentane	6.07	42	50174	1.45	ppb		88
17) Isopropyl alcohol	6.14	45	68376	1.44	ppb	#	46
18) 1,1-dichloroethene	6.56	96	68884	1.45	ppb	#	89
19) Freon 113	6.75	101	165966	1.44	ppb		97
20) t-Butyl alcohol	6.88	59	113330	1.41	ppb	#	75
21) Methylene chloride	7.04	84	58969m	1.40	ppb		
22) Allyl chloride	7.01	41	49125m	1.38	ppb		
23) Carbon disulfide	7.19	76	165861	1.39	ppb		99
24) trans-1,2-dichloroethene	7.97	61	85565	1.54	ppb		91
25) methyl tert-butyl ether	8.02	73	162235	1.52	ppb		95
26) 1,1-dichloroethane	8.39	63	120712	1.50	ppb		98
27) Vinyl acetate	8.41	43	105982	1.46	ppb		97
28) Methyl Ethyl Ketone	8.92	72	26847	1.58	ppb	#	100
29) cis-1,2-dichloroethene	9.34	61	72635	1.50	ppb		92
30) Hexane	8.90	57	77717	1.57	ppb		97
31) Ethyl acetate	9.52	43	98475	1.52	ppb	#	82
32) Chloroform	9.94	83	161422	1.50	ppb		99
33) Tetrahydrofuran	10.15	42	46658	1.51	ppb		91
34) 1,2-dichloroethane	11.08	62	92764	1.54	ppb		89
36) 1,1,1-trichloroethane	10.75	97	164249	1.42	ppb		98
37) Cyclohexane	11.44	56	70836	1.47	ppb		87
38) Carbon tetrachloride	11.38	117	171139	1.44	ppb		97
39) Benzene	11.37	78	149554	1.46	ppb		99
40) Methyl methacrylate	12.91	41	47301	1.45	ppb	#	83
41) 1,4-dioxane	12.99	88	34749	1.29	ppb		97
42) 2,2,4-trimethylpentane	12.18	57	259886	1.41	ppb		98
43) Heptane	12.53	43	66410	1.50	ppb		89
44) Trichloroethene	12.68	130	73890	1.51	ppb		98
45) 1,2-dichloropropane	12.79	63	53981	1.46	ppb		99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031604.D Vial: 3
Acq On : 16 Mar 2016 7:30 pm Operator: RJP
Sample : A1UG_1.50 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:18:42 2016 Quant Results File: A316_1UG.RES

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

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

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

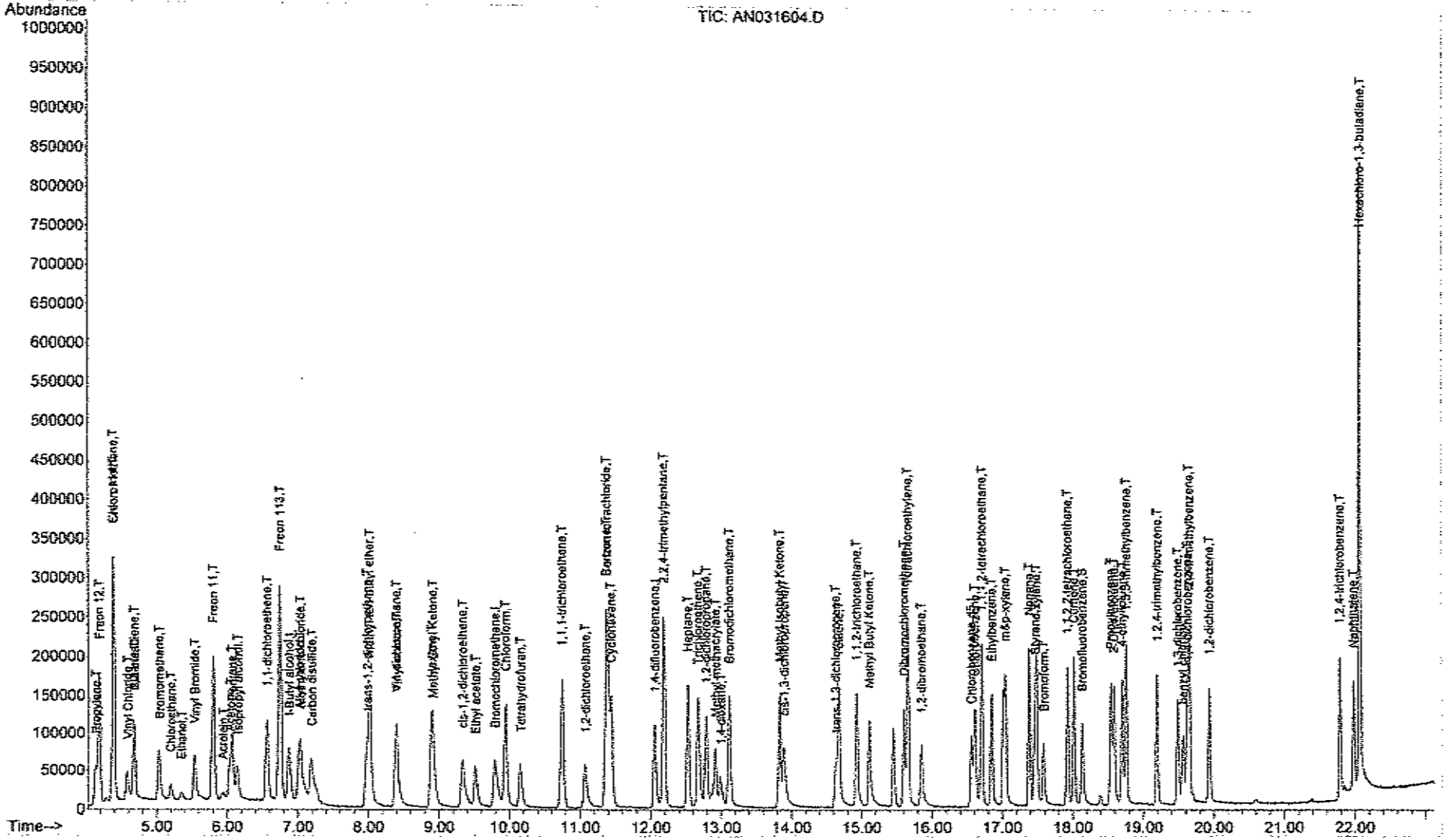
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031604.D
Acq On : 16 Mar 2016 7:30 pm
Sample : A1UG_1.5O
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 9:53 2016

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

Quant Results File: A316_1UG.RES

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031605.D Vial: 4
Acq On : 16 Mar 2016 8:10 pm Operator: RJP
Sample : A1UG_1.25 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:18:24 2016 Quant Results File: A316_1UG.RES

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

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

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031605.D Vial: 4
Acq On : 16 Mar 2016 8:10 pm Operator: RJP
Sample : A1UG_1.25 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:18:24 2016 Quant Results File: A316_1UG.RES

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

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

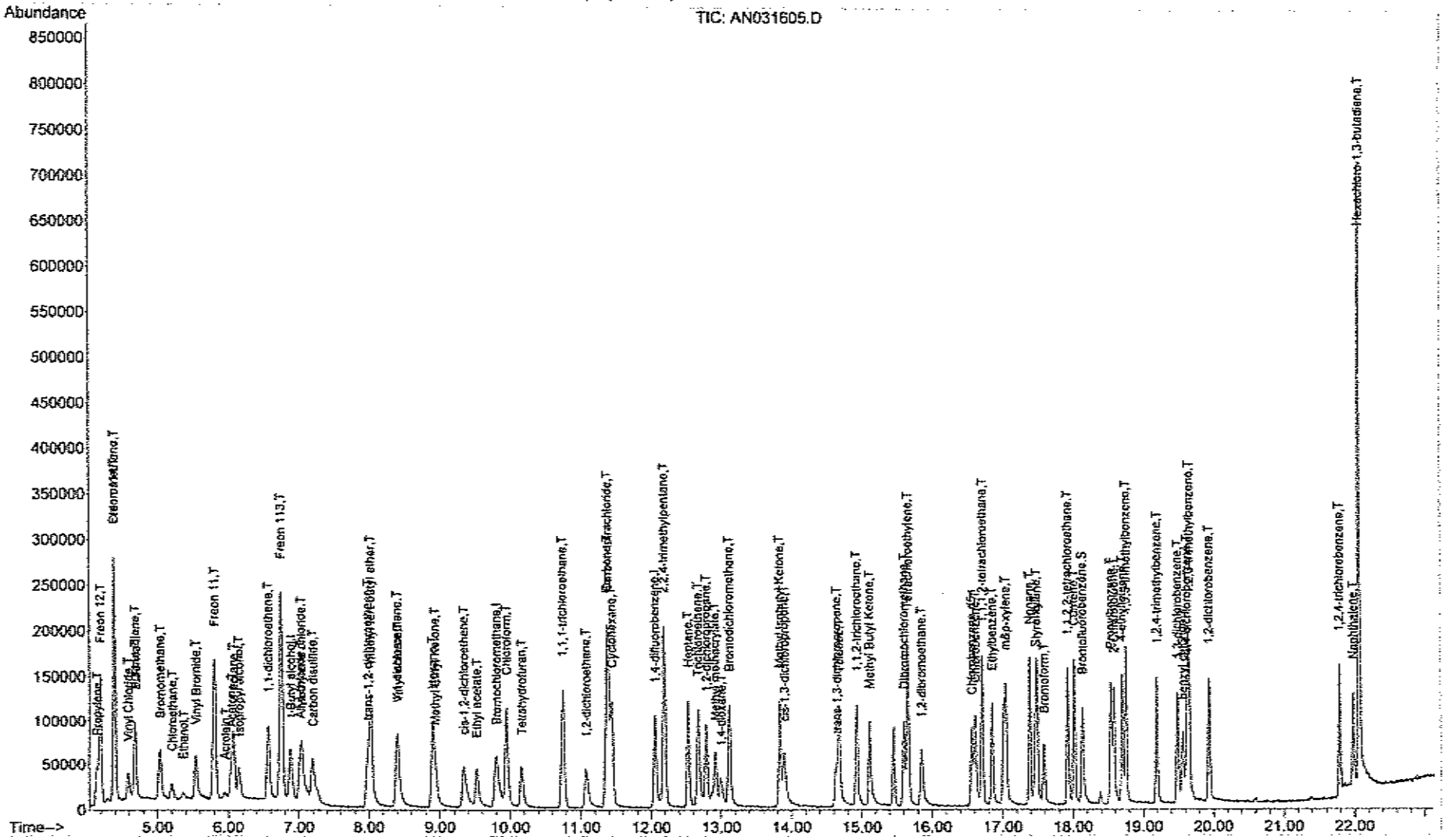
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031605.D A316_1UG.M Thu Apr 07 13:05:37 2016 MSD1 Page 2

Data File : C:\HPCHEM\1\DATA\AN031605.D
Acq On : 16 Mar 2016 8:10 pm
Sample : A1UG_1.25
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 9:55 2016

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

Quant Results File: A316_1UG.RES

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



Quantitation Report (QT Reviewed)

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

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

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.81	128	36682	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.06	114	112843	1.00	ppb		0.00
50) Chlorobenzene-d5	16.56	117	61333	1.00	ppb		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.14	95	39738	1.01	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 101.00%				
Target Compounds							Qvalue
2) Propylene	4.14	41	27277	0.99	ppb	#	100
3) Freon 12	4.19	85	151027	0.99	ppb		99
4) Chloromethane	4.39	50	37602	1.00	ppb		94
5) Freon 114	4.39	85	128823	0.99	ppb		100
6) Vinyl Chloride	4.58	62	36447	0.99	ppb		88
7) Butane	4.68	43	44989	0.99	ppb		96
8) 1,3-butadiene	4.69	39	28499	1.02	ppb		81
9) Bromomethane	5.03	94	46282	0.99	ppb		95
10) Chloroethane	5.21	64	16583	1.07	ppb		100
11) Ethanol	5.36	45	11746	1.08	ppb	#	74
12) Acrolein	5.95	56	9571m	1.00	ppb		
13) Vinyl Bromide	5.54	106	46664	0.99	ppb		96
14) Freon 11	5.80	101	154925	0.99	ppb		98
15) Acetone	6.04	58	14328m	1.01	ppb		
16) Pentane	6.07	42	33653	0.99	ppb		94
17) Isopropyl alcohol	6.15	45	46253	0.99	ppb	#	46
18) 1,1-dichloroethene	6.56	96	46032	0.99	ppb	#	88
19) Freon 113	6.74	101	111420	0.99	ppb		96
20) t-Butyl alcohol	6.88	59	78078	0.99	ppb	#	77
21) Methylene chloride	7.04	84	40970	0.99	ppb		97
22) Allyl chloride	7.02	41	33103m	0.95	ppb		
23) Carbon disulfide	7.20	76	116250	0.99	ppb		96
24) trans-1,2-dichloroethene	7.99	61	54958	1.01	ppb		94
25) methyl tert-butyl ether	8.03	73	103598	0.99	ppb		93
26) 1,1-dichloroethane	8.40	63	77856	0.99	ppb		99
27) Vinyl acetate	8.43	43	61972	0.87	ppb		96
28) Methyl Ethyl Ketone	8.94	72	16500	0.99	ppb	#	100
29) cis-1,2-dichloroethene	9.35	61	46977	0.99	ppb		92
30) Hexane	8.90	57	48164	0.99	ppb		94
31) Ethyl acetate	9.52	43	62899	0.99	ppb		94
32) Chloroform	9.94	83	104226	0.99	ppb		98
33) Tetrahydrofuran	10.15	42	29839	0.99	ppb		89
34) 1,2-dichloroethane	11.09	62	58404	0.99	ppb		89
36) 1,1,1-trichloroethane	10.75	97	104507	1.00	ppb		97
37) Cyclohexane	11.45	56	43452	1.00	ppb		89
38) Carbon tetrachloride	11.39	117	107492	1.00	ppb		98
39) Benzene	11.36	78	91969	1.00	ppb		98
40) Methyl methacrylate	12.91	41	29340	0.99	ppb	#	83
41) 1,4-dioxane	13.00	88	24261	1.00	ppb		100
42) 2,2,4-trimethylpentane	12.18	57	166364	1.00	ppb		99
43) Heptane	12.53	43	39883	1.00	ppb		93
44) Trichloroethene	12.67	130	44026	1.00	ppb		97
45) 1,2-dichloropropane	12.79	63	33334	1.00	ppb		99

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

Quantitation Report (QT Reviewed)

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

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

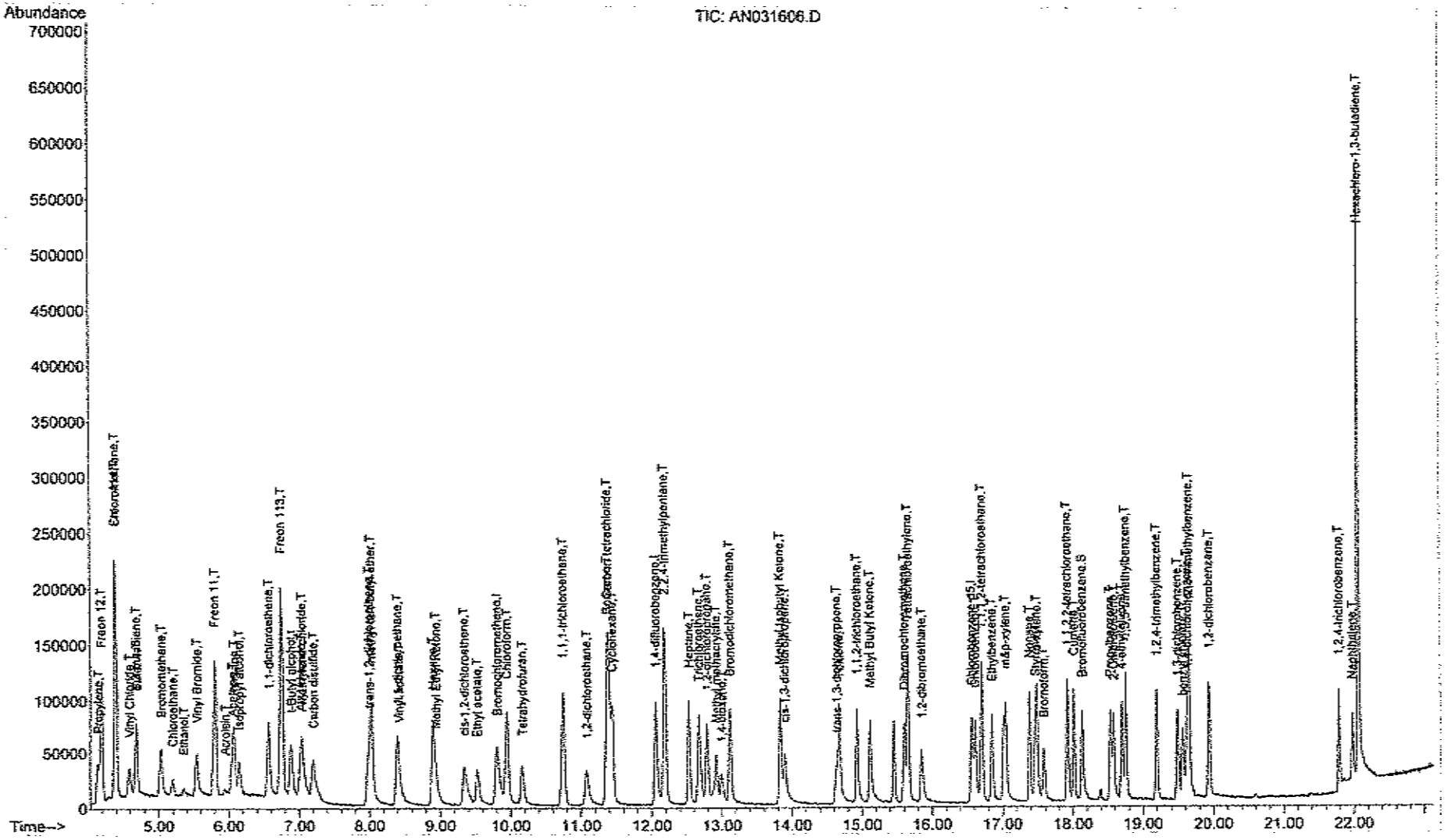
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	Bromodichloromethane	13.12	83	81385	1.00	ppb	99
47)	cis-1,3-dichloropropene	13.90	75	43288	0.99	ppb	98
48)	trans-1,3-dichloropropene	14.63	75	39100	0.99	ppb	92
49)	1,1,2-trichloroethane	14.93	97	35639	1.00	ppb	97
51)	Toluene	14.68	92	43216	1.01	ppb	99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

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

Quantitation Report (QT Reviewed)

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

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031607.D Vial: 6
Acq On : 16 Mar 2016 9:27 pm Operator: RJP
Sample : A1UG_0.75 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:18 2016 Quant Results File: A316_1UG.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.81	128	36429	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.06	114	115405	1.00	ppb		0.00
50) Chlorobenzene-d5	16.56	117	64493	1.00	ppb		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.13	95	39593	0.95	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 95.00%				
Target Compounds							Qvalue
2) Propylene	4.13	41	21494	0.78	ppb	#	100
3) Freon 12	4.19	85	115393	0.76	ppb		100
4) Chloromethane	4.39	50	30086	0.80	ppb		92
5) Freon 114	4.39	85	97880	0.76	ppb		98
6) Vinyl Chloride	4.58	62	27592	0.76	ppb		91
7) Butane	4.68	43	31050	0.69	ppb		96
8) 1,3-butadiene	4.69	39	21193	0.76	ppb		81
9) Bromomethane	5.04	94	33415	0.72	ppb		90
10) Chloroethane	5.21	64	12103	0.79	ppb		100
11) Ethanol	5.36	45	8634	0.80	ppb	#	72
12) Acrolein	5.97	56	7453m	0.78	ppb		
13) Vinyl Bromide	5.55	106	34036	0.73	ppb		96
14) Freon 11	5.81	101	116153	0.75	ppb		98
15) Acetone	6.05	58	10532m	0.75	ppb		
16) Pentane	6.07	42	25618	0.76	ppb		95
17) Isopropyl alcohol	6.16	45	35764	0.77	ppb	#	46
18) 1,1-dichloroethene	6.57	96	33426	0.72	ppb		89
19) Freon 113	6.74	101	83596	0.75	ppb		97
20) t-Butyl alcohol	6.90	59	59423	0.76	ppb	#	75
21) Methylene chloride	7.04	84	30390	0.74	ppb		89
22) Allyl chloride	7.02	41	25889	0.75	ppb		86
23) Carbon disulfide	7.20	76	89515	0.77	ppb		99
24) trans-1,2-dichloroethene	8.00	61	40410	0.75	ppb		91
25) methyl tert-butyl ether	8.03	73	76069	0.73	ppb		93
26) 1,1-dichloroethane	8.39	63	58606	0.75	ppb		100
27) Vinyl acetate	8.43	43	50830m	0.72	ppb		
28) Methyl Ethyl Ketone	8.95	72	11701	0.71	ppb	#	100
29) cis-1,2-dichloroethene	9.34	61	33727	0.72	ppb		91
30) Hexane	8.90	57	34580	0.72	ppb		97
31) Ethyl acetate	9.53	43	45964	0.73	ppb	#	81
32) Chloroform	9.95	83	78527	0.75	ppb		98
33) Tetrahydrofuran	10.17	42	22163	0.74	ppb		92
34) 1,2-dichloroethane	11.09	62	43826	0.75	ppb		90
36) 1,1,1-trichloroethane	10.75	97	77993	0.73	ppb		98
37) Cyclohexane	11.44	56	32831	0.74	ppb		90
38) Carbon tetrachloride	11.39	117	80127	0.73	ppb		97
39) Benzene	11.37	78	69790	0.74	ppb		98
40) Methyl methacrylate	12.92	41	24037m	0.80	ppb		
41) 1,4-dioxane	13.00	88	18280	0.74	ppb		99
42) 2,2,4-trimethylpentane	12.18	57	121655	0.71	ppb		99
43) Heptane	12.53	43	28219	0.69	ppb		91
44) Trichloroethene	12.68	130	34027	0.75	ppb		99
45) 1,2-dichloropropane	12.79	63	25201	0.74	ppb		98

(#) = qualifier out of range (m) = manual integration
AN031607.D A316_1UG.M Thu Apr 07 13:05:44 2016 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031607.D Vial: 6
Acq On : 16 Mar 2016 9:27 pm Operator: RJP
Sample : A1UG_0.75 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:18 2016 Quant Results File: A316_1UG.RES

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

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

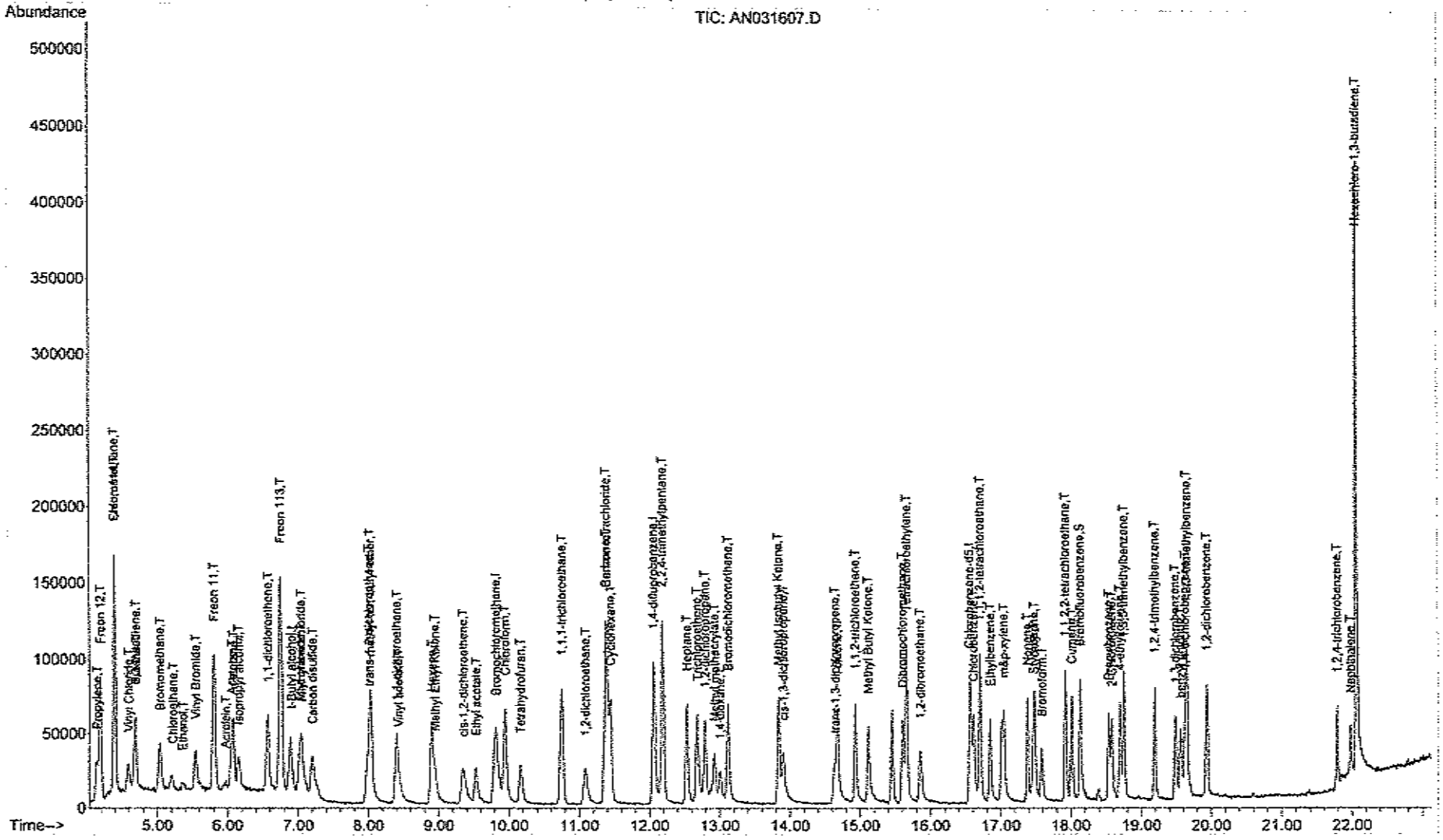
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031607.D A316_1UG.M Thu Apr 07 13:05:45 2016 MSD1 Page 2

Data File : C:\HPCHEM\1\DATA\AN031607.D
Acq On : 16 Mar 2016 9:27 pm
Sample : A1UG_0.75
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:14 2016

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

Quant Results File: A316_1UG.RES

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031608.D Vial: 7
Acq On : 16 Mar 2016 10:05 pm Operator: RJP
Sample : A1UG_0.50 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:39 2016 Quant Results File: A316_1UG.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.82	128	36080	1.00	ppb		0.01
35) 1,4-difluorobenzene	12.06	114	113070	1.00	ppb		0.00
50) Chlorobenzene-d5	16.56	117	67747	1.00	ppb		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.14	95	40075	0.92	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 92.00%				
Target Compounds							Qvalue
2) Propylene	4.14	41	14424	0.53	ppb	#	100
3) Freon 12	4.19	85	76085	0.51	ppb		100
4) Chloromethane	4.39	50	19879	0.53	ppb		98
5) Freon 114	4.39	85	64906	0.51	ppb		98
6) Vinyl Chloride	4.59	62	18499	0.51	ppb		92
7) Butane	4.68	43	21962	0.49	ppb		94
8) 1,3-butadiene	4.69	39	13445	0.49	ppb		69
9) Bromomethane	5.04	94	26274	0.57	ppb		97
10) Chloroethane	5.20	64	8256	0.54	ppb	#	86
11) Ethanol	5.37	45	6117	0.57	ppb		98
12) Acrolein	5.97	56	4983m	0.53	ppb		
13) Vinyl Bromide	5.55	106	22539	0.49	ppb		93
14) Freon 11	5.81	101	78802	0.51	ppb		98
15) Acetone	6.06	58	8424	0.60	ppb	#	75
16) Pentane	6.08	42	17198	0.52	ppb		97
17) Isopropyl alcohol	6.16	45	25607	0.56	ppb	#	46
18) 1,1-dichloroethene	6.56	96	22928	0.50	ppb		89
19) Freon 113	6.75	101	55038	0.50	ppb		95
20) t-Butyl alcohol	6.90	59	42395	0.55	ppb	#	73
21) Methylene chloride	7.05	84	20786	0.51	ppb		96
22) Allyl chloride	7.02	41	17969m	0.52	ppb		
23) Carbon disulfide	7.21	76	57993	0.50	ppb		97
24) trans-1,2-dichloroethene	8.02	61	26856	0.50	ppb		89
25) methyl tert-butyl ether	8.03	73	49652	0.48	ppb		91
26) 1,1-dichloroethane	8.41	63	38652	0.50	ppb		100
27) Vinyl acetate	8.44	43	29273	0.42	ppb		94
28) Methyl Ethyl Ketone	8.96	72	7938	0.48	ppb	#	100
29) cis-1,2-dichloroethene	9.36	61	22605	0.48	ppb		95
30) Hexane	8.91	57	22491	0.47	ppb		97
31) Ethyl acetate	9.54	43	30351	0.48	ppb		86
32) Chloroform	9.95	83	52618	0.51	ppb		100
33) Tetrahydrofuran	10.18	42	14113	0.47	ppb		93
34) 1,2-dichloroethane	11.10	62	29673	0.51	ppb		89
36) 1,1,1-trichloroethane	10.75	97	53522	0.51	ppb		99
37) Cyclohexane	11.44	56	21201	0.49	ppb		90
38) Carbon tetrachloride	11.39	117	54492	0.51	ppb		98
39) Benzene	11.37	78	46262	0.50	ppb		100
40) Methyl methacrylate	12.92	41	13663	0.46	ppb	#	73
41) 1,4-dioxane	13.01	88	13214	0.54	ppb		98
42) 2,2,4-trimethylpentane	12.18	57	78609	0.47	ppb		98
43) Heptane	12.53	43	17641	0.44	ppb		89
44) Trichloroethene	12.67	130	22183	0.50	ppb		99
45) 1,2-dichloropropane	12.79	63	17338	0.52	ppb		96

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031608.D Vial: 7
Acq On : 16 Mar 2016 10:05 pm Operator: RJP
Sample : A1UG_0.50 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:39 2016 Quant Results File: A316_1UG.RES

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

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

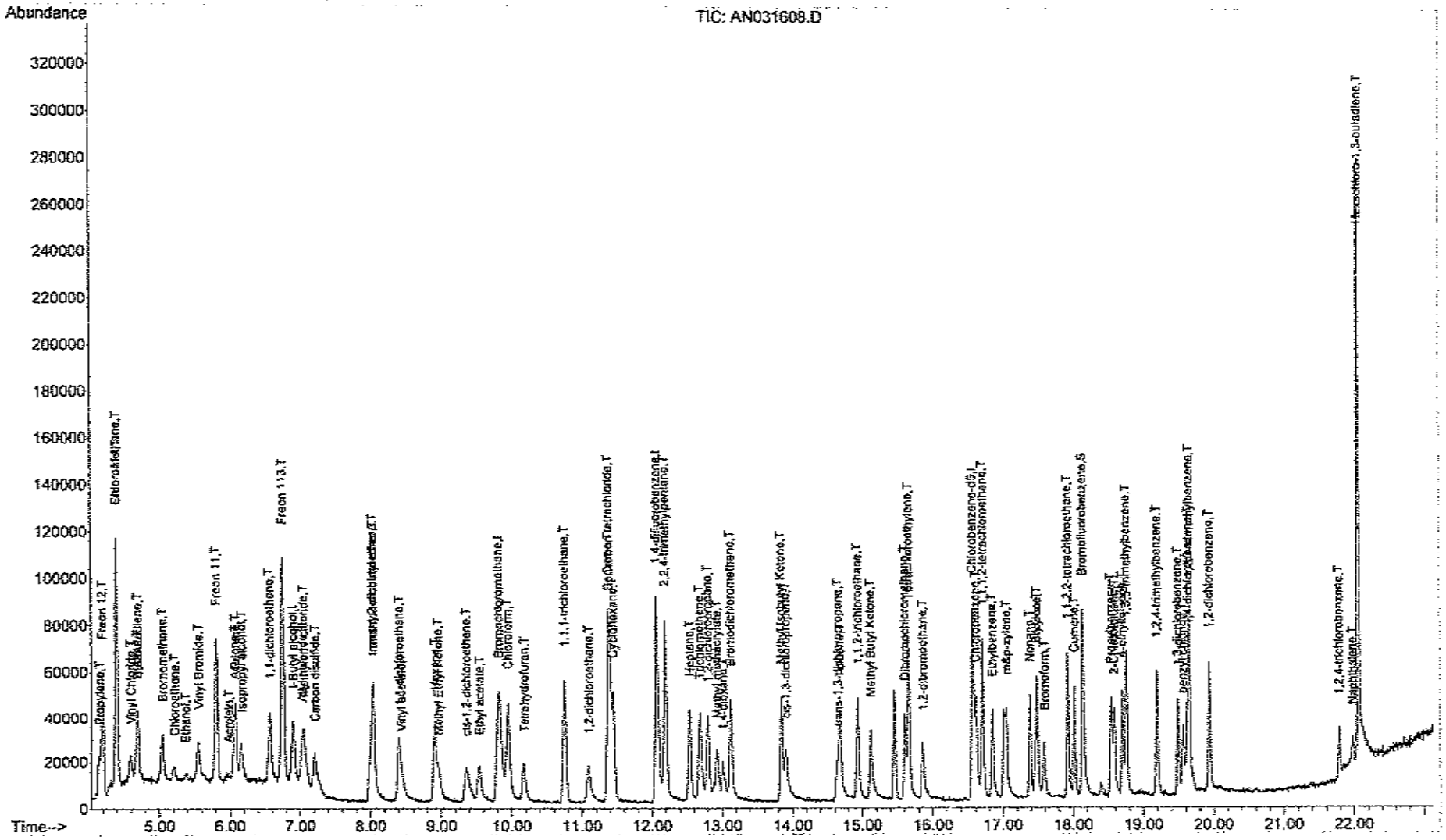
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data File : C:\HPCHEM\1\DATA\AN031608.D
Acq On : 16 Mar 2016 10:05 pm
Sample : A1UG_0.50
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:15 2016

