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FINAL TECHNICAL MEMORANDUM FOR PHASE 3 VAPOR INTRUSION OPERABLE UNIT 3 (OU 3) NAS JACKSONVILLE FL

06/12/2015

AGVIQ, LLC

Phase 3 Vapor Intrusion Investigation, Operable Unit 3, Naval Air Station Jacksonville, Florida

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DATE:	June 12, 2015

1 Introduction

This technical memorandum (TM) documents the field activities, results, and conclusions of the Phase 3 Vapor Intrusion (VI) investigation of Operable Unit 3 (OU3), located at Naval Air Station (NAS) Jacksonville, Florida (Figure 1). The Phase 3 investigation included a subset of the buildings previously investigated during Phase 2. The primary objective of the Phase 3 investigation was to evaluate the short-term (i.e., sample duration comparison) and long-term (i.e., seasonal) temporal variability of indoor air and subslab soil gas volatile organic compound (VOC) concentrations, as recommended in the Phase 2 VI Investigation Report (AGVIQ-CH2M HILL, 2013).

Phase 3 field sampling was conducted from January 20 through February 5, 2014, in accordance with the Uniform Federal Policy Sampling and Analysis Plan (UFP-SAP) provided with the 2013 Combined Site Work Plan (AGVIQ, 2014). The data collected during Phase 3 was evaluated using a multiple-lines-of-evidence approach consistent with the Department of Defense (DoD) Vapor Intrusion Handbook (2009), Interstate Technology & Regulatory Council (ITRC) (2007), and U.S. Environmental Protection Agency (EPA) (2013) VI guidance documents.

2 Previous Investigations

The Phase 1 VI investigation, performed in 2010, identified 37 buildings for further investigation of the VI exposure pathway. Structures were retained for further evaluation based on their 1) location relative to site-specific VI groundwater screening level exceedances and potential vadose zone and groundwater sources of VOCs; 2) demolition status; 3) occupancy; and 4) the extent to which the building is enclosed (AGVIQ-CH2M HILL, 2010).

The Phase 2 VI investigation was conducted in 2012 and 2013 to determine if complete or significant VI exposure pathways exist for VI within 12 of the highest priority buildings of the 37 identified during Phase 1. During the 2012 sampling event, none of the 12 buildings investigated exhibited indoor air VOC concentrations that were both (1) attributable to VI

and (2) above indoor air screening levels. When VOCs were detected above indoor air screening levels, these VOC detections were attributable to background sources unrelated to VI. An indoor air sample collected during March 2013 (location AI09 in Building 103) had a concentration of trichloroethene (TCE) slightly above the cancer-based screening level but below the non-cancer screening level. The Phase 2 VI investigation determined that uncertainties existed with respect to temporal variability and the ability to predict future VI impacts in select buildings. Evaluation of the data indicated that any further assessment of uncertainties related to temporal variability would be best served by focusing on a subset of chlorinated VOCs in Buildings 101, 101C, and 103 (AGVIQ-CH2M HILL, 2013).

3 Vapor Intrusion Monitoring Investigation Methods

Three industrial buildings (Building 101, 101C, and 103) were selected as buildings of interest for the Phase 3 VI Investigation based on the conclusions and recommendations of the Phase 2 VI Report (AGVIQ-CH2M HILL, 2013). VOCs detected above subslab soil gas screening levels during the Phase 2 VI Investigation were selected as the chemicals of potential concern (COPCs) for Phase 3. The target analytes included TCE, tetrachloroethene (PCE), vinyl chloride, cis-1,2-dichloroethene (cis-1,2-DCE), and trans-1,2-DCE.

VI investigation field activities were conducted January 20 through January 23, 2014 and February 5, 2014, and included indoor air and subslab soil gas sampling within the three buildings. The VI evaluation methods used during the VI investigation are consistent with DoD (2009), ITRC (2007), and EPA (2013) VI guidance documents. The weeks during which the Phase 3 investigation field activities were conducted at NAS Jacksonville were colder than normal, with high and low daily temperatures 10 to 20 degrees below normal (www.wunderground.com). This provided an ideal sampling time for assessing temporal variability as winter heating season conditions may increase VI-related indoor air VOC concentrations (1) a tighter building envelope due to closed windows and doors and (2) the building "stack effect" resulting from higher air temperatures indoors versus outdoors (EPA, 2013). Phase 3 sample locations are shown on Figures 2 through 4. The field notes and the field quality control (QC) documentation associated with the samples collected are provided in Attachment A. The chain-of-custody (COC) records are provided in Attachment B. Specific sampling locations are discussed in Section 5.

3.1 Sample Collection Procedures

During the field event in January 2014, subslab soil gas was collected for VOC analysis using EPA Method TO-15 from subslab probes installed during Phase 2. In general, indoor and outdoor air samples were collected in axial tube passive samplers (henceforth abbreviated to passive sampler or samplers) for VOC analysis using EPA Method TO-17, but a subset of samples at Building 103 were also collected for select VOC analysis using EPA Method TO-15. Table 1 provides a summary of the samples collected at each building.

Prior to sampling the subslab probes in Buildings 101C and 103, the field team performed a water leak check to confirm that the probes had not been damaged since they were sampled during Phase 2. Two liters of subslab soil gas were purged from each probe into Tedlar® bags at a rate of 200 milliliters per minute (mL/min) using a sampling manifold (consisting of stainless steel Swagelok gas-tight valves and fittings and Teflon tubing) and a vacuum pump. Subslab soil gas samples were collected in SUMMA canisters equipped with flow controllers. The flow controllers regulated the sample collection rate to 200 mL/min,

resulting in a sample collection period of approximately 5 minutes. The subslab soil gas samples were submitted to ALS – Simi Valley, California, for VOC analysis by EPA Method TO-15.

Indoor air samples were collected using passive samplers in Buildings 101, 101C, and 103 from the same locations where samples were collected during Phase 2. The passive samplers were temporarily affixed to interior walls using carefully selected adhesive hooks (3M Command™ brand), rather than hanging them with string or wire as was done during Phase 2, which resulted in building occupants tampering with some of them. A review of product information (see Attachment C) indicated that no target analytes were present in the adhesive.

Indoor air samples were collected using SUMMA canisters at sampling locations BLDG103-AI03 and BLDG103–AI09 in Building 103. Indoor air samples were collected over a 24-hour period in SUMMA canisters equipped with flow controllers. The SUMMA canisters were placed at approximately the same sampling location as the passive samplers, and once activated they were left undisturbed for 24 hours.

Outdoor air samples were collected immediately upwind of Buildings 101, 101C, and 103 using passive samplers to assess ambient conditions and determine if VOC concentrations detected in indoor air may be due to outdoor background sources. The passive samplers were placed in secure locations and affixed to a fence or other easily accessible structure using zip-ties. In addition, a collocated 24-hour SUMMA sample was collected at BLDG103–AO01, upwind of Building 103.

- Field duplicates for subslab soil gas, indoor and outdoor air were collected at a minimum frequency of 1 field duplicate per 10 parent samples for each medium. The duplicate samples were analyzed to verify the reproducibility of the laboratory results and the degree of variability of reported concentrations. Field duplicate samples consisted of one unique sample, split into two aliquots, which were analyzed independently. T-connectors were used to attach two SUMMA canisters together for simultaneous duplicate sample collection. Duplicate passive samplers were hung adjacent to the parent passive sampler. Duplicate sample results are provided in Table 1.
- The data package also includes results from a VOC headspace sample test developed to assess the potential for background interference from the passive sampler adhesive hooks. Although some target analytes, notably PCE at a concentration of 430 micrograms per cubic meter ($\mu g/m^3$), were detected in the headspace sample, examination of the EPA Method TO-17 test results suggests that the adhesive did not interfere with the passive sampler (TO-17) results because:
  - With the exception of Building 103, the TO-17 indoor air results for PCE were non-detect or "J" flagged low concentrations (i.e., between the detection limit and reporting limit); and
  - The locations where PCE was detected in Building 103 indoor air above the reporting limit correspond to subslab locations with elevated PCE.

Although the adhesive did not noticeably impact indoor air results, for future use of passive samplers at NAS Jacksonville (or elsewhere) it would be preferable to identify a means of deploying the samplers that avoids the potential for interference with indoor air results.

3.2 Field Quality Control Procedures and Data Management

The Phase 3 investigation was successfully conducted in accordance with the Work Plan (AGVIQ, 2014). All procedures during the field activities followed the requirements for technical, construction, and health and safety procedures detailed in the Work Plan.

Field notes documenting the subslab soil gas probe installation and subslab soil gas, indoor air, and outdoor air sampling activities are presented in Attachment A.

In addition, the following records and documents were maintained:

- Daily Production and QC Reports (including during construction activities (Attachment A)
- Safety meeting minutes, pre-task safety planning records, safe behavior observations, and daily health and safety reports (recorded and submitted to the AGVIQ Health and Safety Manager on a routine basis) (Attachment A)

Laboratory electronic data deliverables (EDDs) were submitted to the project chemist for validation. Validated EDDs were submitted to Navy for long-term storage and accessing through the Naval Installation Restoration Information Solution (NIRIS) system.

3.3 Waste Management

Waste generated during the Phase 3 field investigation was managed in accordance with the Waste Management Plan in the Combined Site Work Plan (AGIVQ, 2014). The following uncontaminated wastes were generated during the Phase 3 field activities:

- Personal protective equipment (PPE) and used sample equipment (e.g., plastic tubing and Tedlar® bags)
- General refuse (e.g., marking tape, paper towels, plastic zip-ties)

All waste was disposed of in opaque trash bags and placed in trash receptacles onsite.

4 Screening Levels

Results from the Phase 3 sampling event were compared to risk-based VI Screening Levels (VISLs) to evaluate the vapor intrusion pathway (see Attachment D). The VISLs used in the Phase 3 VI evaluation are based on the November 2013 EPA Regional Screening Levels. The VISLs are based on a target cancer risk (TCR) range of 1×10^{-6} to 1×10^{-4} or a target hazard quotient (THQ) of 1.0. Evaluation presented in the Phase 2 VI Report (AGVIQ-CH2M HILL, 2013) determined the screening of subslab soil gas and indoor air results against the THQ = 0.1 screening levels unnecessary based on the overestimation of cumulative risks.

For both the carcinogenic and non-carcinogenic VOCs observed in subslab soil gas, the site-specific attenuation factor (AF) of 0.001 was used to develop the soil gas screening levels (SGSLs). AFs are used to estimate how vapors attenuate across the slab and are used to calculate SGSLs. The conservative nature of the site-specific AF of 0.001 is supported by

previous work at OU3 and other sites; see Combined Work Plan, Appendix F, Worksheet 11 (AGVIQ, 2014) as well as the analysis presented in Appendix F of the Phase 2 VI Report (AGVIQ-CH2M HILL, 2013).

For the carcinogenic VOCs observed in indoor air, the EPA (1991) risk management range of 1×10^{-6} to 1×10^{-4} was used for this evaluation. Concentrations above this range (i.e., greater than 1×10^{-4} TCR) generally require further action (remediation and/or mitigation of the VI pathway). Concentrations within the risk management range may require further action (further evaluation, additional sampling, etc.) based on site conditions. Concentrations above the EPA (1991) non-cancer THQ of 1.0 may also require further action.

SGSLs for an industrial (non-residential) scenario are provided in Attachment D. Screening levels were not provided for cis-1,2-DCE because of a lack of inhalation toxicity values within the hierarchy of sources recommended by EPA.

5 Results, Quality Assurance, and Data Evaluation

5.1 Results

The Phase 3 EPA Methods TO-15 and TO-17 analytical results for subslab soil gas and indoor air are presented in Attachment E. Both TO-15 and TO-17 data were compared to the screening levels described in Section 4. Analytical results for the outdoor air are provided in Attachment E. Outdoor air data were not subject to screening since outdoor air is not the medium of concern for VI; rather, these data were used to evaluate outdoor background sources of VOCs that could impact indoor air. The sample locations and sample types are presented on Figures 2 through 4 along with both the Phase 2 and Phase 3 analytical results.

A discussion of short-term temporal variability observed in the data between EPA Methods TO-15 (24 hour) and TO-17 (14 day) and long-term temporal variability between Phase 2 (summer 2012) and Phase 3 (winter 2014) is also presented in this section. Figures 5 through 7 present the data used for temporal variability comparisons at each building.

5.2 Quality Assurance

The data quality evaluation assesses the effect of the overall analytical process on the usability of the analytical data. "Usability" in this context refers to whether results can be used by the project team based on their analytical soundness. Evaluation of laboratory performance is a check for compliance with the method requirements. Additionally, the Project Chemist conducted a review of the laboratory data to assess whether the analytical methods were within required control limits at the time of analysis. Evaluation of potential matrix interferences involves the review of several areas of results, including surrogate spike recoveries, matrix spike recoveries, and duplicate sample results. All data collected at OU3 during the Phase 3 VI investigation were found to be of acceptable quality. Details of the data quality evaluation are presented in Attachment F. The complete laboratory reports are presented in Attachment G.

5.3 Data Evaluation

The following observations were drawn from the indoor air and subslab soil gas data presented on Figures 2 through 4.

5.3.1 Subslab Soil Gas

- There were no VOCs detected in subslab soil gas at concentrations exceeding the 10^{-4} TCR screening levels.
- TCE and PCE were detected in subslab soil gas at concentrations above the industrial cancer risk (10^{-6}) based screening level at some locations in Buildings 101C and 103. These results indicate the presence of a potential subsurface source of vapor intrusion at these buildings but do not address the actual occurrence or significance of vapor intrusion. Indoor air results were used for that purpose, as described below.
- Evaluation of the long-term (seasonal) variability between Phase 2 (summer 2012) and Phase 3 (winter 2014) VOCs shows an overall decrease in subslab soil gas concentrations. The concentrations decreased in each of the four locations in Building 103 where the Phase 2 concentrations exceeded SGSLs. Of the 12 subslab locations within Buildings 103 and 101C, 9 showed decreasing VOC concentrations, by up to one order of magnitude. One location in Building 103 (BLDG103-GS02) showed a slight (approximately 10 percent) increase in TCE concentration. Two locations in the eastern portion of Building 101C (BLDG101C-GS04 and BLDG101C-GS05) exhibited up to a six-fold increase in TCE concentrations, with BLDG101C-GSO4 having a concentration in 2014 above the SSGSL

5.3.2 Indoor Air

- Location BLDG103-AI09 exhibited a slight exceedance (3.25 $\mu g/m^3$) of the indoor air screening level (IASL) of 3 $\mu g/m^3$. Consistent with Risk Assessment Guidance for Superfund Part A (EPA, 1989), cancer risks are reported to one significant digit. Thus, this analytical result equates to a 1 × 10-6 cancer risk and does not require further action. No other indoor air locations had concentrations exceeding an IASL in samples analyzed using either EPA Methods TO-15 or TO-17.
- Short-term (sample duration) variability was evaluated by comparing 24-hour (EPA Method TO-15) and 14-day (EPA Method TO-17) samples at two Building 103 locations (BLDG103-AI03 and BLDG103-AI09). For a given analyte and location, there was less than a two-fold difference between the sample of different durations. This is consistent with observations presented the Phase 2 Report (AGVIQ-CH2M HILL, 2013) and supports the conclusion that short-term variability within a 2-week window is minimal.
- Long-term (seasonal) variability was assessed by comparing the Phase 2 (summer 2012 and winter 2013) and Phase 3 (winter 2014) data. Since assessing variability in TCE concentrations was the primary goal of the Phase 3 sampling, Figures 5 through 7 were prepared to show the TCE results for each of the three buildings. These figures support the tabulated results shown on Figures 2 through 4.

Excluding the Phase 2 result that was determined to be a result of background sources, the overall Building 103 dataset looks similar between the summer and winter events, with up to a three-fold increase in the maximum concentration in the winter samples. Building 101 sample results are similar. The winter samples from Building 101C showed an overall (up to four-fold) decrease compared to the summer samples.

The overall short-term and seasonal variability in TCE concentrations described above is within the range of what has been generally seen at other VI evaluation sites (e.g., Marine Corps Installation East – Marine Corps Base Camp Lejeune in Jacksonville, North Carolina [CH2M HILL, 2011]) and in other studies (Folkes et al., 2009; McHugh, 2007).

6 Conclusions and Recommendations

The Phase 3 VI investigation fulfilled the objective of evaluating short-term (i.e., sample duration comparison) and long-term (i.e., seasonal) temporal variability of indoor air and subslab soil gas VOC concentrations in OU3, which was identified as a data gap and recommended in the Phase 2 VI Investigation Report (AGVIQ-CH2M HILL, 2013). The following conclusions are based on the data and evaluations provided above:

- Vapor intrusion is not currently a significant exposure pathway based on comparison of the winter 2014 data to IASLs.
- Variability in indoor air concentrations was within the range observed at other Navy industrial sites and in the literature. The indoor-air TCE concentration observed at BLDG103-AI09 in winter 2013 corresponded to a cancer risk of approximately 2×10^{-6}, which slightly exceeded lower end of the target cancer risk range. This same location did not significantly exceed 1×10^{-6} cancer risk in winter 2014.
- Subslab source strength decreased overall. Two locations in the eastern portion of Building 101C showed increasing TCE concentrations, with one showing an exceedance of a SGSL where it had not exceeded previously.

Based on these findings, VI mitigation is not needed at this time. However, a subslab VOC source with concentrations exceeding VI-specific screening levels exists at Buildings 101C and 103. Since the findings were based on the subsurface environment and buildings in their current state, it may be prudent to consider measures to assess changes to site conditions that could affect the potential for significant vapor intrusion. Factors of interest might include:

- Building renovations resulting in new slab penetrations
- Major changes to building heating, ventilation and air conditioning (HVAC) systems
- Construction of new buildings
- Major, i.e., order of magnitude, changes in groundwater VOC concentrations
- Identification of new subsurface VOC sources

In addition, given the elevated subslab source strength in the center of Building 103 and the proximity of indoor-air TCE concentrations to the screening level, some degree of periodic VI monitoring in that portion of the building may be warranted after the completion of the Feasibility Study Addendum.

7 References

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Tables

Table 1
Phase 3 Vapor Intrusion Investigation TM
NAS Jacksonville, Florida

Building	Location ID	Location Type	QC Sample Collected	Sampling Method	Collection Date	Sample Duration	SOP	Laboratory
101	BLDG101-AI02	indoor air	x	TO-17	2/5/2014	14 day	Standard Operting Procedure for Passive Collection of Indoor Air Samples Using Sorbent Packed Tubes	Beacon
	BLDG101-AI03							
	BLDG101-AI04							
	BLDG101-AI05							
	BLDG101-AI06							
	BLDG101-AI07							
	BLDG101-AI08							
	BLDG101-AI09							
	BLDG101-AO01	outdoor air		TO-17	2/5/2014	14 day	Standard Operting Procedure for Passive Collection of Indoor Air Samples Using Sorbent Packed Tubes	Beacon
101C	BLDG101C-GS01	subslab soil gas		TO-15	1/22/2014	5 minute	Standard Operating Procedure for Installing Subslab Probes and Collecting Subslab Soil Gas Samples Using SUMMA	Empirical
	BLDG101C-GS02							
	BLDG101C-GS03							
	BLDG101C-GS04							
	BLDG101C-GS05							
	BLDG101C-AI01	indoor air		TO-17	2/5/2014	14 day	Standard Operting Procedure for Passive	Beacon
	BLDG101C-AI02							
	BLDG101C-AO01	outdoor air		TO-17	2/5/2014	14 day	Standard Operting Procedure for Passive Collection of Indoor Air Samples Using Sorbent Packed Tubes	Beacon

Table 1
Phase 3 Vapor Intrusion Investigation TM
NAS Jacksonville, Florida

Building	Location ID	Location Type	QC Sample Collected	Sampling Method	Collection Date	Sample Duration	SOP	Laboratory
103	BLDG103-GS01	subslab soil gas	x	TO-15	1/23/2014	5 minute	Standard Operating Procedure for Installing Subslab Probes and Collecting Subslab Soil Gas Samples Using SUMMA Canisters	Empirical
	BLDG103-GS02							
	BLDG103-GS03							
	BLDG103-GS10							
	BLDG103-GS11							
	BLDG103-GS12							
	BLDG103-GS15		x					
	BLDG103-AI03	indoor air	x	TO-15	1/23/2014	24 hour	Standard Operating Procedure for Indoor, Outdoor, and Crawl Space Air Sampling for VOCs Using Canisters	Empirical
			x	TO-17	2/5/2014	14 day	Standard Operting Procedure for Passive Collection of Indoor Air Samples Using Sorbent Packed Tubes	Beacon
	BLDG103-AI06			TO-17	2/5/2014	14 day	Standard Operting Procedure for Passive Collection of Indoor Air Samples Using Sorbent Packed Tubes	Beacon
	BLDG103-AI08			TO-17	2/5/2014	14 day	Standard Operting Procedure for Passive Collection of Indoor Air Samples Using Sorbent Packed Tubes	Beacon
	BLDG103-AI09			TO-15	1/23/2014	24 hour	Standard Operating Procedure for Indoor, Outdoor, and Crawl Space Air Sampling for VOCs Using Canisters	Empirical
				TO-17	2/5/2014	14 day	Standard Operting Procedure for Passive Collection of Indoor Air Samples Using Sorbent Packed Tubes	Beacon
	BLDG103-AO01	outdoor air		TO-15	1/23/2014	24 hour	Standard Operating Procedure for Indoor, Outdoor, and Crawl Space Air Sampling for VOCs Using Canisters	Empirical
				TO-17	2/5/2014	14 day	Standard Operting Procedure for Passive Collection of Indoor Air Samples Using Sorbent Packed Tubes	Beacon

Figures

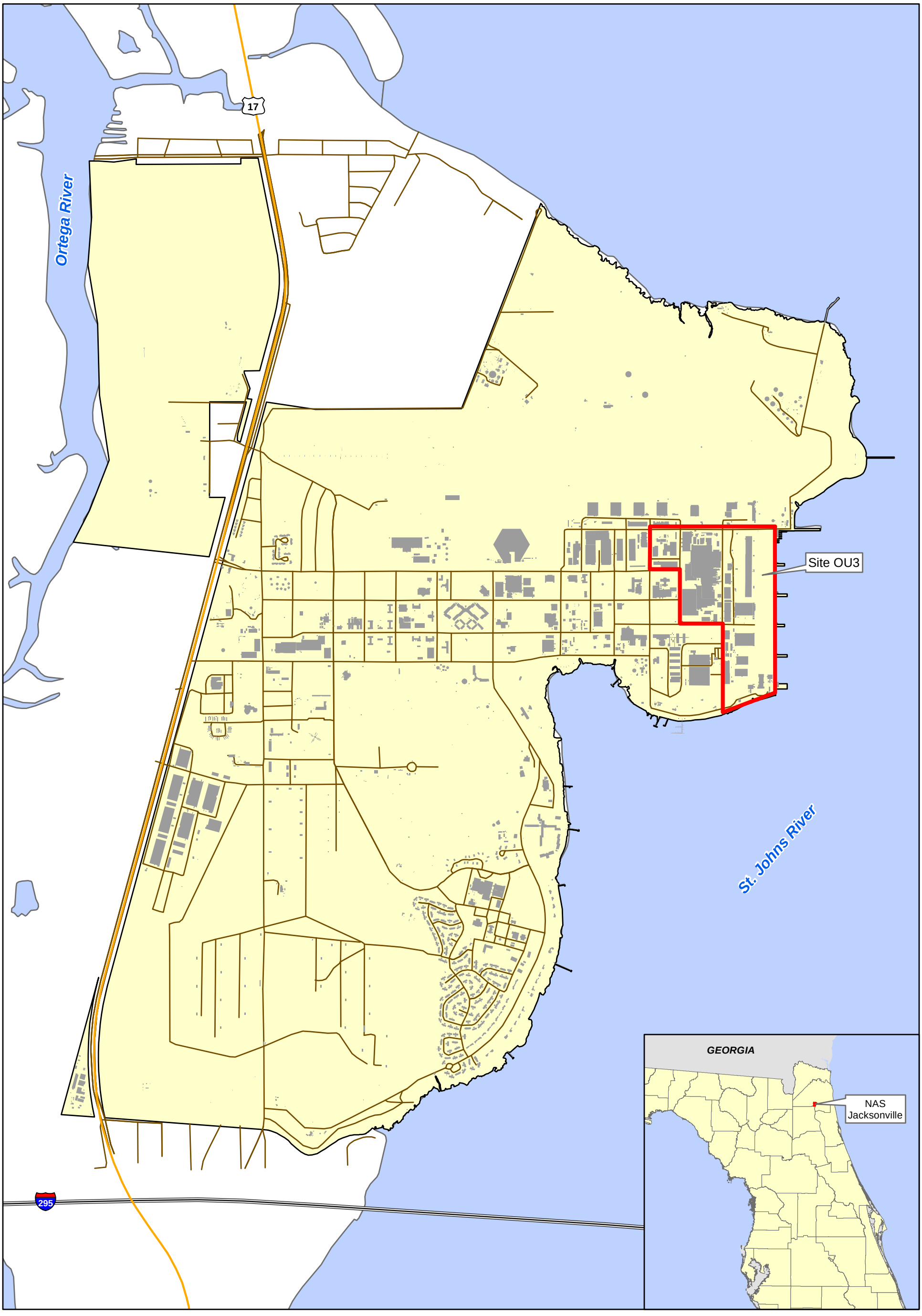

Figure 1
OU3 Site Location Map
Phase 3 Vapor Intrusion Investigation
Technical Memorandum
NAS Jacksonville OU3, Florida

CH2MHILL

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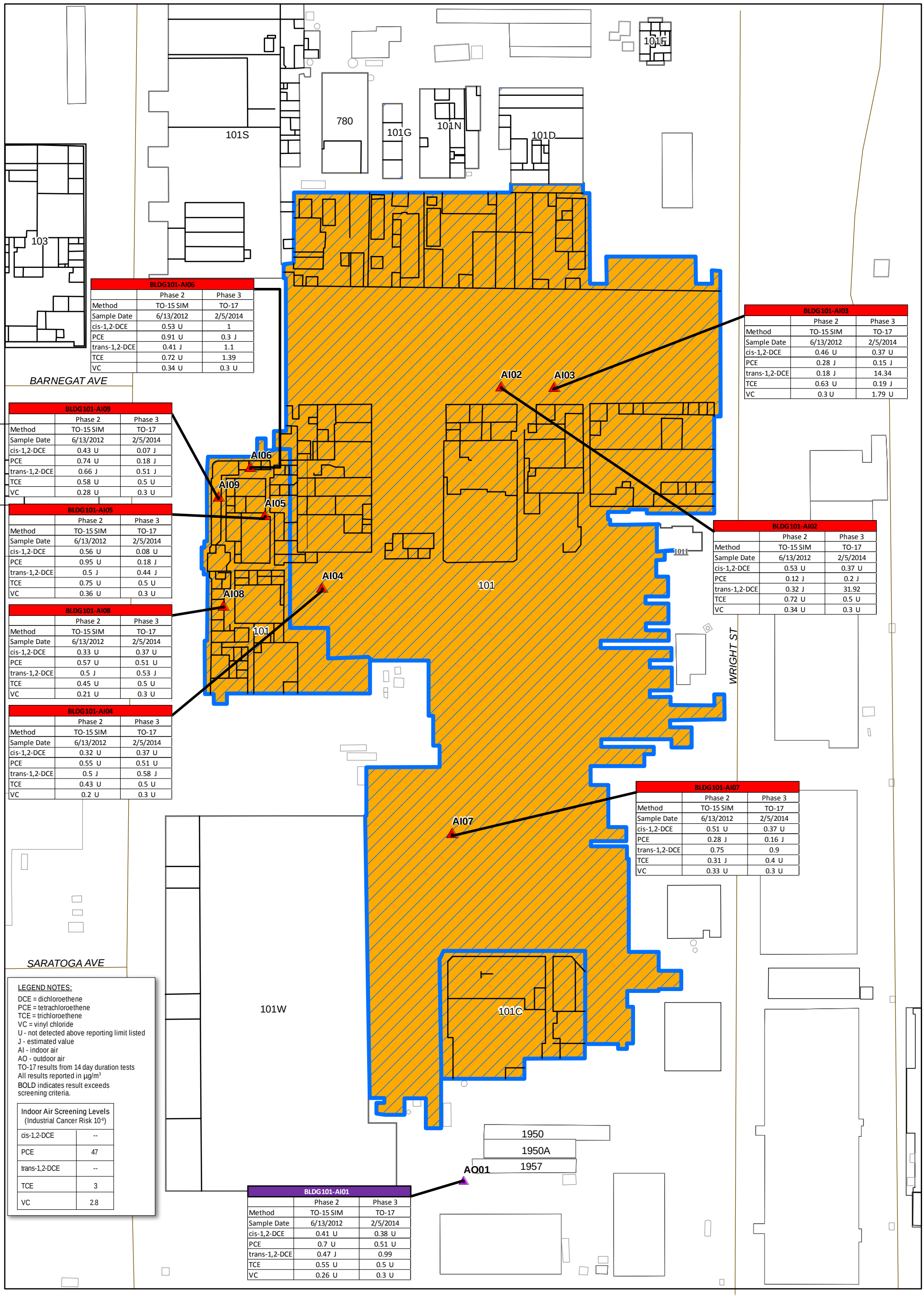

BLDG101-AI06	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.53 U	1
PCE	0.91 U	0.3 J
trans-1,2-DCE	0.41 J	1.1
TCE	0.72 U	1.39
VC	0.34 U	0.3 U

BLDG101-AI03	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.46 U	0.37 U
PCE	0.28 J	0.15 J
trans-1,2-DCE	0.18 J	14.34
TCE	0.63 U	0.19 J
VC	0.3 U	1.79 U

BLDG101-AI09	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.43 U	0.07 J
PCE	0.74 U	0.18 J
trans-1,2-DCE	0.66 J	0.51 J
TCE	0.58 U	0.5 U
VC	0.28 U	0.3 U

BLDG101-AI05	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.56 U	0.08 U
PCE	0.95 U	0.18 J
trans-1,2-DCE	0.5 J	0.44 J
TCE	0.75 U	0.5 U
VC	0.36 U	0.3 U

BLDG101-AI02	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.53 U	0.37 U
PCE	0.12 J	0.2 J
trans-1,2-DCE	0.32 J	31.92
TCE	0.72 U	0.5 U
VC	0.34 U	0.3 U

BLDG101-AI08	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.33 U	0.37 U
PCE	0.57 U	0.51 U
trans-1,2-DCE	0.5 J	0.53 J
TCE	0.45 U	0.5 U
VC	0.21 U	0.3 U

BLDG101-AI04	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.32 U	0.37 U
PCE	0.55 U	0.51 U
trans-1,2-DCE	0.5 J	0.58 J
TCE	0.43 U	0.5 U
VC	0.2 U	0.3 U

BLDG101-AI07	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.51 U	0.37 U
PCE	0.28 J	0.16 J
trans-1,2-DCE	0.75	0.9
TCE	0.31 J	0.4 U
VC	0.33 U	0.3 U

LEGEND NOTES:

DCE = dichloroethene
PCE = tetrachloroethene
TCE = trichloroethene
VC = vinyl chloride
U - not detected above reporting limit listed
J - estimated value
AI - indoor air
AO - outdoor air
TO-17 results from 14 day duration tests
All results reported in µg/m^3
BOLD indicates result exceeds screening criteria.