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

Quant Results File: A316_1UG.RES

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031609.D Vial: 8
Acq On : 16 Mar 2016 10:42 pm Operator: RJP
Sample : A1UG_0.30 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:57 2016 Quant Results File: A316_1UG.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.83	128	34240	1.00	ppb		0.02
35) 1,4-difluorobenzene	12.07	114	107427	1.00	ppb		0.01
50) Chlorobenzene-d5	16.57	117	63070	1.00	ppb		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.14	95	37922	0.93	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 93.00%				
Target Compounds							Qvalue
2) Propylene	4.14	41	9410	0.37	ppb	#	100
3) Freon 12	4.19	85	48050	0.34	ppb		99
4) Chloromethane	4.40	50	12982	0.37	ppb		94
5) Freon 114	4.39	85	40390	0.33	ppb		98
6) Vinyl Chloride	4.59	62	12065	0.35	ppb		84
7) Butane	4.69	43	15019	0.35	ppb		90
8) 1,3-butadiene	4.69	39	12946	0.49	ppb		87
9) Bromomethane	5.04	94	14575	0.33	ppb		90
10) Chloroethane	5.21	64	5112	0.35	ppb		96
11) Ethanol	5.39	45	4660	0.46	ppb		96
12) Acrolein	5.98	56	3558m	0.40	ppb		
13) Vinyl Bromide	5.55	106	14483	0.33	ppb		94
14) Freon 11	5.80	101	48893	0.33	ppb		98
15) Acetone	6.05	58	4586m	0.35	ppb		
16) Pentane	6.08	42	11517	0.36	ppb		97
17) Isopropyl alcohol	6.16	45	17857	0.41	ppb	#	46
18) 1,1-dichloroethene	6.56	96	14624	0.34	ppb	#	86
19) Freon 113	6.76	101	34250	0.33	ppb		99
20) t-Butyl alcohol	6.91	59	27113	0.37	ppb	#	72
21) Methylene chloride	7.07	84	12304	0.32	ppb		86
22) Allyl chloride	7.03	41	10973m	0.34	ppb		
23) Carbon disulfide	7.21	76	36706	0.34	ppb		97
24) trans-1,2-dichloroethene	8.01	61	16238	0.32	ppb		89
25) methyl tert-butyl ether	8.03	73	31713	0.32	ppb		93
26) 1,1-dichloroethane	8.40	63	22970	0.31	ppb		94
27) Vinyl acetate	8.44	43	20303m	0.31	ppb		
28) Methyl Ethyl Ketone	8.97	72	4817	0.31	ppb	#	100
29) cis-1,2-dichloroethene	9.38	61	13539	0.31	ppb		91
30) Hexane	8.90	57	13020	0.29	ppb		96
31) Ethyl acetate	9.54	43	20202	0.34	ppb		89
32) Chloroform	9.95	83	31612	0.32	ppb		98
33) Tetrahydrofuran	10.18	42	8932	0.32	ppb		93
34) 1,2-dichloroethane	11.10	62	18425	0.33	ppb		87
36) 1,1,1-trichloroethane	10.75	97	32638	0.33	ppb		98
37) Cyclohexane	11.44	56	12156	0.29	ppb		89
38) Carbon tetrachloride	11.39	117	33109	0.32	ppb		98
39) Benzene	11.37	78	27379	0.31	ppb		96
40) Methyl methacrylate	12.93	41	8689	0.31	ppb	#	84
41) 1,4-dioxane	13.03	88	7797	0.34	ppb		95
42) 2,2,4-trimethylpentane	12.19	57	47254	0.30	ppb		99
43) Heptane	12.54	43	10173	0.27	ppb		92
44) Trichloroethene	12.69	130	12806	0.31	ppb		97
45) 1,2-dichloropropane	12.79	63	10394	0.33	ppb		95

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031609.D Vial: 8
Acq On : 16 Mar 2016 10:42 pm Operator: RJP
Sample : A1UG_0.30 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:19:57 2016 Quant Results File: A316_1UG.RES

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

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

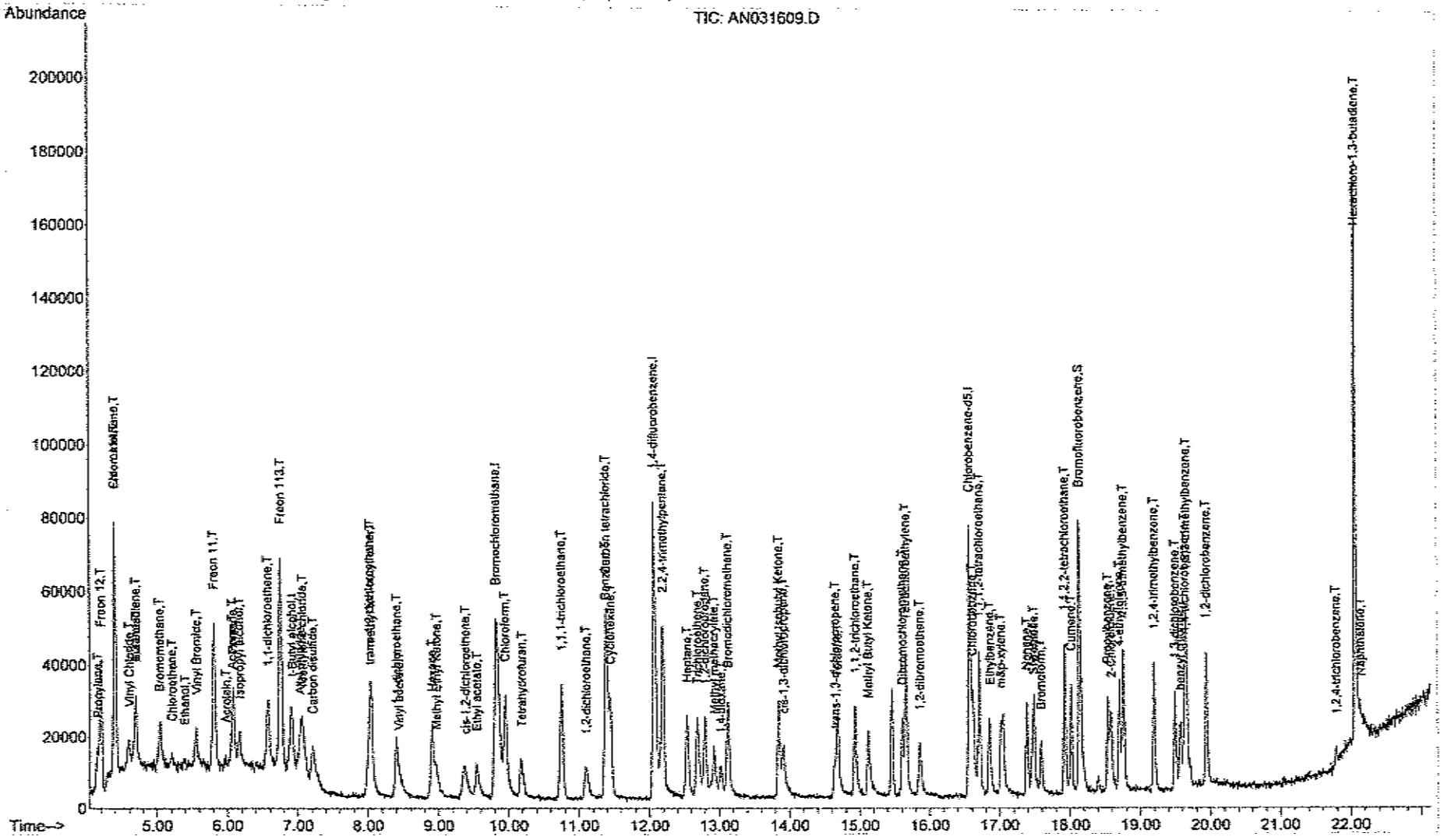
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

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

Quant Results File: A316_1UG.RES

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031610.D Vial: 9
Acq On : 16 Mar 2016 11:18 pm Operator: RJP
Sample : A1UG_0.15 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:20:22 2016 Quant Results File: A316_1UG.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.83	128	33400	1.00	ppb		0.02
35) 1,4-difluorobenzene	12.07	114	103197	1.00	ppb		0.01
50) Chlorobenzene-d5	16.57	117	62434	1.00	ppb		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.14	95	36945	0.92	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 92.00%				
Target Compounds							Qvalue
2) Propylene	4.15	41	5667	0.23	ppb	#	100
3) Freon 12	4.19	85	25710	0.18	ppb		100
4) Chloromethane	4.40	50	7532	0.22	ppb		94
5) Freon 114	4.39	85	21243	0.18	ppb		98
6) Vinyl Chloride	4.59	62	6499	0.19	ppb		85
7) Butane	4.68	43	9555	0.23	ppb	#	84
8) 1,3-butadiene	4.70	39	4728m	0.19	ppb		
9) Bromomethane	5.04	94	8678	0.20	ppb		99
10) Chloroethane	5.22	64	2747	0.19	ppb	#	73
11) Ethanol	5.40	45	2336m	0.24	ppb		
12) Acrolein	5.97	56	1928m	0.22	ppb		
13) Vinyl Bromide	5.55	106	8288	0.19	ppb		97
14) Freon 11	5.81	101	26836	0.19	ppb		100
15) Acetone	6.06	58	2908m	0.22	ppb		
16) Pentane	6.08	42	7007	0.23	ppb	#	74
17) Isopropyl alcohol	6.18	45	9697m	0.23	ppb		
18) 1,1-dichloroethene	6.56	96	7737	0.18	ppb	#	87
19) Freon 113	6.75	101	18520	0.18	ppb		96
20) t-Butyl alcohol	6.91	59	14003	0.19	ppb	#	72
21) Methylene chloride	7.06	84	6447	0.17	ppb		84
22) Allyl chloride	7.06	41	6867m	0.22	ppb		
23) Carbon disulfide	7.21	76	21871	0.20	ppb		100
24) trans-1,2-dichloroethene	8.02	61	8942	0.18	ppb		92
25) methyl tert-butyl ether	8.04	73	16217	0.17	ppb		90
26) 1,1-dichloroethane	8.40	63	12529	0.17	ppb		97
27) Vinyl acetate	8.46	43	11579m	0.18	ppb		
28) Methyl Ethyl Ketone	8.98	72	2686	0.18	ppb	#	100
29) cis-1,2-dichloroethene	9.38	61	6078	0.14	ppb		76
30) Hexane	8.91	57	6897	0.16	ppb		97
31) Ethyl acetate	9.55	43	10831	0.19	ppb		92
32) Chloroform	9.95	83	17226	0.18	ppb		96
33) Tetrahydrofuran	10.20	42	4934	0.18	ppb		98
34) 1,2-dichloroethane	11.10	62	9147	0.17	ppb		87
36) 1,1,1-trichloroethane	10.75	97	16611	0.17	ppb		99
37) Cyclohexane	11.45	56	6376	0.16	ppb		88
38) Carbon tetrachloride	11.39	117	16991	0.17	ppb		97
39) Benzene	11.37	78	14982	0.18	ppb		98
40) Methyl methacrylate	12.94	41	5374	0.20	ppb		97
41) 1,4-dioxane	13.03	88	3369	0.15	ppb		91
42) 2,2,4-trimethylpentane	12.19	57	24737	0.16	ppb		98
43) Heptane	12.54	43	5155	0.14	ppb		94
44) Trichloroethene	12.70	130	6486	0.16	ppb		94
45) 1,2-dichloropropane	12.80	63	5119	0.17	ppb		95

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031610.D Vial: 9
Acq On : 16 Mar 2016 11:18 pm Operator: RJP
Sample : A1UG_0.15 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:20:22 2016 Quant Results File: A316_1UG.RES

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

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

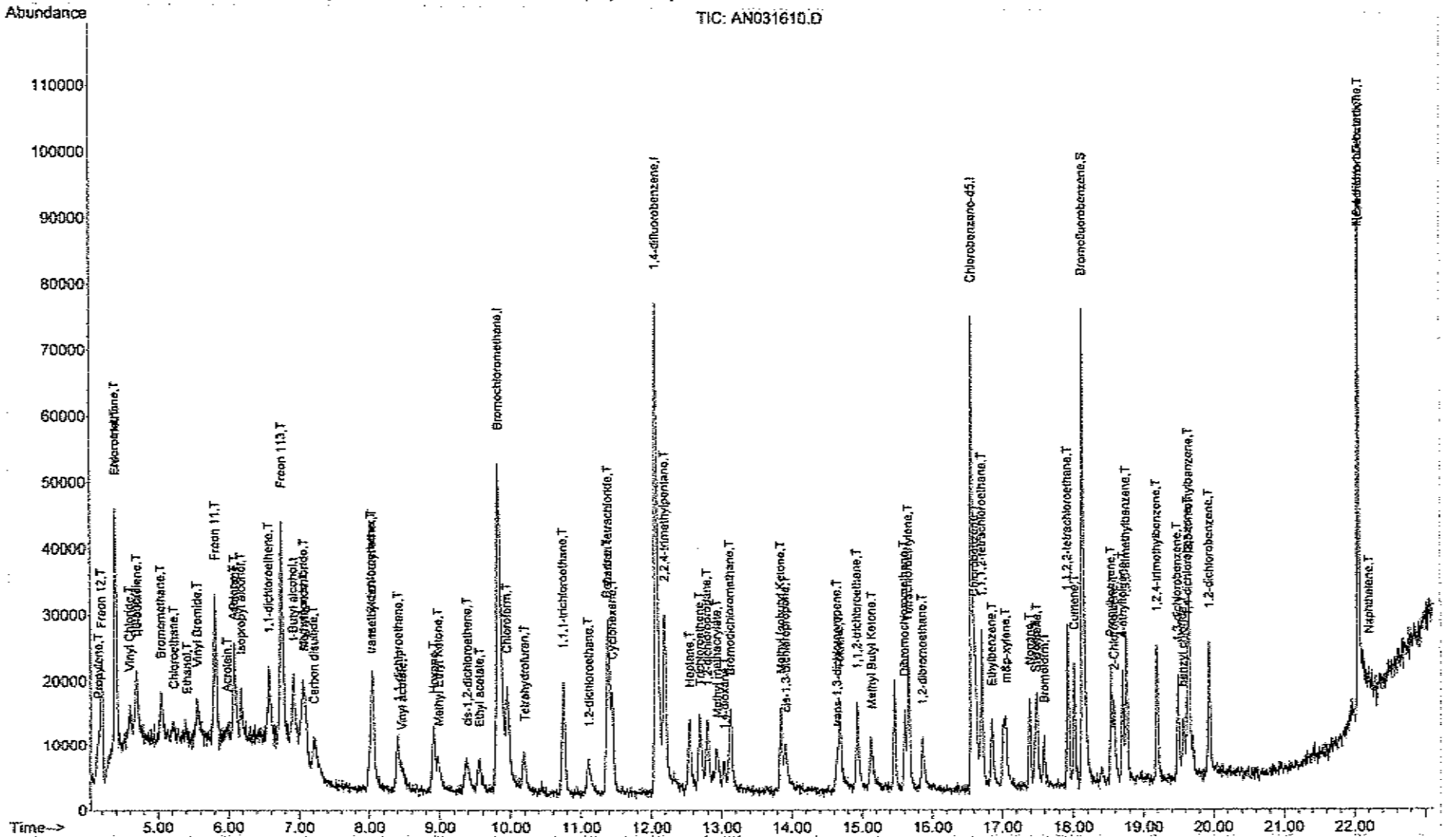
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data File : C:\HPCHEM\1\DATA\AN031610.D
Acq On : 16 Mar 2016 11:18 pm
Sample : A1UG_0.15
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:18 2016

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

Quant Results File: A316_1UG.RES

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031611.D Vial: 10
Acq On : 16 Mar 2016 11:55 pm Operator: RJP
Sample : A1UG_0.10 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 17 08:20:37 2016 Quant Results File: A316_1UG.RES

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

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

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031611.D A316_1UG.M Thu Apr 07 13:06:00 2016 MSD1 Page 1

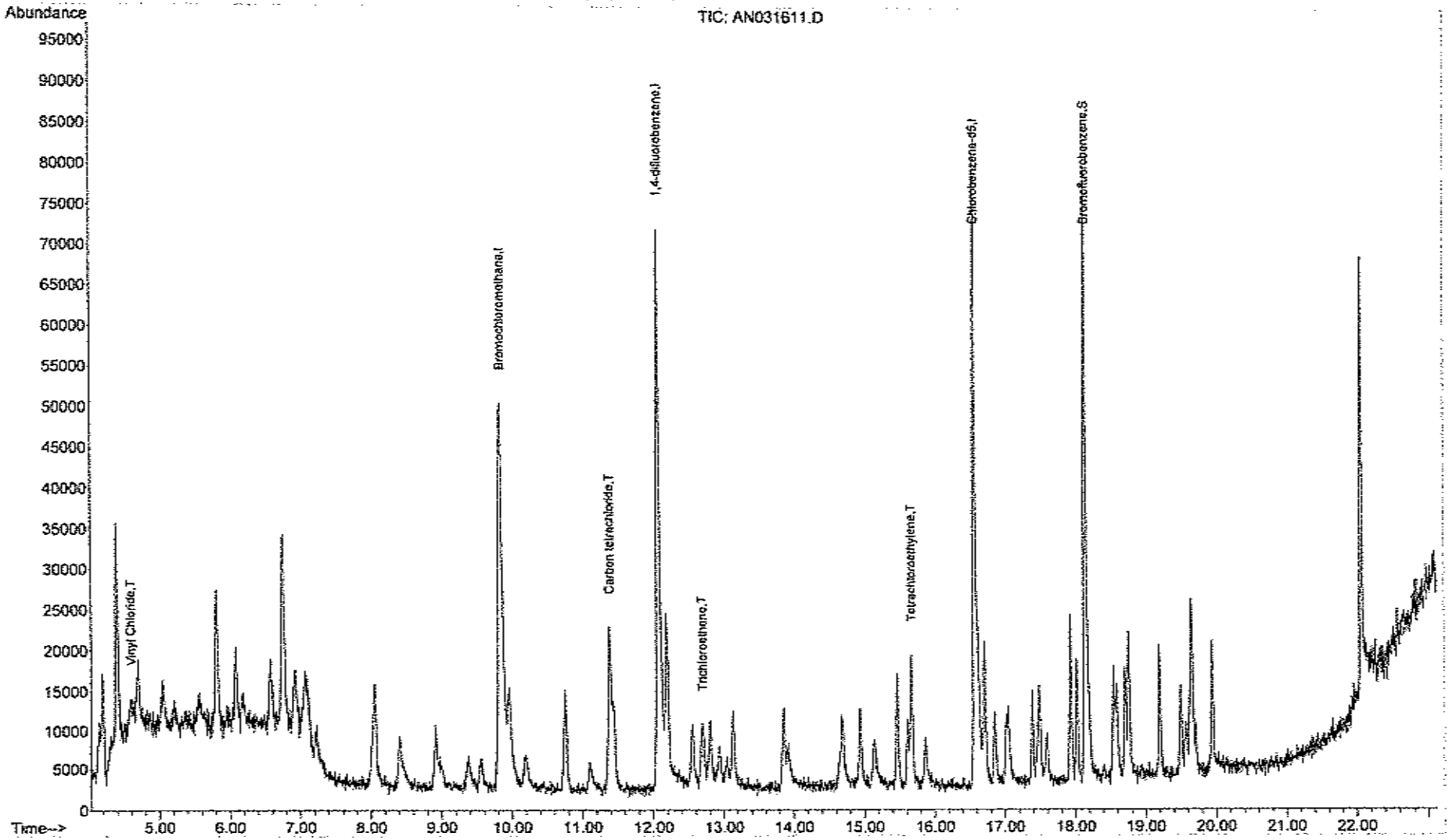
Quantitation Report (QT Reviewed)

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

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

Quant Results File: A316_1UG.RES

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



Quantitation Report (QT Reviewed)

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

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

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

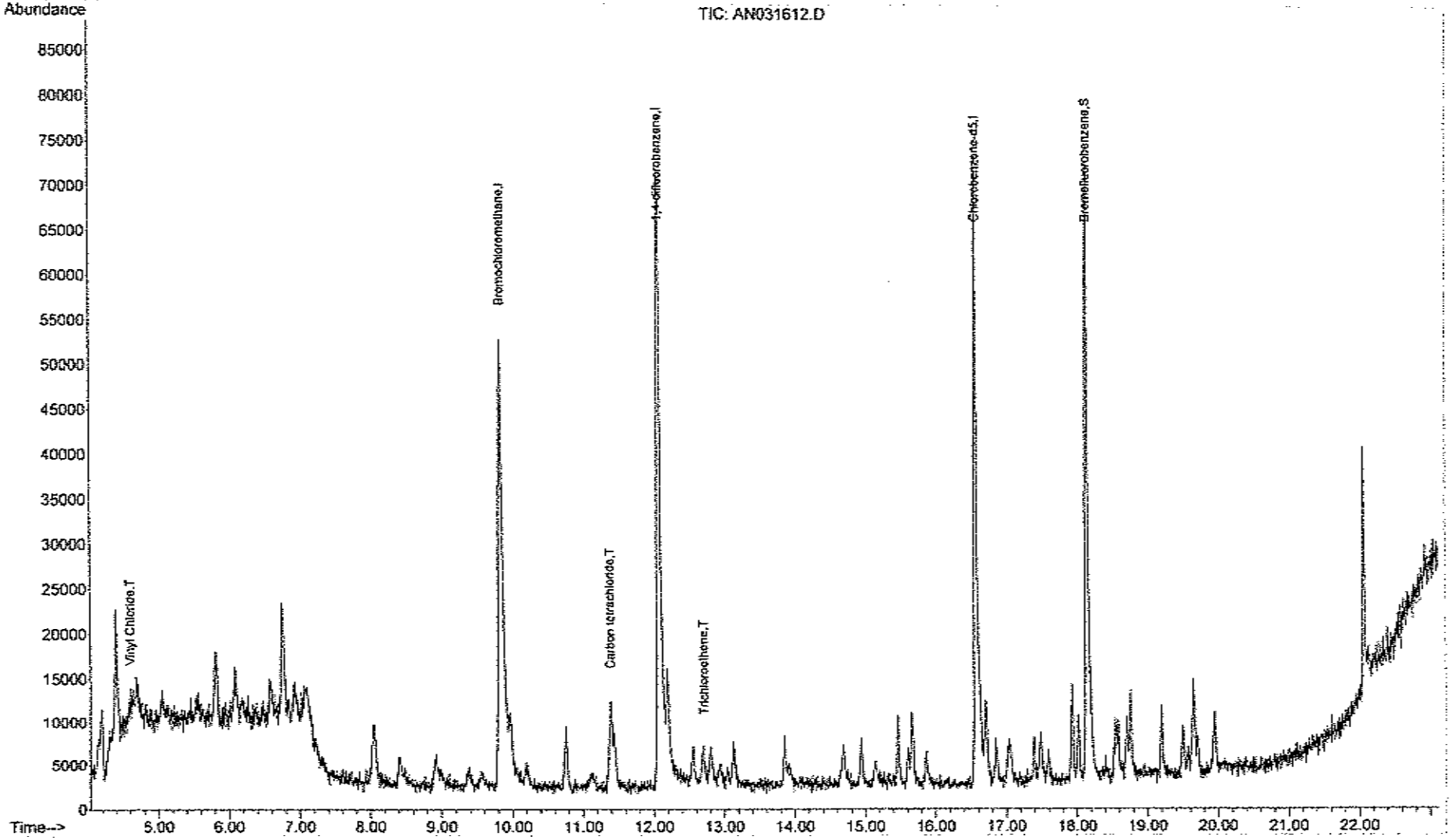
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031612.D A316_1UG.M Thu Apr 07 13:06:03 2016 MSD1 Page 1

Data File : C:\HPCHEM\1\DATA\AN031612.D
Acq On : 17 Mar 2016 12:31 am
Sample : A1UG_0.04
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:21 2016

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

Quant Results File: A316_1UG.RES

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



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN040302.D Vial: 2
Acq On : 3 Apr 2016 11:40 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 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	44#	0.00
2	T	Propylene	0.810	0.968	-19.5	58	0.00
3	T	Freon 12	4.271	5.170	-21.0	56	0.00
4	T	Chloromethane	1.118	1.427	-27.6	62	0.00
5	T	Freon 114	3.598	4.599	-27.8	58	0.00
6	T	Vinyl Chloride	1.125	1.330	-18.2	59	0.00
7	T	Butane	1.285	1.573	-22.4	57	0.00
8	T	1,3-butadiene	0.847	1.004	-18.5	57	0.00
9	T	Bromomethane	1.320	1.584	-20.0	56	0.00
10	T	Chloroethane	0.459	0.566	-23.3	55	0.00
11	T	Ethanol	0.341	0.437	-28.2	60	0.00
12	T	Acrolein	0.290	0.337	-16.2	57	0.00
13	T	Vinyl Bromide	1.298	1.596	-23.0	56	0.00
14	T	Freon 11	4.393	5.633	-28.2	59	0.00
15	T	Acetone	0.432	0.471	-9.0	53	0.00
16	T	Pentane	0.986	1.109	-12.5	54	0.00
17	T	Isopropyl alcohol	1.409	1.481	-5.1	52	0.00
18	T	1,1-dichloroethene	1.283	1.543	-20.3	54	0.00
19	T	Freon 113	3.094	3.990	-29.0	58	0.00
20	t	t-Butyl alcohol	2.248	2.140	4.8	45#	0.00
21	T	Methylene chloride	1.124	1.369	-21.8	54	0.00
22	T	Allyl chloride	0.998	1.139	-14.1	56	0.00
23	T	Carbon disulfide	3.316	3.647	-10.0	51	0.00
24	T	trans-1,2-dichloroethene	1.522	1.695	-11.4	50	0.00
25	T	methyl tert-butyl ether	2.881	2.972	-3.2	47#	0.00
26	T	1,1-dichloroethane	2.155	2.397	-11.2	50	0.00
27	T	Vinyl acetate	1.869	1.795	4.0	47#	0.00
28	T	Methyl Ethyl Ketone	0.461	0.460	0.2	45#	0.00
29	T	cis-1,2-dichloroethene	1.250	1.355	-8.4	47#	0.00
30	T	Hexane	1.308	1.297	0.8	44#	0.00
31	T	Ethyl acetate	1.784	1.918	-7.5	50#	0.00
32	T	Chloroform	2.918	3.115	-6.8	49#	0.00
33	T	Tetrahydrofuran	0.828	0.844	-1.9	46#	0.00
34	T	1,2-dichloroethane	1.641	1.689	-2.9	47#	0.00
35	I	1,4-difluorobenzene	1.000	1.000	0.0	33#	0.00
36	T	1,1,1-trichloroethane	0.939	1.154	-22.9	41#	0.00
37	T	Cyclohexane	0.387	0.475	-22.7	41#	0.00
38	T	Carbon tetrachloride	1.048	1.341	-28.0	47#	0.00
39	T	Benzene	0.832	1.067	-28.2	43#	0.00
40	T	Methyl methacrylate	0.271	0.338	-24.7	43#	0.00
41	T	1,4-dioxane	0.213	0.188	11.7	29#	0.00
42	T	2,2,4-trimethylpentane	1.453	1.992	-37.1#	45#	0.00
43	T	Heptane	0.338	0.400	-18.3	37#	0.00
44	T	Trichloroethene	0.425	0.508	-19.5	43#	0.00
45	T	1,2-dichloropropane	0.300	0.388	-29.3	43#	0.00
46	T	Bromodichloromethane	0.734	0.917	-24.9	42#	0.00
47	T	cis-1,3-dichloropropene	0.400	0.493	-23.2	42#	0.00
48	T	trans-1,3-dichloropropene	0.359	0.426	-18.7	41#	0.00
49	T	1,1,2-trichloroethane	0.329	0.415	-26.1	43#	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN040302.D Vial: 2
Acq On : 3 Apr 2016 11:40 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	T	Toluene	0.679	0.573	15.6	36#	0.00
52	T	Methyl Isobutyl Ketone	1.201	0.930	22.6	32#	0.00
53	T	Dibromochloromethane	0.857	0.926	-8.1	48#	0.00
54	T	Methyl Butyl Ketone	1.068	0.843	21.1	32#	0.00
55	T	1,2-dibromoethane	0.845	1.040	-23.1	55	0.00
56	T	Tetrachloroethylene	0.648	0.546	15.7	40#	0.00
57	T	Chlorobenzene	0.891	0.981	-10.1	49#	0.00
58	T	1,1,1,2-tetrachloroethane	0.666	0.780	-17.1	49#	0.00
59	T	Ethylbenzene	1.165	1.117	4.1	42#	0.00
60	T	m&p-xylene	0.925	0.895	3.2	42#	0.00
61	T	Nonane	0.552	0.588	-6.5	48#	0.00
62	T	Styrene	0.644	0.697	-8.2	47#	0.00
63	T	Bromoform	0.463	0.955	-106.3#	93	0.00
64	T	o-xylene	1.109	1.101	0.7	45#	0.00
65	T	Cumene	1.299	1.321	-1.7	48#	0.00
66	S	Bromofluorobenzene	0.643	0.698	-8.6	48#	0.00
67	T	1,1,2,2-tetrachloroethane	1.140	1.349	-18.3	55	0.00
68	T	Propylbenzene	1.379	1.430	-3.7	53	0.00
69	T	2-Chlorotoluene	1.004	1.049	-4.5	48#	0.00
70	T	4-ethyltoluene	1.183	1.061	10.3	44#	0.00
71	T	1,3,5-trimethylbenzene	1.416	1.437	-1.5	48#	0.00
72	T	1,2,4-trimethylbenzene	1.224	1.082	11.6	42#	0.00
73	T	1,3-dichlorobenzene	0.778	0.874	-12.3	50	0.00
74	T	benzyl chloride	1.110	0.994	10.5	36#	0.00
75	T	1,4-dichlorobenzene	0.733	0.768	-4.8	47#	0.00
76	T	1,2,3-trimethylbenzene	1.510	1.368	9.4	41#	0.00
77	T	1,2-dichlorobenzene	0.954	0.972	-1.9	47#	0.00
78	T	1,2,4-trichlorobenzene	0.720	0.521	27.6	34#	0.00
79	T	Naphthalene	1.494	0.978	34.5#	33#	0.00
80	T	Hexachloro-1,3-butadiene	1.754	1.463	16.6	34#	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040302.D Vial: 2
Acq On : 3 Apr 2016 11:40 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 12:09:43 2016 Quant Results File: A316_1UG.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.81	128	16244m	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.07	114	37337	1.00	ppb		0.00
50) Chlorobenzene-d5	16.56	117	27087	1.00	ppb		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.14	95	18915	1.09	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 109.00%				
Target Compounds							Qvalue
2) Propylene	4.15	41	15725	1.19	ppb	#	100
3) Freon 12	4.19	85	83980	1.21	ppb		99
4) Chloromethane	4.40	50	23175	1.28	ppb		94
5) Freon 114	4.39	85	74713m	1.28	ppb		
6) Vinyl Chloride	4.59	62	21611	1.18	ppb		89
7) Butane	4.69	43	25548	1.22	ppb		98
8) 1,3-butadiene	4.69	39	16302	1.19	ppb		78
9) Bromomethane	5.04	94	25723	1.20	ppb		87
10) Chloroethane	5.21	64	9200m	1.24	ppb		
11) Ethanol	5.37	45	7093	1.28	ppb	#	76
12) Acrolein	5.97	56	5473m	1.16	ppb		
13) Vinyl Bromide	5.55	106	25926	1.23	ppb		94
14) Freon 11	5.81	101	91509	1.28	ppb		98
15) Acetone	6.05	58	7651m	1.09	ppb		
16) Pentane	6.08	42	18009	1.12	ppb		96
17) Isopropyl alcohol	6.16	45	24060	1.05	ppb	#	46
18) 1,1-dichloroethene	6.57	96	25060	1.20	ppb		89
19) Freon 113	6.75	101	64810m	1.29	ppb		
20) t-Butyl alcohol	6.90	59	34760	0.95	ppb	#	71
21) Methylene chloride	7.05	84	22240	1.22	ppb	#	86
22) Allyl chloride	7.03	41	18501	1.14	ppb		89
23) Carbon disulfide	7.21	76	59239	1.10	ppb		99
24) trans-1,2-dichloroethene	8.01	61	27535	1.11	ppb		96
25) methyl tert-butyl ether	8.03	73	48278	1.03	ppb		84
26) 1,1-dichloroethane	8.40	63	38941	1.11	ppb		98
27) Vinyl acetate	8.43	43	29153	0.96	ppb		100
28) Methyl Ethyl Ketone	8.95	72	7475	1.00	ppb	#	100
29) cis-1,2-dichloroethene	9.34	61	22008	1.08	ppb		95
30) Hexane	8.90	57	21064	0.99	ppb		96
31) Ethyl acetate	9.54	43	31157	1.07	ppb		96
32) Chloroform	9.95	83	50608	1.07	ppb		100
33) Tetrahydrofuran	10.17	42	13704	1.02	ppb		95
34) 1,2-dichloroethane	11.09	62	27444	1.03	ppb		88
36) 1,1,1-trichloroethane	10.75	97	43093m	1.23	ppb		
37) Cyclohexane	11.45	56	17743m	1.23	ppb		
38) Carbon tetrachloride	11.39	117	50076m	1.28	ppb		
39) Benzene	11.37	78	39826	1.28	ppb		97
40) Methyl methacrylate	12.93	41	12625	1.25	ppb		91
41) 1,4-dioxane	13.02	88	7033	0.89	ppb		92
42) 2,2,4-trimethylpentane	12.19	57	74377m	1.37	ppb		
43) Heptane	12.54	43	14924	1.18	ppb		95
44) Trichloroethene	12.68	130	18963	1.20	ppb		97
45) 1,2-dichloropropane	12.79	63	14497	1.29	ppb		98