Indoor Air Screening Levels (Industrial Cancer Risk 10^{-6})	
cis-1,2-DCE	--
PCE	47
trans-1,2-DCE	--
TCE	3
VC	2.8

BLDG101-AI01	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.41 U	0.38 U
PCE	0.7 U	0.51 U
trans-1,2-DCE	0.47 J	0.99
TCE	0.55 U	0.5 U
VC	0.26 U	0.3 U

Outdoor Air Monitoring Sample

Indoor Air Monitoring Sample

Phase 3 Buildings of Interest

N

0 50 100 200 Feet

Figure 2
Building 101 Sampling Locations
Phase 3 Vapor Intrusion Investigation
Technical Memorandum
NAS Jacksonville OU3, Florida

CH2MHILL.

BLDG101C-GS03		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/13/2012	1/22/2014
cis-1,2-DCE	3 J	1.8 J
PCE	4.6 J	1.5 U
trans-1,2-DCE	4.8	2.2
TCE	670	450
VC	0.81 U	1.5 U

BLDG101C-GS04		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/13/2012	1/22/2014
cis-1,2-DCE	2.3 U	29 U
PCE	6.8 J	26 U
trans-1,2-DCE	2.3 U	28 U
TCE	1,400	**6,700**
VC	1.5 U	26 U

BLDG101C-GS05		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/13/2012	1/22/2014
cis-1,2-DCE	1.2 U	1.8 U
PCE	4.7 J	3.1
trans-1,2-DCE	1.2 U	1.7 U
TCE	20	120
VC	0.77 U	1.6 U

BLDG101C-AI01		
	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.44 U	0.37 U
PCE	0.75 U	0.51 U
trans-1,2-DCE	0.23 J	1
TCE	1.2	0.3 J
VC	0.28 U	0.3 U

BLDG101C-GS02		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/13/2012	1/22/2014
cis-1,2-DCE	7.7	1.6 U
PCE	28 J	3.4
trans-1,2-DCE	1.2 U	1.6 U
TCE	46	1.6 U
VC	0.76 U	1.5 U

BLDG101C-AI02		
	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.53 U	0.37 U
PCE	0.12 U	0.2 U
trans-1,2-DCE	0.32 J	31.92
TCE	0.72 U	0.5 J
VC	0.34 U	0.3 U

BLDG101C-GS01		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/13/2012	1/22/2014
cis-1,2-DCE	1.2 U	1.7 U
PCE	9.3 J	1.5 U
trans-1,2-DCE	1.2 U	1.7 U
TCE	15	3.5
VC	0.78 U	1.5 U

BLDG101C-AO01		
	Phase 2	Phase 3
Method	TO-15 SIM	TO-17
Sample Date	6/13/2012	2/5/2014
cis-1,2-DCE	0.36 U	0.38 U
PCE	0.62 U	0.51 U
trans-1,2-DCE	0.36 U	1.46
TCE	0.49 U	0.5 U
VC	0.23 U	0.3 U

GS04
GS03
AI02
GS05
AI01
101C
GS01
GS02
AO01

LEGEND NOTES:

DCE = dichloroethene
PCE = tetrachloroethene
TCE = trichloroethene
VC = vinyl chloride
U - not detected above reporting limit listed
J - estimated value

AI - indoor air
AO - outdoor air
GS - subslab soil gas
TO-17 results from 14 day duration tests
All results reported in µg/m^3
BOLD indicates result exceeds screening criteria.

	Subslab Soil Gas Screening Levels (Industrial Cancer Risk 10^{-6})
cis-1,2-DCE	--
PCE	47,000
trans-1,2-DCE	--
TCE	3,000
VC	2,800

Indoor Air Screening Levels (Industrial Cancer Risk 10^{-6})	
cis-1,2-DCE	--
PCE	47
trans-1,2-DCE	--
TCE	3
VC	2.8

Outdoor Air Monitoring Sample

Indoor Air Monitoring Sample

Subslab Soil Gas Monitoring Samples

Phase 3 Buildings of Interest

N

0 12.5 25 50 Feet

DRAFT

Figure 3
Building 101C Sampling Locations
Phase 3 Vapor Intrusion Investigation
Technical Memorandum
NAS Jacksonville OU3, Florida

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BLDG103-AO01				
	Phase 2	Phase 3	Phase 2	Phase 3
Method	TO-15 SIM	TO-15 SIM	TO-17	TO-17
Sample Date	6/19/2012	1/23/2014	7/2/2012	2/5/2014
cis-1,2-DCE	0.36 U	0.16 J	0.4 U	0.55 J
PCE	0.62 U	0.0533	0.11 U	0.16 J
trans-1,2-DCE	0.36 U	0.033 U	0.4 U	0.74 J
TCE	0.49 U	0.033 U	0.11 U	1.26
VC	0.23 U	0.03 U	0.32 U	0.3 U

AO01

BLDG103-AI03				
	Phase 2	Phase 3	Phase 2	Phase 3
Method	TO-15 SIM	TO-15 SIM	TO-17	TO-17
Sample Date	6/19/2012	1/23/2014	7/2/2012	2/5/2014
cis-1,2-DCE	5.1	3	3.9	2.18
PCE	3.6	2.9	3.62	2.63
trans-1,2-DCE	3.9	1.8	2.76	1.87
TCE	1.3	0.64	1.8	1.05
VC	0.22 U	0.025 U	0.32 U	0.3 U

BLDG103-GS15		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/18/2012	1/23/2014
cis-1,2-DCE	8	15
PCE	300	35 J
trans-1,2-DCE	1,300	27
TCE	150	9
VC	1.1 U	1.3 U

BLDG103-GS12		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/18/2012	1/23/2014
cis-1,2-DCE	140,000	72,000
PCE	**120,000**	**75,000**
trans-1,2-DCE	110,000	42,000
TCE	**33,000**	**17,000**
VC	190 U	300 U

BLDG103-GS02		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/18/2012	1/23/2014
cis-1,2-DCE	41	40 U
PCE	7,200	8,000
trans-1,2-DCE	42	39 U
TCE	210	140
VC	4.9 U	36 U

BLDG103-AI06			
	Phase 2	Phase 2	Phase 3
Method	TO-15 SIM	TO-17	TO-17
Sample Date	6/19/2012	7/2/2012	2/5/2014
cis-1,2-DCE	0.19 J	0.4 U	0.19 J
PCE	0.43 J	0.45 J	1.14
trans-1,2-DCE	0.26 J	0.4 U	0.58 J
TCE	0.46 U	0.11 U	0.17 U
VC	0.22 U	0.32 U	0.3 U

BLDG103-GS01		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/18/2012	1/23/2014
cis-1,2-DCE	23,000	3,400
PCE	31,000	9,100
trans-1,2-DCE	25,000	3,100
TCE	**5,900**	1,300
VC	29 U	41 U

BLDG103-GS10		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/18/2012	1/23/2014
cis-1,2-DCE	9,700	880
PCE	40,000	26,000
trans-1,2-DCE	17,000	2,500
TCE	**7,200**	**3,400**
VC	24 U	130 U

BLDG103-AI08			
	Phase 2	Phase 2	Phase 3
Method	TO-15 SIM	TO-17	TO-17
Sample Date	7/26/2012	8/8/2012	2/5/2014
cis-1,2-DCE	0.39 J	0.39 U	0.83
PCE	0.52 J	0.88 J	1.42
trans-1,2-DCE	0.63 J	0.39 U	1.17
TCE	0.45 U	0.53 U	0.24 J
VC	0.21 U	0.32 U	0.3 U

BLDG103-GS03		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/18/2012	1/23/2014
cis-1,2-DCE	11,000	1,600
PCE	24,000	12,000
trans-1,2-DCE	13,000	1,800
TCE	2,900	1,200
VC	15 U	54 U

BLDG103-GS11		
	Phase 2	Phase 3
Method	TO-15 Scan	TO-15 Scan
Sample Date	6/18/2012	1/23/2014
cis-1,2-DCE	51,000	20,000
PCE	25,000	11,000
trans-1,2-DCE	37,000	14,000
TCE	**16,000**	**5,300**
VC	71 U	85 U

BLDG103-AI09					
	Phase 2	Phase 2 Re-Sample	Phase 3	Phase 2	Phase 3
Method	TO-15 SIM	TO-15 SIM	TO-15 SIM	TO-17	TO-17
Sample Date	6/19/2012	3/8/2013	1/23/2014	7/2/2012	2/5/2014
cis-1,2-DCE	1.1	41	12	0.59 J	11.25
PCE	0.73 J	13	5	0.82 J	6.69
trans-1,2-DCE	0.94	25	6.2	0.4 U	7.14
TCE	**13**	**6.2**	2.1	**15.9**	**3.25**
VC	0.2 U	0.47 U	0.03 U	0.32 U	0.3 U

GS15
GS02
AI06
AI03
GS12
GS10
GS01
AI09
GS11
AI08
GS03

103
105

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BARNEGAT AVE

LEGEND NOTES:

DCE = dichloroethene
PCE = tetrachloroethene
TCE = trichloroethene
VC = vinyl chloride
U - not detected above reporting limit listed
J - estimated value

AI - indoor air
AO - outdoor air
GS - subslab soil gas
TO-17 results from 14 day duration tests
All results reported in µg/m^3
BOLD indicates result exceeds screening criteria.

	Subslab Soil Gas Screening Levels (Industrial Cancer Risk 10^{-6})	Subslab Soil Gas Screening Levels (Industrial Noncancer Hazard Quotient = 1)
cis-1,2-DCE	--	--
PCE	47,000	180,000
trans-1,2-DCE	--	260,000
TCE	3,000	8,800
VC	2,800	440,000

Indoor Air Screening Levels (Industrial Cancer Risk 10^{-6})	
cis-1,2-DCE	--
PCE	47
trans-1,2-DCE	--
TCE	3
VC	2.8

Outdoor Air Monitoring Sample

Indoor Air Monitoring Sample

Subslab Soil Gas Monitoring Samples

Phase 3 Buildings of Interest

N

0 15 30 60 Feet

DRAFT

Figure 4
Building 103 Sampling Locations
Phase 3 Vapor Intrusion Investigation
Technical Memorandum
NAS Jacksonville OU3, Florida

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ATL \\GALILEO\PROJ\NASJAX\GASHILL_OU3_391691\MAPFILES\VI_STUDY\VI_SAMPLING\BLDG_103_2013.MXD CELEFTHE 12/17/2013 3:57:25 PM

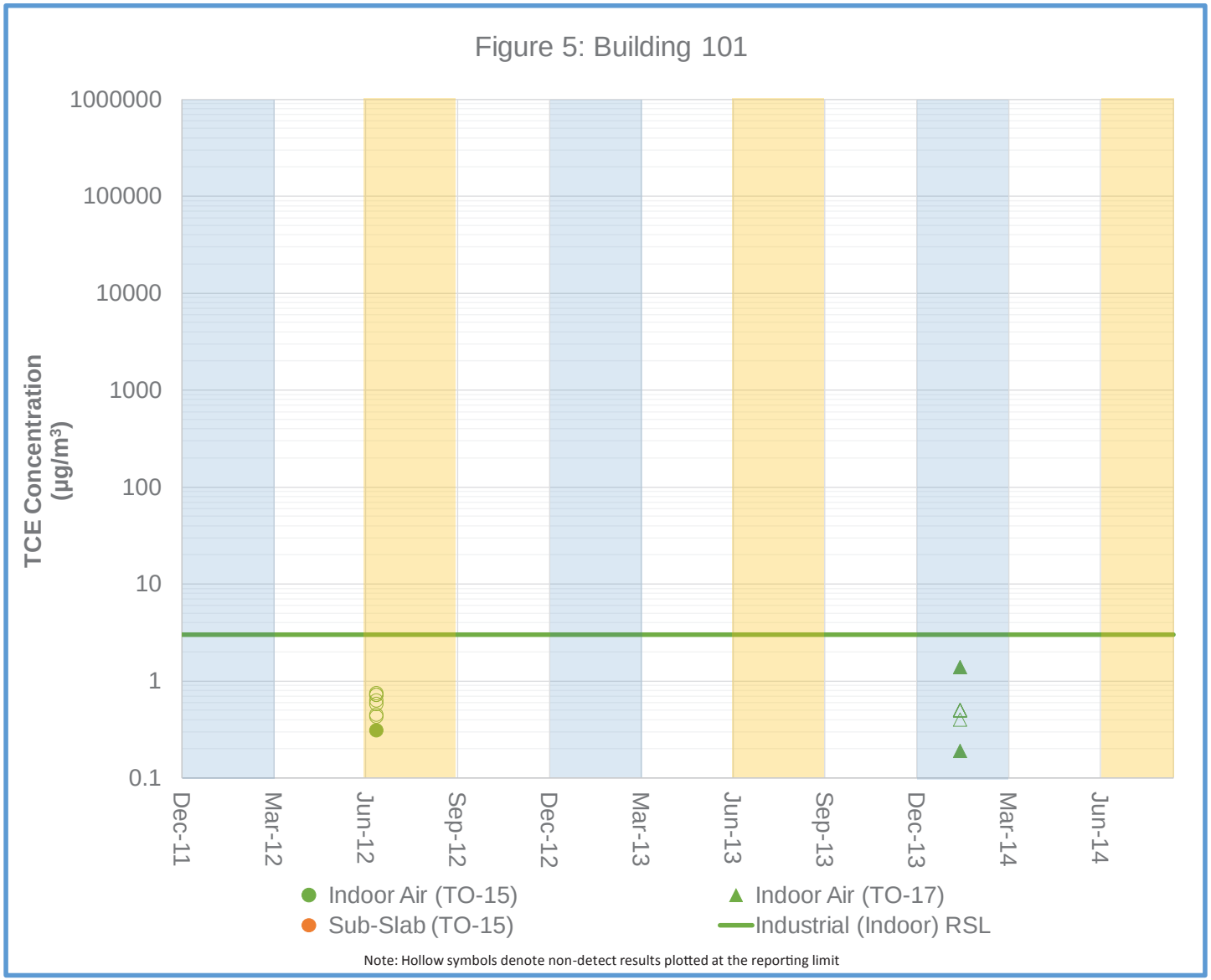


Figure 5 Example:
Building 101 TCE Concentrations Over Time
Phase 3 Vapor Intrusion Investigation
Technical Memorandum
NAS Jacksonville OU3, Florida

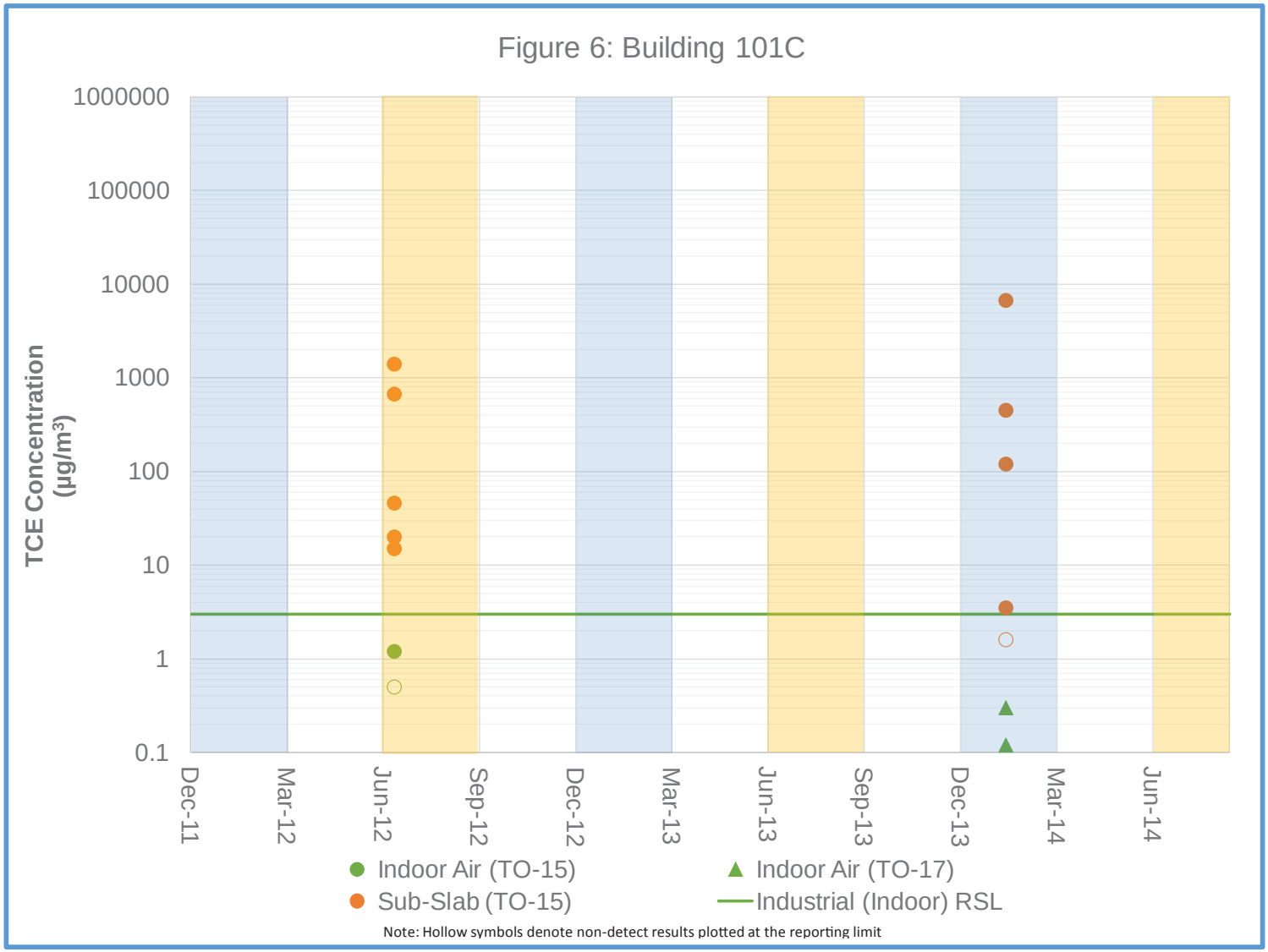


Figure 6 Example:
Building 101C TCE Concentrations Over Time
Phase 3 Vapor Intrusion Investigation
Technical Memorandum
NAS Jacksonville OU3, Florida

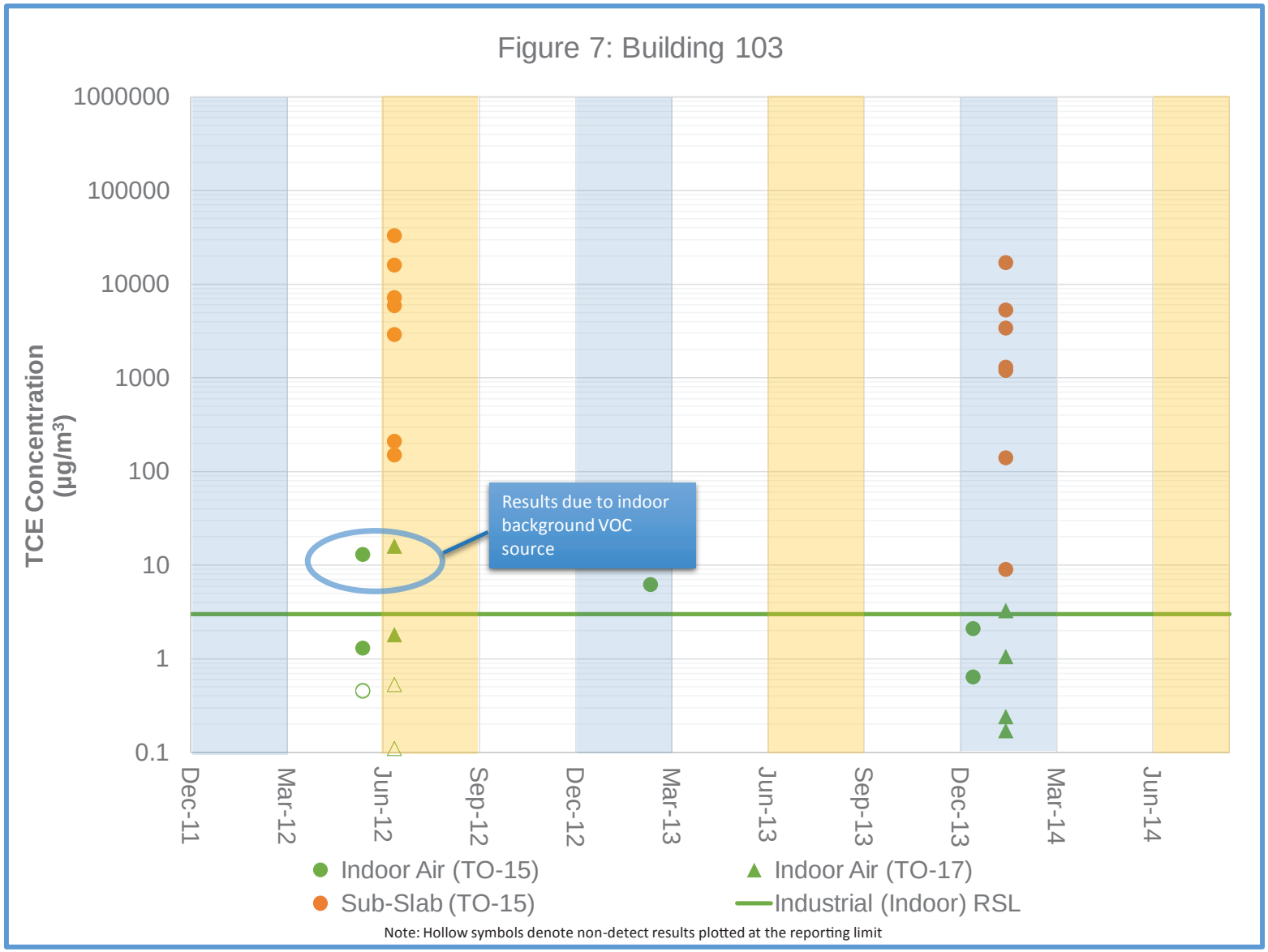


Figure 7 Example:
Building 103 TCE Concentrations Over Time
Phase 3 Vapor Intrusion Investigation
Technical Memorandum
NAS Jacksonville OU3, Florida

Attachment A
Quality Control Documentation and Field Notes

Small Business RAC II **N62470-12-D-7004**	**CONTRACTOR PRODUCTION REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	DATE OF REPORT: 01/20/2014 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU3, MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions	REPORT NO: 071
PROJECT NO: 470875	SUPERINTENDENT: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron
AM WEATHER: Cloudy	PM WEATHER: Cloudy / MAX TEMP: 68 F	MIN TEMP: 41 F

SUMMARY OF WORK PERFORMED TODAY

OU3: Building survey.

JOB SAFETY

Was A Job Safety Meeting Held This Date?	☐ Yes	☒ No
Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	☐ Yes	☒ No
Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	☐ Yes	☒ No
Was a Crane/**Man lift/**Trenching/Scaffold/HV Electrical/High Work/Hazmat Work Done? (If Yes, attach statement or checklist showing inspection performed)	☐ Yes	☒ No
Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	☐ Yes	☒ No

TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)

AGVIQ On-Site Hours	0
Subcontractor On-Site Hours	8
Total On-Site Hours This Date	8
Cumulative Total of Work Hours From Previous Report	1937
Total Work Hours From Start of Construction	1945

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted):

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ LOT NUMBER	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.)**: N/A**

VISITORS TO THE SITE: N/A

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): CQCR

SAFETY REQUIREMENTS HAVE BEEN MET ☒

Juan Acaron — SUPERINTENDENT'S SIGNATURE

01/20/2014 — DATE

AGVIQ **Small Business RAC** **N62470-12-D-7004**	**CONTRACTOR PRODUCTION REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	DATE OF REPORT: 01/20/2014 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU3, MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions	REPORT NO: 071
PROJECT NO: 470875	SUPERINTENDENT: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

WORK PERFORMED TODAY

EMPLOYEE	WORK PERFORMED	EMPLOYER	FEMALE?	MINORITY?	TITLE/TRADE	HRS
Juan Acaron	Sampling	CH2M HILL	No	Yes	Project Chemist	4
Kim Stokes	Sampling	CH2M HILL	Yes	No	Engineer	4

INCLUDE ALL PERSONNEL WORK HOURS IN THE TOTAL WORK HOURS ON JOB SITE

SAFETY REQUIREMENTS HAVE BEEN MET ☒

Juan Acaron — SUPERINTENDENT'S SIGNATURE

01/20/2014 — DATE

AGVIQ ENVIRONMENTAL SERVICES **Small Business RAC II** **N62470-12-D-7004**	**CONTRACTOR PRODUCTION REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	DATE OF REPORT: 01/21/2014 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU3, MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions	REPORT NO: 072
PROJECT NO: 470875	SUPERINTENDENT: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron
AM WEATHER: Cloudy	PM WEATHER: Cloudy / MAX TEMP: 72 F	MIN TEMP: 49 F

SUMMARY OF WORK PERFORMED TODAY

OU3: Deployed air samples OU3-BLDG101C-AI01-0114, OU3-BLDG101C-AI02-0114, OU3-BLDG101-AI07-0114, OU3-BLDG101-AI03-0114, OU3-BLDG101-AI02-0114 (FD taken), OU3-BLDG101-AI04-0114, OU3-BLDG101-AI05-0114, OU3-BLDG101-AI06-0114, OU3-BLDG101-AI09-0114, OU3-BLDG101-AI08-0114, OU3-BLDG101-AO01-0114, OU3-BLDG101C-AO01-0114, OU3-BLDG103-AI03-0114 (FD taken), OU3-BLDG103-AI09-0114, OU3-BLDG103-AI08-0114, OU3-BLDG103-AI06-0114, and OU3-BLDG103-AO01-0114.

JOB SAFETY

Was A Job Safety Meeting Held This Date?	☐ Yes	☒ No
Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	☐ Yes	☒ No
Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	☐ Yes	☒ No
Was a Crane/**Man lift/**Trenching/Scaffold/HV Electrical/High Work/Hazmat Work Done? (If Yes, attach statement or checklist showing inspection performed)	☐ Yes	☒ No
Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	☐ Yes	☒ No

TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)

AGVIQ On-Site Hours	0
Subcontractor On-Site Hours	16
Total On-Site Hours This Date	16
Cumulative Total of Work Hours From Previous Report	1945
Total Work Hours From Start of Construction	1961

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted):

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ LOT NUMBER	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.)**: N/A**

VISITORS TO THE SITE: N/A

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): CQCR

SAFETY REQUIREMENTS HAVE BEEN MET ☒

Juan Acaron — SUPERINTENDENT'S SIGNATURE

01/21/2014 — DATE

AGVIQ **Small Business RAC** **N62470-12-D-7004**	**CONTRACTOR PRODUCTION REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	DATE OF REPORT: 01/21/2014 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU3, MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions	REPORT NO: 072
PROJECT NO: 470875	SUPERINTENDENT: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

WORK PERFORMED TODAY

EMPLOYEE	WORK PERFORMED	EMPLOYER	FEMALE?	MINORITY?	TITLE/TRADE	HRS
Juan Acaron	Sampling	CH2M HILL	No	Yes	Project Chemist	8
Kim Stokes	Sampling	CH2M HILL	Yes	No	Engineer	8

INCLUDE ALL PERSONNEL WORK HOURS IN THE TOTAL WORK HOURS ON JOB SITE

SAFETY REQUIREMENTS HAVE BEEN MET ☒

Juan Acaron — SUPERINTENDENT'S SIGNATURE

01/21/2014 — DATE

AGVIQ ENVIRONMENTAL SERVICES **Small Business RAC II** **N62470-12-D-7004**	**CONTRACTOR PRODUCTION REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	DATE OF REPORT: 01/22/2014 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU3, MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions	REPORT NO: 073
PROJECT NO: 470875	SUPERINTENDENT: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron
AM WEATHER: Cloudy	PM WEATHER: Cloudy / MAX TEMP: 50 F	MIN TEMP: 34 F

SUMMARY OF WORK PERFORMED TODAY

OU3: Deployed air samples OU3-BLDG103-AI09-0114, OU3-BLDG103-AI03-0114 (FD taken), and OU3-BLDG103-AO01-0114. Collect OU3-BLDG101C-GS05-0114, OU3-BLDG101C-GS04-0114, OU3-BLDG101C-GS03-0114, OU3-BLDG101C-GS01-0114, and OU3-BLDG101C-GS02-0114.