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040302.D Vial: 2
Acq On : 3 Apr 2016 11:40 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 12:09:43 2016 Quant Results File: A316_1UG.RES

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

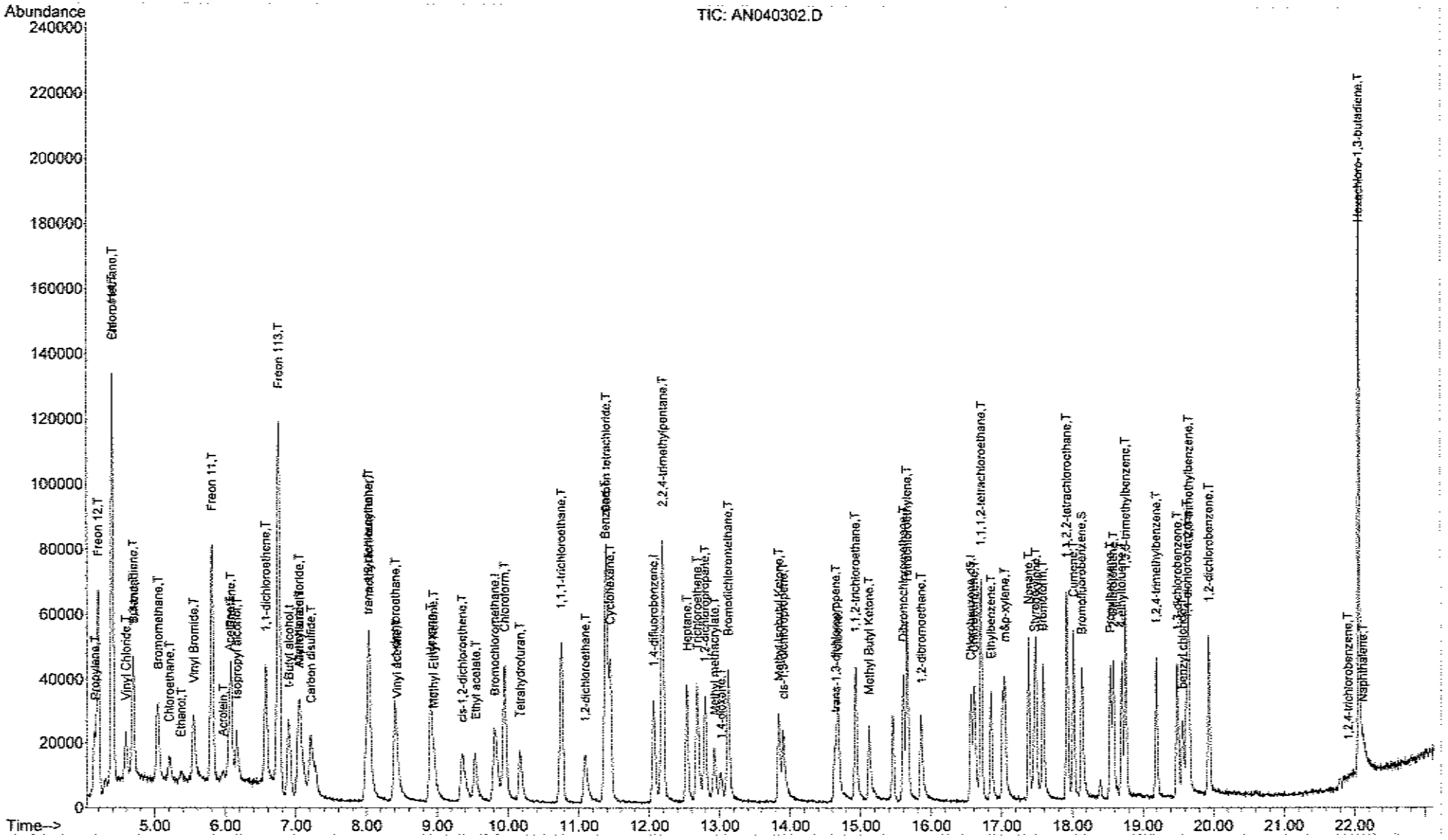
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	Bromodichloromethane	13.12	83	34255m	1.25	ppb	
47)	cis-1,3-dichloropropene	13.90	75	18389m	1.23	ppb	
48)	trans-1,3-dichloropropene	14.64	75	15918m	1.19	ppb	
49)	1,1,2-trichloroethane	14.93	97	15480m	1.26	ppb	
51)	Toluene	14.68	92	15526	0.84	ppb	94
52)	Methyl Isobutyl Ketone	13.84	43	25200	0.77	ppb	93
53)	Dibromochloromethane	15.61	129	25078m	1.08	ppb	
54)	Methyl Butyl Ketone	15.12	43	22837	0.79	ppb	90
55)	1,2-dibromoethane	15.86	107	28176	1.23	ppb	96
56)	Tetrachloroethylene	15.66	164	14799	0.84	ppb	99
57)	Chlorobenzene	16.61	112	26561	1.10	ppb	87
58)	1,1,1,2-tetrachloroethane	16.71	131	21137	1.17	ppb	95
59)	Ethylbenzene	16.85	91	30262	0.96	ppb	97
60)	m&p-xylene	17.04	91	48503	1.94	ppb	94
61)	Nonane	17.38	43	15931	1.07	ppb	93
62)	Styrene	17.46	104	18879	1.08	ppb	93
63)	Bromoform	17.58	173	25866	2.06	ppb	99
64)	o-xylene	17.49	91	29832m	0.99	ppb	
65)	Cumene	18.02	105	35780	1.02	ppb	99
67)	1,1,2,2-tetrachloroethane	17.92	83	36537	1.18	ppb	99
68)	Propylbenzene	18.54	91	38747m	1.04	ppb	
69)	2-Chlorotoluene	18.58	91	28425m	1.05	ppb	
70)	4-ethyltoluene	18.70	105	28733m	0.90	ppb	
71)	1,3,5-trimethylbenzene	18.76	105	38929m	1.02	ppb	
72)	1,2,4-trimethylbenzene	19.19	105	29304	0.88	ppb	96
73)	1,3-dichlorobenzene	19.49	146	23663	1.12	ppb	98
74)	benzyl chloride	19.56	91	26917	0.90	ppb	97
75)	1,4-dichlorobenzene	19.62	146	20800	1.05	ppb	94
76)	1,2,3-trimethylbenzene	19.65	105	37066	0.91	ppb	93
77)	1,2-dichlorobenzene	19.94	146	26332	1.02	ppb	97
78)	1,2,4-trichlorobenzene	21.91	180	14125m	0.72	ppb	
79)	Naphthalene	22.12	128	26489m	0.65	ppb	
80)	Hexachloro-1,3-butadiene	22.07	225	39625	0.83	ppb	96

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040302.D Vial: 2
Acq On : 3 Apr 2016 11:40 am Operator: RJP
Sample : A1UG_1.0 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 3 13:01 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration



AN040302.D A316_1UG.M Tue Apr 26 16:30:00 2016 MSD1 Page 3

GC/MS VOLATILES-WHOLE AIR

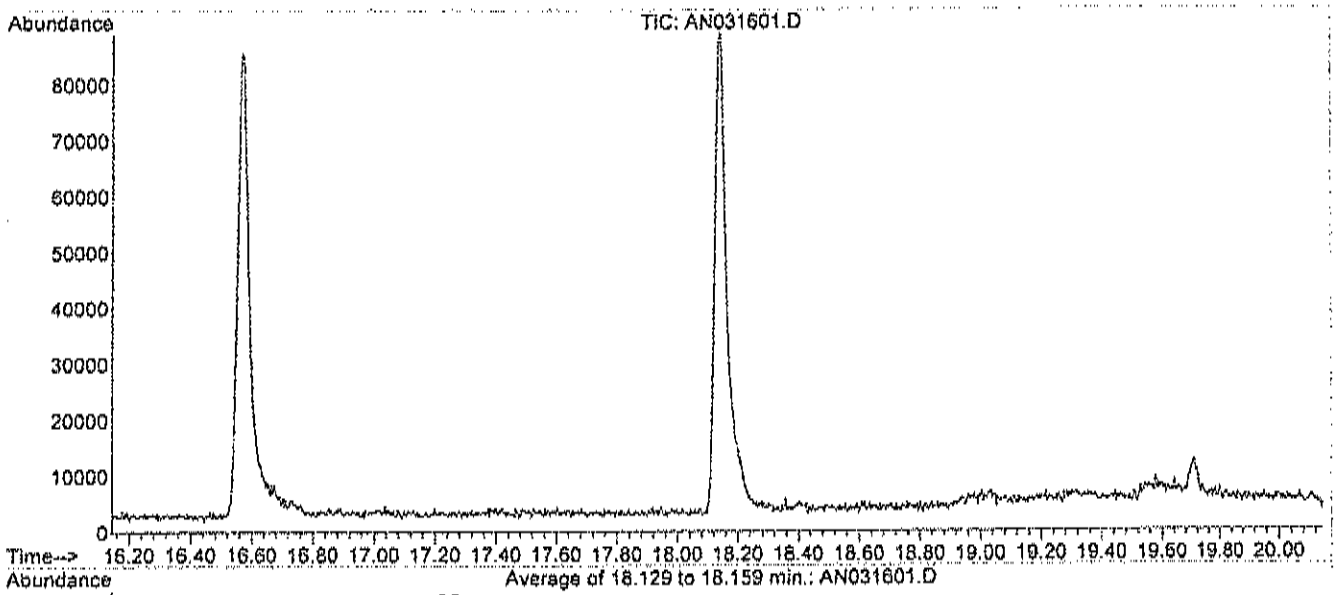
METHOD TO-15

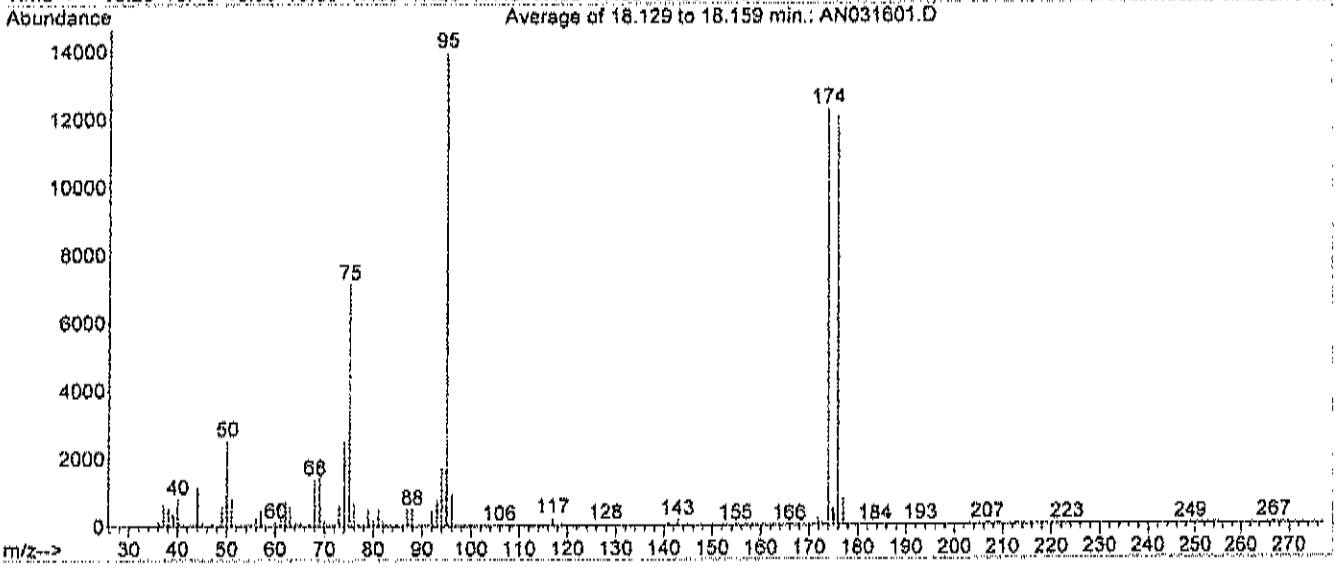
RAW DATA

BFB

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

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



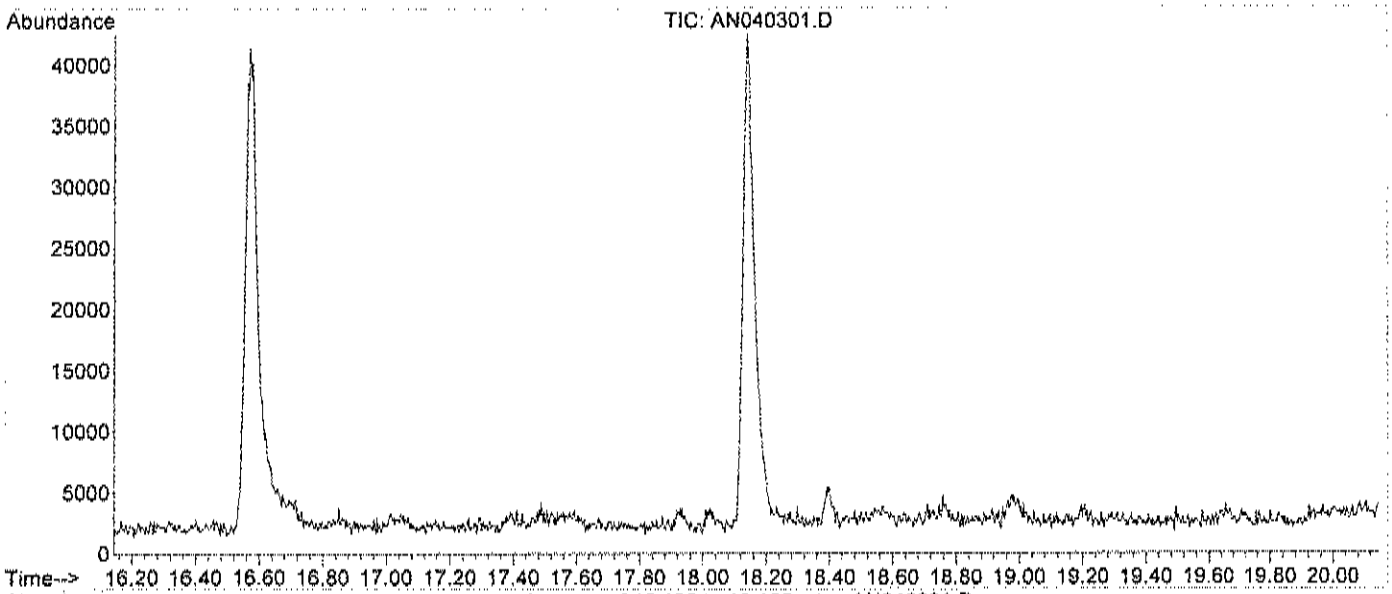


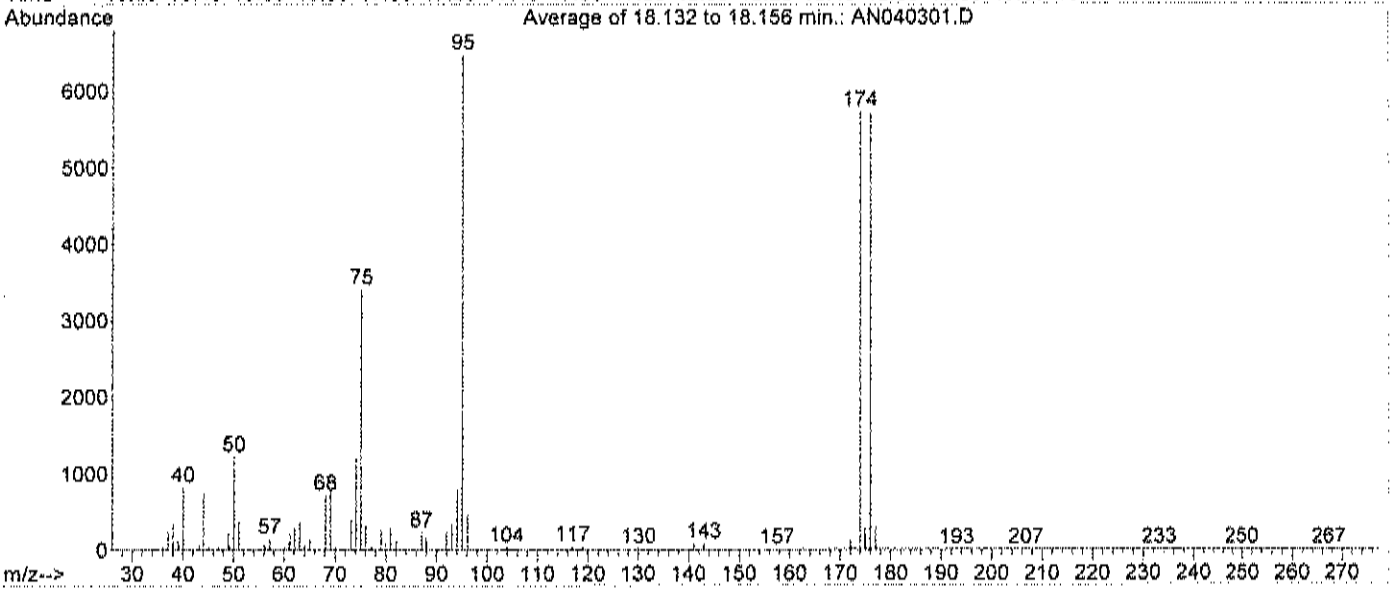
Spectrum Information: Average of 18.129 to 18.159 min.

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

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

Data File : C:\HPCHEM\1\DATA\AN040301.D Vial: 1
Acq On : 3 Apr 2016 9:42 am Operator: RJP
Sample : BFB1UG Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration





Spectrum Information: Average of 18.132 to 18.156 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.0	1230	PASS
75	95	30	66	52.6	3415	PASS
95	95	100	100	100.0	6489	PASS
96	95	5	9	7.3	473	PASS
173	174	0.00	2	0.4	24	PASS
174	95	50	120	88.3	5732	PASS
175	174	4	9	4.9	279	PASS
176	174	95	101	99.6	5711	PASS
177	176	5	9	5.3	305	PASS

AN040301.D A316_1UG.M Tue Apr 26 16:29:49 2016 MSD1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW QC DATA

CENTEK LABORATORIES, LLC

Date: *26-Apr-16*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID **AMB1UG-040316** SampType: **MBLK** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10821**
Client ID: **ZZZZZ** Batch ID: **R10821** TestNo: **TO-15** Analysis Date: **4/3/2016** SeqNo: **127146**

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

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040304.D Vial: 4
Acq On : 3 Apr 2016 1:47 pm Operator: RJP
Sample : AMB1UG-040316 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 14:27:29 2016 Quant Results File: A316_1UG.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	14032	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.08	114	33917	1.00	ppb	0.02
50) Chlorobenzene-d5	16.57	117	30527	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.14	95	17340	0.88	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 88.00%			
Target Compounds						Qvalue

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

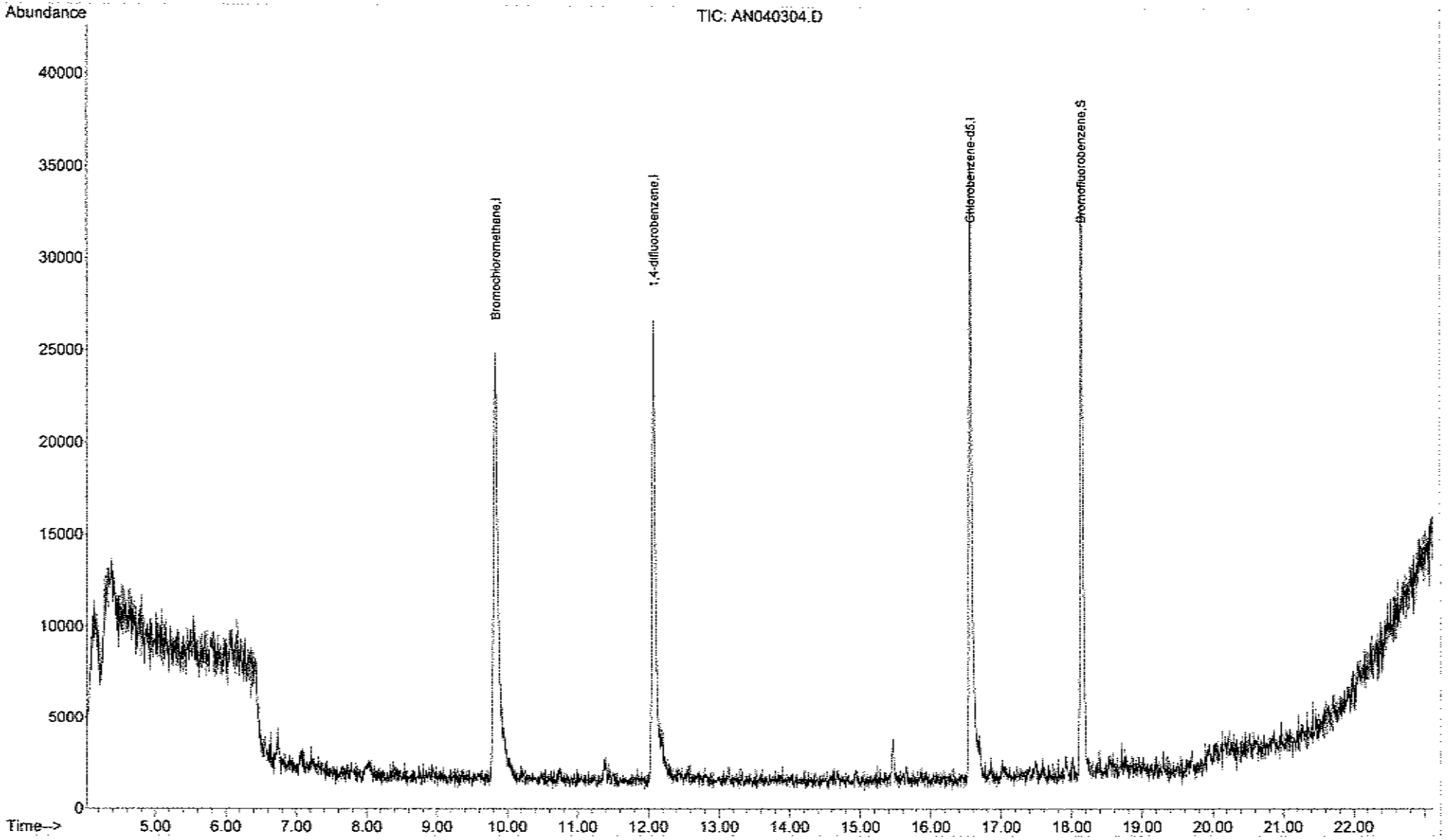
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040304.D
Acq On : 3 Apr 2016 1:47 pm
Sample : AMB1UG-040316
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 4 9:56 2016

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

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration



CENTEK LABORATORIES, LLC

Date: *26-Apr-16*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID **ALCS1UG-040316** SampType: **LCS** TestCode: **0.25CT-TCE-** Units: **ppbV** Prep Date: RunNo: **10821**
Client ID: **ZZZZZ** Batch ID: **R10821** TestNo: **TO-15** Analysis Date: **4/3/2016** SeqNo: **127147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.370	0.15	1	0	137	70	130				S
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130				
1,1-Dichloroethene	1.070	0.15	1	0	107	70	130				
Chloroethane	1.170	0.15	1	0	117	70	130				
Chloromethane	1.280	0.15	1	0	128	70	130				
cis-1,2-Dichloroethene	1.070	0.15	1	0	107	70	130				
Tetrachloroethylene	0.9000	0.15	1	0	90.0	70	130				
trans-1,2-Dichloroethene	1.130	0.15	1	0	113	70	130				
Trichloroethene	1.270	0.040	1	0	127	70	130				
Vinyl chloride	1.220	0.040	1	0	122	70	130				

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040303.D Vial: 3
Acq On : 3 Apr 2016 12:29 pm Operator: RJP
Sample : ALCS1UG-040316 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 13:01:31 2016 Quant Results File: A316_1UG.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	9.80	128	15355m	1.00	ppb		0.00
35) 1,4-difluorobenzene	12.06	114	33728	1.00	ppb		0.00
50) Chlorobenzene-d5	16.57	117	24096	1.00	ppb		0.00
System Monitoring Compounds							
66) Bromofluorobenzene	18.14	95	17298	1.12	ppb		0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 112.00%				
Target Compounds							Qvalue
2) Propylene	4.14	41	15020	1.21	ppb	#	100
3) Freon 12	4.19	85	84587	1.29	ppb		100
4) Chloromethane	4.39	50	21951m	1.28	ppb		
5) Freon 114	4.38	85	70078m	1.27	ppb		
6) Vinyl Chloride	4.59	62	21093	1.22	ppb		90
7) Butane	4.67	43	24821m	1.26	ppb		
8) 1,3-butadiene	4.69	39	16601m	1.28	ppb		
9) Bromomethane	5.03	94	26561m	1.31	ppb		
10) Chloroethane	5.20	64	8231m	1.17	ppb		
11) Ethanol	5.36	45	6258m	1.19	ppb		
12) Acrolein	5.96	56	5289m	1.19	ppb		
13) Vinyl Bromide	5.54	106	25715	1.29	ppb		95
14) Freon 11	5.80	101	85805m	1.27	ppb		
15) Acetone	6.04	58	8213m	1.24	ppb		
16) Pentane	6.06	42	18988	1.25	ppb		99
17) Isopropyl alcohol	6.14	45	25478	1.18	ppb	#	46
18) 1,1-dichloroethene	6.56	96	21050	1.07	ppb		91
19) Freon 113	6.75	101	57141m	1.20	ppb		
20) t-Butyl alcohol	6.88	59	38976	1.13	ppb	#	81
21) Methylene chloride	7.05	84	21188	1.23	ppb	#	86
22) Allyl chloride	7.01	41	16380	1.07	ppb		88
23) Carbon disulfide	7.20	76	58730	1.15	ppb		99
24) trans-1,2-dichloroethene	8.00	61	26321	1.13	ppb		96
25) methyl tert-butyl ether	8.02	73	47402	1.07	ppb		85
26) 1,1-dichloroethane	8.40	63	38609	1.17	ppb		100
27) Vinyl acetate	8.44	43	28300	0.99	ppb		100
28) Methyl Ethyl Ketone	8.94	72	7117	1.01	ppb	#	100
29) cis-1,2-dichloroethene	9.36	61	20453	1.07	ppb		95
30) Hexane	8.90	57	19120	0.95	ppb		95
31) Ethyl acetate	9.52	43	31307	1.14	ppb		89
32) Chloroform	9.95	83	48694	1.09	ppb		99
33) Tetrahydrofuran	10.16	42	13587	1.07	ppb		95
34) 1,2-dichloroethane	11.09	62	25662	1.02	ppb		91
36) 1,1,1-trichloroethane	10.75	97	43392m	1.37	ppb		
37) Cyclohexane	11.44	56	17457m	1.34	ppb		
38) Carbon tetrachloride	11.39	117	47731m	1.35	ppb		
39) Benzene	11.37	78	32721m	1.17	ppb		
40) Methyl methacrylate	12.91	41	11265	1.23	ppb	#	77
41) 1,4-dioxane	13.00	88	7702m	1.07	ppb		
42) 2,2,4-trimethylpentane	12.19	57	79364	1.62	ppb		95
43) Heptane	12.53	43	13144	1.15	ppb		92
44) Trichloroethene	12.68	130	18139	1.27	ppb		100
45) 1,2-dichloropropane	12.79	63	12030m	1.19	ppb		

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040303.D Vial: 3
Acq On : 3 Apr 2016 12:29 pm Operator: RJP
Sample : ALCS1UG-040316 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 03 13:01:31 2016 Quant Results File: A316_1UG.RES