JOB SAFETY

Was A Job Safety Meeting Held This Date?	☐ Yes	☒ No
Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	☐ Yes	☒ No
Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	☐ Yes	☒ No
Was a Crane/**Man lift/**Trenching/Scaffold/HV Electrical/High Work/Hazmat Work Done? (If Yes, attach statement or checklist showing inspection performed)	☐ Yes	☒ No
Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	☐ Yes	☒ No

TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)

AGVIQ On-Site Hours	0
Subcontractor On-Site Hours	16
Total On-Site Hours This Date	16
Cumulative Total of Work Hours From Previous Report	1961
Total Work Hours From Start of Construction	1977

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted):

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ LOT NUMBER	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.)**: N/A**

VISITORS TO THE SITE: N/A

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): CQCR

SAFETY REQUIREMENTS HAVE BEEN MET ☒

Juan Acaron — SUPERINTENDENT'S SIGNATURE

01/22/2014 — DATE

AGVIQ **Small Business RAC** **N62470-12-D-7004**	**CONTRACTOR PRODUCTION REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	DATE OF REPORT: 01/22/2014 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU3, MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions	REPORT NO: 073
PROJECT NO: 470875	SUPERINTENDENT: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

WORK PERFORMED TODAY

EMPLOYEE	WORK PERFORMED	EMPLOYER	FEMALE?	MINORITY?	TITLE/TRADE	HRS
Juan Acaron	Sampling	CH2M HILL	No	Yes	Project Chemist	8
Kim Stokes	Sampling	CH2M HILL	Yes	No	Engineer	8

INCLUDE ALL PERSONNEL WORK HOURS IN THE TOTAL WORK HOURS ON JOB SITE

SAFETY REQUIREMENTS HAVE BEEN MET ☒

Juan Acaron — SUPERINTENDENT'S SIGNATURE

01/22/2014 — DATE

AGVIQ ENVIRONMENTAL SERVICES **Small Business RAC II** **N62470-12-D-7004**	**CONTRACTOR PRODUCTION REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	DATE OF REPORT: 01/23/2014 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU3, MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions	REPORT NO: 074
PROJECT NO: 470875	SUPERINTENDENT: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron
AM WEATHER: Sunny	PM WEATHER: Sunny / MAX TEMP: 53 F	MIN TEMP: 40 F

SUMMARY OF WORK PERFORMED TODAY

OU3: Collect OU3-BLDG103-AI09-0114, OU3-BLDG103-AI03-0114 (FD taken), OU3-BLDG103-GS01-0114 (FD taken), OU3-BLDG103-GS12-0114, OU3-BLDG103-GS03-0114, OU3-BLDG103-GS10-0114, OU3-BLDG103-AO01-0114, OU3-BLDG103-GS02-0114, OU3-BLDG103-GS11-0114, OU3-BLDG103-GS15-0114 (FD taken), and ADHESIVE.

JOB SAFETY

Was A Job Safety Meeting Held This Date?	☐ Yes	☒ No
Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	☐ Yes	☒ No
Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	☐ Yes	☒ No
Was a Crane/**Man lift/**Trenching/Scaffold/HV Electrical/High Work/Hazmat Work Done? (If Yes, attach statement or checklist showing inspection performed)	☐ Yes	☒ No
Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	☐ Yes	☒ No

TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)

AGVIQ On-Site Hours	0
Subcontractor On-Site Hours	12
Total On-Site Hours This Date	12
Cumulative Total of Work Hours From Previous Report	1977
Total Work Hours From Start of Construction	1999

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted):

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ LOT NUMBER	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.)**: N/A**

VISITORS TO THE SITE: N/A

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): CQCR

SAFETY REQUIREMENTS HAVE BEEN MET ☒

Juan Acaron — SUPERINTENDENT'S SIGNATURE

01/23/2014 — DATE

AGVIQ **Small Business RAC** **N62470-12-D-7004**	**CONTRACTOR PRODUCTION REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	DATE OF REPORT: 01/23/2014 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU3, MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions	REPORT NO: 074
PROJECT NO: 470875	SUPERINTENDENT: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

WORK PERFORMED TODAY

EMPLOYEE	WORK PERFORMED	EMPLOYER	FEMALE?	MINORITY?	TITLE/TRADE	HRS
Juan Acaron	Sampling	CH2M HILL	No	Yes	Project Chemist	6
Kim Stokes	Sampling	CH2M HILL	Yes	No	Engineer	6

INCLUDE ALL PERSONNEL WORK HOURS IN THE TOTAL WORK HOURS ON JOB SITE

SAFETY REQUIREMENTS HAVE BEEN MET ☒

Juan Acaron — SUPERINTENDENT'S SIGNATURE

01/23/2014 — DATE

AGVIQ ENVIRONMENTAL SERVICES **Small Business RAC II** **N62470-12-D-7004**	**CONTRACTOR PRODUCTION REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	DATE OF REPORT: 02/05/2014 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU3, MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions	REPORT NO: 075
PROJECT NO: 470875	SUPERINTENDENT: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron
AM WEATHER: Cloudy	PM WEATHER: Rain	MAX TEMP: 79 F / MIN TEMP: 62 F

SUMMARY OF WORK PERFORMED TODAY

OU3: Collect OU3-BLDG101-AO01-0114, OU3-BLDG101C-AO01-0114, OU3-BLDG101C-AI01-0114, OU3-BLDG101C-AI02-0114, OU3-BLDG101-AI07-0114, OU3-BLDG101-AI04-0114, OU3-BLDG101-AI08-0114, OU3-BLDG101-AI09-0114, OU3-BLDG101-AI06-0114, OU3-BLDG101-AI05-0114, OU3-BLDG101-AI02-0114 (FD taken), OU3-BLDG101-AI03-0114, OU3-BLDG103-AI01-0114, OU3-BLDG103-AI03-0114 (FD taken), OU3-BLDG103-AI09-0114, OU3-BLDG103-AI08-0114, AND OU3-BLDG103-AI06-0114.

JOB SAFETY

Was A Job Safety Meeting Held This Date?	☐ Yes	☒ No
Were there any lost-time accidents this date? (If Yes, attach copy of completed OSHA report)	☐ Yes	☒ No
Was a Confined Space Entry Permit Administered This Date? (If Yes, attach copy of each permit)	☐ Yes	☒ No
Was a Crane/**Man lift/**Trenching/Scaffold/HV Electrical/High Work/Hazmat Work Done? (If Yes, attach statement or checklist showing inspection performed)	☐ Yes	☒ No
Was Hazardous Material/Waste Released into the Environment? (If Yes, attach description of incident and proposed action)	☐ Yes	☒ No

TOTAL WORK HOURS ON JOB SITE THIS DATE (Including Continuation Sheets)

AGVIQ On-Site Hours	0
Subcontractor On-Site Hours	5
Total On-Site Hours This Date	5
Cumulative Total of Work Hours From Previous Report	1999
Total Work Hours From Start of Construction	2004

SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED (Include Safety Violations, Corrective Instructions Given, Corrective Actions Taken, and Results of Safety Inspections Conducted):

EQUIPMENT/MATERIAL RECEIVED TODAY TO BE INCORPORATED IN JOB

DESCRIPTION OF EQUIPMENT/MATERIAL RECEIVED	MAKE/ MODEL/ MANUFACTURER	EQUIPMENT/ LOT NUMBER	INSPECTION PERFORMED BY	NUMBER/ VOLUME/ WEIGHT

EQUIPMENT USED ON JOB SITE TODAY.

EQUIPMENT DESCRIPTION	EQUIPMENT MAKE/MODEL	SAFETY CHECK PERFORMED BY	NUMBER OF HOURS		
			USED	IDLE	REPAIR

CHANGED CONDITIONS/DELAY/CONFLICTS ENCOUNTERED (List any conflicts with the delivery order [i.e., scope of work and/or drawings], delays to the project attributable to site and weather conditions, etc.)**: N/A**

VISITORS TO THE SITE: N/A

LIST OF ATTACHMENTS (OSHA report, confined space entry permit, incident reports, etc.): CQCR

SAFETY REQUIREMENTS HAVE BEEN MET ☒

Juan Acaron — SUPERINTENDENT'S SIGNATURE

02/05/2014 — DATE

AGVIQ **Small Business RAC** **N62470-12-D-7004**	**CONTRACTOR PRODUCTION REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	DATE OF REPORT: 02/05/2014 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU3, MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions	REPORT NO: 075
PROJECT NO: 470875	SUPERINTENDENT: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

WORK PERFORMED TODAY

EMPLOYEE	WORK PERFORMED	EMPLOYER	FEMALE?	MINORITY?	TITLE/TRADE	HRS
Juan Acaron	Sampling	CH2M HILL	No	Yes	Project Chemist	5

INCLUDE ALL PERSONNEL WORK HOURS IN THE TOTAL WORK HOURS ON JOB SITE

SAFETY REQUIREMENTS HAVE BEEN MET ☒

Juan Acaron — SUPERINTENDENT'S SIGNATURE

02/05/2014 — DATE

Small Business RAC II N62470-12-D-7004	**CONTRACTOR QUALITY CONTROL REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REPORT DATE: 01/20/14 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU-3 , MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions / Naval Air Station Jacksonville, Jacksonville, Florida	REPORT NO: 071
PROJECT NO: 470875	PROJECT QC MANAGER: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	☒ YES	☐ NO	IF YES, ATTACH SAFETY MEETING MINUTES
WAS CRANE USED ON THE SITE THIS DAY?	☐ YES	☒ NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST

DEFINABLE FEATURES OF WORK STATUS

DFOW No.	Definable Features Of Work	Preparatory	Initial	Follow-Up
1	Mobilization and Site Preparation	☐	☐	☐
2	System Decommissioning	☐	☐	☐
3	Well Abandonment	☐	☐	☐
4	Sampling	☐	☐	☒
5	Soil Excavation and Backfill	☐	☐	☐
6	Site Surveying	☐	☐	☐
7	Site Restoration	☐	☐	☐
8	Waste Management	☐	☐	☐
9	Decontamination and Demobilization	☐	☐	☐
10		☐	☐	☐

PREPARATORY

WAS PREPARATORY PHASE WORK PERFORMED TODAY? ☐ YES ☒ NO

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.

DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS

DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial ☐ Follow up ☐	No work performed on this DFOW.
2	Initial ☐ Follow up ☐	No work performed on this DFOW.
3	Initial ☐ Follow up ☐	No work performed on this DFOW.
4	Initial ☐ Follow up ☒	Building survey.
5	Initial ☐ Follow up ☐	No work performed on this DFOW.
6	Initial ☐ Follow up ☐	No work performed on this DFOW.
7	Initial ☐ Follow up ☐	No work performed on this DFOW.
8	Initial ☐ Follow up ☐	No work performed on this DFOW.
9	Initial ☐ Follow up ☐	No work performed on this DFOW.

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			**REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)**	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

AGVIQ **Small Business RAC II** **N62470-12-D-7004**	**CONTRACTOR QUALITY CONTROL REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REPORT DATE: 01/20/14 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU-3 , MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions / Naval Air Station Jacksonville, Jacksonville, Florida	REPORT NO: 071
PROJECT NO: 470875	PROJECT QC MANAGER: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

SAMPLING/TESTING PERFORMED

SAMPLING/TESTING PERFORMED	SAMPLING/TESTING COMPANY	SAMPLING/TESTING PERSONNEL
Vapor intrusion sampling - TCL VOCs by TO-15 and TO-17.	CH2M HILL HILL / ALS Environmental, Beacon Environmental	J. Acaron, K. Stokes / ALS Environmental, Beacon Environmental

MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)

MATERIAL/EQUIPMENT DESCRIPTION	SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
Multi Rae	-	YES ☒ NO ☐	
		YES ☐ NO ☐	
		YES ☐ NO ☐	
		YES ☐ NO ☐	

SUBMITTALS INSPECTION / REVIEW

SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES ☐ NO ☐	
			YES ☐ NO ☐	
			YES ☐ NO ☐	

OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN:

ACCUMULATION/STOCKPILE AREA INSPECTION

INSPECTION PERFORMED BY:	J. Acaron			SIGNATURE OF INSPECTOR:	J. Acaron		
ACCUMULATION/ STOCKPILE AREA LOCATION							
NO OF CONTAINERS:		NO OF TANKS:		NO OF ROLL-OFF BOXES:	0	NO OF DRUMS:	0

INSPECTION RESULTS: All containers (roll-offs and drums) are in good condition and in compliance with the work plan.

TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES:

None.

GENERAL COMMENTS (rework, directives, etc.):

None.

LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.):

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

J. Acaron — PROJECT QC MANAGER'S SIGNATURE

01/20/14 — DATE

On behalf of the contractor, I attest that the work, for which payment is requested, including stored material, is in compliance with contract requirements.

GOVERNMENT QAULITY ASSURANCE MANAGER'S SIGNATURE

DATE

Small Business RAC II N62470-12-D-7004	**CONTRACTOR QUALITY CONTROL REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REPORT DATE: 01/21/14 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU-3 , MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions / Naval Air Station Jacksonville, Jacksonville, Florida	REPORT NO: 072
PROJECT NO: 470875	PROJECT QC MANAGER: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	☒ YES	☐ NO	IF YES, ATTACH SAFETY MEETING MINUTES
WAS CRANE USED ON THE SITE THIS DAY?	☐ YES	☒ NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST

DEFINABLE FEATURES OF WORK STATUS

DFOW No.	Definable Features Of Work	Preparatory	Initial	Follow-Up
1	Mobilization and Site Preparation	☐	☐	☐
2	System Decommissioning	☐	☐	☐
3	Well Abandonment	☐	☐	☐
4	Sampling	☐	☐	☒
5	Soil Excavation and Backfill	☐	☐	☐
6	Site Surveying	☐	☐	☐
7	Site Restoration	☐	☐	☐
8	Waste Management	☐	☐	☐
9	Decontamination and Demobilization	☐	☐	☐
10		☐	☐	☐

PREPARATORY

WAS PREPARATORY PHASE WORK PERFORMED TODAY? ☐ YES ☒ NO

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.

DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS

DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial ☐ Follow up ☐	No work performed on this DFOW.
2	Initial ☐ Follow up ☐	No work performed on this DFOW.
3	Initial ☐ Follow up ☐	No work performed on this DFOW.
4	Initial ☐ Follow up ☒	Deployed air samples OU3-BLDG101C-AI01-0114, OU3-BLDG101C-AI02-0114, OU3-BLDG101-AI07-0114, OU3-BLDG101-AI03-0114, OU3-BLDG101-AI02-0114 (FD taken), OU3-BLDG101-AI04-0114, OU3-BLDG101-AI05-0114, OU3-BLDG101-AI06-0114, OU3-BLDG101-AI09-0114, OU3-BLDG101-AI08-0114, OU3-BLDG101-AO01-0114, OU3-BLDG101C-AO01-0114, OU3-BLDG103-AI03-0114 (FD taken), OU3-BLDG103-AI09-0114, OU3-BLDG103-AI08-0114, OU3-BLDG103-AI06-0114, and OU3-BLDG103-AO01-0114.
5	Initial ☐ Follow up ☐	No work performed on this DFOW.
6	Initial ☐ Follow up ☐	No work performed on this DFOW.
7	Initial ☐ Follow up ☐	No work performed on this DFOW.
8	Initial ☐ Follow up ☐	No work performed on this DFOW.
9	Initial ☐ Follow up ☐	No work performed on this DFOW.