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

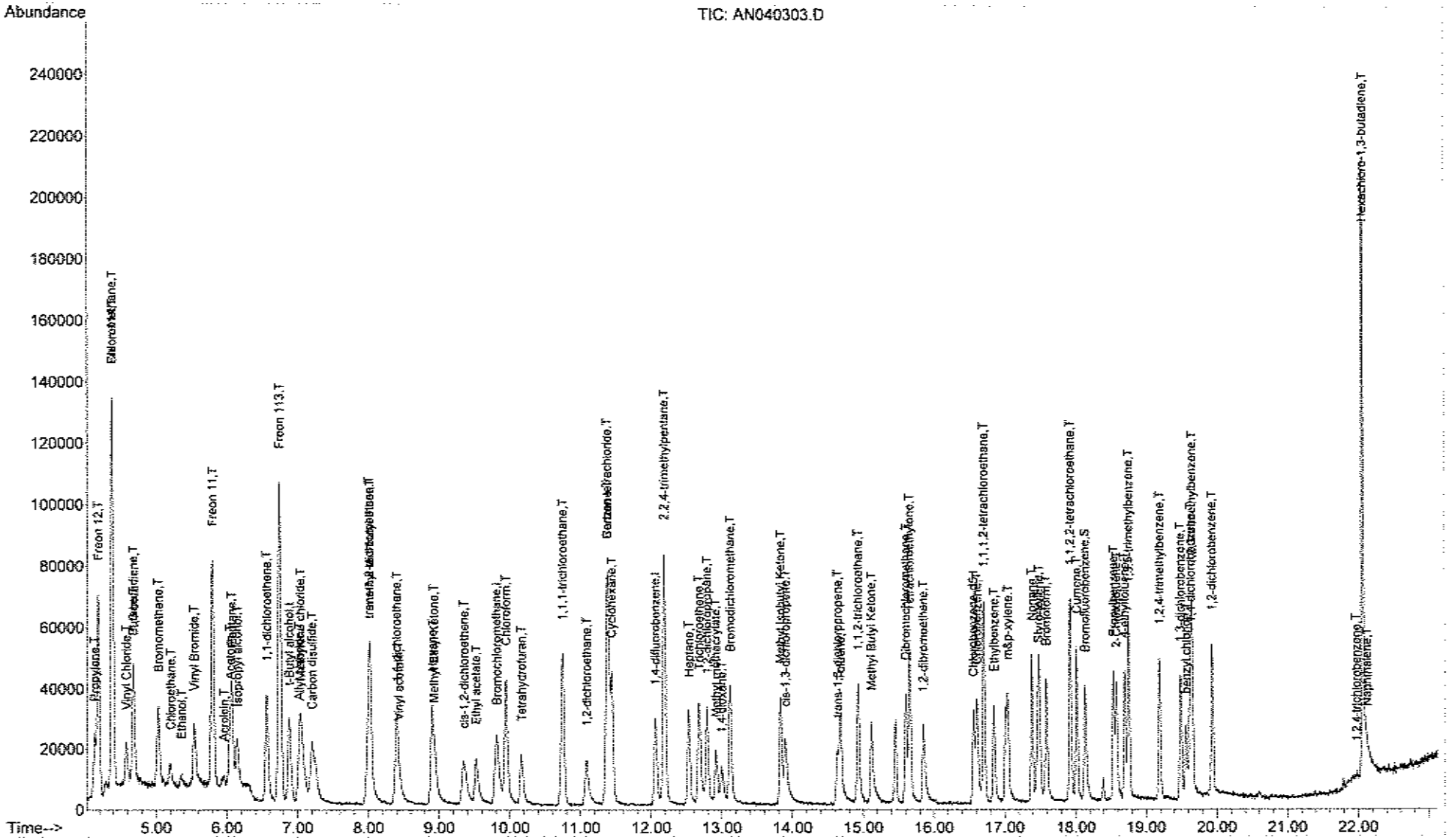
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	Bromodichloromethane	13.12	83	31239m	1.26	ppb	
47)	cis-1,3-dichloropropene	13.89	75	18106m	1.34	ppb	
48)	trans-1,3-dichloropropene	14.63	75	15292m	1.26	ppb	
49)	1,1,2-trichloroethane	14.93	97	16730	1.51	ppb	99
51)	Toluene	14.67	92	13950	0.85	ppb	96
52)	Methyl Isobutyl Ketone	13.83	43	32065	1.11	ppb	94
53)	Dibromochloromethane	15.60	129	23789m	1.15	ppb	
54)	Methyl Butyl Ketone	15.11	43	26829	1.04	ppb	92
55)	1,2-dibromoethane	15.86	107	25038m	1.23	ppb	
56)	Tetrachloroethylene	15.66	164	14004	0.90	ppb	96
57)	Chlorobenzene	16.61	112	25439	1.18	ppb	88
58)	1,1,1,2-tetrachloroethane	16.71	131	20451	1.27	ppb	95
59)	Ethylbenzene	16.85	91	28749	1.02	ppb	99
60)	m&p-xylene	17.04	91	44494	2.00	ppb	96
61)	Nonane	17.38	43	14645	1.10	ppb	97
62)	Styrene	17.46	104	17707	1.14	ppb	92
63)	Bromoform	17.58	173	24204	2.17	ppb	100
64)	o-xylene	17.48	91	26945	1.01	ppb	85
65)	Cumene	18.02	105	35015	1.12	ppb	99
67)	1,1,2,2-tetrachloroethane	17.92	83	34939m	1.27	ppb	
68)	Propylbenzene	18.54	91	34825m	1.05	ppb	
69)	2-Chlorotoluene	18.58	91	22801m	0.94	ppb	
70)	4-ethyltoluene	18.69	105	29417m	1.03	ppb	
71)	1,3,5-trimethylbenzene	18.76	105	37863m	1.11	ppb	
72)	1,2,4-trimethylbenzene	19.19	105	31153	1.06	ppb	96
73)	1,3-dichlorobenzene	19.49	146	22749	1.21	ppb	99
74)	benzyl chloride	19.56	91	30177	1.13	ppb	98
75)	1,4-dichlorobenzene	19.62	146	21615	1.22	ppb	96
76)	1,2,3-trimethylbenzene	19.65	105	39020	1.07	ppb	94
77)	1,2-dichlorobenzene	19.94	146	27510	1.20	ppb	99
78)	1,2,4-trichlorobenzene	21.97	180	14791m	0.85	ppb	
79)	Naphthalene	22.13	128	32562m	0.90	ppb	
80)	Hexachloro-1,3-butadiene	22.07	225	42410	1.00	ppb	93

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040303.D Vial: 3
Acq On : 3 Apr 2016 12:29 pm Operator: RJP
Sample : ALCS1UG-040316 Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 3 13:04 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration



CENTEK LABORATORIES, LLC

Date: *27-Apr-16*

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID C1603091-005A MS	SampType: MS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 10821
Client ID: 1640-IAQ-3	Batch ID: R10821	TestNo: TO-15		Analysis Date: 4/4/2016	SeqNo: 127156

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.220	0.15	1	0	122	70	130				
1,1-Dichloroethane	1.140	0.15	1	0	114	70	130				
1,1-Dichloroethene	1.140	0.15	1	0	114	70	130				
Chloroethane	1.280	0.15	1	0	128	70	130				
Chloromethane	1.380	0.15	1	0	138	70	130				S
cis-1,2-Dichloroethene	1.130	0.15	1	0	113	70	130				
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130				
trans-1,2-Dichloroethene	1.280	0.15	1	0	128	70	130				
Trichloroethene	1.180	0.040	1	0.09	109	70	130				
Surr: Bromofluorobenzene	1.230	0	1	0	123	70	130				

Sample ID C1603091-005A MS	SampType: MSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 10821
Client ID: 1640-IAQ-3	Batch ID: R10821	TestNo: TO-15		Analysis Date: 4/4/2016	SeqNo: 127158

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.160	0.15	1	0	116	70	130	1.22	5.04	30	
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130	1.14	2.60	30	
1,1-Dichloroethene	1.100	0.15	1	0	110	70	130	1.14	3.57	30	
Chloroethane	1.170	0.15	1	0	117	70	130	1.28	8.98	30	
Chloromethane	1.590	0.15	1	0	159	70	130	1.38	14.1	30	S
cis-1,2-Dichloroethene	1.140	0.15	1	0	114	70	130	1.13	0.881	30	
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130	0.88	0	30	
trans-1,2-Dichloroethene	1.210	0.15	1	0	121	70	130	1.28	5.62	30	
Trichloroethene	1.180	0.040	1	0.09	109	70	130	1.18	0	30	

Qualifiers:

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	C1603091-005A MS	SampType:	MSD	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	10821
Client ID:	1640-IAQ-3	Batch ID:	R10821	TestNo:	TO-15			Analysis Date:	4/4/2016	SeqNo:	127158

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Bromofluorobenzene	1.190	0	1	0	119	70	130	0	0	30	

Qualifiers:

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040320.D Vial: 16
Acq On : 4 Apr 2016 12:06 am Operator: RJP
Sample : C1603091-005A MS Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 04 04:41:53 2016 Quant Results File: A316_1UG.RES

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

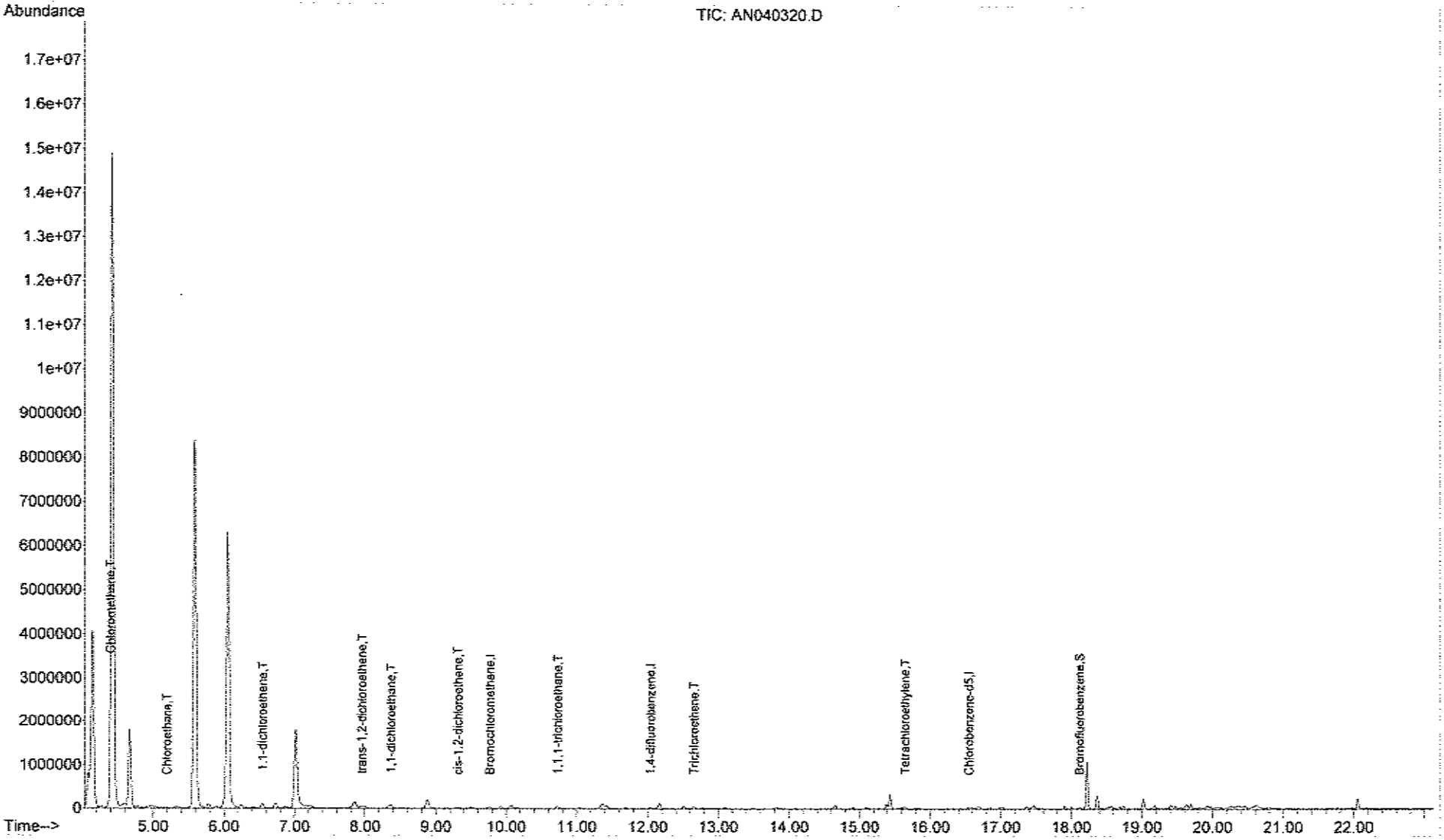
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.77	128	16262m	1.00	ppb	-0.04
35) 1,4-difluorobenzene	12.04	114	40411	1.00	ppb	-0.01
50) Chlorobenzene-d5	16.55	117	24211	1.00	ppb	-0.01
System Monitoring Compounds						
66) Bromofluorobenzene	18.11	95	19125m	1.23	ppb	-0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 123.00%			
Target Compounds						Qvalue
4) Chloromethane	4.38	50	25099m	1.38	ppb	
10) Chloroethane	5.19	64	9541	1.28	ppb	95
18) 1,1-dichloroethene	6.55	96	23851	1.14	ppb	93
24) trans-1,2-dichloroethene	7.95	61	31598m	1.28	ppb	
26) 1,1-dichloroethane	8.37	63	39815	1.14	ppb	97
29) cis-1,2-dichloroethene	9.31	61	22969	1.13	ppb	96
36) 1,1,1-trichloroethane	10.73	97	46349	1.22	ppb	98
44) Trichloroethene	12.65	130	20297	1.18	ppb	94
56) Tetrachloroethylene	15.65	164	13781	0.88	ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN040320.D A316_1UG.M Tue Apr 26 16:28:58 2016 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040320.D Vial: 16
Acq On : 4 Apr 2016 12:06 am Operator: RJP
Sample : C1603091-005A MS Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 4 9:22 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040321.D Vial: 17
Acq On : 4 Apr 2016 12:49 am Operator: RJP
Sample : C1603091-005A MSD Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 04 04:41:54 2016 Quant Results File: A316_1UG.RES

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

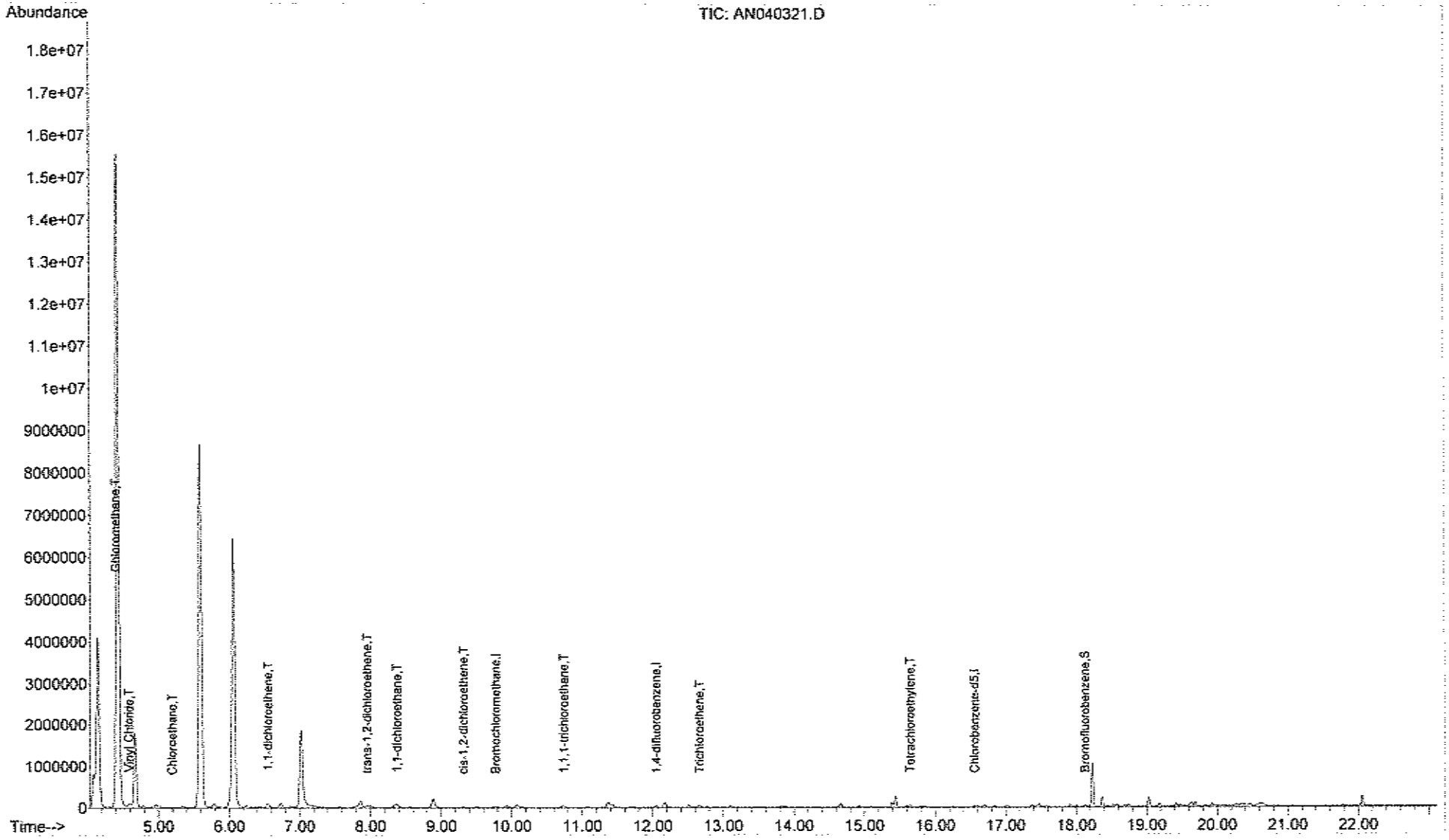
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.77	128	17352	1.00	ppb	-0.03
35) 1,4-difluorobenzene	12.05	114	46934	1.00	ppb	0.00
50) Chlorobenzene-d5	16.55	117	25902	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.12	95	19796m	1.19	ppb	-0.01
Spiked Amount 1.000	Range 70 - 130		Recovery = 119.00%			
Target Compounds						Qvalue
4) Chloromethane	4.39	50	30761m	1.59	ppb	
6) Vinyl Chloride	4.57	62	21926	1.12	ppb	88
10) Chloroethane	5.19	64	9338	1.17	ppb	97
18) 1,1-dichloroethene	6.55	96	24576	1.10	ppb	90
24) trans-1,2-dichloroethene	7.95	61	32072m	1.21	ppb	
26) 1,1-dichloroethane	8.38	63	43783	1.17	ppb	97
29) cis-1,2-dichloroethene	9.32	61	24633	1.14	ppb	95
36) 1,1,1-trichloroethane	10.74	97	51211	1.16	ppb	99
44) Trichloroethene	12.66	130	23533	1.18	ppb	99
56) Tetrachloroethylene	15.65	164	14824	0.88	ppb	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN040321.D Vial: 17
Acq On : 4 Apr 2016 12:49 am Operator: RJP
Sample : C1603091-005A MSD Inst : MSD #1
Misc : A316_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 4 9:23 2016 Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Apr 26 16:27:03 2016
Response via : Initial Calibration



Injection Log

Directory: C:\HPChem\1\DATA

Instrument # 1
Internal Standard Stock # A134935
Standard Stock # 134836
LCS Stock # 134937
Method Ref: EPA TO-15 / Jan. 1999

ine	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
	16	An040101.d	1.	BFB1UG	A316_1UG	1 Apr 2016 10:05
	18	An040102.d	1.	A1UG_1.0	A316_1UG	1 Apr 2016 12:06
	19	An040103.d	1.	ALCS1UG-040116	A316_1UG	1 Apr 2016 12:45
	20	An040104.d	1.	AMB1UG-040116	A316_1UG	1 Apr 2016 13:21
	21	An040105.d	1.	C1603075-001A 2X	A316_1UG	1 Apr 2016 13:59
	22	An040106.d	1.	C1603074-002A	A316_1UG	1 Apr 2016 14:58
	23	An040107.d	1.	C1603074-004A	A316_1UG	1 Apr 2016 15:39
	24	An040108.d	1.	C1603076-003A	A316_1UG	1 Apr 2016 16:18
	25	An040109.d	1.	C1603076-005A	A316_1UG	1 Apr 2016 16:57
0	26	An040110.d	1.	C1603076-002A	A316_1UG	1 Apr 2016 17:36
1	27	An040111.d	1.	C1603076-007A	A316_1UG	1 Apr 2016 18:15
2	28	An040112.d	1.	C1603076-009A	A316_1UG	1 Apr 2016 18:54
3	49	An040113.d	1.	C1603089-001A	A316_1UG	1 Apr 2016 19:33
4	21	An040114.d	1.	C1603089-002A	A316_1UG	1 Apr 2016 20:12
5	22	An040115.d	1.	C1603089-003A	A316_1UG	1 Apr 2016 20:51
6	23	An040116.d	1.	C1603089-004A	A316_1UG	1 Apr 2016 21:30
7	24	An040117.d	1.	C1603089-005A	A316_1UG	1 Apr 2016 22:09
8	25	An040118.d	1.	C1603089-006A	A316_1UG	1 Apr 2016 22:48
9	26	An040119.d	1.	C1603089-007A	A316_1UG	1 Apr 2016 23:27
0	27	An040120.d	1.	C1603089-008A	A316_1UG	2 Apr 2016 00:06
1	28	An040121.d	1.	C1603089-009A	A316_1UG	2 Apr 2016 00:45
2	29	An040122.d	1.	C1603089-010A	A316_1UG	2 Apr 2016 01:24
3	1	An040123.d	1.	C1603089-011A	A316_1UG	2 Apr 2016 02:03
4	2	An040124.d	1.	C1603089-012A	A316_1UG	2 Apr 2016 02:42
5	3	An040125.d	1.	ALCS1UGD-040116	A316_1UG	2 Apr 2016 03:21
6	4	An040126.d	1.	C1603079-001A	A316_1UG	2 Apr 2016 04:00
7	5	An040127.d	1.	C1603079-002A	A316_1UG	2 Apr 2016 04:39
8	6	An040128.d	1.	C1603079-003A	A316_1UG	2 Apr 2016 05:18
9	7	An040129.d	1.	C1603079-004A	A316_1UG	2 Apr 2016 05:57
0	8	An040130.d	1.	C1603079-005A	A316_1UG	2 Apr 2016 06:36
1	9	An040131.d	1.	C1603079-006A	A316_1UG	2 Apr 2016 07:15
2	10	An040132.d	1.	C1603078-001A	A316_1UG	2 Apr 2016 07:54
3	11	An040133.d	1.	C1603078-002A	A316_1UG	2 Apr 2016 08:33
4	12	An040134.d	1.	C1603078-003A	A316_1UG	2 Apr 2016 09:12
5	13	An040135.d	1.	C1603078-003A DUP	A316_1UG	2 Apr 2016 09:50
6		An040136.d	1.	No MS or GC data present		
7	1	An040201.d	1.	BFB1UG	A316_1UG	2 Apr 2016 10:48
8	2	An040202.d	1.	A1UG	A316_1UG	2 Apr 2016 11:29
9	3	An040203.d	1.	A1UG_1.0	A316_1UG	2 Apr 2016 12:08
0	1	An040204.d	1.	ALCS1UG-040216	A316_1UG	2 Apr 2016 12:58
1	2	An040205.d	1.	AMB1UG-040216	A316_1UG	2 Apr 2016 13:34
2	3	An040206.d	1.	C1603078-004A	A316_1UG	2 Apr 2016 14:13
3	4	An040207.d	1.	C1603074-002A 10X	A316_1UG	2 Apr 2016 14:50
4	5	An040208.d	1.	C1603074-004A 90X	A316_1UG	2 Apr 2016 15:27
5	6	An040209.d	1.	C1603076-009A 5X	A316_1UG	2 Apr 2016 16:03
6	7	An040210.d	1.	C1603079-001A 10X	A316_1UG	2 Apr 2016 16:40
7	8	An040211.d	1.	C1603079-002A 10X	A316_1UG	2 Apr 2016 17:17
8	9	An040212.d	1.	C1603079-003A 10X	A316_1UG	2 Apr 2016 17:53
9	10	An040213.d	1.	C1603079-004A 10X	A316_1UG	2 Apr 2016 18:30
0	11	An040214.d	1.	C1603079-005A 10X	A316_1UG	2 Apr 2016 19:06
1	12	An040215.d	1.	C1603079-006A 10X	A316_1UG	2 Apr 2016 19:43
2	13	An040216.d	1.	C1603078-001A 10X	A316_1UG	2 Apr 2016 20:19
3	14	An040217.d	1.	C1603078-001A 40X	A316_1UG	2 Apr 2016 20:56
4	15	An040218.d	1.	C1603078-002A 10X	A316_1UG	2 Apr 2016 21:32
5	16	An040219.d	1.	C1603078	A316_1UG -002A 40X	2 Apr 2016 22:08

Injection Log

Directory: C:\HPChem\1\DATA

Instrument # 1
Internal Standard Stock # A134235
Standard Stock # 134536
Misc Info # 134537 Injected
Method Ref: EPA TO-15 / Jan. 1999

Line	Vial	FileName	Multiplier	SampleName		
56	17	An040220.d	1.	C1603078-003A 10X	A316_1UG	2 Apr 2016 22:45
57	18	An040221.d	1.	C1603078-003A 40X	A316_1UG	2 Apr 2016 23:21
58	19	An040222.d	1.	C1603078-004A 10X	A316_1UG	2 Apr 2016 23:58
59	20	An040223.d	1.	C1603078-004A 40X	A316_1UG	3 Apr 2016 00:34
60	21	An040224.d	1.	ALCS1UGD-040216	A316_1UG	3 Apr 2016 01:13
61	22	An040225.d	1.	C1603092-001A	A316_1UG	3 Apr 2016 01:52
62	23	An040226.d	1.	C1603092-002A	A316_1UG	3 Apr 2016 02:31
63	24	An040227.d	1.	C1603092-003A	A316_1UG	3 Apr 2016 03:10
64	25	An040228.d	1.	C1603092-004A	A316_1UG	3 Apr 2016 03:49
65	26	An040229.d	1.	C1603092-005A	A316_1UG	3 Apr 2016 04:28
66	27	An040230.d	1.	C1603092-006A	A316_1UG	3 Apr 2016 05:07
67	28	An040231.d	1.	C1603092-007A	A316_1UG	3 Apr 2016 05:46
68	29	An040232.d	1.	C1603092-008A	A316_1UG	3 Apr 2016 06:25
69	30	An040233.d	1.	C1603092-009A	A316_1UG	3 Apr 2016 07:03
70	31	An040234.d	1.	C1603092-010A	A316_1UG	3 Apr 2016 07:42
71	32	An040235.d	1.	C1603092-012A	A316_1UG	3 Apr 2016 08:21
72	33	An040236.d	1.	C1603092-015A	A316_1UG	3 Apr 2016 09:00
73		An040237.d	1.	No MS or GC data present		
74	1	An040301.d	1.	BFB1UG	A316_1UG	3 Apr 2016 09:42
75	2	An040302.d	1.	A1UG_1.0	A316_1UG	3 Apr 2016 11:40
76	3	An040303.d	1.	ALCS1UG-040316	A316_1UG	3 Apr 2016 12:29
77	4	An040304.d	1.	AMB1UG-040316	A316_1UG	3 Apr 2016 13:47
78	1	An040305.d	1.	WAC040316A	A316_1UG	3 Apr 2016 14:24
79	2	An040306.d	1.	WAC040316B	A316_1UG	3 Apr 2016 15:01
80	3	An040307.d	1.	WAC040316C	A316_1UG	3 Apr 2016 15:38
81	4	An040308.d	1.	WAC040316D	A316_1UG	3 Apr 2016 16:15
82	5	An040309.d	1.	WAC040316E	A316_1UG	3 Apr 2016 16:52
83	6	An040310.d	1.	C1603078-002A 90X	A316_1UG	3 Apr 2016 17:28
84	7	An040311.d	1.	C1603092-013A	A316_1UG	3 Apr 2016 18:07
85	8	An040312.d	1.	C1603092-013A MS	A316_1UG	3 Apr 2016 18:49
86	9	An040313.d	1.	C1603092-013A MSD	A316_1UG	3 Apr 2016 19:32
87	10	An040314.d	1.	C1603092-016A	A316_1UG	3 Apr 2016 20:11
88	11	An040315.d	1.	C1603092-017A	A316_1UG	3 Apr 2016 20:50
89	12	An040316.d	1.	C1603092-018A	A316_1UG	3 Apr 2016 21:29
90	13	An040317.d	1.	C1603092-019A	A316_1UG	3 Apr 2016 22:09
91	14	An040318.d	1.	C1603092-012A 10X	A316_1UG	3 Apr 2016 22:45
92	15	An040319.d	1.	C1603091-005A	A316_1UG	3 Apr 2016 23:24
93	16	An040320.d	1.	C1603091-005A MS	A316_1UG	4 Apr 2016 00:06
94	17	An040321.d	1.	C1603091-005A MSD	A316_1UG	4 Apr 2016 00:49
95	18	An040322.d	1.	C1603091-001A	A316_1UG	4 Apr 2016 01:28
96	19	An040323.d	1.	C1603091-002A	A316_1UG	4 Apr 2016 02:08
97	20	An040324.d	1.	C1603091-003A	A316_1UG	4 Apr 2016 02:47
98	21	An040325.d	1.	C1603091-004A	A316_1UG	4 Apr 2016 03:26
99	22	An040326.d	1.	C1603091-006A	A316_1UG	4 Apr 2016 04:06
100	23	An040327.d	1.	C1603091-007A	A316_1UG	4 Apr 2016 04:45
101		An040328.d	1.	No MS or GC data present		
102	28	An040401.d	1.	BFB1UG	A316_1UG	4 Apr 2016 09:00
103	29	An040402.d	1.	A1UG_1.0	A316_1UG	4 Apr 2016 09:37
104	30	An040403.d	1.	ALCS1UG-040416	A316_1UG	4 Apr 2016 10:16
105	31	An040404.d	1.	AMB1UG-040416	A316_1UG	4 Apr 2016 10:52
106	32	An040405.d	1.	C1603092-017A 40X	A316_1UG	4 Apr 2016 11:46
107	33	An040406.d	1.	C1603076-003A RE	A316_1UG	4 Apr 2016 12:25
108	34	An040407.d	1.	C1603076-005A RE	A316_1UG	4 Apr 2016 14:00
109	35	An040408.d	1.	C1603076-002A RE	A316_1UG	4 Apr 2016 14:39
110	36	An040409.d	1.	C1603076-007A RE	A316_1UG	4 Apr 2016 15:18

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1201	1/15/16	1/22/16	TO15 APH	A1188	1ppm	1.5	30	50	MP	
A-1202	↓	↓	TO15 10X APH	A1201	50ppb	0.9	45	1	↓	
A-1203	1/15/16	1/15/17	TO15 MIX	–	1ppm	LINDE TO15 MIX		1ppm	MP	
A-1204	1/18/16	1/18/17	LCS TO15	"	A0534 STD IS NOW LCS 1ppm				L.L.	
A-1205	1/18/16	1/25/16	TO15 IS	A1174	1ppm	1.5	30	50ppb	MP	
A-1206			LCS	A1204						
A-1207			STD	A1203						
A-1208			TO15 FORM	A0974	11.5ppm	0.20	45			
A-1209			SILOX	~~A0584~~ A0085	A0085/500ppb	3.0	30			
A-1210			SULF	A0276	1ppm	1.5	↓	500ppb		
A-1211			H2S	A0269	10ppm	↓				
A-1212			TO15 4PCH	9519	1ppm	1.5	30	50ppb		
A-1213			4PCH5	A1212	50ppb	3.0	↓	5ppb		
A-1214			TO15 10X IS	A1205		0.9	45	1ppb		
A-1215			STD	A1207						
A-1216	↓	↓	LCS	A1206	↓	↓	↓	↓	↓	
A-1217	1/25/16	2/1/16	TO15 IS	A1174	1ppm	1.5	30	50ppb	WD	
A-1218			~~STD~~	A1203						
A-1219			LCS	A1204						
A-1220			4PCH	9519	↓	↓	↓	↓		
A-1221	↓	↓	4PCH5	A1220	50ppb	3.0	30	5	↓	

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Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1285	2/29/16	3/7/16	TO15 H_2S	A0269	10 ppm	1.5	30	500	WD	
A-1286	↓	↓	TO15 14G IS	A1277	50 ppb	0.9	45	1	↓	
A-1287			STD	A1278	↓	↓	↓	↓	↓	
A-1288	↓	↓	↓ LCS	A1279	↓	↓	↓	↓	↓	
A-1289	3/1/16	3/1/17	TO15 IS	FF-4969	LINDE		2100 psig	1 ppm	WD	
A-1290	3/7/16	3/14/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1291	↓	↓	STD	A1203	↓	↓	↓	↓	↓	
A-1292			LCS	A1204						
A-1293			4PCH	9519	↓	↓	↓	↓		
A-1294			4PCHS	A1293	50 ppb	3.0	30	5		
A-1295			FORM	A0974	11.5 ppm	0.20	45	50		
A-1296			SIOX	A1088 / A1089	500 ppb	3.0	30	50		
A-1297			SUT	A0270	1 ppm	1.5	30	50		
A-1298			↓ H_2S	A0269	10 ppm	1.5	30	500		
A-1299			TO15 14G IS	A1290	50 ppb	0.9	45	1		
A-1300			STD	A1291	↓	↓	↓	↓	↓	
A-1301	↓	↓	↓ LCS	A1292	↓	↓	↓	↓		
A-1302	3/14/16	3/21/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1303			STD	A1203						
A-1304			LCS	A1204						
A-1305	↓	↓	↓ 4PCH	9519	↓	↓	↓	↓	↓	

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Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A- 1306	3/14/16	3/21/16	TO15 4PCHS	A1305	50 ppb	3.0	30	5	WD	
A- 1307			FORM	A0974	11.5 ppm	0.20	45	50		
A- 1308			SILOX	A1088 / A1089	500 ppb	3.0	30	50		
A- 1309			SOLF	A0270	1 ppm	1.5	30	50		
A- 1310			H2S	A0269	10 ppm	1.5	30	500		
A- 1311			TO15 14G IS	A1302	50 ppb	0.9	45	1		
A- 1312			STD	A1303						
A- 1313			LCS	A1304						
A- 1314	3/21/16	3/28/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A- 1315			STD	A1203						
A- 1316			LCS	A1204						
A- 1317			4PCH	9519						
A- 1318			4PCHS	A1317	50 ppb	3.0	30	5		
A- 1319			FORM	A0974	11.5 ppm	0.20	45	50		
A- 1320			SILOX	A1088 / A1089	500 ppb	3.0	30	50		
A- 1321			SOLF	A0270	1 ppm	1.5	30	50		
A- 1322			H2S	A0269	10 ppm	1.5	30	500		
A- 1323			TO15 14G IS	A1314	50 ppb	0.9	45	1		
A- 1324			STD	A1315						
A- 1325			LCS	A1316						
A- 1326	3/28/16	4/4/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	

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Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Finial Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1327	3/28/16	4/4/16	TO15 STD	A1203	1 ppm	1.5	30	50	JA	
A-1328			LCS	A1204						
A-1329			4PCH	9519						
A-1330			4PCHS	A1329	50 ppb	3.0	30	5		
A-1331			FORM	A0974	11.5 ppm	0.20	45	50		
A-1332			SILWX	A1088 / A1089	500 ppb	3.0	30	50		
A-1333			SULF	A0270	1 ppm	1.5	30	50		
A-1334			H2S	A0269 / A0227	10 ppm	1.5	30	500		
A-1335			TO15 IS	A1326	50 ppb	0.9	45	1		
A-1336			STD	A1327						
A-1337			LCS	A1328						
A-1338	4/4/16	4/11/16	TO15 IS	A1289	1 ppm	1.5	30	50	JA	
A-1339			STD	A1203						
A-1340			LCS	A1204						
A-1341			4PCH	9519						
A-1342			4PCHS	A1341	50 ppb	3.0	30	5		
A-1343			FORM	A0974	11.5 ppm	0.20	45	50		
A-1344			SILWX	A1088 / A1089	500 ppb	3.0	30	50		
A-1345			SULF	A0270	1 ppm	1.5	30	50		
A-1346			H2S	A0269	10 ppm	1.5	30	500		
A-1347			TO15 IS	A1338	50 ppb	0.9	45	1		

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GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

Centek Laboratories, LLC

Instrument: Entech 3100

QC Canister Cleaning Logbook

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/stp)	
137	192	30	2-19-16	WAC022916 A	ND 1 ug/m3 +0.25	+ 30	+ 30
83						+	+
1179						+	+
567						+	+
192						+	+
229	205			WAC022916 B		+	+
89						+	+
93						+	+
275						+	+
205						+	+
188	223			WAC022916 C		+	+
286						+	+
553						+	+
1177						+	+
223						+	+
141	128			WAC022916 D		+	+
242						+	+
316						+	+
158						+	+
128						+	+
248	130			WAC022916 E		+	+
460						+	+
94						+	+
239						+	+
130						+	+

Cleaned by RSP

Centek Laboratories, LLC

Instrument: Entech 3100

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/stp)	
542	106	30	2.19.16	WAC021916F	1ug/m3+0.25	+ 30	+ 30
245						+	+
226						+	+
322						+	+
106						+	+
98	363			WAC021916G		+	+
100						+	+
367						+	+
571						+	+
363						+	+
332	326			WAC021916H		+	+
274						+	+
168						+	+
327						+	+
326						+	+
231	541			WAC021916I		+	+
101						+	+
1190						+	+
157						+	+
541						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+

Cleaned by: RJP

Form C151

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Instrument: Entech 3100

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/stp)	
1179	139	20	3/8/16	WAC030816A	1/g+0.25	+ 30	+ 30
465						+	+
141						+	+
567						+	+
139						+	+
223	366			B		+	+
419						+	+
128						+	+
192						+	+
366						+	+
1183	1193			C		+	+
188						+	+
136						+	+
286						+	+
1193						+	+
205	138			D		+	+
315						+	+
370						+	+
1182						+	+
138						+	+
142	229			E		+	+
1177						+	+
93						+	+
131						+	+
229						+	+

Cleaned by: RSP Form C151 Page # 149

Centek Laboratories, LLC

QC Canister Cleaning Logbook

Instrument: Entech 3100

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/stp)	
1178	89	20	3/8/16	WAC030816F	1/g+0.25	+ 30	+ 30
332						+	+
564						+	+
1195						+	+
89						+	+
484 (1:4)	212			G		+	+
1208						+	+
218						+	+
1204						+	+
212						+	+
214	1201			H		+	+
1198						+	+
1196						+	+
487						+	+
1201						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+
						+	+

Cleaned by: RSP

Form C151

Page # 150

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021910.D Vial: 5
Acq On : 19 Feb 2016 2:58 pm Operator: RJP
Sample : WAC021916E Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:01 2016 Quant Results File: A204_1UG.RES

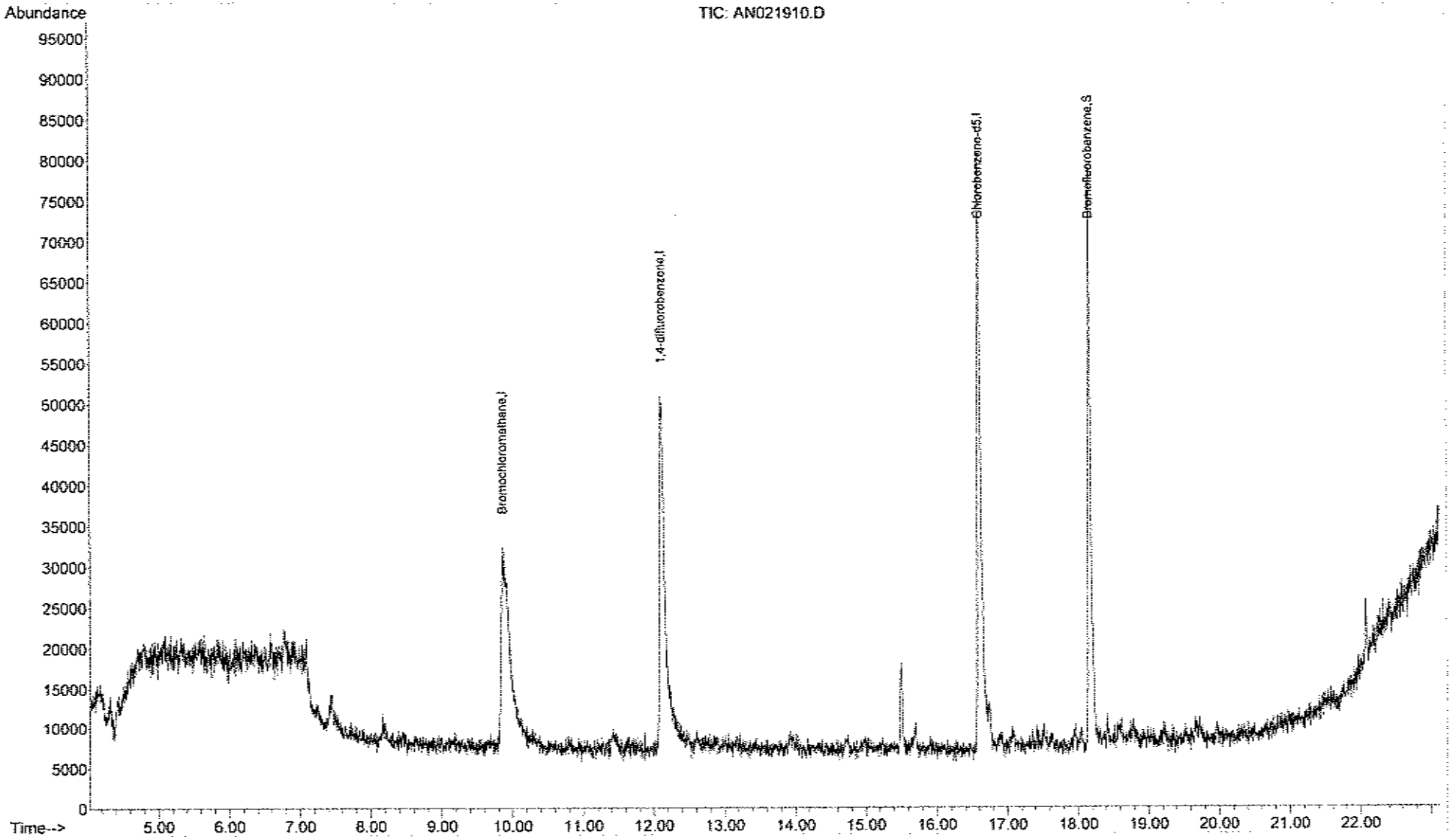
Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.87	128	32071m	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.12	114	87046	1.00	ppb	0.03
50) Chlorobenzene-d5	16.60	117	81502	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.17	95	39860m	0.72	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 72.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021910.D Vial: 5
Acq On : 19 Feb 2016 2:58 pm Operator: RJP
Sample : WAC021916E Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 9:02 2016 Quant Results File: A204_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021911.D Vial: 6
Acq On : 19 Feb 2016 3:36 pm Operator: RJP
Sample : WAC021916F Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:02 2016 Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

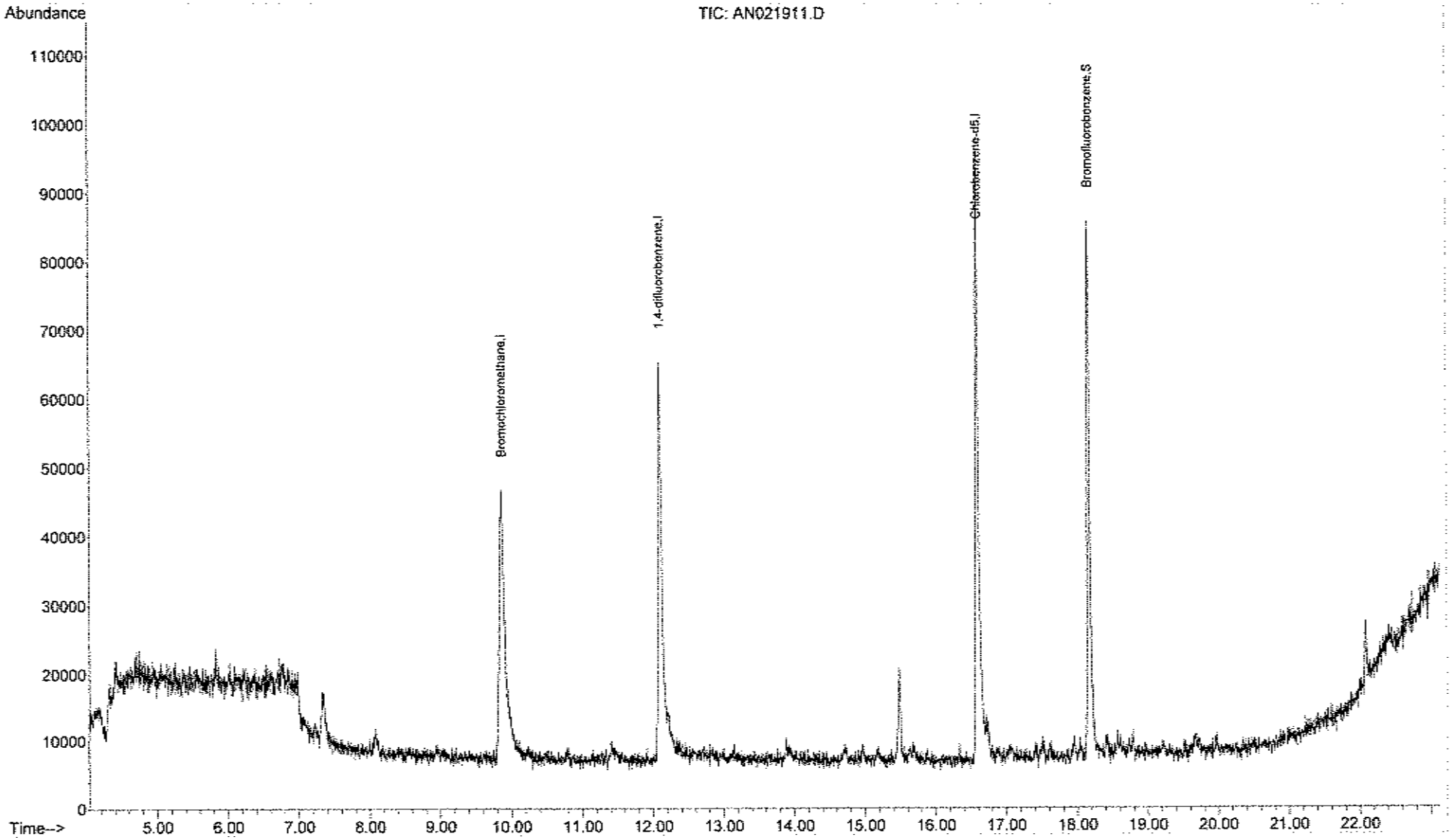
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.87	128	30090	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.10	114	93261	1.00	ppb	0.01
50) Chlorobenzene-d5	16.59	117	83480	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.16	95	40440m	0.71	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 71.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN021911.D A316_1UG.M Wed Apr 27 09:43:44 2016 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021911.D Vial: 6
Acq On : 19 Feb 2016 3:36 pm Operator: RJP
Sample : WAC021916F Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 9:02 2016 Quant Results File: A204_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021912.D Vial: 1
Acq On : 19 Feb 2016 5:28 pm Operator: RJP
Sample : WAC021916G Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:03 2016 Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

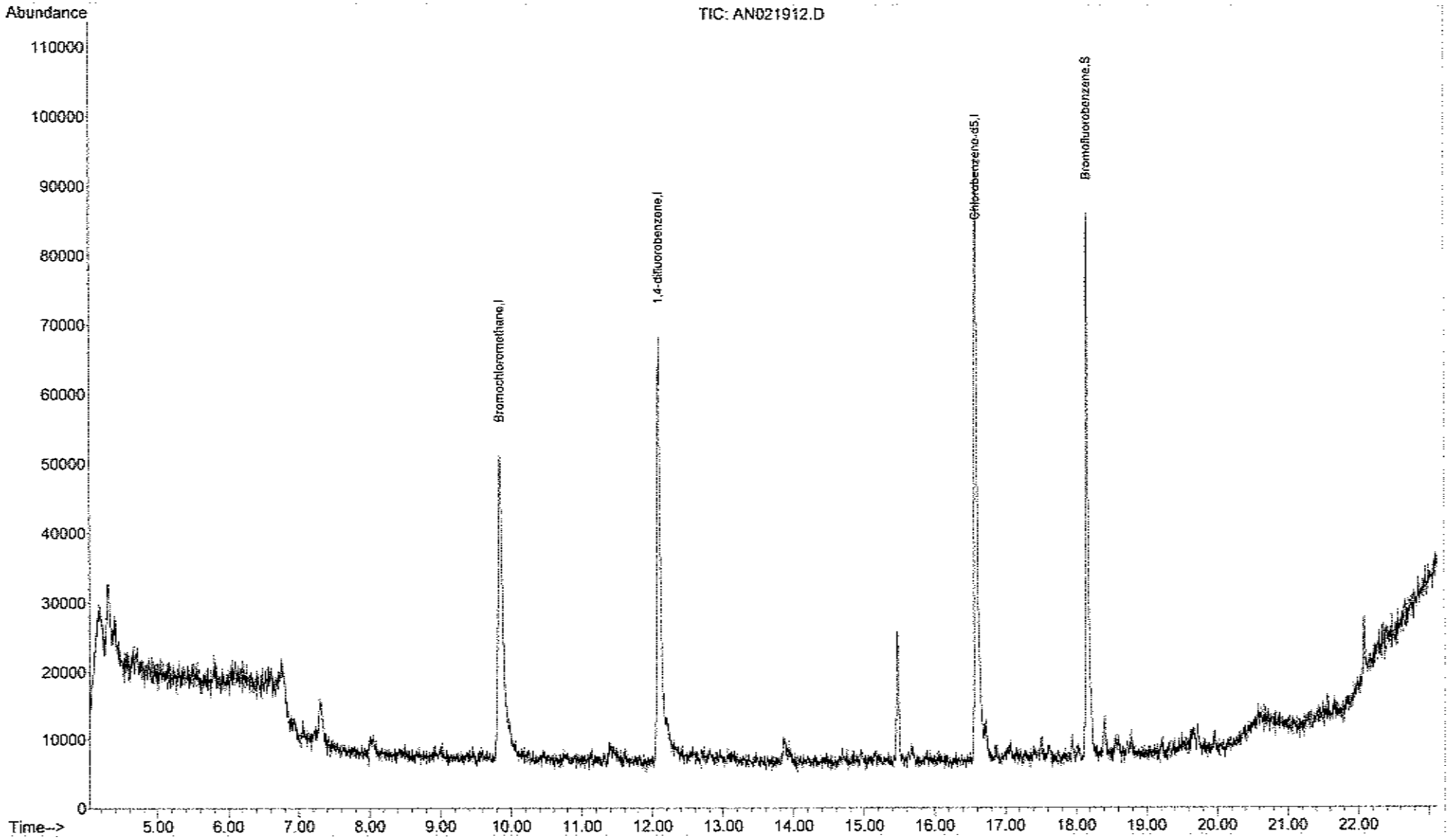
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.84	128	30565	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.09	114	86165	1.00	ppb	0.00
50) Chlorobenzene-d5	16.59	117	81355	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.16	95	38855m	0.70	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 70.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN021912.D A316_1UG.M Wed Apr 27 09:43:47 2016 MSD1 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021912.D Vial: 1
Acq On : 19 Feb 2016 5:28 pm Operator: RJP
Sample : WAC021916G Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 9:02 2016 Quant Results File: A204_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



AN021912.D A316_1UG.M Wed Apr 27 09:43:48 2016 MSD1 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021913.D Vial: 2
Acq On : 19 Feb 2016 6:05 pm Operator: RJP
Sample : WAC021916H Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:04 2016 Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

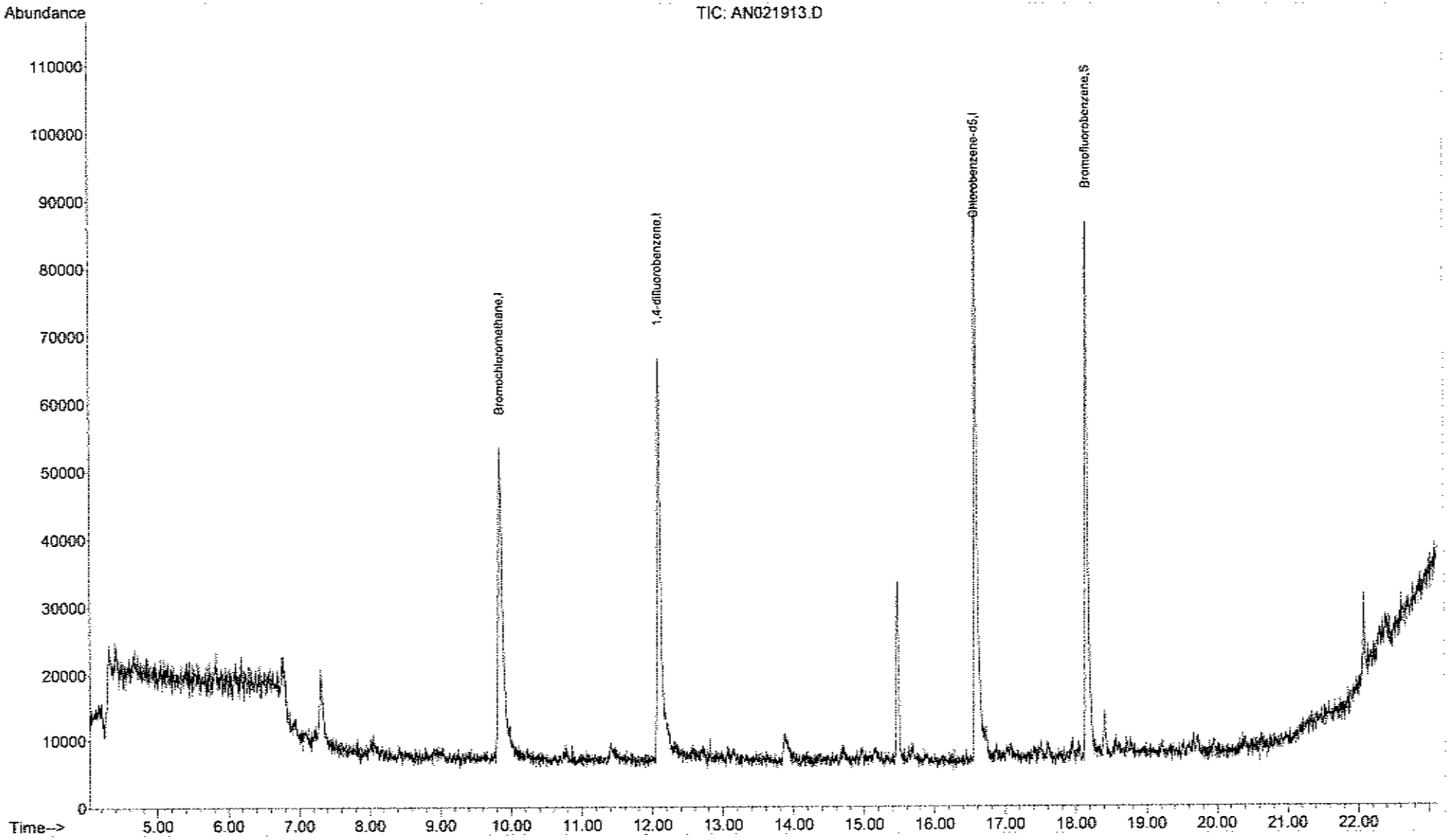
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.85	128	30719	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.09	114	88980	1.00	ppb	0.00
50) Chlorobenzene-d5	16.58	117	82754	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.16	95	42155m	0.75	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 75.00%			
Target Compounds						Qvalue

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021913.D Vial: 2
Acq On : 19 Feb 2016 6:05 pm Operator: RJP
Sample : WAC021916H Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 9:02 2016 Quant Results File: A204_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021914.D Vial: 3
Acq On : 19 Feb 2016 6:43 pm Operator: RJP
Sample : WAC021916I Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:05 2016 Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

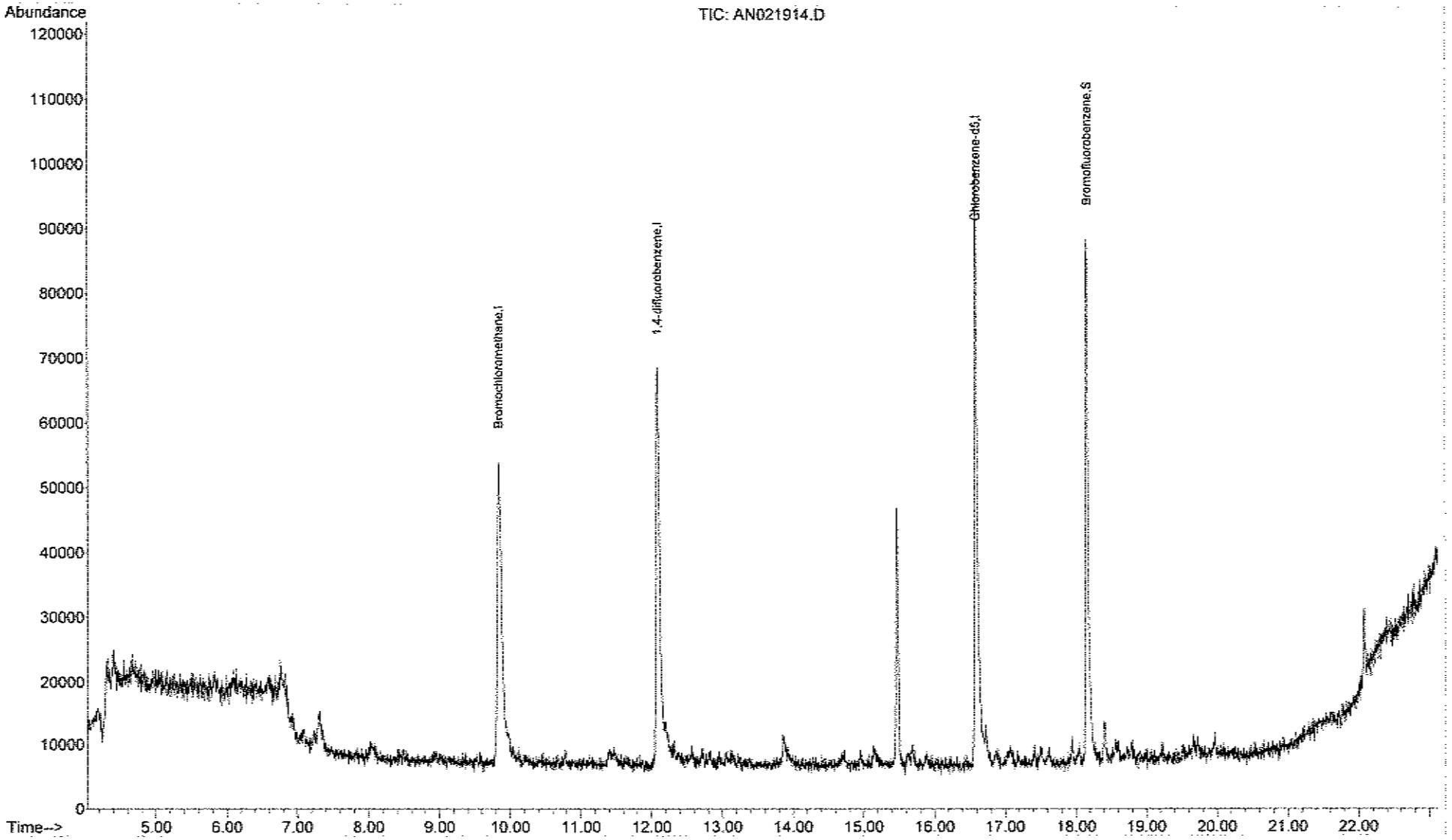
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.85	128	30896	1.00	ppb	-0.01
35) 1,4-difluorobenzene	12.09	114	90545	1.00	ppb	0.00
50) Chlorobenzene-d5	16.58	117	83125	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.16	95	41130m	0.73	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 73.00%			
Target Compounds						Qvalue

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021914.D Vial: 3
Acq On : 19 Feb 2016 6:43 pm Operator: RJP
Sample : WAC021916I Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 9:03 2016 Quant Results File: A204_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021915.D Vial: 4
Acq On : 19 Feb 2016 7:20 pm Operator: RJP
Sample : WAC021916J Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:06 2016 Quant Results File: A204_1UG.RES

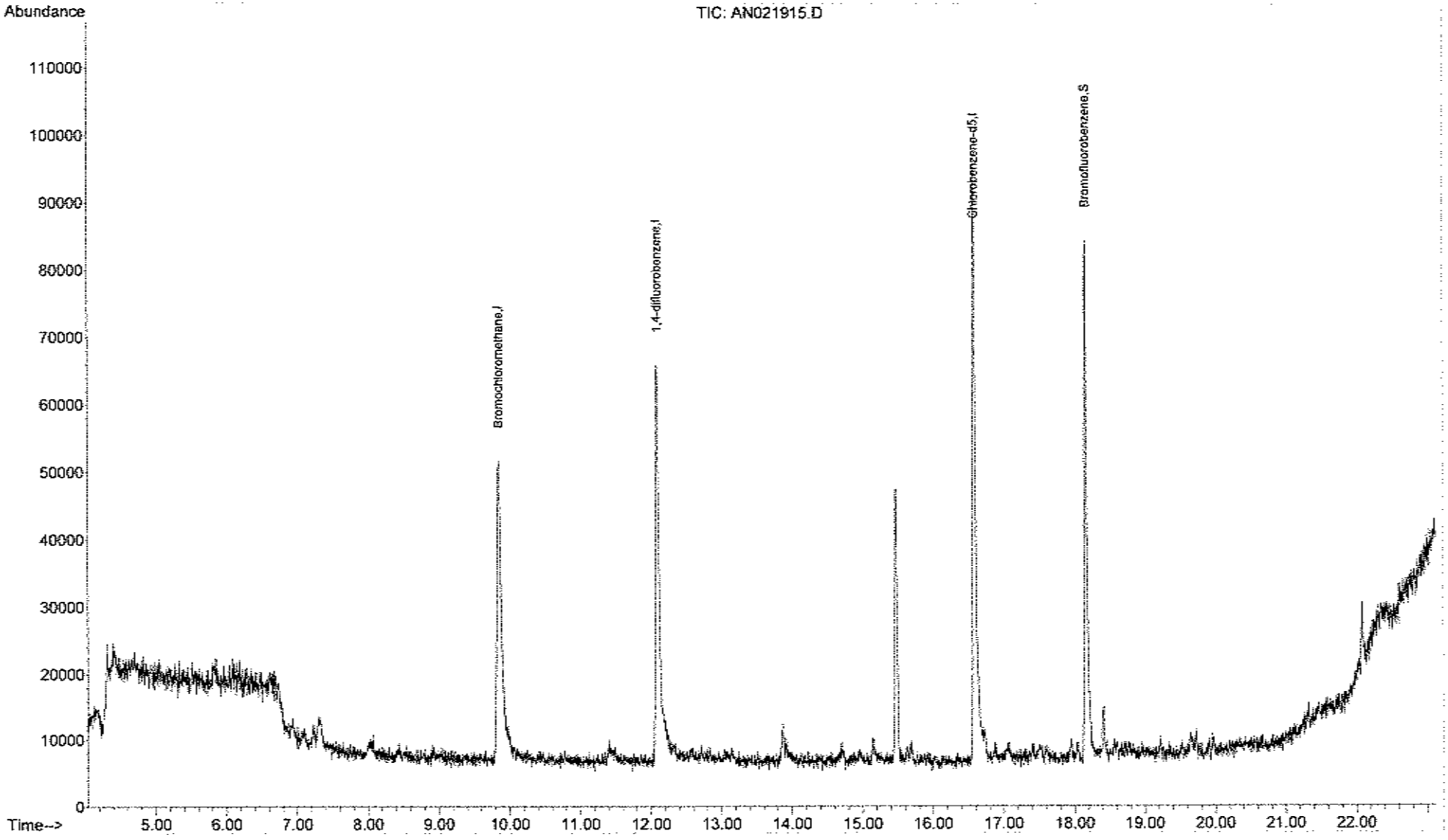
Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.85	128	29544	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.09	114	84494	1.00	ppb	0.00
50) Chlorobenzene-d5	16.58	117	79265	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.16	95	39870m	0.74	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 74.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021915.D Vial: 4
Acq On : 19 Feb 2016 7:20 pm Operator: RJP
Sample : WAC021916J Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 9:03 2016 Quant Results File: A204_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021916.D Vial: 5
Acq On : 19 Feb 2016 7:57 pm Operator: RJP
Sample : WAC021916K Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 07:55:07 2016 Quant Results File: A204_1UG.RES

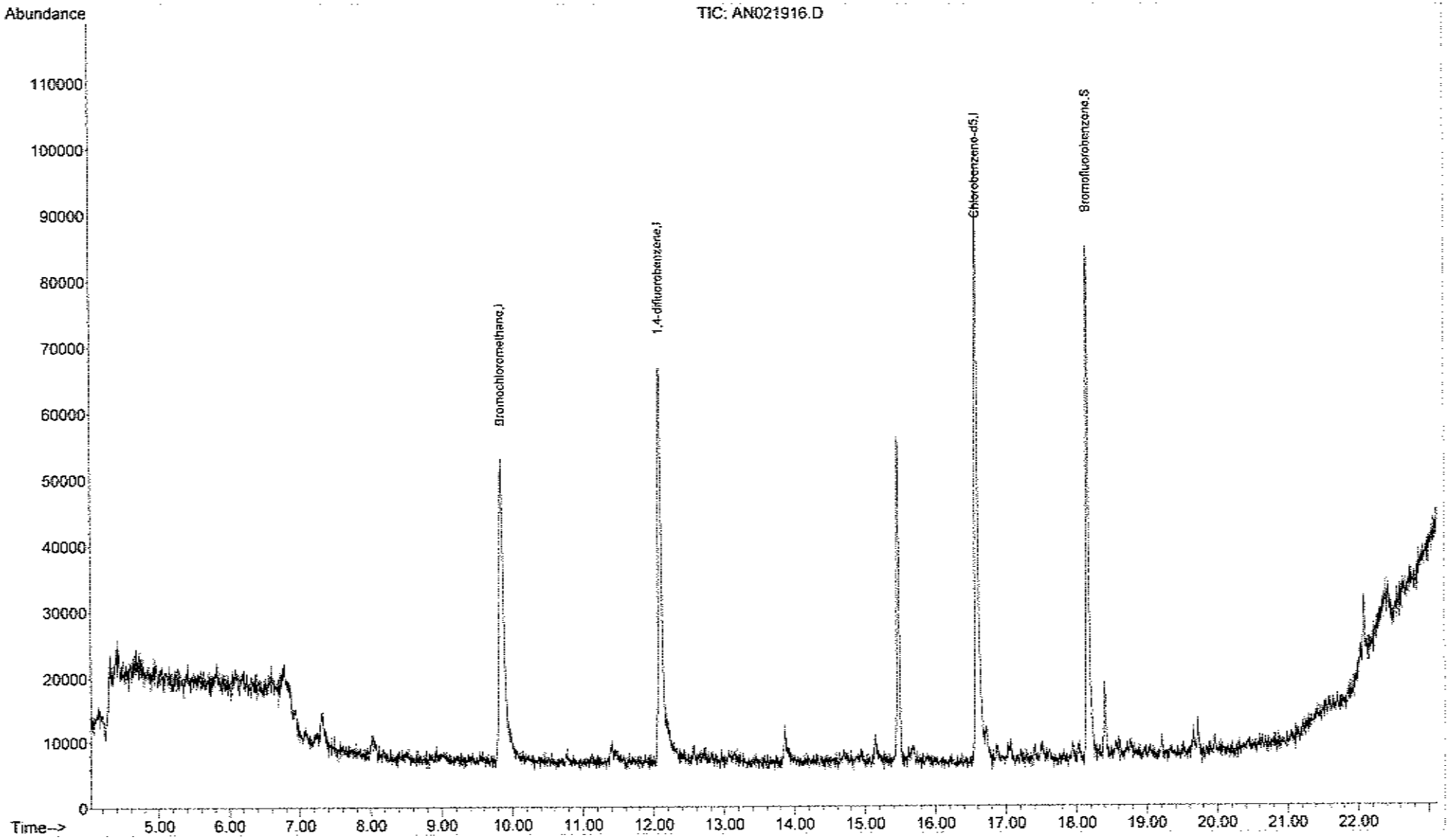
Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Feb 11 11:13:02 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.84	128	29343	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.10	114	88390	1.00	ppb	0.00
50) Chlorobenzene-d5	16.59	117	80484	1.00	ppb	0.00
System Monitoring Compounds						
66) Bromofluorobenzene	18.15	95	40271m	0.73	ppb	0.00
Spiked Amount 1.000	Range 70 - 130		Recovery = 73.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\2016FEB\AN021916.D Vial: 5
Acq On : 19 Feb 2016 7:57 pm Operator: RJP
Sample : WAC021916K Inst : MSD #1
Misc : A204_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 22 9:03 2016 Quant Results File: A204_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030805.D Vial: 5
Acq On : 8 Mar 2016 2:56 pm Operator: RJP
Sample : WAC030816A Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:51:24 2016 Quant Results File: A307_1UG.RES