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			**REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)**	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

AGVIQ **Small Business RAC II** **N62470-12-D-7004**	**CONTRACTOR QUALITY CONTROL REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REPORT DATE: 01/21/14 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU-3 , MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions / Naval Air Station Jacksonville, Jacksonville, Florida	REPORT NO: 072
PROJECT NO: 470875	PROJECT QC MANAGER: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

SAMPLING/TESTING PERFORMED

SAMPLING/TESTING PERFORMED	SAMPLING/TESTING COMPANY	SAMPLING/TESTING PERSONNEL
Vapor intrusion sampling - TCL VOCs by TO-15 and TO-17.	CH2M HILL HILL / ALS Environmental, Beacon Environmental	J. Acaron, K. Stokes / ALS Environmental, Beacon Environmental

MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)

MATERIAL/EQUIPMENT DESCRIPTION	SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
Multi Rae	-	YES ☒ NO ☐	
		YES ☐ NO ☐	
		YES ☐ NO ☐	
		YES ☐ NO ☐	

SUBMITTALS INSPECTION / REVIEW

SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES ☐ NO ☐	
			YES ☐ NO ☐	
			YES ☐ NO ☐	

OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN:

ACCUMULATION/STOCKPILE AREA INSPECTION

INSPECTION PERFORMED BY:	J. Acaron			SIGNATURE OF INSPECTOR:	J. Acaron		
ACCUMULATION/ STOCKPILE AREA LOCATION							
NO OF CONTAINERS:		NO OF TANKS:		NO OF ROLL-OFF BOXES:	0	NO OF DRUMS:	0

INSPECTION RESULTS: All containers (roll-offs and drums) are in good condition and in compliance with the work plan.

TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES:

None.

GENERAL COMMENTS (rework, directives, etc.):

None.

LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.):

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

J. Acaron — PROJECT QC MANAGER'S SIGNATURE

01/21/14 — DATE

On behalf of the contractor, I attest that the work, for which payment is requested, including stored material, is in compliance with contract requirements.

GOVERNMENT QAULITY ASSURANCE MANAGER'S SIGNATURE

DATE

Small Business RAC II N62470-12-D-7004	**CONTRACTOR QUALITY CONTROL REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REPORT DATE: 01/22/14 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU-3 , MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions / Naval Air Station Jacksonville, Jacksonville, Florida	REPORT NO: 073
PROJECT NO: 470875	PROJECT QC MANAGER: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	☒ YES	☐ NO	IF YES, ATTACH SAFETY MEETING MINUTES
WAS CRANE USED ON THE SITE THIS DAY?	☐ YES	☒ NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST

DEFINABLE FEATURES OF WORK STATUS

DFOW No.	Definable Features Of Work	Preparatory	Initial	Follow-Up
1	Mobilization and Site Preparation	☐	☐	☐
2	System Decommissioning	☐	☐	☐
3	Well Abandonment	☐	☐	☐
4	Sampling	☐	☐	☒
5	Soil Excavation and Backfill	☐	☐	☐
6	Site Surveying	☐	☐	☐
7	Site Restoration	☐	☐	☐
8	Waste Management	☐	☐	☐
9	Decontamination and Demobilization	☐	☐	☐
10		☐	☐	☐

PREPARATORY

WAS PREPARATORY PHASE WORK PERFORMED TODAY? ☐ YES ☒ NO

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.

DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS

DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial ☐ Follow up ☐	No work performed on this DFOW.
2	Initial ☐ Follow up ☐	No work performed on this DFOW.
3	Initial ☐ Follow up ☐	No work performed on this DFOW.
4	Initial ☐ Follow up ☒	Deployed air samples OU3-BLDG103-AI09-0114, OU3-BLDG103-AI03-0114 (FD taken), and OU3-BLDG103-AO01-0114. Collect OU3-BLDG101C-GS05-0114, OU3-BLDG101C-GS04-0114, OU3-BLDG101C-GS03-0114, OU3-BLDG101C-GS01-0114, and OU3-BLDG101C-GS02-0114.
5	Initial ☐ Follow up ☐	No work performed on this DFOW.
6	Initial ☐ Follow up ☐	No work performed on this DFOW.
7	Initial ☐ Follow up ☐	No work performed on this DFOW.
8	Initial ☐ Follow up ☐	No work performed on this DFOW.
9	Initial ☐ Follow up ☐	No work performed on this DFOW.

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			**REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)**	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

AGVIQ **Small Business RAC II** **N62470-12-D-7004**	**CONTRACTOR QUALITY CONTROL REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REPORT DATE: 01/22/14 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU-3 , MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions / Naval Air Station Jacksonville, Jacksonville, Florida	REPORT NO: 073
PROJECT NO: 470875	PROJECT QC MANAGER: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

SAMPLING/TESTING PERFORMED

SAMPLING/TESTING PERFORMED	SAMPLING/TESTING COMPANY	SAMPLING/TESTING PERSONNEL
Vapor intrusion sampling - TCL VOCs by TO-15 and TO-17.	CH2M HILL HILL / ALS Environmental, Beacon Environmental	J. Acaron, K. Stokes / ALS Environmental, Beacon Environmental

MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)

MATERIAL/EQUIPMENT DESCRIPTION	SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
Multi Rae	-	YES ☒ NO ☐	
		YES ☐ NO ☐	
		YES ☐ NO ☐	
		YES ☐ NO ☐	

SUBMITTALS INSPECTION / REVIEW

SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES ☐ NO ☐	
			YES ☐ NO ☐	
			YES ☐ NO ☐	

OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN:

ACCUMULATION/STOCKPILE AREA INSPECTION

INSPECTION PERFORMED BY:	J. Acaron			SIGNATURE OF INSPECTOR:	J. Acaron		
ACCUMULATION/ STOCKPILE AREA LOCATION							
NO OF CONTAINERS:		NO OF TANKS:		NO OF ROLL-OFF BOXES:	0	NO OF DRUMS:	0

INSPECTION RESULTS: All containers (roll-offs and drums) are in good condition and in compliance with the work plan.

TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES:

None.

GENERAL COMMENTS (rework, directives, etc.):

None.

LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.):

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

J. Acaron — PROJECT QC MANAGER'S SIGNATURE

01/22/14 — DATE

On behalf of the contractor, I attest that the work, for which payment is requested, including stored material, is in compliance with contract requirements.

GOVERNMENT QAULITY ASSURANCE MANAGER'S SIGNATURE

DATE

Small Business RAC II N62470-12-D-7004	**CONTRACTOR QUALITY CONTROL REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REPORT DATE: 01/23/14 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU-3 , MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions / Naval Air Station Jacksonville, Jacksonville, Florida	REPORT NO: 074
PROJECT NO: 470875	PROJECT QC MANAGER: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	☒ YES	☐ NO	IF YES, ATTACH SAFETY MEETING MINUTES
WAS CRANE USED ON THE SITE THIS DAY?	☐ YES	☒ NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST

DEFINABLE FEATURES OF WORK STATUS

DFOW No.	Definable Features Of Work	Preparatory	Initial	Follow-Up
1	Mobilization and Site Preparation	☐	☐	☐
2	System Decommissioning	☐	☐	☐
3	Well Abandonment	☐	☐	☐
4	Sampling	☐	☐	☒
5	Soil Excavation and Backfill	☐	☐	☐
6	Site Surveying	☐	☐	☐
7	Site Restoration	☐	☐	☐
8	Waste Management	☐	☐	☐
9	Decontamination and Demobilization	☐	☐	☐
10		☐	☐	☐

PREPARATORY

WAS PREPARATORY PHASE WORK PERFORMED TODAY? ☐ YES ☒ NO

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.

DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS

DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial ☐ Follow up ☐	No work performed on this DFOW.
2	Initial ☐ Follow up ☐	No work performed on this DFOW.
3	Initial ☐ Follow up ☐	No work performed on this DFOW.
4	Initial ☐ Follow up ☒	Collect OU3-BLDG103-AI09-0114, OU3-BLDG103-AI03-0114 (FD taken), OU3-BLDG103-GS01-0114 (FD taken), OU3-BLDG103-GS12-0114, OU3-BLDG103-GS03-0114, OU3-BLDG103-GS10-0114, OU3-BLDG103-AO01-0114, OU3-BLDG103-GS02-0114, OU3-BLDG103-GS11-0114, OU3-BLDG103-GS15-0114 (FD taken), and ADHESIVE.
5	Initial ☐ Follow up ☐	No work performed on this DFOW.
6	Initial ☐ Follow up ☐	No work performed on this DFOW.
7	Initial ☐ Follow up ☐	No work performed on this DFOW.
8	Initial ☐ Follow up ☐	No work performed on this DFOW.
9	Initial ☐ Follow up ☐	No work performed on this DFOW.

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			**REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)**	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

AGVIQ **Small Business RAC II** **N62470-12-D-7004**	**CONTRACTOR QUALITY CONTROL REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REPORT DATE: 01/23/14 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU-3 , MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions / Naval Air Station Jacksonville, Jacksonville, Florida	REPORT NO: 074
PROJECT NO: 470875	PROJECT QC MANAGER: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

SAMPLING/TESTING PERFORMED

SAMPLING/TESTING PERFORMED	SAMPLING/TESTING COMPANY	SAMPLING/TESTING PERSONNEL
Vapor intrusion sampling - TCL VOCs by TO-15 and TO-17.	CH2M HILL HILL / ALS Environmental, Beacon Environmental	J. Acaron, K. Stokes / ALS Environmental, Beacon Environmental

MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)

MATERIAL/EQUIPMENT DESCRIPTION	SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
Multi Rae	-	YES ☒ NO ☐	
		YES ☐ NO ☐	
		YES ☐ NO ☐	
		YES ☐ NO ☐	

SUBMITTALS INSPECTION / REVIEW

SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES ☐ NO ☐	
			YES ☐ NO ☐	
			YES ☐ NO ☐	

OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN:

ACCUMULATION/STOCKPILE AREA INSPECTION

INSPECTION PERFORMED BY:	J. Acaron			SIGNATURE OF INSPECTOR:	*J. Acaron*		
ACCUMULATION/ STOCKPILE AREA LOCATION							
NO OF CONTAINERS:		NO OF TANKS:		NO OF ROLL-OFF BOXES:	0	NO OF DRUMS:	0

INSPECTION RESULTS: All containers (roll-offs and drums) are in good condition and in compliance with the work plan.

TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES:

None.

GENERAL COMMENTS (rework, directives, etc.):

None.

LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.):

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

J. Acaron — PROJECT QC MANAGER'S SIGNATURE

01/23/14 — DATE

On behalf of the contractor, I attest that the work, for which payment is requested, including stored material, is in compliance with contract requirements.

GOVERNMENT QAULITY ASSURANCE MANAGER'S SIGNATURE

DATE

Small Business RAC II N62470-12-D-7004	**CONTRACTOR QUALITY CONTROL REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REPORT DATE: 02/05/14 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU-3 , MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions / Naval Air Station Jacksonville, Jacksonville, Florida	REPORT NO: 074
PROJECT NO: 470875	PROJECT QC MANAGER: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

SAFETY MEETINGS AND INSPECTIONS

WAS A SAFETY MEETING HELD THIS DAY?	☒ YES	☐ NO	IF YES, ATTACH SAFETY MEETING MINUTES
WAS CRANE USED ON THE SITE THIS DAY?	☐ YES	☒ NO	IF YES, ATTACH DAILY CRANE REPORT OF INSPECTION AND CONTRACTOR CRANE OPERATION CHECKLIST

DEFINABLE FEATURES OF WORK STATUS

DFOW No.	Definable Features Of Work	Preparatory	Initial	Follow-Up
1	Mobilization and Site Preparation	☐	☐	☐
2	System Decommissioning	☐	☐	☐
3	Well Abandonment	☐	☐	☐
4	Sampling	☐	☐	☒
5	Soil Excavation and Backfill	☐	☐	☐
6	Site Surveying	☐	☐	☐
7	Site Restoration	☐	☐	☐
8	Waste Management	☐	☐	☐
9	Decontamination and Demobilization	☐	☐	☐
10		☐	☐	☐

PREPARATORY

WAS PREPARATORY PHASE WORK PERFORMED TODAY? ☐ YES ☒ NO

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.

DFOW No.(from list above).	TASK/ACTIVITY	PREPARATORY PHASE REPORT NO.

INITIAL AND FOLLOW-UP FEATURE OF WORK COMMENTS

DFOW No.(from list above)	Phase	Comment/Finding/Action
1	Initial ☐ Follow up ☐	No work performed on this DFOW.
2	Initial ☐ Follow up ☐	No work performed on this DFOW.
3	Initial ☐ Follow up ☐	No work performed on this DFOW.
4	Initial ☐ Follow up ☒	Collect OU3-BLDG101-AO01-0114, OU3-BLDG101C-AO01-0114, OU3-BLDG101C-AI01-0114, OU3-BLDG101C-AI02-0114, OU3-BLDG101-AI07-0114, OU3-BLDG101-AI04-0114, OU3-BLDG101-AI08-0114, OU3-BLDG101-AI09-0114, OU3-BLDG101-AI06-0114, OU3-BLDG101-AI05-0114, OU3-BLDG101-AI02-0114 (FD taken), OU3-BLDG101-AI03-0114, OU3-BLDG103-AI01-0114, OU3-BLDG103-AI03-0114 (FD taken), OU3-BLDG103-AI09-0114, OU3-BLDG103-AI08-0114, AND OU3-BLDG103-AI06-0114.
5	Initial ☐ Follow up ☐	No work performed on this DFOW.
6	Initial ☐ Follow up ☐	No work performed on this DFOW.
7	Initial ☐ Follow up ☐	No work performed on this DFOW.
8	Initial ☐ Follow up ☐	No work performed on this DFOW.
9	Initial ☐ Follow up ☐	No work performed on this DFOW.

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			**REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)**	
TASK/ACTIVITY	DATE ISSUED	DESCRIPTION	TASK/ACTIVITY	CORRECTIVE ACTION(S) TAKEN

AGVIQ **Small Business RAC II** **N62470-12-D-7004**	**CONTRACTOR QUALITY CONTROL REPORT** (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REPORT DATE: 02/05/14 REVISION NO: REVISION DATE:
CTO NO: JM10	PROJECT NAME/LOCATION: Phase 3 Vapor Intrusion Investigation at OU-3 , MNA Investigation and Annual Groundwater Sampling at PSC 47, PSC 45 Soil Excavation, Base Wide Well Abandonment, and Various Systems Decommissioning/Removal Actions / Naval Air Station Jacksonville, Jacksonville, Florida	REPORT NO: 075
PROJECT NO: 470875	PROJECT QC MANAGER: Juan Acaron	SITE H&S SPECIALIST: Juan Acaron

SAMPLING/TESTING PERFORMED

SAMPLING/TESTING PERFORMED	SAMPLING/TESTING COMPANY	SAMPLING/TESTING PERSONNEL
Vapor intrusion sampling - TCL VOCs by TO-17.	CH2M HILL HILL / ALS Environmental, Beacon Environmental	J. Acaron / Beacon Environmental

MATERIALS/EQUIPMENT INSPECTION (Materials received and inspected against specifications)

MATERIAL/EQUIPMENT DESCRIPTION	SPECIFICATION	MATERIAL ACCEPTED?	COMMENT/REASON/ACTION
Multi Rae	-	YES ☒ NO ☐	
		YES ☐ NO ☐	
		YES ☐ NO ☐	
		YES ☐ NO ☐	

SUBMITTALS INSPECTION / REVIEW

SUBMITTAL NO	SUBMITTAL DESCRIPTION	SPEC/PLAN REFERENCE	SUBMITTAL APPROVED?	COMMENT/REASON/ACTION
			YES ☐ NO ☐	
			YES ☐ NO ☐	
			YES ☐ NO ☐	

OFF-SITE SURVEILLANCE ACTIVITIES, INCLUDING ACTIONS TAKEN:

ACCUMULATION/STOCKPILE AREA INSPECTION

INSPECTION PERFORMED BY:	J. Acaron			SIGNATURE OF INSPECTOR:	*J. Acaron*		
ACCUMULATION/ STOCKPILE AREA LOCATION							
NO OF CONTAINERS:		NO OF TANKS:		NO OF ROLL-OFF BOXES:	0	NO OF DRUMS:	0

INSPECTION RESULTS: All containers (roll-offs and drums) are in good condition and in compliance with the work plan.

TRANSPORTATION AND DISPOSAL ACTIVITIES/SUMMARY/QUANTITIES:

None.

GENERAL COMMENTS (rework, directives, etc.):

None.

LIST OF ATTACHMENTS (examples, as applicable: preparatory phase checklist, QC meeting minutes, safety meeting minutes, crane inspections, crane operation checklist, COCs, weight tickets, manifests, profiles, rework item list, testing plan and log, etc.):

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

J. Acaron — PROJECT QC MANAGER'S SIGNATURE

02/05/14 — DATE

On behalf of the contractor, I attest that the work, for which payment is requested, including stored material, is in compliance with contract requirements.

GOVERNMENT QAULITY ASSURANCE MANAGER'S SIGNATURE

DATE

CH2MHILL

Pre-Task Safety Plan (PTSP) and Safety Meeting Sign-in Sheet

Project: OU3 Phase 3 Location: NAS JAX Date: 1/20/14

Supervisor: Eric Davis /ATL Job Activity: vapor intrusion sampling

Attendees:	Print Name	Sign Name
	Kimberly Stokes	
	Juan Acaron	

List Tasks and verify that applicable AHAs have been reviewed:

- Subslab soil gas sample collection
- indoor / outdoor air sample collection

Tools/Equipment Required for Tasks (ladders, scaffolds, fall protection, cranes/rigging, heavy equipment, power tools):

- vacuum pump, extension cord
- PID
- GEM 5000 landfill gas meter

Potential H&S Hazards, including chemical, physical, safety, biological and environmental (check all that apply):

__ Chemical burns/contact	__ Trench, excavations, cave-ins	X Ergonomics
__ Pressurized lines/equipment	__ Overexertion	__ Chemical splash
__ Thermal burns	X Pinch points	__ Poisonous plants/insects
X Electrical	X Cuts/abrasions	__ Eye hazards/flying projectile
__ Weather conditions	__ Spills	X Inhalation hazard
__ Heights/fall > 6 feet	__ Overhead Electrical hazards	__ Heat/cold stress
__ Noise	__ Elevated loads	__ Water/drowning hazard
__ Explosion/fire	X Slips, trip and falls	__ Heavy equipment
__ Radiation	X Manual lifting	__ Aerial lifts/platforms
__ Confined space entry	__ Welding/cutting	__ Demolition
__ Underground Utilities	__ Security	X Poor communications

Other Potential Hazards (Describe):

Mobilize to site
Site walk

Hazard Control Measures (Check All That Apply):

PPE	Protective Systems	Fire Protection	Electrical
__ Thermal/lined	__ Sloping	__ Fire extinguishers	__ Lockout/tagout
X Eye	__ Shoring	__ Fire watch	X Grounded
__ Dermal/hand	__ Trench box	__ Non-spark tools	__ Panels covered
__ Hearing	__ Barricades	X Grounding/bonding	X GFCI/extension cords
__ Respiratory	__ Competent person	__ Intrinsically safe equipment	__ Power tools/cord inspected
X Reflective vests	__ Locate buried utilities		__ Overhead line clearance
__ Flotation device	__ Daily inspections		__ Underground utils ID'd
__ Hard Hat	__ Entry Permits/notification		

Fall Protection	Air Monitoring	Proper Equipment	Welding & Cutting
__ Harness/lanyards	X PID/FID	__ Aerial lift/ladders/scaffolds	__ Cylinders secured/capped
__ Adequate anchorage	__ Detector tubes	__ Forklift/heavy equipment	__ Cylinders separated/upright
__ Guardrail system	__ Radiation	__ Backup alarms	__ Flash-back arrestors
__ Covered opening	__ Personnel sampling	X Hand/power tools	__ No cylinders in CSE
__ Fixed barricades	__ LEL/O2	__ Crane with current inspection	__ Flame retardant clothing
__ Warning system	__ No visible dust	__ Proper rigging	__ Appropriate goggles
	__ Other	__ Operator qualified	

Confined Space Entry	Medical/ER	Heat/Cold Stress	Vehicle/Traffic
__ Isolation	X First-aid kit	X Work/rest regime	__ Traffic control
__ Air monitoring	X Eye wash	X Rest area	__ Barricades
__ Trained personnel	X FA-CPR trained personnel	__ Liquids available	__ Flags
__ Permit completed	X Route to hospital	X Monitoring	__ Signs
__ Rescue		X Training	

Permits	Demolition	Inspections:	Training:
__ Hot work	__ Pre-demolition survey	__ Ladders/aerial lifts	X Hazwaste (current)
__ Confined space	__ Structure condition	__ Lanyards/harness	__ Construction
__ Lockout/tagout	__ Isolate area/utilities	__ Scaffolds	X Competent person
__ Excavation	__ Competent person	__ Heavy equipment	X Task-specific
__ Demolition	__ Hazmat present	__ Drill rigs/geoprobe rigs	X FA/CPR
__ Energized work		__ Cranes and rigging	__ Confined Space
		__ Utilities marked	X Hazcom

Underground Utilities	Incident Communications	AHA's
__ Dig alert called	X Work stops until cleared by TM/CM	X reviewed and approved by HSM
__ 3rd Party locater	X Immediate calls to TM/CM	X on site and current
__ As-builts reviewed	X Client notification	X applicable for this day's work
__ Interview site staff	__ 24 hour notification setup	X Communication and incident processes included?
__ Client review	X Clear communications	
__ soft locate necessary?		

Field Notes (including observations from prior day, etc.):

Name (Print): Kimberly Stokes

Signature: Kimberly Stokes

Date: 1/20/14

1/20/14

CH2MHILL

Pre-Task Safety Plan (PTSP) and Safety Meeting Sign-in Sheet

Project: OU3 Phase3 VI Location: NAS JAX Date: 1/21/14

Supervisor: ERIC DAVIS /ATL Job Activity: VAPOR INTRUSION Investigation

Attendees:	Print Name	Sign Name
	Kimberly Stokes	
	Juan Acaron	

List Tasks and verify that applicable AHAs have been reviewed:

- subslab soil gas sample collection
- indoor air sample collection

Tools/Equipment Required for Tasks (ladders, scaffolds, fall protection, cranes/rigging, heavy equipment, power tools):

- vacuum air pump, extension cord
- PID
- GEM 5000 landfill gas meter

Potential H&S Hazards, including chemical, physical, safety, biological and environmental (check all that apply):

✓ Chemical burns/contact	__ Trench, excavations, cave-ins	✓ Ergonomics
__ Pressurized lines/equipment	✓ Overexertion	__ Chemical splash
__ Thermal burns	✓ Pinch points	✓ Poisonous plants/insects
__ Electrical	✓ Cuts/abrasions	__ Eye hazards/flying projectile
✓ Weather conditions	__ Spills	__ Inhalation hazard
__ Heights/fall > 6 feet	__ Overhead Electrical hazards	✓ Heat/cold stress
✓ Noise	__ Elevated loads	__ Water/drowning hazard
__ Explosion/fire	✓ Slips, trip and falls	__ Heavy equipment
__ Radiation	✓ Manual lifting	__ Aerial lifts/platforms
__ Confined space entry	__ Welding/cutting	__ Demolition
__ Underground Utilities	__ Security	__ Poor communications

Other Potential Hazards (Describe):

Hazard Control Measures (Check All That Apply):

PPE	Protective Systems	Fire Protection	Electrical
__ Thermal/lined	__ Sloping	✓ Fire extinguishers	__ Lockout/tagout
✓ Eye	__ Shoring	__ Fire watch	✓ Grounded
✓ Dermal/hand	__ Trench box	__ Non-spark tools	__ Panels covered
✓ Hearing	__ Barricades	__ Grounding/bonding	✓ GFCI/extension cords
__ Respiratory	__ Competent person	__ Intrinsically safe equipment	__ Power tools/cord inspected
✓ Reflective vests	__ Locate buried utilities		__ Overhead line clearance
__ Flotation device	__ Daily inspections		__ Underground utils ID'd
✓ Hard Hat	__ Entry Permits/notification		

Fall Protection	Air Monitoring	Proper Equipment	Welding & Cutting
__ Harness/lanyards	✓ PID/FID	__ Aerial lift/ladders/scaffolds	__ Cylinders secured/capped
__ Adequate anchorage	__ Detector tubes	__ Forklift/heavy equipment	__ Cylinders separated/upright
__ Guardrail system	__ Radiation	✓ Backup alarms	__ Flash-back arrestors
__ Covered opening	__ Personnel sampling	__ Hand/power tools	__ No cylinders in CSE
__ Fixed barricades	__ LEL/O2	__ Crane with current inspection	__ Flame retardant clothing
__ Warning system	__ No visible dust	__ Proper rigging	__ Appropriate goggles
	__ Other	__ Operator qualified	

Confined Space Entry	Medical/ER	Heat/Cold Stress	Vehicle/Traffic
__ Isolation	✓ First-aid kit	✓ Work/rest regime	✓ Traffic control
__ Air monitoring	✓ Eye wash	✓ Rest area	__ Barricades
__ Trained personnel	✓ FA-CPR trained personnel	✓ Liquids available	__ Flags
__ Permit completed	✓ Route to hospital	✓ Monitoring	✓ Signs
__ Rescue		✓ Training	

Permits	Demolition	Inspections:	Training:
__ Hot work	__ Pre-demolition survey	__ Ladders/aerial lifts	✓ Hazwaste (current)
__ Confined space	__ Structure condition	__ Lanyards/harness	✓ Construction
__ Lockout/tagout	__ Isolate area/utilities	__ Scaffolds	✓ Competent person
__ Excavation	__ Competent person	__ Heavy equipment	✓ Task-specific
__ Demolition	__ Hazmat present	__ Drill rigs/geoprobe rigs	✓ FA/CPR
__ Energized work		__ Cranes and rigging	__ Confined Space
		✓ Utilities marked	✓ Hazcom

Underground Utilities	Incident Communications	AHA's
__ Dig alert called	__ Work stops until cleared by TM/CM	✓ reviewed and approved by HSM
__ 3rd Party locater	__ Immediate calls to TM/CM	✓ on site and current
__ As-builts reviewed	__ Client notification	✓ applicable for this day's work
__ Interview site staff	__ 24 hour notification setup	✓ Communication and incident processes included?
__ Client review	__ Clear communications	
__ soft locate necessary?		

Field Notes (including observations from prior day, etc.):

Name (Print): Julian Acacio

Signature: _____ Date: 1/21/14

CH2MHILL

Pre-Task Safety Plan (PTSP) and Safety Meeting Sign-in Sheet

Project: OU3 Phase 3 VI Location: NAS JAX Date: 1/22/14

Supervisor: ERIC DAVIS / ATL Job Activity: ~~Soil~~ VAPOR INTRUSION Investigation

Attendees:

Print Name	Sign Name
Kimberly Stokes	
Juan Acaron	

List Tasks and verify that applicable AHAs have been reviewed:

- subslab soil gas sample collection
- indoor / outdoor air sample collection

Tools/Equipment Required for Tasks (ladders, scaffolds, fall protection, cranes/rigging, heavy equipment, power tools):

- vacuum air pump
- landfill gas meter
- multiRAE PID

Potential H&S Hazards, including chemical, physical, safety, biological and environmental (check all that apply):

__ Chemical burns/contact	__ Trench, excavations, cave-ins	X Ergonomics
__ Pressurized lines/equipment	X Overexertion	__ Chemical splash
__ Thermal burns	X Pinch points	__ Poisonous plants/insects
X Electrical	X Cuts/abrasions	__ Eye hazards/flying projectile
__ Weather conditions	__ Spills	X Inhalation hazard
__ Heights/fall > 6 feet	__ Overhead Electrical hazards	X Heat/cold stress
__ Noise	__ Elevated loads	__ Water/drowning hazard
__ Explosion/fire	X Slips, trip and falls	__ Heavy equipment
__ Radiation	X Manual lifting	__ Aerial lifts/platforms
__ Confined space entry	__ Welding/cutting	__ Demolition
__ Underground Utilities	X Security	X Poor communications

Other Potential Hazards (Describe):

Hazard Control Measures (Check All That Apply):

PPE	Protective Systems	Fire Protection	Electrical
__ Thermal/lined	__ Sloping	X Fire extinguishers	__ Lockout/tagout
X Eye	__ Shoring	__ Fire watch	__ Grounded
__ Dermal/hand	__ Trench box	__ Non-spark tools	__ Panels covered
__ Hearing	__ Barricades	__ Grounding/bonding	X GFCI/extension cords
__ Respiratory	__ Competent person	__ Intrinsically safe equipment	__ Power tools/cord inspected
X Reflective vests	__ Locate buried utilities		__ Overhead line clearance
__ Flotation device	__ Daily inspections		__ Underground utils ID'd
__ Hard Hat	__ Entry Permits/notification		

Fall Protection	Air Monitoring	Proper Equipment	Welding & Cutting
__ Harness/lanyards	X PID/FID	__ Aerial lift/ladders/scaffolds	__ Cylinders secured/capped
__ Adequate anchorage	__ Detector tubes	__ Forklift/heavy equipment	__ Cylinders separated/upright
__ Guardrail system	__ Radiation	__ Backup alarms	__ Flash-back arrestors
__ Covered opening	__ Personnel sampling	X Hand/power tools	__ No cylinders in CSE
__ Fixed barricades	__ LEL/O2	__ Crane with current inspection	__ Flame retardant clothing
__ Warning system	__ No visible dust	__ Proper rigging	__ Appropriate goggles
	__ Other	__ Operator qualified	

Confined Space Entry	Medical/ER	Heat/Cold Stress	Vehicle/Traffic
__ Isolation	X First-aid kit	X Work/rest regime	__ Traffic control
__ Air monitoring	X Eye wash	X Rest area	__ Barricades
__ Trained personnel	X FA-CPR trained personnel	X Liquids available	__ Flags
__ Permit completed	X Route to hospital	X Monitoring	X Signs
__ Rescue		X Training	

Permits	Demolition	Inspections:	Training:
__ Hot work	__ Pre-demolition survey	__ Ladders/aerial lifts	X Hazwaste (current)
__ Confined space	__ Structure condition	__ Lanyards/harness	__ Construction
__ Lockout/tagout	__ Isolate area/utilities	__ Scaffolds	X Competent person
__ Excavation	__ Competent person	__ Heavy equipment	X Task-specific
__ Demolition	__ Hazmat present	__ Drill rigs/geoprobe rigs	X FA/CPR
__ Energized work		__ Cranes and rigging	__ Confined Space
		__ Utilities marked	X Hazcom

Underground Utilities	Incident Communications	AHA's
__ Dig alert called	X Work stops until cleared by TM/CM	X reviewed and approved by HSM
__ 3rd Party locater	X Immediate calls to TM/CM	X on site and current
__ As-builts reviewed	X Client notification	X applicable for this day's work
__ Interview site staff	__ 24 hour notification setup	X Communication and incident processes included?
__ Client review	X Clear communications	
__ soft locate necessary?		