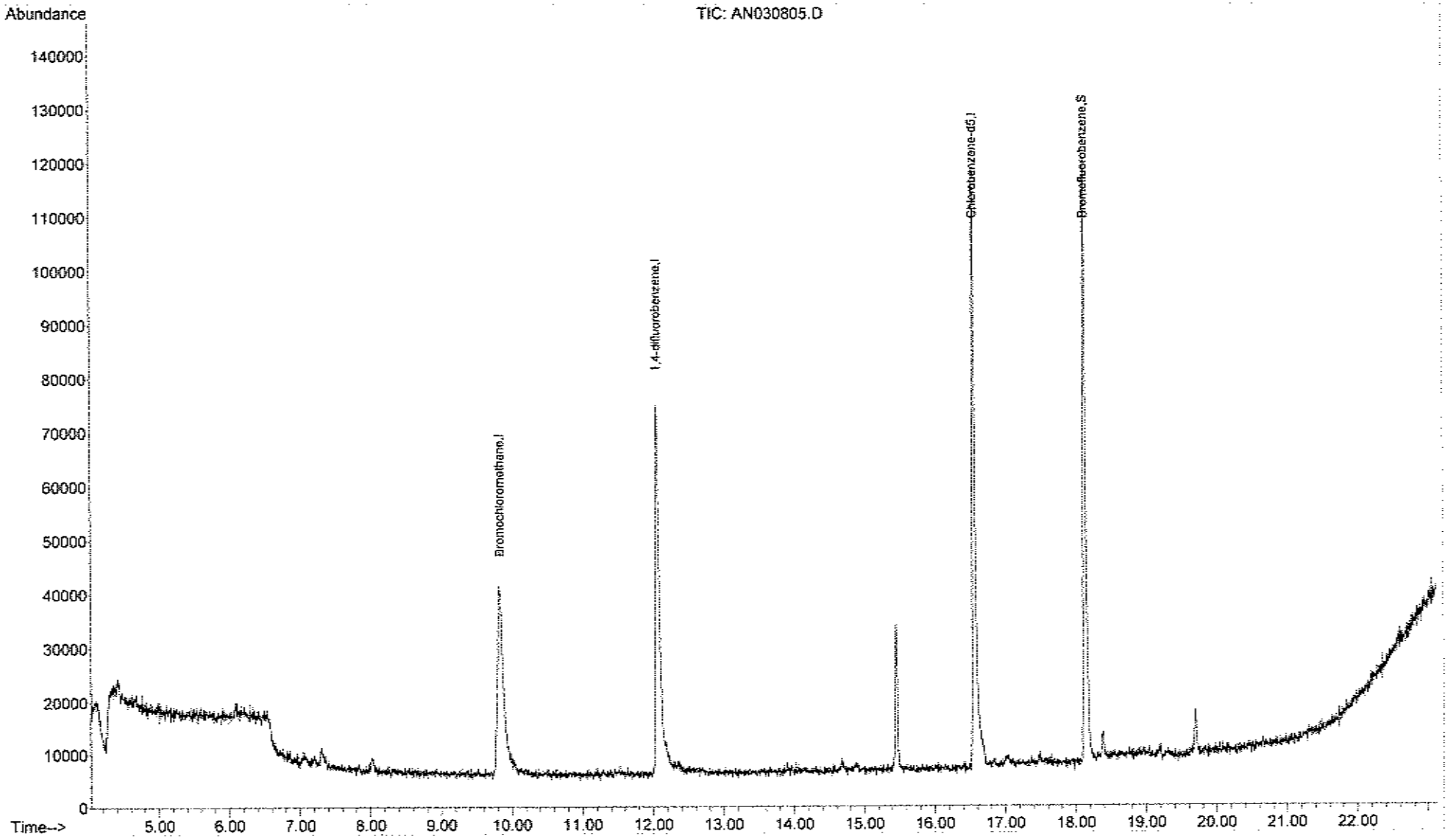
Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	25136	1.00	ppb	0.06
35) 1,4-difluorobenzene	12.07	114	116173	1.00	ppb	0.03
50) Chlorobenzene-d5	16.56	117	102380	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.13	95	63120	0.83	ppb	0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 83.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\AN030805.D Vial: 5
Acq On : 8 Mar 2016 2:56 pm Operator: RJP
Sample : WAC030816A Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:17 2016 Quant Results File: A307_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030806.D Vial: 6
Acq On : 8 Mar 2016 3:33 pm Operator: RJP
Sample : WAC030816B Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:51:30 2016 Quant Results File: A307_1UG.RES

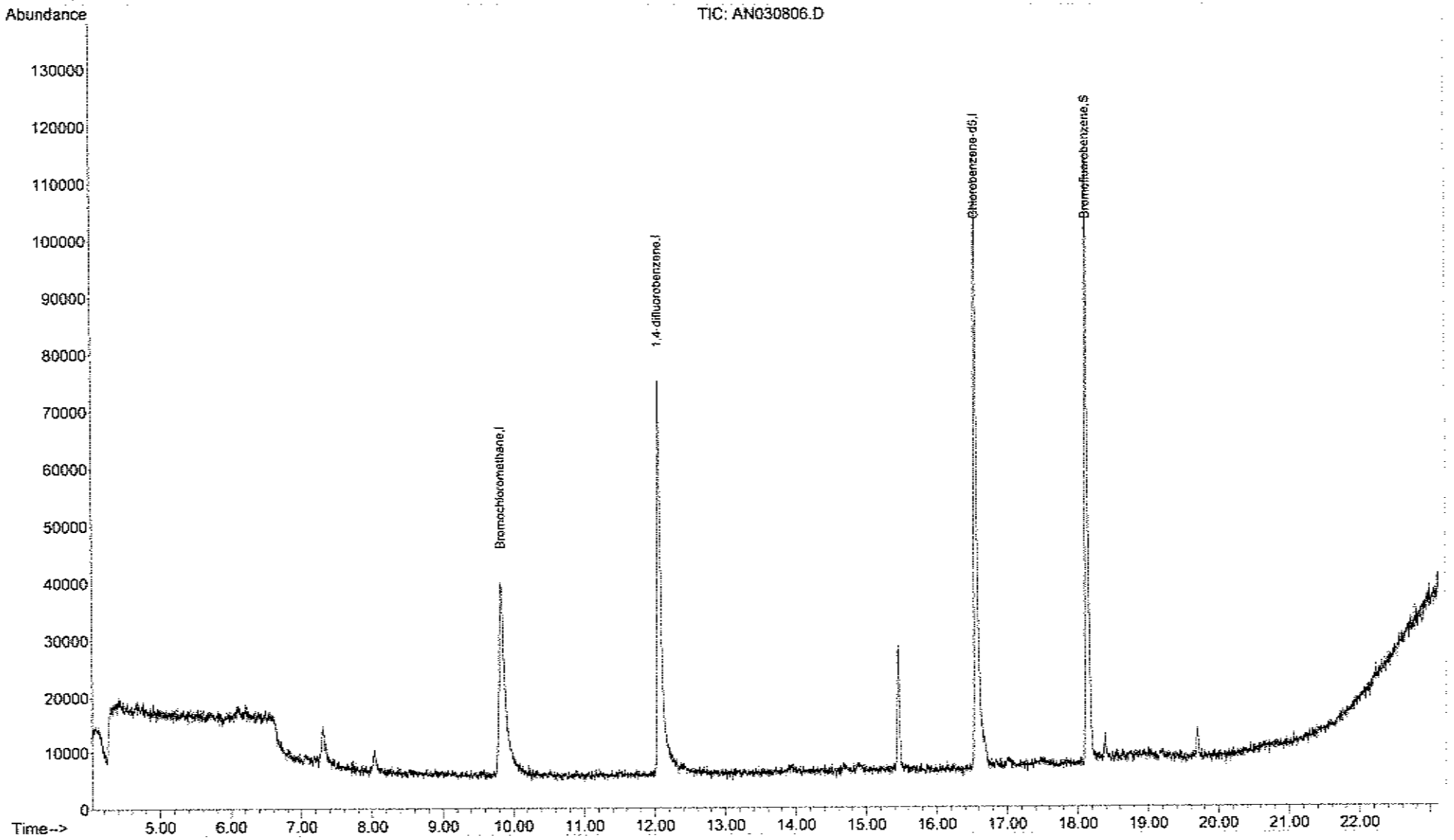
Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	30593m	1.00	ppb	0.05
35) 1,4-difluorobenzene	12.06	114	115546	1.00	ppb	0.02
50) Chlorobenzene-d5	16.56	117	98368	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.13	95	60091	0.82	ppb	0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 82.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\AN030806.D Vial: 6
Acq On : 8 Mar 2016 3:33 pm Operator: RJP
Sample : WAC030816B Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:17 2016 Quant Results File: A307_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030807.D Vial: 7
Acq On : 8 Mar 2016 4:10 pm Operator: RJP
Sample : WAC030816C Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:51:37 2016 Quant Results File: A307_1UG.RES

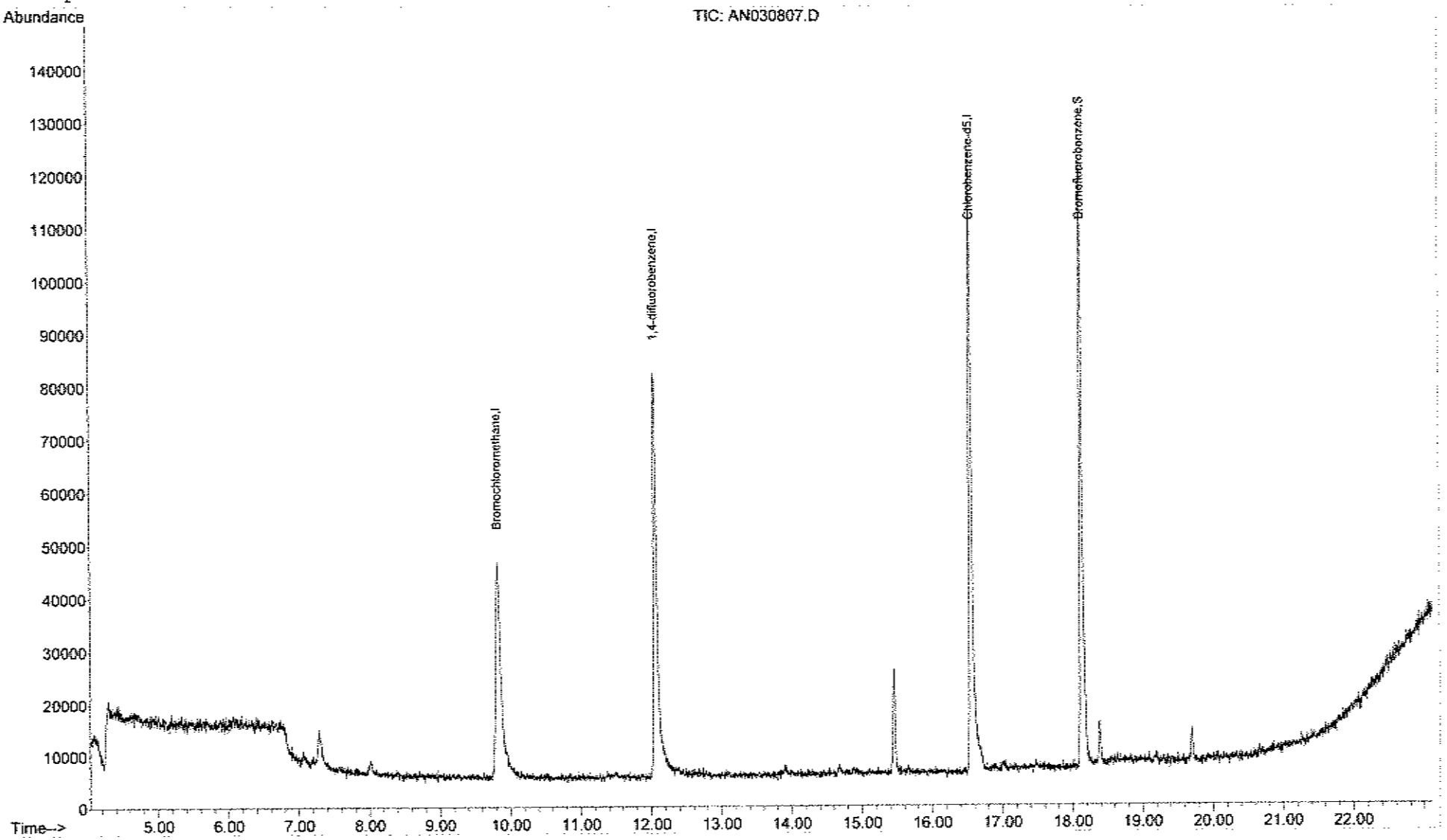
Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	31202m	1.00	ppb	0.04
35) 1,4-difluorobenzene	12.06	114	118323	1.00	ppb	0.02
50) Chlorobenzene-d5	16.56	117	102460	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.13	95	63649	0.83	ppb	0.01
Spiked Amount 1.000	Range 70 - 130		Recovery = 83.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\AN030807.D Vial: 7
Acq On : 8 Mar 2016 4:10 pm Operator: RJP
Sample : WAC030816C Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:18 2016 Quant Results File: A307_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030808.D Vial: 8
Acq On : 8 Mar 2016 4:48 pm Operator: RJP
Sample : WAC030816D Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:51:47 2016 Quant Results File: A307_1UG.RES

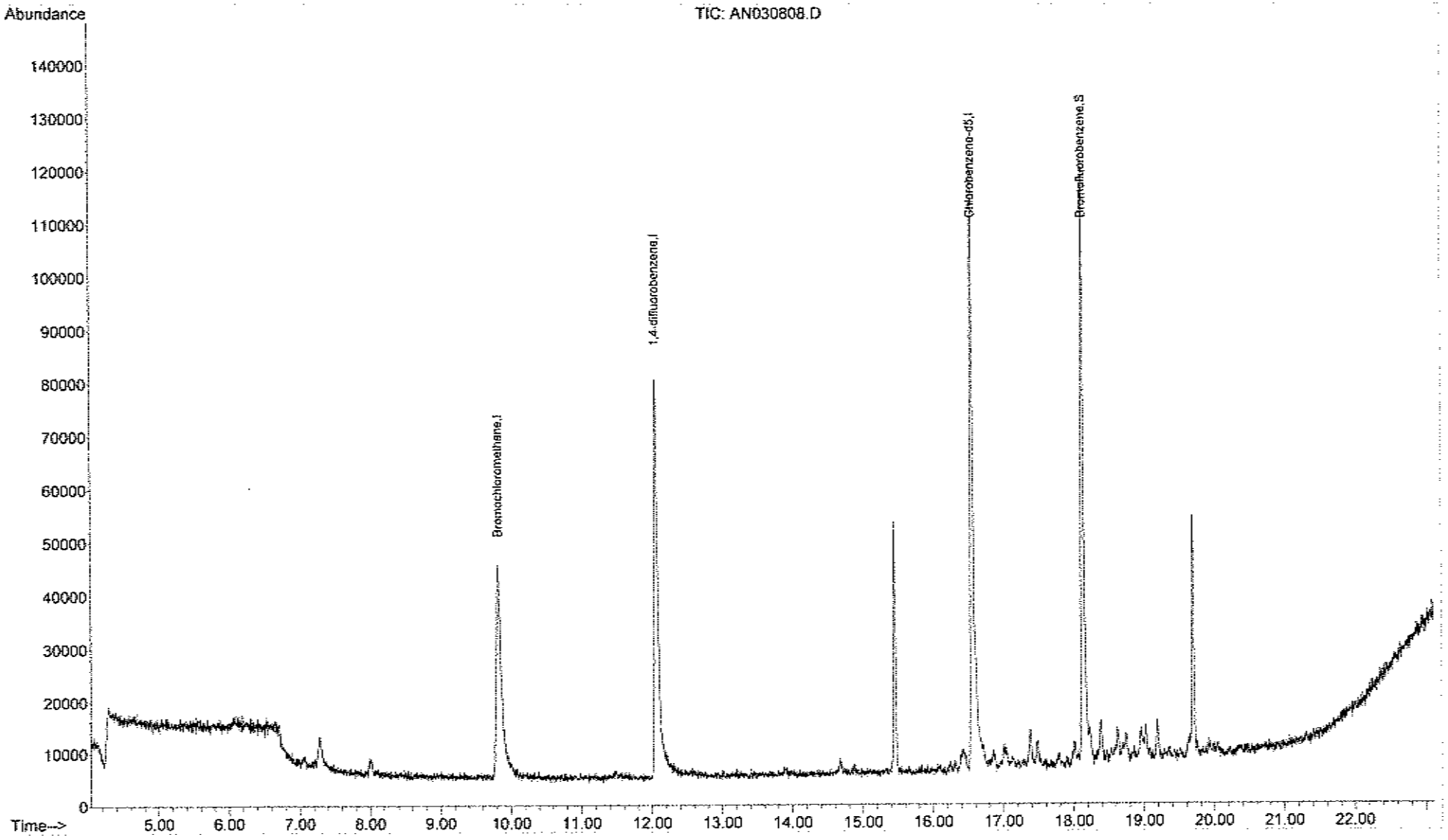
Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	30436m	1.00	ppb	0.05
35) 1,4-difluorobenzene	12.06	114	114980	1.00	ppb	0.02
50) Chlorobenzene-d5	16.56	117	98955	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.13	95	61350	0.83	ppb	0.01
Spiked Amount 1.000	Range 70 - 130		Recovery = 83.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\AN030808.D Vial: 8
Acq On : 8 Mar 2016 4:48 pm Operator: RJP
Sample : WAC030816D Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:18 2016 Quant Results File: A307_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030809.D Vial: 9
Acq On : 8 Mar 2016 5:25 pm Operator: RJP
Sample : WAC030816E Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:51:55 2016 Quant Results File: A307_1UG.RES

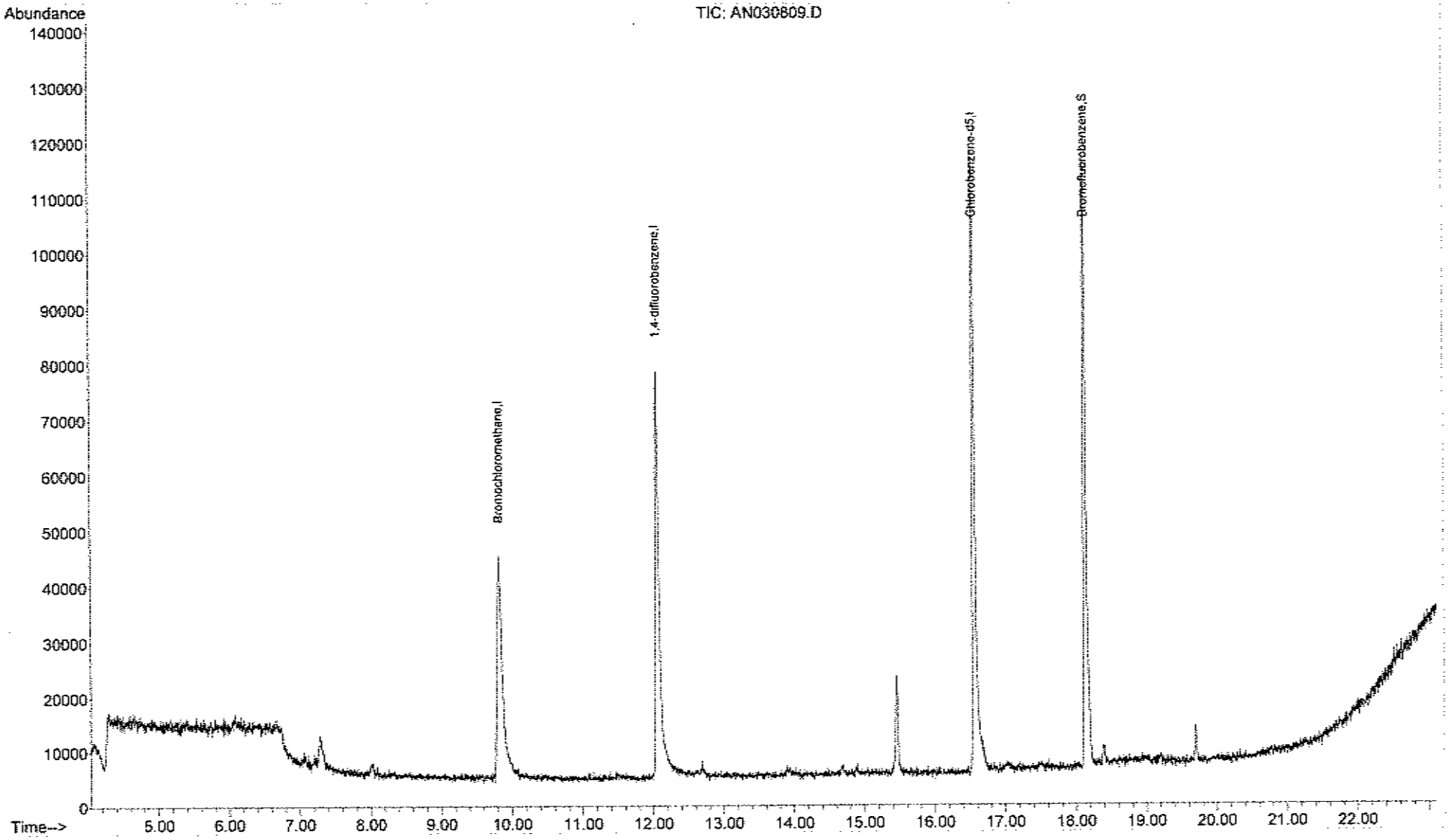
Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	29860m	1.00	ppb	0.05
35) 1,4-difluorobenzene	12.07	114	113615	1.00	ppb	0.03
50) Chlorobenzene-d5	16.56	117	100480	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.13	95	60863	0.81	ppb	0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 81.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\AN030809.D Vial: 9
Acq On : 8 Mar 2016 5:25 pm Operator: RJP
Sample : WAC030816E Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:18 2016 Quant Results File: A307_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030810.D Vial: 10
Acq On : 8 Mar 2016 6:03 pm Operator: RJP
Sample : WAC030816F Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:52:04 2016 Quant Results File: A307_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

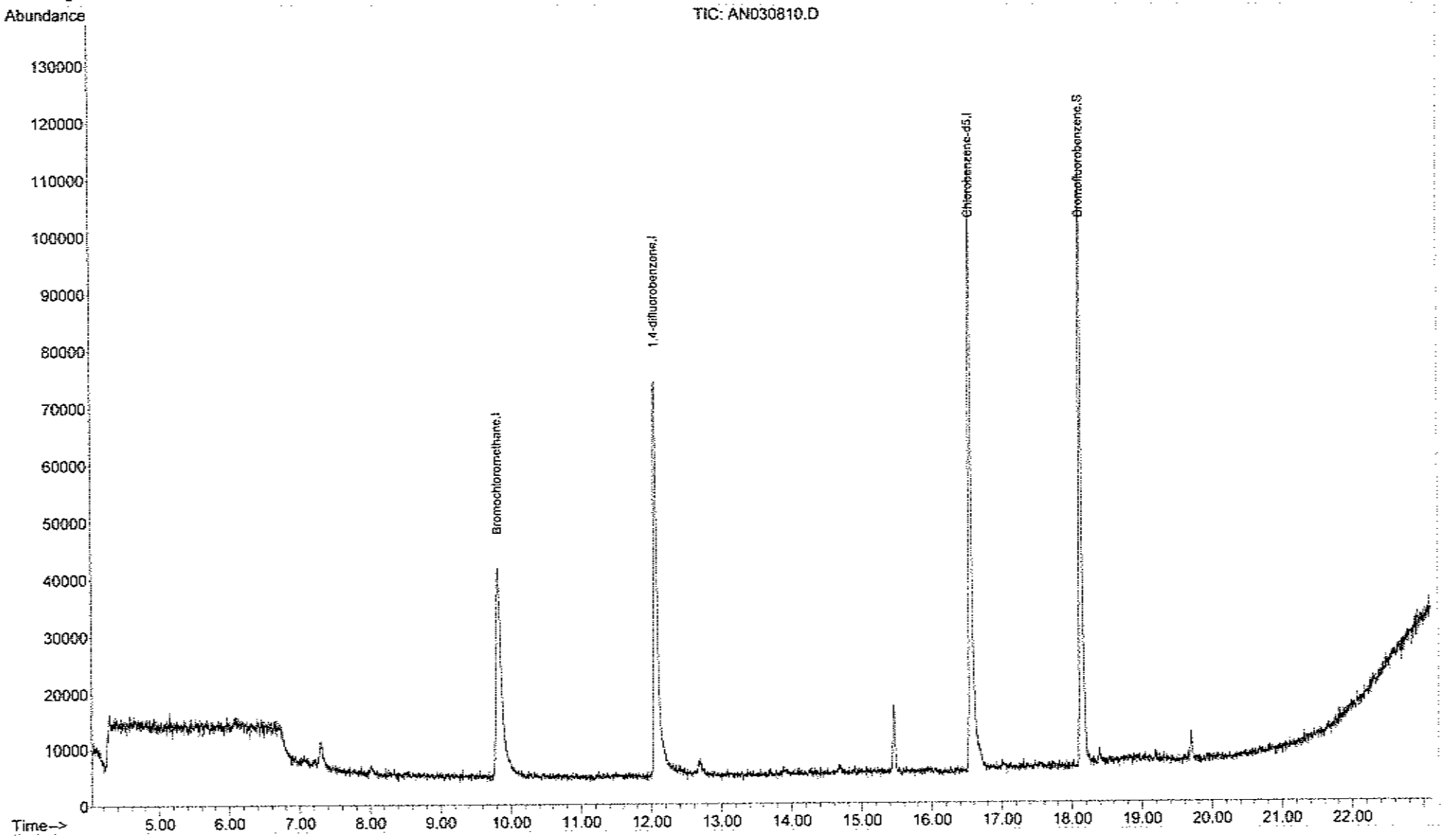
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	24540	1.00	ppb	0.05
35) 1,4-difluorobenzene	12.07	114	110396	1.00	ppb	0.03
50) Chlorobenzene-d5	16.56	117	94956	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.13	95	58532	0.83	ppb	0.01
Spiked Amount 1.000	Range 70 - 130		Recovery = 83.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\AN030810.D
Acq On : 8 Mar 2016 6:03 pm
Sample : WAC030816F
Misc : A307_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:18 2016

Vial: 10
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A307_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030811.D Vial: 11
Acq On : 8 Mar 2016 6:40 pm Operator: RJP
Sample : WAC030816G Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:52:16 2016 Quant Results File: A307_1UG.RES

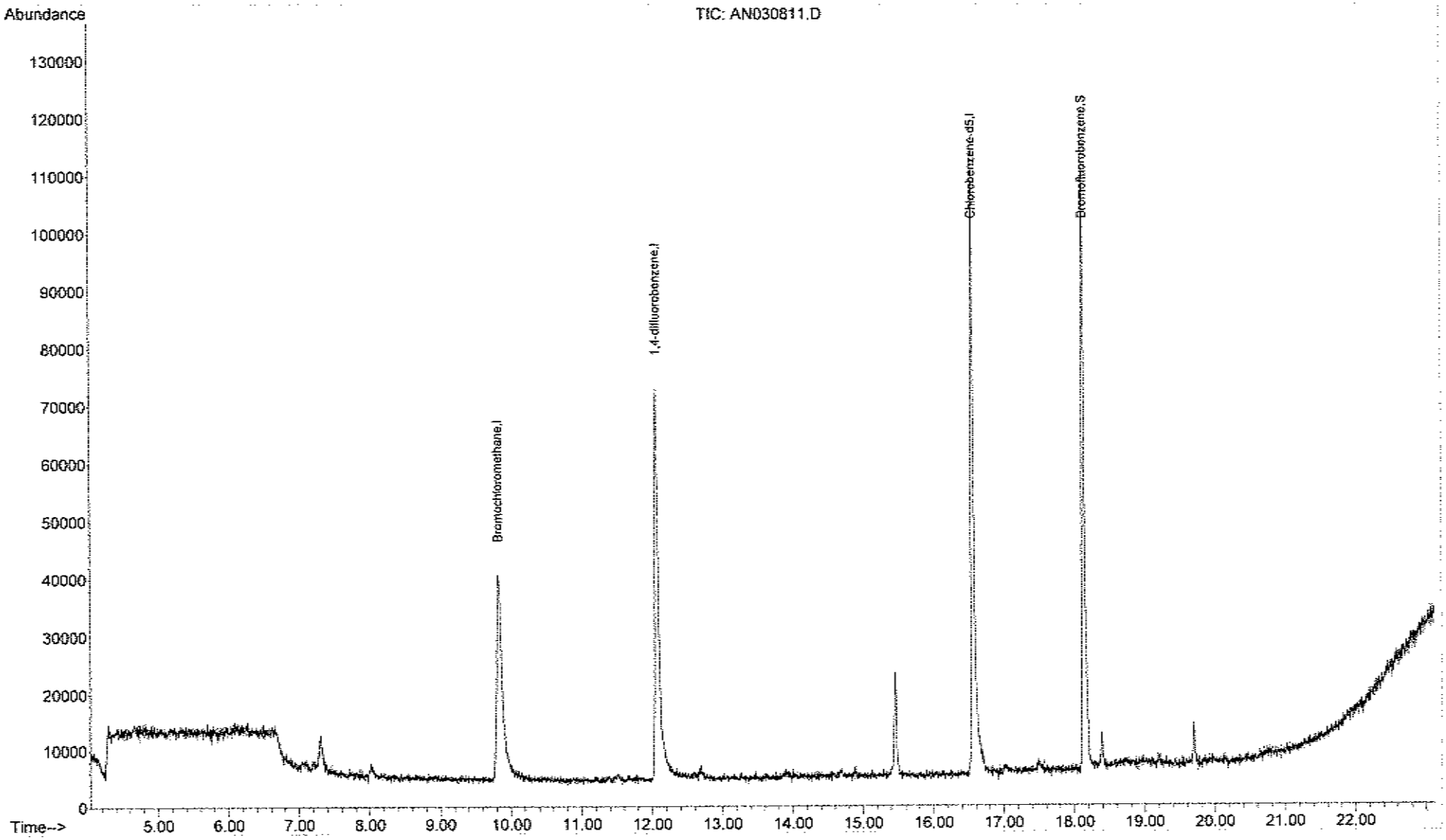
Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	23554	1.00	ppb	0.05
35) 1,4-difluorobenzene	12.07	114	106376	1.00	ppb	0.03
50) Chlorobenzene-d5	16.56	117	94041	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.13	95	57324	0.82	ppb	0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 82.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\AN030811.D Vial: 11
Acq On : 8 Mar 2016 6:40 pm Operator: RJP
Sample : WAC030816G Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:18 2016 Quant Results File: A307_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\AN030812.D Vial: 12
Acq On : 8 Mar 2016 7:18 pm Operator: RJP
Sample : WAC030816H Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 09 10:52:25 2016 Quant Results File: A307_1UG.RES

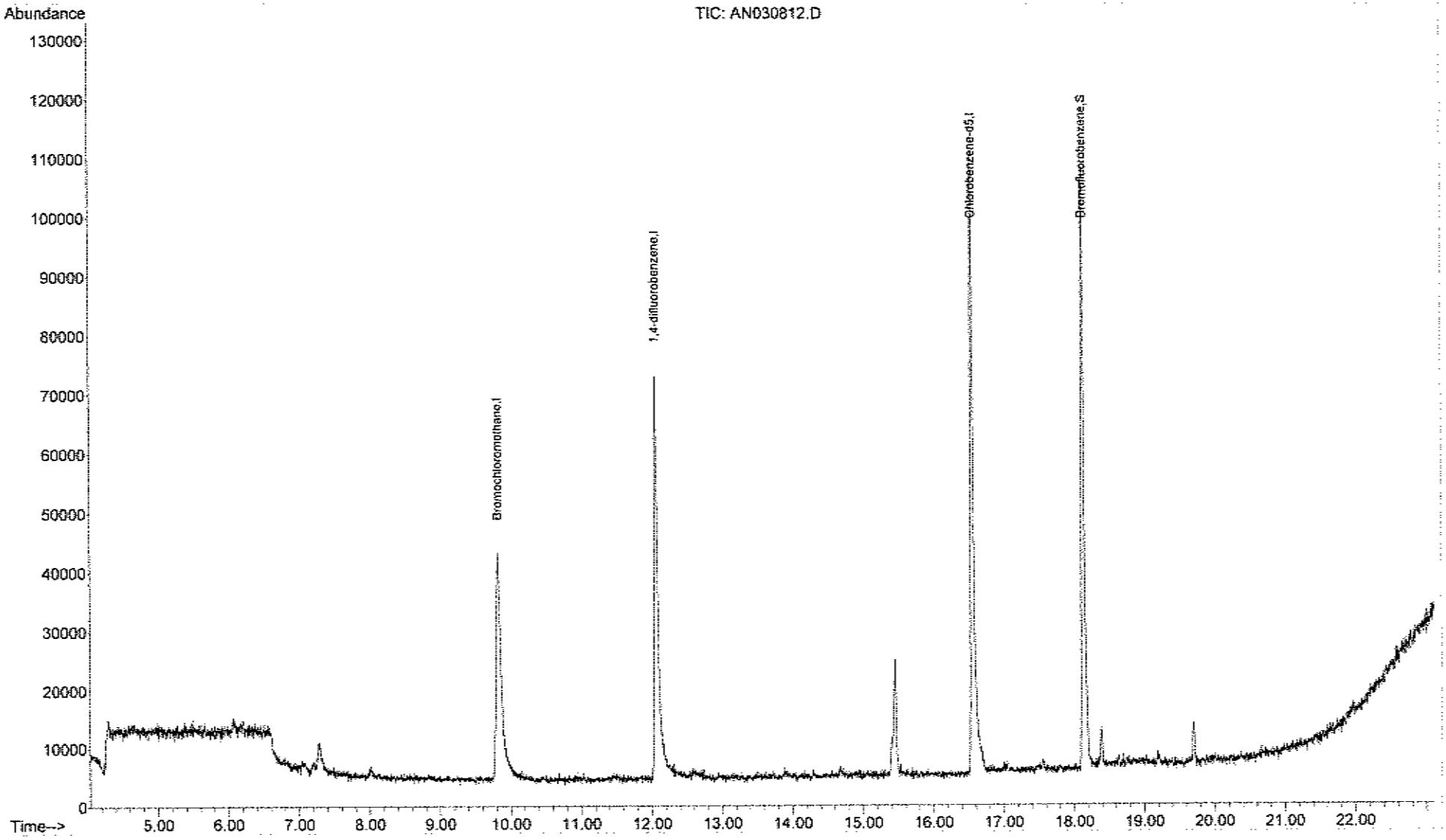
Quant Method : C:\HPCHEM\1\METHODS\A307_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Tue Mar 08 11:08:59 2016
Response via : Initial Calibration
DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	23978	1.00	ppb	0.05
35) 1,4-difluorobenzene	12.06	114	103270	1.00	ppb	0.02
50) Chlorobenzene-d5	16.56	117	93006	1.00	ppb	0.02
System Monitoring Compounds						
66) Bromofluorobenzene	18.14	95	55535	0.80	ppb	0.02
Spiked Amount 1.000	Range 70 - 130		Recovery = 80.00%			
Target Compounds						Qvalue

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

Data File : C:\HPCHEM\1\DATA2\AN030812.D Vial: 12
Acq On : 8 Mar 2016 7:18 pm Operator: RJP
Sample : WAC030816H Inst : MSD #1
Misc : A307_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Mar 14 10:19 2016 Quant Results File: A307_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



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

Rochester, New York 14614

Appendix 2

Data Usability Summary Report

DATA USABILITY SUMMARY REPORT

for

LaBella Associates, P.C.

300 State Street

Rochester, NY 14614

FORMER EMERSON LANDFILL
Project 210173
SDG: C1603091
Sampled 3/30/2016

TO-15 AIR SAMPLES

1640-IAQ-1	(C1603091-01)
1640-IAQ-2	(C1603091-02)
1640-SVI-2	(C1603091-03)
1640-SVI-3	(C1603091-04)
1640-IAQ-3	(C1603091-05)
1640-BLIND DUP	(C1603091-06)
1640-OUTDOOR	(C1603091-07)

DATA ASSESSMENT

One data package containing analytical results for seven TO-15 samples was received from LaBella Associates, P.C. on 3Apr16. The ASP deliverables package included formal reports, raw data, the necessary QC, and supporting information. The samples, taken from the Former Emerson Landfill Site, were identified by Chain of Custody documents and traceable through the work of Centek Laboratories, LLC, the laboratory contracted for analysis. The analyses were performed using US EPA Method TO-15 and addressed measurements of ten volatile organic compounds. Laboratory data was evaluated according to the quality assurance / quality control requirements of the New York State Department of Environmental Conservation's Analytical Services Protocol (ASP), September 1989, Rev. 07/2005. When the required protocol was not followed, the current EPA Region II Functional Guidelines (SOP HW-31, Rev. #4, October 2006, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15) was used as a technical reference.

The trichloroethene concentrations found in 1640-IAQ-1 and 1640-IAQ-2 have been qualified as estimations due to high surrogate standard 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". 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: _____ Date: 12May16

James B. Baldwin
DATAVAL, Inc.

SAMPLE HISTORY

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

This sample delivery group contained seven TO-15 samples that were collected in 1-liter SUMMA canisters. Sampling was completed, and the canisters were shipped back to the laboratory, via FedEx, on 30Mar16. They were received on 31Mar16. 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)
1640-IAQ-1	-30	-30	-8	-8
1640-IAQ-2	-30	-30	-6	-6
1640-SVI-2	-30	-30	-6	-6
1640-SVI-3	-30	-30	-5	-5
1640-IAQ-3	-30	-30	-5	-6
1640-BLIND DUP	-30	-30	-8	-8
1640-OUTDOOR	-30	-30	-6	-6

The final vacuum readings recorded for 1640-IAQ-1 and 1640-BLIND DUP were slightly outside of the ASP limits of -5±1"Hg. These slight deviations do not necessitate data qualifications because vacuum was maintained in each of the canisters and sample volumes were sufficient to complete the necessary analyses.

The analysis of this group of samples was completed between 31Mar16 and 03Apr16, satisfying the ASP holding time limitation.

CANISTER CERTIFICATION

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

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

BLANKS

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

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. Each of these checks satisfied the ASP acceptance criteria.

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

The initial instrument calibration was performed on 04Feb16. Standards of 0.04, 0.15, 0.30, 0.50, 0.75, 1.0, 1.25, 1.50 and 2.0 ppbV were included. Each targeted analyte produced the required levels of instrument response and demonstrated an acceptable degree of linearity during this calibration.

A continuing calibration check standard was analyzed on 31Apr16, prior to the 24-hour period of instrument operation that included samples from this program. When compared to the initial calibration, an acceptable level of instrument stability was demonstrated by each targeted analyte.

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

Although surrogate summary sheets were properly prepared, an incorrect acceptance criteria was applied. When compared to the ASP requirements, elevated recoveries were reported for the BFB additions to 1640-IAQ-1 (122%) and 1640-IAQ-2 (125%). The positive trichloroethene results reported from this pair of samples have been qualified as estimations based on these indications of positive bias. The remaining surrogate additions to this group of samples were recovered successfully.

INTERNAL STANDARDS
Internal standards are added to each sample, blank and standard just prior to injection. Analyte concentrations are calculated relative to the response of a specific internal standard.

Internal standard performance criteria ensure that GC/MS sensitivity and response are stable during the analysis of each sample. The area of internal standard peaks may not vary by more than 40%. When compared to the preceding calibration check, retention times may not vary by more than 10 seconds.

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

1640-IAQ-3 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 high results for chloromethane (138%,159%). These indications of positive bias, however, warrant no concern. Chloromethane was not detected in this group of samples. The remaining targeted analytes demonstrated acceptable levels of measurement precision and accuracy.

A spiked blank (LCS) was also analyzed with this group of samples. The recoveries reported for this spiked blank included a high result for 1,1,1-trichloroethane (137%). This indication of positive bias, however, warrants no concern because 1,1,1-trichloroethane was not detected in this group of samples. The remaining targeted analytes were recovered successfully.

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 field split 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

FORMER EMERSON LANDFIL SAMPLED MARCH 2016

		SURROGATE TCE
1640-IAQ-1	(C1603091-01)	0.64J
1640-IAQ-2	(C1603091-02)	0.43J
1640-SVI-2	(C1603091-03)	
1640-SVI-3	(C1603091-04)	
1640-IAQ-3	(C1603091-05)	
1640-BLIND DUP	(C1603091-06)	
1640-OUTDOOR	(C1603091-07)	

Centek Laboratories, LLC

Date: 26-Apr-16

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-1
Lab Order:	C1603091	**Tag Number:**	85,272
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-001A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 1:28:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 1:28:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 1:28:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 1:28:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 1:28:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 1:28:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 1:28:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 1:28:00 AM
Trichloroethene	0.64	0.21	J	ug/m3	1	4/4/2016 1:28:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 1:28:00 AM

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-2
Lab Order:	C1603091	**Tag Number:**	496,403
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-002A	**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	4/4/2016 2:08:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 2:08:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:08:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 2:08:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 2:08:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:08:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 2:08:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:08:00 AM
Trichloroethene	0.43	0.21	J	ug/m3	1	4/4/2016 2:08:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 2:08:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-SVI-2
Lab Order:	C1603091	**Tag Number:**	366,1169
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-003A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		**TO-15**				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 2:47:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 2:47:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:47:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 2:47:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 2:47:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:47:00 AM
Tetrachloroethylene	0.75	1.0	J	ug/m3	1	4/4/2016 2:47:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 2:47:00 AM
Trichloroethene	0.81	0.81		ug/m3	1	4/4/2016 2:47:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	4/4/2016 2:47:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	Client Sample ID:	1640-SVI-3
Lab Order:	C1603091	Tag Number:	1318,304
Project:	Emerson Landfill	Collection Date:	3/30/2016
Lab ID:	C1603091-004A	Matrix:	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 3:26:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 3:26:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 3:26:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 3:26:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 3:26:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 3:26:00 AM
Tetrachloroethylene	0.81	1.0	J	ug/m3	1	4/4/2016 3:26:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 3:26:00 AM
Trichloroethene	1.6	0.81		ug/m3	1	4/4/2016 3:26:00 AM
Vinyl chloride	< 0.38	0.38		ug/m3	1	4/4/2016 3:26:00 AM

JN

Qualifiers:

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

Centek Laboratories, LLC

Date: 26-Apr-16

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-IAQ-3
Lab Order:	C1603091	**Tag Number:**	1207,299
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-005A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		**TO-15**				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/3/2016 11:24:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/3/2016 11:24:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/3/2016 11:24:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	4/3/2016 11:24:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	4/3/2016 11:24:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/3/2016 11:24:00 PM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/3/2016 11:24:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/3/2016 11:24:00 PM
Trichloroethene	0.48	0.21		ug/m3	1	4/3/2016 11:24:00 PM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/3/2016 11:24:00 PM

745

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-Blind Duplicate
Lab Order:	C1603091	**Tag Number:**	336,403
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-006A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 4:06:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 4:06:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:06:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 4:06:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	4/4/2016 4:06:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:06:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 4:06:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:06:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	4/4/2016 4:06:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 4:06:00 AM

Qualifiers:

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

Centek Laboratories, LLC

Date: *26-Apr-16*

CLIENT:	LaBella Associates, P.C.	**Client Sample ID:**	1640-Outdoor Air
Lab Order:	C1603091	**Tag Number:**	290,48
Project:	Emerson Landfill	**Collection Date:**	3/30/2016
Lab ID:	C1603091-007A	**Matrix:**	AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 W/ 0.25UG/M3 CT-TCE-VC		TO-15				Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	4/4/2016 4:45:00 AM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	4/4/2016 4:45:00 AM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:45:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	4/4/2016 4:45:00 AM
Chloromethane	2.1	0.31		ug/m3	1	4/4/2016 4:45:00 AM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:45:00 AM
Tetrachloroethylene	< 1.0	1.0		ug/m3	1	4/4/2016 4:45:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	4/4/2016 4:45:00 AM
Trichloroethene	< 0.21	0.21		ug/m3	1	4/4/2016 4:45:00 AM
Vinyl chloride	< 0.10	0.10		ug/m3	1	4/4/2016 4:45:00 AM

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

Date: 27-Apr-16

CENTEK LABORATORIES, LLC

QC SUMMARY REPORT
SURROGATE RECOVERIES

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill
Test No: TO-15 Matrix: A

Sample ID	BR4FBZ
ALCS1UG-040316	112
AMB1UG-040316	88.0
C1603091-001A	122
C1603091-002A	125
C1603091-003A	119
C1603091-004A	116
C1603091-005A	119
C1603091-005A MS	123
C1603091-005A MSD	119
C1603091-006A	118
C1603091-007A	114
C1603092-013A MS	126
C1603092-013A MSD	124

Acronym		Surrogate	QC Limits
BR4FBZ	=	Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\AN040302.D
Tune Time : 3 Apr 2016 11:40 am

Daily Calibration File : C:\HPCHEM\1\DATA\AN040302.D

File	Sample	DL	(BFB) Surrogate Recovery %	(IS1) 16244 Internal Standard Responses	(IS2) 37337	(IS3) 27087
AN040303.D	ALCS1UG-040316		112	15355	33728	24096
AN040304.D	AMB1UG-040316		88	14032	33917	30527
AN040319.D	C1603091-005A		119	14883	37891	28556
AN040320.D	C1603091-005A	MS	123	16262	40411	24211
AN040321.D	C1603091-005A	MSD	119	17352	46934	25902
AN040322.D	C1603091-001A		122	15199	40864	26354
AN040323.D	C1603091-002A		125	14903	39943	26736
AN040324.D	C1603091-003A		119	15528	43280	26603
AN040325.D	C1603091-004A		116	16444	42195	29354
AN040326.D	C1603091-006A		118	16917	45571	30473
AN040327.D	C1603091-007A		114	13714	33839	30298

t - fails 24hr time check * - fails criteria

Created: Tue Apr 26 16:30:39 2016 MSD #1/

CENTEK LABORATORIES, LLC

Date: 26-Apr-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID ALCS1UG-040316 SampType: LCS TestCode: 0.25CT-TCE- Units: ppbV Prep Date: RunNo: 10821
Client ID: ZZZZZ Batch ID: R10821 TestNo: TO-15 Analysis Date: 4/3/2016 SeqNo: 127147

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.370	0.15	1	0	137	70	130				S
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130				
1,1-Dichloroethene	1.070	0.15	1	0	107	70	130				
Chloroethane	1.170	0.15	1	0	117	70	130				
Chloromethane	1.280	0.15	1	0	128	70	130				
cis-1,2-Dichloroethene	1.070	0.15	1	0	107	70	130				
Tetrachloroethylene	0.9000	0.15	1	0	90.0	70	130				
trans-1,2-Dichloroethene	1.130	0.15	1	0	113	70	130				
Trichloroethene	1.270	0.040	1	0	127	70	130				
Vinyl chloride	1.220	0.040	1	0	122	70	130				

Qualifiers:

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

CENTEK LABORATORIES, LLC

Date: 26-Apr-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID	AMB1UG-040316	SampType:	MBLK	TestCode:	0.25CT-TCE-	Units:	ppbV	Prep Date:		RunNo:	10821
Client ID:	ZZZZZ	Batch ID:	R10821	TestNo:	TO-15			Analysis Date:	4/3/2016	SeqNo:	127146

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

Qualifiers:

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

CENTEK LABORATORIES, LLC

Date: 27-Apr-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID C1603091-005A MS	SampType: MS	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 10821
Client ID: 1640-IAQ-3	Batch ID: R10821	TestNo: TO-15		Analysis Date: 4/4/2016	SeqNo: 127156

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.220	0.15	1	0	122	70	130				
1,1-Dichloroethane	1.140	0.15	1	0	114	70	130				
1,1-Dichloroethene	1.140	0.15	1	0	114	70	130				
Chloroethane	1.280	0.15	1	0	128	70	130				
Chloromethane	1.380	0.15	1	0	138	70	130				S
cis-1,2-Dichloroethene	1.130	0.15	1	0	113	70	130				
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130				
trans-1,2-Dichloroethene	1.280	0.15	1	0	128	70	130				
Trichloroethene	1.180	0.040	1	0.09	109	70	130				
Surr: Bromofluorobenzene	1.230	0	1	0	123	70	130				

Sample ID C1603091-005A MS	SampType: MSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 10821
Client ID: 1640-IAQ-3	Batch ID: R10821	TestNo: TO-15		Analysis Date: 4/4/2016	SeqNo: 127158

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.160	0.15	1	0	116	70	130	1.22	5.04	30	
1,1-Dichloroethane	1.170	0.15	1	0	117	70	130	1.14	2.60	30	
1,1-Dichloroethene	1.100	0.15	1	0	110	70	130	1.14	3.57	30	
Chloroethane	1.170	0.15	1	0	117	70	130	1.28	8.98	30	
Chloromethane	1.590	0.15	1	0	159	70	130	1.38	14.1	30	S
cis-1,2-Dichloroethene	1.140	0.15	1	0	114	70	130	1.13	0.881	30	
Tetrachloroethylene	0.8800	0.15	1	0	88.0	70	130	0.88	0	30	
trans-1,2-Dichloroethene	1.210	0.15	1	0	121	70	130	1.28	5.62	30	
Trichloroethene	1.180	0.040	1	0.09	109	70	130	1.18	0	30	

Qualifiers:

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

CLIENT: LaBella Associates, P.C.
Work Order: C1603091
Project: Emerson Landfill

TestCode: 0.25CT-TCE-VC

Sample ID: C1603091-005A MS	SampType: MSD	TestCode: 0.25CT-TCE-	Units: ppbV	Prep Date:	RunNo: 10821
Client ID: 1640-IAQ-3	Batch ID: R10821	TestNo: TO-15		Analysis Date: 4/4/2016	SeqNo: 127158

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Bromofluorobenzene	1.190	0	1	0	119	70	130	0	0	30	

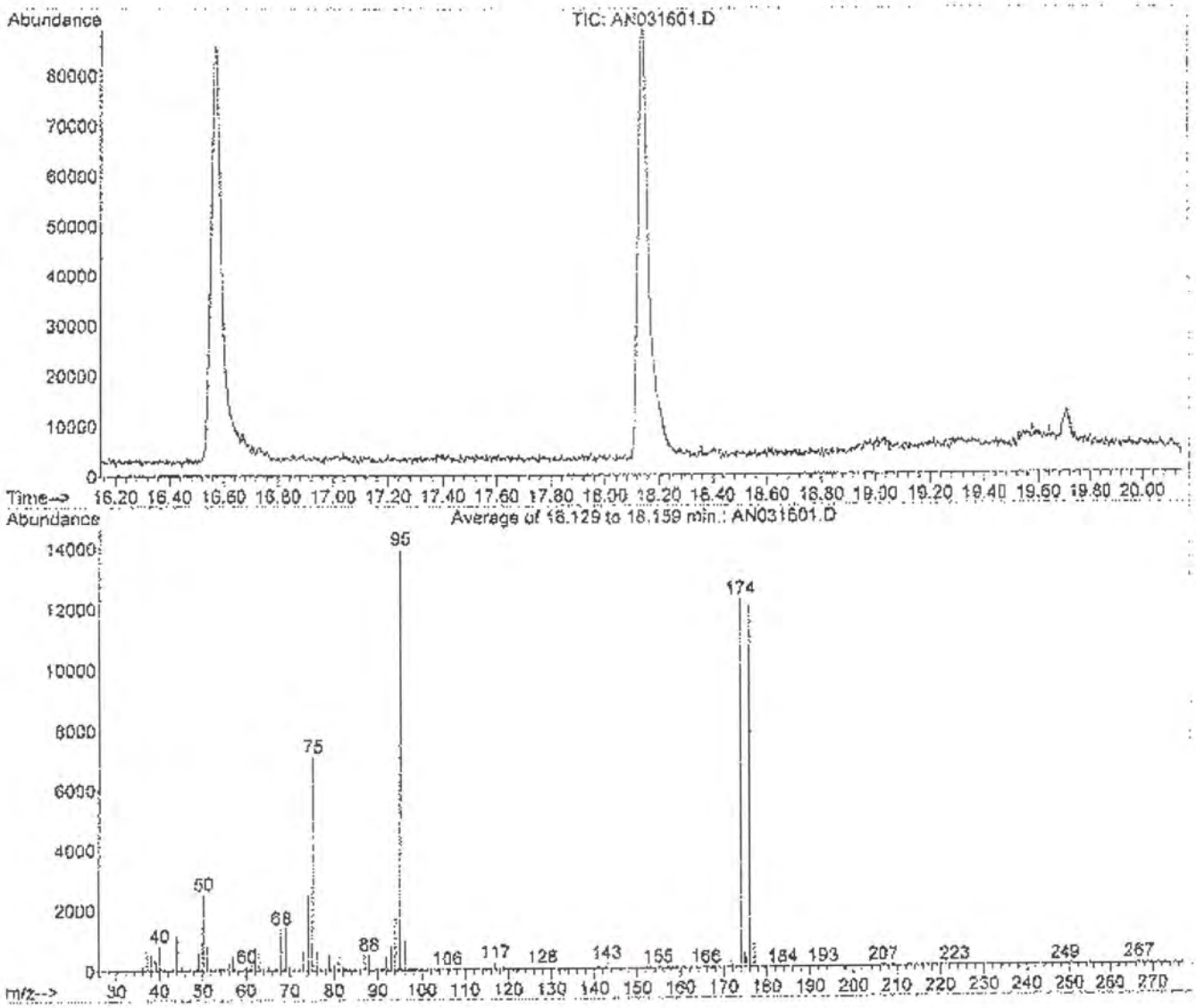
Qualifiers:

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

BFB

Data File : C:\HPCHEM\1\DATA\AN031601.D
Acq On : 16 Mar 2016 5:26 pm
Sample : BFB1UG
Misc : A316_10G
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\A316_10G.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

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



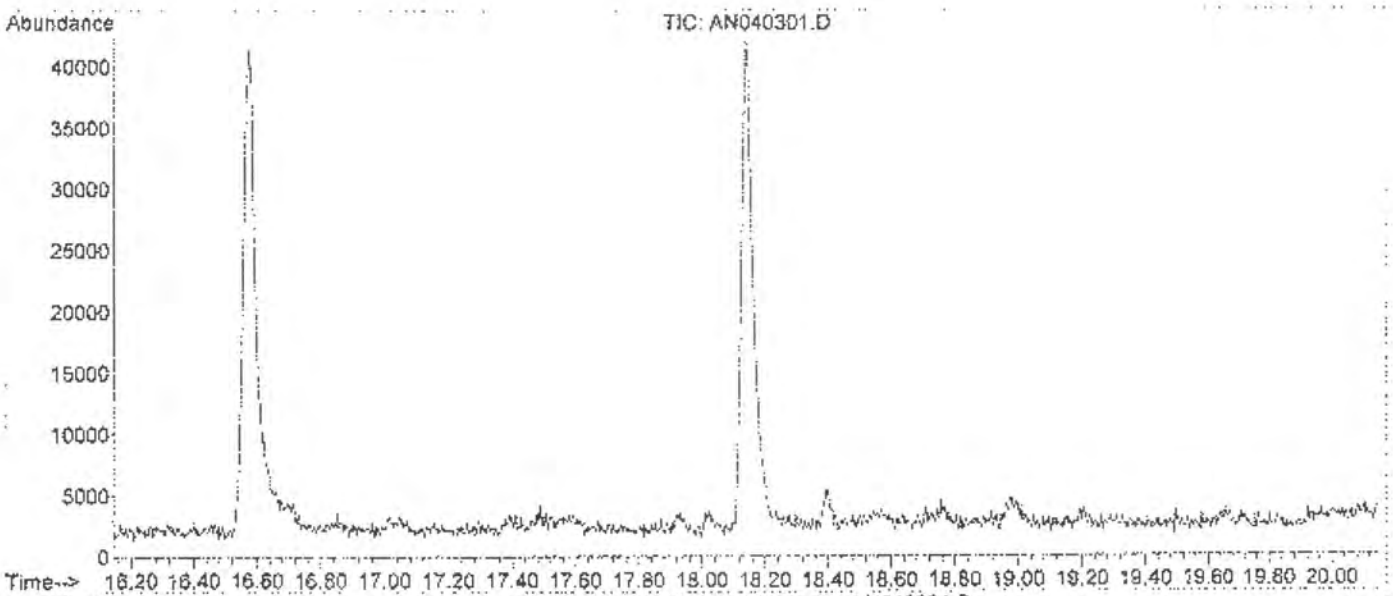
Spectrum Information: Average of 18.129 to 18.159 min.

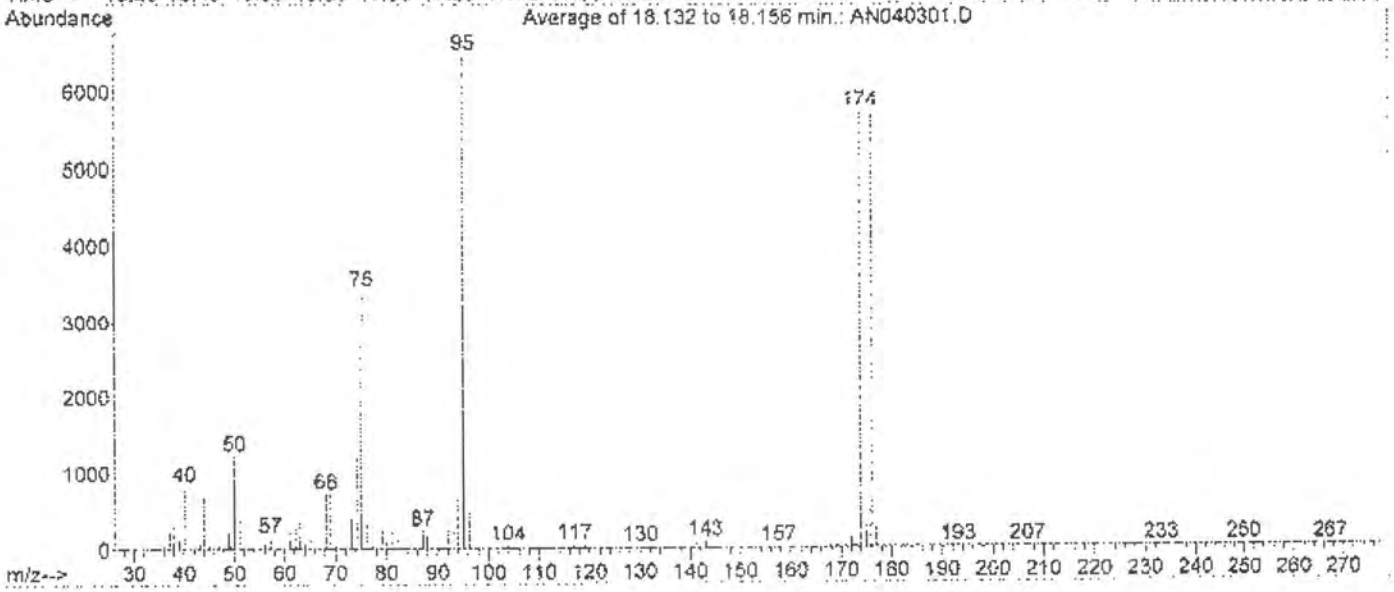
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.0	2513	PASS
75	95	30	66	51.1	7135	PASS
95	95	100	100	100.0	13975	PASS
96	95	5	9	6.7	936	PASS
173	174	0.00	2	0.6	79	PASS
174	95	50	130	87.9	12278	PASS
175	174	4	9	4.1	498	PASS
176	174	95	101	98.5	12090	PASS
177	176	5	9	6.9	829	PASS

AN031601.D A316_10G.M Thu Apr 07 13:04:45 2016 MSD1

Data File : C:\HPCHEM\1\DATA\AN040301.D
Acq On : 3 Apr 2016 9:42 am
Sample : BFB1UG
Misc : A316_1UG
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration

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





Spectrum Information: Average of 18.132 to 18.156 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.0	1230	PASS
75	95	30	66	52.6	3415	PASS
95	95	100	100	100.0	6489	PASS
96	95	5	9	7.3	473	PASS
173	174	0.00	2	0.4	24	PASS
174	95	50	120	88.3	5732	PASS
175	174	4	9	4.9	279	PASS
176	174	95	101	99.6	5711	PASS
177	176	5	9	5.3	305	PASS

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

Rochester, New York 14614

Appendix 3

Field Logs

LABELLA Associates, D.P.C.

Soil Gas Testing Log

Former Emerson Street Landfill
1640 Emerson Street

Project Name: Former Emerson Street Landfill- 1640 Emerson St
Project No: 210173
Sampled By: AA
Date: 30-Mar-16
Weather: ~55 degress clear skies
Wind Speed/Direction: from SE ~10 mph gusts

ID: 1640-SVI-2
Sub-Slab Pressure: 0.00 "wc
Canister: 366
Regulator: 1169
Helium Tracer in shroud:
Helium Tracer at point: 0%
Sub-Slab

Time	Vacuum Reading ("Hg)
Start 800	30+
900	25
1000	20
1100	16
1200	11
1245	7
End 1300	6

ID: 1640-SVI-3
Sub-Slab Pressure: 0.001 "wc
Canister: 1318
Regulator: 304
Helium Tracer in shroud: 50%
Helium Tracer at point: 1.2%
Sub-Slab

Time	Vacuum Reading ("Hg)
Start 813	30
900	26
1000	23
1100	19
1200	14
1245	11
1300	10.0
1330	8.0
End 1405	5.0

ID: 1640-Outdoor Air
Sub-Slab Pressure: NA
Canister: 290
Regulator: 48
Helium Tracer in shroud: 50%
Helium Tracer at point: 1%
Outdoor Air

Time	Vacuum Reading ("Hg)
Start 750	30+
900	28
1000	23
1100	20
1200	15
1245	12
1300	10
1330	9
End 1400	6

Notes/Activities:

LABELLA Associates, D.P.C.

Soil Gas Testing Log

Former Emerson Street Landfill
1640 Emerson Street

Project Name:	Former Emerson Street Landfill- 1640 Emerson St
Project No:	210173
Sampled By:	AA
Date:	30-Mar-16
Weather:	~55 degress clear skies
Wind Speed/Direction:	from SE ~10 mph gusts

ID: 1640-IAQ-1	
Sub-Slab Pressure: NA "wc	
Canister: 85	
Regulator: 272	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 748	30+
900	25
1000	21
1100	18
1200	13
1245	10
End 1300	8

ID: 1640-IAQ-2	
Sub-Slab Pressure: NA "wc	
Canister: 496	
Regulator: 403	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 805	30
900	27
1000	23
1100	20
1200	16
1240	13
1300	12
1330	10
End 1410	8

ID: 1640-IAQ-3	
Sub-Slab Pressure: NA "wc	
Canister: 1207	
Regulator: 299	
Helium Tracer in shroud: NA	
Helium Tracer at point: NA	
Indoor Air	
Time	Vacuum Reading ("Hg)
Start 815	30
900	25
1000	20
1100	16
1200	10
1245	7
End 1405	5

Notes/Activities: Duplicate sample from IAQ-2 (canister 336 regulator 403)

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

Rochester, New York 14614

Appendix 4

Preliminary Building Assessment and Site Reconnaissance

Site: 1640 Emerson Street
Site Recon Date: October 19, 2010
Consultant: Stantec/Day Team

Summary of Available Historic Records:

- The structure (approximately 25,000 sq. ft.) was built in 1983.
- The building was originally occupied by Almac Plastics, which changed its name to Laird Plastics in 1992.

Current Site Use:

- Currently owned by Emerson Street LLC and occupied by Laird Plastics, a plastics distribution company.
- Laird Plastics uses the space for plastic warehousing and distribution, with an area on the north-central side for fabrication and at the northeast corner for plastic cutting. Office space is located at the southeast corner. The second floor, located at the southeast corner, is designed as office space but is currently vacant. The fabrication operations use several chemicals, including VOCs in the form of glues, solvents, and oils.
- Approximately 9 people occupy the area during weekdays (1 shift).
- Approximately 17,500 sq. ft. is used as plastics warehousing and fabrication and approximately 3,750 sq. ft. is used as office space. The remaining 3,750 sq. ft. consists of the vacant second floor.

Site Recon Observations:

- Chemical storage observed on-site included:
  - Location 11 – Work table - lubricants, semi-synthetic nonflammable nonreactive oil
  - Location 12 – Six 5-gallon pails of oil
  - Location 41 – Chemical storage shelf - lubricant, adhesive remover, paint, insecticide
  - Location 68 – Chemical storage cabinet - acrylic, denatured alcohol, hypo needles, permabond, rez-n-bond, citrus degreaser
- The foundation system for the building consists of caissons with grade beams (potentially suspended, per the tenant), concrete floor, and metal walls.
- Floor slab condition was generally fair to poor (numerous floor cracks throughout the warehouse area (generally <1/8” to 1/2” wide), no heaving observed). Cracks generally appear to be filled with dust and debris.
- Ceiling fans were noted in the warehouse area.
- The building uses natural gas forced air heat and an air conditioning unit in the office space. Ceiling mounted natural gas heaters are used in the warehouse.
- Pressure and air exchange rates within building were not known by owner or tenant.

List of Observed Floor Penetrations (Potential SVI Locations):

- Electrical conduit (2") (Location 36).
- Fire protection (6”) (Location 35).
- Toilets (Locations 71, 73).
- Floor drain (3") (Location 34).
- Floor cracks (<1/8"-1/2") (Locations 1, 2, 4-7, 10, 14-25, 29, 31-33, 39, 40, 43-48, 50, 51, 53-59).
- Expansion joints (1/2”) (Locations 9, 10, 23, 37, 49, 56).
- Dock lifts (4’x5’). (Locations 27, 30).

Site Recon Meter Readings (Total Readings Collected – 91):

- Total Background Readings Collected = 22
  - Background VOCs due to operations ranged from 61 to 304 ppb
  - Background Methane due to operations were 0%

Site: 1640 Emerson Street
Site Recon Date: October 19, 2010
Consultant: Stantec/Day Team

- Total Floor Penetration Readings Collected = 50 (Note: At locations 10, 23, and 56, there were intersections of expansion joints and floor cracks. One reading was taken at the intersection, which includes both floor penetrations).
    - VOC readings above background were recorded at:
        - Locations where readings are minor (<10% or 50 ppb above background) and presumed to be due to instrument or background variability:
            - Location 2 – Floor crack = 227 ppb (Background = 222 ppb)
            - Location 6 – Floor crack = 247 ppb (Background = 222 ppb)
            - Location 7 – Floor crack = 234 ppb (Background = 222 ppb)
            - Location 16 – Floor crack = 309 ppb (Background = 304 ppb)
            - Location 17 – Floor crack = 306 ppb (Background = 304 ppb)
            - Location 22 – Floor crack = 260 ppb (Background = 207 ppb)
            - Location 23 – Floor crack = 236 ppb (Background = 207 ppb)
            - Location 24 – Floor crack = 236 ppb (Background = 207 ppb)
            - Location 25 – Floor crack = 240 ppb (Background = 207 ppb)
            - Location 32 – Floor crack = 211 ppb (Background = 207 ppb)
            - Location 43 – Floor crack = 235 ppb (Background = 207 ppb)
            - Location 44 – Floor crack = 242 ppb (Background = 217 ppb)
            - Location 45 – Floor crack = 255 ppb (Background = 207 ppb)
            - Location 48 – Floor crack = 253 ppb (Background = 217 ppb)
            - Location 50 – Floor crack = 247 ppb (Background = 222 ppb)
            - Location 51 – Floor crack = 219 ppb (Background = 217 ppb)
            - Location 56 – Floor crack = 228 ppb (Background = 217 ppb)
            - Location 57 – Floor crack = 229 ppb (Background = 217 ppb)
            - Location 58 – Floor crack = 228 ppb (Background = 222 ppb)
            - Location 59 – Floor crack = 225 ppb (Background = 222 ppb)
            - Location 71 – Floor crack = 262 ppb (Background = 258 ppb)
            - Location 73 – Floor crack = 290 ppb (Background = 275 ppb)
        - Note: It is likely that the VOC readings above background at the floor penetration locations listed above are due to equipment sensitivity or site operations; however, potential soil vapor intrusion as a source cannot be ruled out.
    - No Methane readings above background were recorded

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

Parcel Information:

Address: 1640 Emerson Street

Owner: Emerson Street LLC

Number of Buildings: One

Building this Sheet Represents *(fill out one for each building)*: One

Interviewer Information:

Name: Dorothy Bauch-Barker / Charles Hampton Date/Time Prepared: 10/19/10

Consultant Firm: Stantec / Day Phone No.: 585-413-5276 / 585-454-0210 x125

Owner/Interviewee Information:

Last Name: Navetta First Name: Paul

Address: 12955 23 Mile Road, Shelby Township, MI 48315

Company: Emerson Street, LLC

Office Phone: 586-254-2040

Tenant Information (if any):

Tenant Contact Person: Galen Silver

Address: 1640 Emerson Street, Rochester, NY 14606

Company: Laird Plastics

Office Phone: 585-254-7110

SECTION I - Building Construction Information

A. Site plans available? *(e.g., foundation construction, utility locations/chases, etc.)*: Yes
If yes, can copies be obtained? Survey provided by owner

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

If yes, are any documents available? _____

C. Building Construction

	Construction Type	Finish Type	Sealed	Square Feet
Basement	N/A			
Crawl Space	N/A			
First Floor	Steel, concrete			t lists 20,600 as f
Foundation Walls	Metal			
2nd Floor	Same			3,750

D. Any additions to building: No
If yes, list dates and locations: _____

If yes, note variations in construction: _____

E. Utility/Floor Penetrations

	Location(s)	Size/Description
Electric	36	Electrical conduit (~2")
Gas	--	
Water	35	Fire protection penetration (~6")
Sewer/Wastewater	71,73	Toilets
Sumps	--	
Floor/Trench Drains	34	Floor drain (~3")
Dry Well	--	
Oil/Water Separators	--	
Cracks in Floor	7,10,14-25,29,31-33,39,40,43-48,50,51,5	Numerous cracks (~<1/8"-1/2")
Expansion Joints	9,10,23,37,49,56	Expansion joints (~1/2")
Floating Slab	--	
Monitoring Points	--	
Scales	--	
Utility Vaults	--	
Elevators	--	
Other	27,30	Dock lifts (~4'x~5')

F. Does facility have an on Site septic system? No

If yes, where and size: _____

G. Does facility provide pretreatment of wastewater prior to discharge to sanitary sewer? Yes

If yes, What type of pretreatment is conducted: An oil water separator is integrated into the

H. Is there a vapor barrier associated with the foundation system? No

If yes, indicate type/material, location, thickness, etc.: _____

I. Is there a radon/sub slab soil vapor mitigation system on any portion of the building? No

If yes, describe system and date installed: _____

If yes, Is the system active or passive?

If yes, Is system currently operational?

J. Standing water or wet areas in lower levels? No

If yes, list location and describe: _____

If yes how frequent:

K. Is the building insulated? Yes

If yes, location(s) and type? Fiberglass at walls.

L. Are there any settlement issues with the building? Yes

If yes, describe: Floors cracked over whole area - according to Galen Silver (tenant contact), it may be a suspended floor, as indicated by a bouncing feeling as forklifts drive by.

M. Are there any cracks in floor slabs (1st floor or basement)? Yes

If yes, location(s), width, etc.? Warehouse area, <1/8"-1/2".

N. Are there any elevators in the building? No

If yes, describe construction and condition of pit (poured concrete, cinder block, etc.)

Comments:

SECTION II – Heating, Ventilation and Air Conditioning Information

A. Type of heating system(s) used in this building: Forced Hot Air
For each heat system/unit, provide the following:

Unit Type	Unit Location	Areas Heated	Unit Size	Pressurization (neg. vs. positive)	Air Communication with other areas (duct work, doors, etc.)
Ruud	2nd floor	Office		Unknown	Yes (doors)
ounted natural g	arehouse ceili	Warehouse		Unknown	Yes (doors)

B. Type of fuel used: Natural Gas

If more than one list locations: _____

C. Domestic hot water tank fueled by: Natural gas

D. Air conditioning: Central Air

Comments:

SECTION III – Indoor Air Quality Influence Factors

A. Is there a garage, service area or manufacturing area in building? Yes

If yes, list all that apply: Saw cutting area for cutting plastic and fabrication area

1. Does the garage, service or manufacturing areas have separate heating unit/system? No
2. Are petroleum-powered machines or vehicles used or stored within the garage, service area or manufacturing area of building? *(e.g., forklifts, vehicle fleet, lawnmower, etc.)* Yes

If yes, specify:

Propane forklifts.

B. Are there any current or former USTs, ASTs or Fueling Facilities on the property? No

If yes, specify location:

C. Are there any current or former hydraulic lifts at the property? Yes

If yes, locations and note if underground or above ground:

Two loading dock lifts at southwest side set partially into slab, locations 27 and 30.

D. Are there any current or former petroleum or chemical spills at the Site? Yes

If yes, specify location, quantity, material and date:

Small (approximately 1'x1/2') motor oil stain on ledge at location 28 (not a listed DEC Spill).

E. Are there any current or former groundwater monitoring wells at the Site? No

If yes, specify location and accessibility:

F. Has the building ever had a fire? No

If yes, When:

G. Is there a maintenance area? No

If yes, Where:

H. Are there any parts cleaners used at the site? No

If yes, list location(s) and solvent types:

I. Are there any drum and/or chemical storage areas? Yes

If yes, list location(s) and materials: Locations 11 - Work table - lubricants, semi-synthetic nonflammable nonreactive oil; 12 - Six 5-gallon pails of oil; 41 - Chemical storage shelf - lubricant, adhesive remover, paint, insecticide; 68 - Chemical

J. Are cleaning products used routinely? Yes

If yes, When & Where: Office / warehouse

K. Has painting/staining been done in the last 6 months? No

If yes, When & Where:

L. Is there new carpet, drapes or other textiles within installed within the last year? No

If yes, Where & When:

M. Are there air fresheners in office spaces or bathrooms? Yes

If yes, Where & Type: Bathrooms

N. Are there exhaust fans (e.g., break rooms, bathrooms, or other locations)? Yes

If yes, where vented and how often do they run: Bathrooms, conference room, ceiling fans in warehouse (~9), fabrication area exhaust fans at

O. Has there been a pesticide application on the grounds? Yes

If yes, When & Type: Perimeter insects and rodents

P. Is smoking allowed on the property? Yes

If yes, is it allowed within buildings and where? No

Q. Are there odors in the building? No

If yes, please describe:

R. Are solvents used within the building? Yes

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, etc.)

If yes, what types of solvents are used: Denatured alcohol

S. Is groundwater extracted for any purpose (e.g. cooling water, geothermal, etc.)? No

If yes, how many extraction wells, what depths and what is the rate of extraction: _____

T. Are there any air handling units in the building? Yes

If yes, locations, sizes, intakes & exhaust: Exhaust / vacuum at saws, vents through wall, used only as needed.

U. Are there any doors (overhead/bay or others) that are routinely open? Yes

If yes, note locations, sizes, and approximate times open: Three doors in the warehouse as needed between 8am - 5 pm

V. Do any of the building occupants regularly use a dry cleaning service? No, or inf

Based on Information obtained list all potential soil gas entry points and there sizes (e.g., cracks in floor, void space, piping, utility ports, sumps, elevator pits, lifts, drains, etc.).

[*Note: See page 12 & 13 for additional information to be collected on each potential soil gas entry point (i.e., photographs, PID and landfill gas measurements, etc.*]

Comments:

Section IV – Occupancy/General Use

Location Use	Occupied (list hours/shifts)	Number of Employees (Full/Part-time)	Approx. Sq. Ft.	Level (basement, 1st Floor, 2nd Floor, etc.)	Brief Summary of Business/ Operations in Area (include additional sheets as necessary)
Office	8am - 5pm	9	3,750	1st floor	Office work
Manufacturing/ Production					
Warehouse/ Storage	8am - 5pm	ersonnel that occu	17,500	1st floor	cutting, fabrication, and dist
Garage					
Maintenance					
Conference/ Break Rooms					

Comments:

Approximately 3,750 sq.ft. of vacant office space is located on the second floor.

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1640 Emerson Street | 1

Instrument Readings:

Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

Location	VOCs	CH4	CO2	H2S	CO	O2	Description & Comments
Units	ppb	%	%	ppm	ppm	%	
1	212	0	0	0	0	21.1	Floor crack at column
2	227	0	0	0	0	21.1	Floor crack
3	222	0	0	0	0	21.1	Saw area background (for locations 1,2,4-7,50,58,59)
4	133	0	0	0	0	21.1	Floor crack
5	172	0	0	0	0	21.1	Floor crack
6	247	0	0	0	0	21.1	Floor crack
7	234	0	0	0	0	21.1	Floor crack
8	253	0	0	0	0	21.2	Work room background (for location 9)
9	187	0	0	0	0	21.2	Floor expansion joint
10	262	0	0	0	0	21.2	Floor crack / expansion joint
11	265	0	0	0	0	21.2	Work table - lubricants, semi-synthetic nonflammable
12	305	0	0	0	0	21.2	Six 5-gallon pails of oil
13	304	0	0	0	0	21.2	Background (for locations 10-12,14-21,47,49)
14	300	0	0	0	1	21.2	Floor crack
15	235	0	0	0	1	21.3	Floor crack
16	309	0	0	0	1	21.3	Floor crack
17	306	0	0	0	2	21.3	Floor crack with gap
18	276	0	0	0	3	21.3	Floor crack
19	283	0	0	0	4	21.3	Floor crack
20	276	0	0	0	4	21.3	Floor crack

Note: "-" means no reading taken

Instrument Readings (Continued):

Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

Location	VOCs	CH4	CO2	H2S	CO	O2	Description & Comments
Units	ppb	%	%	ppm	ppm	%	
21	276	0	0	0	4	21.3	Floor crack
22	260	0	0	0	4	21.4	Floor crack
23	236	0	0	0	5	21.4	Floor crack / expansion joint
24	236	0	0	0	6	21.4	Floor crack
25	240	0	0	0	5	21.4	Floor crack
26	207	0	0	0	6	21.4	Background (for locations 22-25,27-41,43,45)
27	0	0	0	0	0	21.5	Under hydraulic lift
28	120	0	0	0	2	21.5	Oil stain at wall
29	150	0	0	0	3	21.4	Floor crack
30	0	0	0	0	2	21.5	Southern hydraulic lift
31	200	0	0	0	3	21.5	Floor crack
32	211	0	0	0	5	21.5	Floor crack
33	205	0	0	0	5	21.4	Floor crack
34	168	0	0.5	0	0	21.0	Floor drain
35	143	0	0	0	3	21.5	Fire protection penetration
36	160	0	0	0	4	21.5	Electrical penetration
37	187	0	0	0	4	21.5	Floor expansion joint
38	180	0	0.1	0	3	21.4	Hole in block wall
39	194	0	0	0	4	21.5	Floor crack
40	185	0	0	0	4	21.5	Floor crack

1640 Emerson Street	1

Instrument Readings (Continued):

Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

Location	VOCs	CH4	CO2	H2S	CO	O2	Description & Comments
Units	ppb	%	%	ppm	ppm	%	
41	193	0	0	0	4	21.4	Chemical storage shelf - lubricant, adhesive remover, paint,
42	215	0	0	0	5	21.4	Shop office background
43	235	0	0	0	5	21.4	Floor crack
44	242	0	0	0	5	21.4	Floor crack
45	255	0	0	0	5	21.4	Floor crack
46	195	0	0	0	5	21.4	Floor crack
47	260	0	0	0	6	21.4	Floor crack
48	253	0	0	0	5	21.4	Floor crack
49	247	0	0.1	0	5	21.3	Floor expansion joint
50	247	0	0	0	5	21.3	Floor crack
51	219	0	0	0	5	21.3	Floor crack
52	217	0	0	0	5	21.3	Background (for locations 44,46,48,51,53-57,68)
53	213	0	0	0	5	21.4	Floor crack
54	150	0	0	0	3	21.3	Floor pitting
55	115	0	0	0	3	21.3	Floor crack
56	228	0	0	0	5	21.3	Floor crack / expansion joint
57	229	0	0	0	5	21.3	Floor crack
58	228	0	0	0	5	21.3	Floor crack
59	225	0	0	0	5	21.3	Floor crack
60	195	0	0	0	0	21.3	Break room background (2nd floor)

1640 Emerson Street	1

Instrument Readings (Continued):

Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

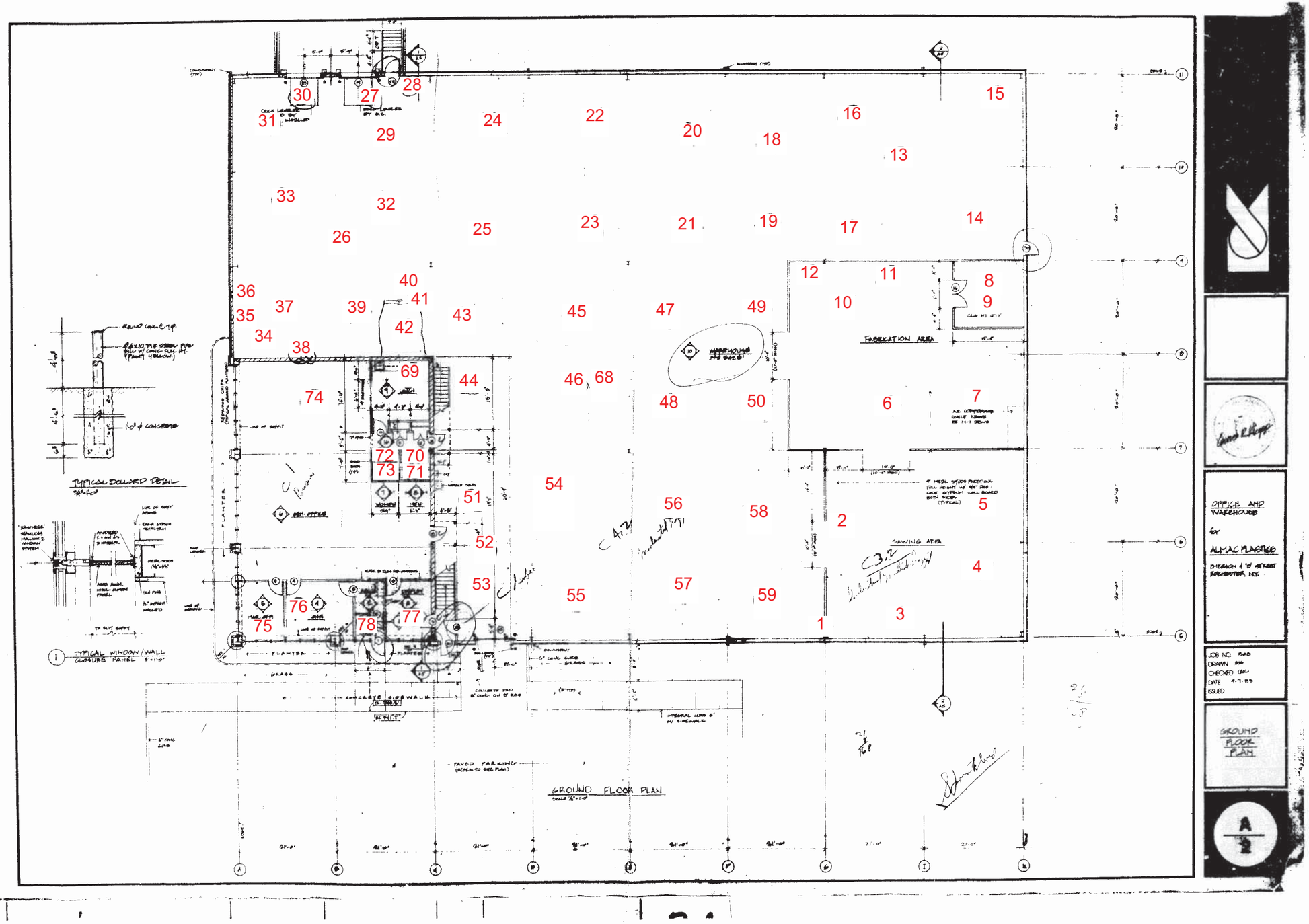
Location	VOCs	CH4	CO2	H2S	CO	O2	Description & Comments
Units	ppb	%	%	ppm	ppm	%	
61	190	0	0	0	0	21.3	Background near furnace (2nd floor)
62	202	0	0	0	0	21.3	Office background (2nd floor)
63	207	0	0	0	0	21.3	Office background (2nd floor)
64	188	0	0	0	0	21.3	Storage background (2nd floor)
65	191	0	0	0	0	21.3	Bathroom background (2nd floor)
66	198	0	0	0	0	21.3	Bathroom background (2nd floor)
67	88	0	0	0	0	21.3	Stairwell background (2nd floor)
68	217	0	0	0	3	21.4	Chemical storage cabinet - acrylic, denatured alcohol, hypo
69	216	0	0.1	0	0	21.2	Kitchen background
70	258	0	0.1	0	1	21.3	Men's bathroom background (for location 71)
71	262	0	0.1	0	1	21.3	Toilet
72	275	0	0.1	0	0	21.3	Women's bathroom background (for location 73)
73	290	0	0.1	0	0	21.3	Toilet
74	233	0	0.1	0	0	21.3	Open office background
75	225	0	0.1	0	0	21.3	Office background
76	215	0	0.1	0	0	21.3	Conference room background
77	167	0	0.1	0	0	21.1	Entryway background / waiting area
78	61	0	0	0	0	21.3	Entryway background
79	19	0	0	0	0	20.9	Trench drain outside of east overhead door
80	4	0	0	0	0	20.9	Catch basin

1640 Emerson Street	1

Instrument Readings (Continued):

Mark each location on site sketch where reading was collected and provide a photograph. At a minimum, readings must be collected from all potential soil gas entry points within buildings (e.g., utility vaults, sumps, floor drains, oil/water separators, floor cracks, etc.) and any subsurface features on the exterior (e.g., catch basins, manholes, utility vaults, etc.). In addition, at least one breathing zone location will be measured for each discrete area within buildings.

Location	VOCs	CH4	CO2	H2S	CO	O2	Description & Comments
Units	ppb	%	%	ppm	ppm	%	
81	0	0	0	0	0	21.0	Catch basin in south grass
82	0	0	0	0	0	21.1	Manhole in south grass
83	1	0	0	0	0	21.1	Electrical conduit
84	0	0	0	0	0	21.1	Downspout
85	0	0	0	0	0	21.1	Catch basin at west side
86	-	-	-	-	-	-	Hydraulic lift exteriors
87	0	0	0	0	0	21.2	Downspout
88	0	0	0	0	0	21.2	Downspout
89	0	0	0	0	0	21.2	Downspout
90	-	-	-	-	-	-	North side of building
91	0	0	0	0	0	21.3	Downspout
92	0	0	0	0	0	21.3	Downspout
93	-	-	-	-	-	-	East side of building
94	0	0	0	0	0	21.3	Catch basin
95							
96							
97							
98							
99							
100							


FABRICATION AREA
SAWING AREA
GROUND FLOOR PLAN
TYPICAL EDWARD DETAIL
TYPICAL WINDOW/WALL CLOSURE PANEL
OFFICE AND WAREHOUSE
for
ALMAC PLASTICS
JOB NO
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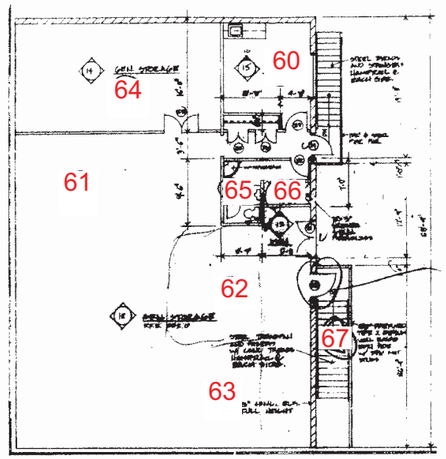
DATE 4-7-89
ISSUED
GROUND FLOOR PLAN
A 5



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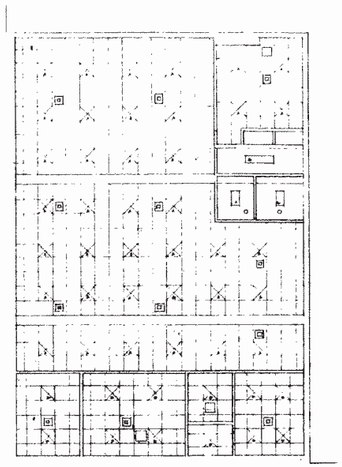

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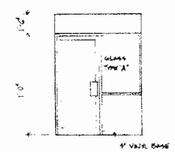
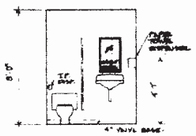
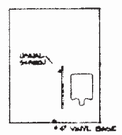


1 RECEPTION

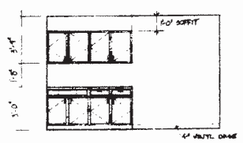
2 RECEPTION



3 M. TOILET NO. 8



4 M. TOILET NO. 8



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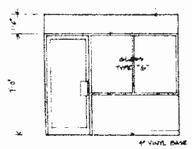
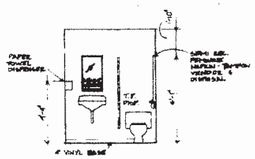
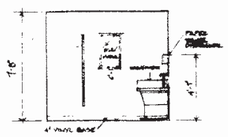


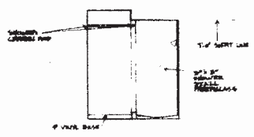
6 DISPLAY



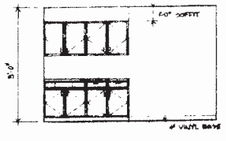
7 W. TOILET



8 M. TOILET NO. 13



9 M. TOILET NO 13



10 LUNCH RM NO. 15

OFFICE AND WAREHOUSE
for
ALMAC PLASTICS
EMERSON & "B" STREET
ROCHESTER, N.Y.

JOB NO. 9028
DRAWN BK
CHECKED
DATE 4-7-89
ISSUED

MEZZANINE PLAN
REFLECTED CEILING PLAN
INTERIOR ELEVATIONS

A
3

Figure 2 - 1640 Emerson Street SVI Site Recon Map (Interior Locations, Second Floor)
Note: Location numbers correspond to photograph numbers at each location and to photoionization detector and landfill gas meter reading locations, where taken.

"GUARANTEES OR CERTIFICATIONS INDICATED HEREON SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED, AND ON HIS BEHALF TO THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. GUARANTEES OR CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS."

COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S INKED SEAL OR EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE A VALID COPY.

"UNAUTHORIZED ALTERATION OR ADDITION TO THIS SURVEY MAP IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW."

MCCRACKANVILLE (66' WIDE) STREET

STREET LINE

REPUTED OWNER
CITY OF ROCHESTER

N 89°50'30" E
312.50'

96,874.6 SQ. FT.
2.224 ACRES

REPUTED OWNER
CITY OF ROCHESTER

N 00°00'00" E
310.00'

FRAME SHED

1 STORY METAL CLAD BUILDING #1640

ASPHALT

CONCRETE WALL

ASPHALT

ASPHALT

CONCRETE WALL

OVERHANG

CONCRETE PAD W/AC UNIT

CONCRETE PAD W/TRANSFORMER

CONCRETE SIDEWALK

CONCRETE CURBING

S 00°00'00" E
310.00'

REPUTED OWNER
ANDREW A MASTRODONATO

35.19'

S 89°50'30" W
312.50'

STREET LINE

EMERSON (80' WIDE) STREET

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94

REFERENCES:
LIBER 6240 OF DEEDS, PAGE 16
LIBER 233 OF MAPS, PAGE 89

NOTES:
PARCEL TAX ID #104.43-1-6.3

WE, O'NEILL-RODAK LAND SURVEYING ASSOCIATES, P.C., CERTIFY TO LAIRD PLASTICS THAT THIS MAP WAS PREPARED FROM NOTES OF AN INSTRUMENT SURVEY COMPLETED DEC. 8, 2005.

MICHAEL D. ONEILL, P.L.S. #049662

NO.	REVISION	DATE	BY
8			
7			
6			
5			
4			
3			
2			
1			

STATE OF NEW YORK · MICHAEL D O'NEILL · 049662 · LICENSED LAND SURVEYOR

SCALE 1" = 30'
DATE 12/13/2005
REFERENCE NO.
PROJECT NO. 82-0643-1
SHEET 1 OF 1

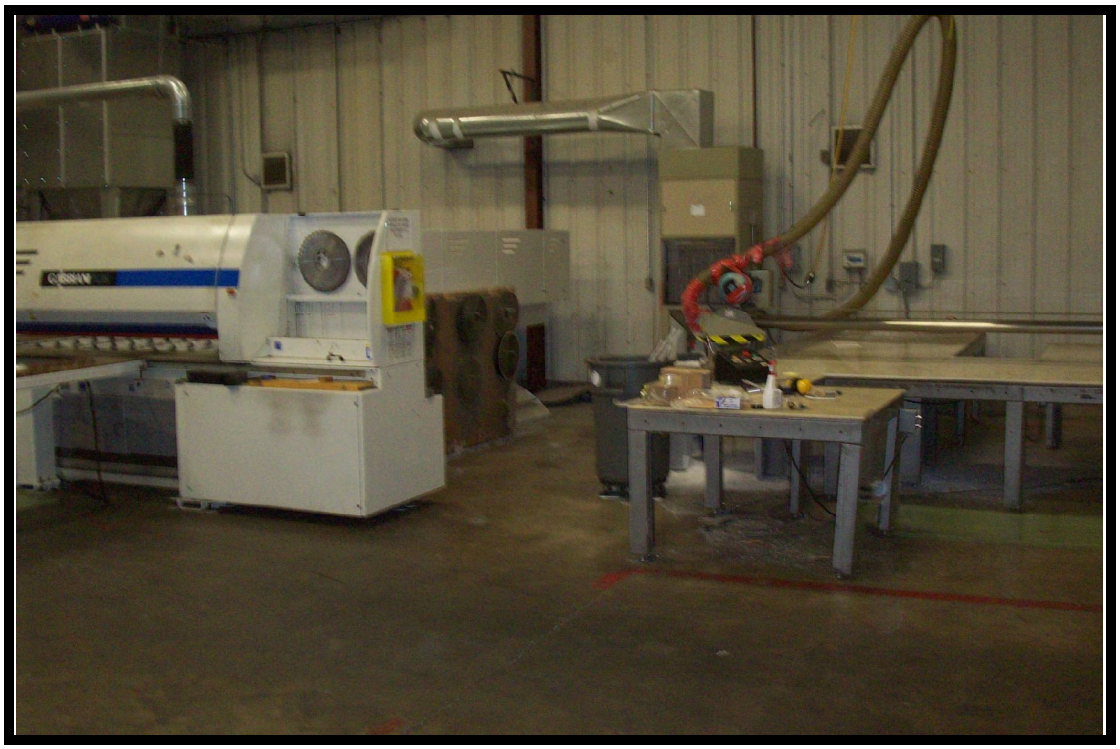
O'NEILL-RODAK
LAND SURVEYING ASSOCIATES, P.C.
LAND SURVEYORS - PLANNERS
BOUNDARY CONSULTANTS
FLOOD ZONE DETERMINATIONS
ALTA/ACSM SURVEYS
5 SOUTH FITZHUGH STREET
ROCHESTER, NY
14614
PHONE (585) 325-7520 FAX (585) 325-1708
e-mail onsurv@aol.com

MAP OF A SURVEY
LOT R-24
OUTER LOOP INDUSTRIAL PARK
CITY OF ROCHESTER
MONROE COUNTY, NEW YORK

LOCATION 1640 EMERSON STREET
PREPARED FOR CRESA PARTNERS

Figure 3 - 1640 Emerson Street SVI Site Recon Map (Exterior Locations)

Note: Location numbers correspond to photograph numbers at each location and to photoionization detector and landfill gas meter reading locations, where taken.



General interior view

General interior view