Field Notes (including observations from prior day, etc.):

Name (Print): Kimberly A. Stokes

Signature: [signature]

Date: 1/22/14

CH2MHILL.

Pre-Task Safety Plan (PTSP) and Safety Meeting Sign-in Sheet

Project: OU3 Phase 3 VI Location: NAS JAX Date: 1/23/14

Supervisor: Eric Davis/ATL Job Activity: Vapor Intrusion Investigation

Attendees:	Print Name	Sign Name
	Kimberly Stokes	
	Juan Acaron	

List Tasks and verify that applicable AHAs have been reviewed:

- Subslab soil gas sample collection
- indoor / outdoor air sample collection

Tools/Equipment Required for Tasks (ladders, scaffolds, fall protection, cranes/rigging, heavy equipment, power tools):

- vacuum pump, extension cord
- PID
- GEM 5000 landfill gas meter

Potential H&S Hazards, including chemical, physical, safety, biological and environmental (check all that apply):

__ Chemical burns/contact	__ Trench, excavations, cave-ins	☑ Ergonomics
__ Pressurized lines/equipment	☑ Overexertion	__ Chemical splash
__ Thermal burns	☑ Pinch points	__ Poisonous plants/insects
☑ Electrical	☑ Cuts/abrasions	☑ Eye hazards/flying projectile
__ Weather conditions	__ Spills	__ Inhalation hazard
__ Heights/fall > 6 feet	__ Overhead Electrical hazards	__ Heat/cold stress
__ Noise	__ Elevated loads	__ Water/drowning hazard
__ Explosion/fire	☑ Slips, trip and falls	__ Heavy equipment
__ Radiation	☑ Manual lifting	__ Aerial lifts/platforms
__ Confined space entry	__ Welding/cutting	__ Demolition
__ Underground Utilities	__ Security	☑ Poor communications

Other Potential Hazards (Describe):

Hazard Control Measures (Check All That Apply):

PPE	Protective Systems	Fire Protection	Electrical
__ Thermal/lined	__ Sloping	☒ Fire extinguishers	__ Lockout/tagout
☒ Eye	__ Shoring	__ Fire watch	__ Grounded
__ Dermal/hand	__ Trench box	__ Non-spark tools	__ Panels covered
__ Hearing	__ Barricades	__ Grounding/bonding	☒ GFCI/extension cords
__ Respiratory	__ Competent person	__ Intrinsically safe equipment	☒ Power tools/cord inspected
☒ Reflective vests	__ Locate buried utilities		__ Overhead line clearance
__ Flotation device	__ Daily inspections		__ Underground utils ID'd
__ Hard Hat	__ Entry Permits/notification		
__ Safety-Toed Boots			

Fall Protection	Air Monitoring	Proper Equipment	Welding & Cutting
__ Harness/lanyards	☒ PID/FID	__ Aerial lift/ladders/scaffolds	__ Cylinders secured/capped
__ Adequate anchorage	__ Detector tubes	__ Forklift/heavy equipment	__ Cylinders separated/upright
__ Guardrail system	__ Radiation	__ Backup alarms	__ Flash-back arrestors
__ Covered opening	__ Personnel sampling	☒ Hand/power tools	__ No cylinders in CSE
__ Fixed barricades	__ LEL/O2	__ Crane with current inspection	__ Flame retardant clothing
__ Warning system	__ No visible dust	__ Proper rigging	__ Appropriate goggles
	__ Other	__ Operator qualified	

Confined Space Entry	Medical/ER	Heat/Cold Stress	Vehicle/Traffic
__ Isolation	☒ First-aid kit	☒ Work/rest regime	__ Traffic control
__ Air monitoring	☒ Eye wash	☒ Rest area	__ Barricades
__ Trained personnel	☒ FA-CPR trained personnel	☒ Liquids available	__ Flags
__ Permit completed	☒ Route to hospital	☒ Monitoring	__ Signs
__ Rescue		☒ Training	

Permits	Demolition	Inspections:	Training:
__ Hot work	__ Pre-demolition survey	__ Ladders/aerial lifts	☒ Hazwaste (current)
__ Confined space	__ Structure condition	__ Lanyards/harness	__ Construction
__ Lockout/tagout	__ Isolate area/utilities	__ Scaffolds	☒ Competent person
__ Excavation	__ Competent person	__ Heavy equipment	☒ Task-specific
__ Demolition	__ Hazmat present	__ Drill rigs/geoprobe rigs	☒ FA/CPR
__ Energized work		__ Cranes and rigging	__ Confined Space
		__ Utilities marked	☒ Hazcom

Underground Utilities	Incident Communications	AHA's
__ Dig alert called	☒ Work stops until cleared by TM/CM	☒ reviewed and approved by HSM
__ 3rd Party locater	☒ Immediate calls to TM/CM	☒ on site and current
__ As-builts reviewed	☒ Client notification	☒ applicable for this day's work
__ Interview site staff	☒ 24 hour notification setup	☒ Communication and incident processes included?
__ Client review	☒ Clear communications	
__ soft locate necessary?		

Field Notes (including observations from prior day, etc.):

Name (Print): Kimberly Stokes

Signature: [signature]

Date: 1/23/14

Location NAS JAX Date 1/20/14

Project / Client SBRAC JM10

Weather: Sunny; High 62°F

Personnel: Kim Stokes /DFW
Juan Acaron /GNV

Objective: Mobilize to site
Obtain supplies /equipment
Building survey at 103

0800 Meet at hotel.

0830 Collect packages from hotel.
ALS packages w/ summa cans
haven't arrived; notified
B. Garvey. B. Garvey called
Empirical to request tracking
#; waiting for ALS to open
(Pacific Time).

0930 Mob to Home Depot for
Consumables

0945 Mob to NAS JAS to
Check in w/ security office.

1015 Arrive at Bldg 103
Attend H&S meeting

1030 Perform bldg survey.
New carpet in offices in centeral
part of building. FLUOR
office space [GS01 & GS12]

Location NAS JAX Date 1/20/14

Project / Client SBRAC JM10

1200 B. Garvey confirms ALS did
not send canisters on 1/17/14.
Broke for day.

Location NAS JAX Date 1/21/14

Project / Client JM10 Phase 3

Weather: Sunny, High 70°F

Personnel: Kim Stokes /DFW
Juan Acaron /GNV

Objective: Place passive samplers at Bldgs 101, 101C, & 103. Begin to collect subslab soil gas samples.

0745 Mob to Fed Ex Jacksonville to pick up canister shipment from ALS. [Opens at 9 am]
NAS JAX H & S meeting:
Slips / Trips / Falls

0830 Calibrate MultiRAE PID
US Environmental
Zero Cal = Ø
CO = 51 VOCs = 99.3
H_2S = 25
LEL = 50

0900 Collect FED EX packages

0915 mob to NAS JAX
Obtain access to NAS JAX.

1050 mob to FRCSE for access

1115 Break for lunch

1240 Return to NAS JAX
Mob to Bldg 101C

Location NAS JAX Date 1/21/14

Project / Client Phase 3 JMID

1255 OU3 - BLDG 101C - AI01 - 0114
Set up with:
G0165024 Sulficarb/Unicarb/Sphercarb
G0166892 Chromosorb 106
EPOXY SHOP

1320 OU3 - BLDG 101C - AI02 - 0114
H0199265 Unicarb
G0167098 Chromosorb 106
Supervisor's Office
Mob to Bldg 101

1335 OU3 - BLDG 101 - AI07 - 0114
G0167007 Chromosorb 106
G0164252 Unicarb
Stairwell; Travel & Command Office

1350 OU3 - BLDG 101 - AI03 - 0114
H0200853 Unicarb
G0167042 Chromosorb 106
Breakroom

1400 OU3 - BLDG 101 - AI02 - 0114
G0168242 Chromosorb 106
G0164555 Unicarb

1400 OU3 - BLDG 101 - AI02F - 0114
H0200289 Unicarb
G0168231 Chromosorb 106
QA Office

Location NAS JAX Date 1/21/14

Project / Client Jm10 Phase 3

1420 OU3 - BLDG 101 - AI04 - 0114
G0168216 Chromosorb 106
H0199631 Unisorb
Rm 115 by Fire Extinguisher

1430 OU3 - BLDG 101 - AI05 - 0114
G0166895 Chromosorb 106
H0199632 Unicarb
Rm 101 - B74 by fire extinguisher

1435 OU3 - BLDG 101 - AI06 - 0114
G0164141 Unicarb
G0166099 Chromosorb 106
101 - B70 Counsel Office

1450 OU3 - BLDG 101 - AI09 - 0114
G0166070 Chromosorb 106
MI 103040 Unicarb
Commanding Officer Conference Rm
Hallway.

1500 OU3 - BLDG 101 - AI08 - 0114
G0167006 Chromosorb 106
G0163205 Unicarb
Hallway EMR Conf Rm 101 - B13

1530 OU3 - BLDG 101 - A001 - 0114
G0167398 Chromosorb 106
H0199679 Unicarb

Location NAS JAX Date 1/21/14

Project / Client Phase 3 JM10

1535 OU3 - BLDG 101C - A001 - 0114
G0164632 Unicarb
G0169240 Chromosorb 106

1540 mob to BLDG 103

1550 OU3 - BLDG 103 - AI03 - 0114
G0166832 Chromosorb 106
H0199630 Unicarb
FLUOR Kitchen

1600 OU3 - BLDG 103 - AI09 - 0114
G0163208 Unicarb
G0167624 Chromosorb 106
FLUOR Office by Soda Machine

1615 OU3 - BLDG 103 - AI08 - 0114
G0169721 Chromosorb 106 NAVY Kitchen
G0165044 Unicarb

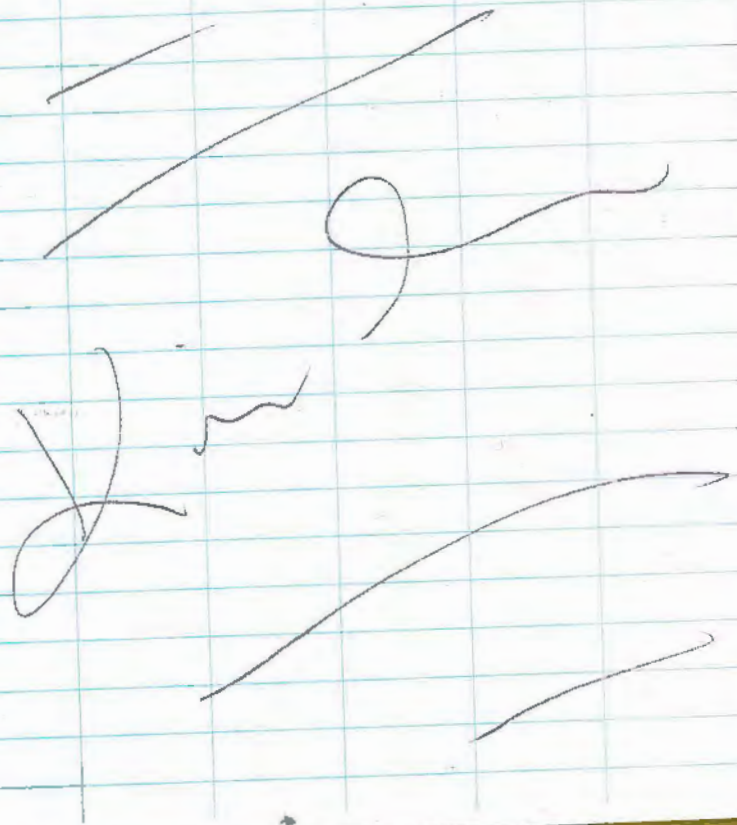
1620 OU3 - BLDG 103 - AI06 - 0114
G0168237 Chromosorb 106
H0199687 Unicarb
Cubicles NAVY

1550 OU3 - BLDG 103 - AI03P - 0114
H0200232 Unicarb
G0169063 Chromosorb 106
Set up outdoor air samples
upwind of B103 (south side)

Location NAS JAX Date 1/21/14

Project / Client JM10 Phase 3

1640 OU3-BLDG103-A001-0114
Mi 103031 Unicarb
G0167653 Chromosorb 106
South side B103 - chainlink fence
1645 Complete passive sampler set up.
1700 Off site for the day.



Location NAS JAX Date 1/22/14

Project / Client JM10 Phase 3

Weather: Sunny, High 49°F

Personnel: Kim Stokes /DFW
Juan Acaron /GNV
Objective: Set out IA/OA cans at 103
Collect SG in 101C.
0830 mob to store for H&S supplies
0900 mob to FED EX to pick up last box of 1L.
0950 mob to NAS JAX security gate
1010 Arrive at B103 to pressure check all cans.
1015 Attend daily H&S tailgate meeting
H&S moment: COLD STRESS
1130 OU3-BLDG103-AI09-0114
Can = AS00512
FC = FCA00590/AVG03457
Pi = 30.32 in Hg
1145 OU3-BLDG103-AI03-0114
Can = AS00463
FC = AVG03108 / FCA00586
Pi = -30.31 in Hg
1145 OU3-BLDG103-AI03P-0114
Can = AS00580
FC = FCA00356 / AVG03499
Pi = -30.28 in Hg

Location NAS JAX Date 1/22/14

Project / Client Phase 3 JM10

1155 OU3 - BLDG 103 - A001 - 0114

Can: AC00703

FC: FCA00891 / AVG03450

Pi: -30.04 in Hg

1230 Broke for lunch

1330 Return to NAS JAX

Mob to Bldg 101C.

Set up at -GS05

1400 Purge 1L @ 200 mL/min

Water Leak Check: PASS

VOCs: 0.3 H_2S: 0

CO 2.0 % O_2: 14.0%

LEL 0 CH_4: 0 %

CO_2: 3.0%

1415 OU3 - BLDG101C - GS05 - 0114

Can: 1SS00053

FC: OA00230 / AVG03576

Pi: -30.29 in Hg

1420 Pf: -4.60 in Hg

Mob to - GS04

1430 Purge 1L @ 200 mL/min

Water Leak Check: PASS

VOCs: 2.6 H_2S: 0

CO: 1.0 O_2: 8.8

Location NAS JAX Date 1/22/14

Project / Client Phase 3 JM10

LEL: 0 CH_4: 0

CO_2: 7.0

1444 OU3 - BLDG 101C - GS04 - 0114

Can: 1SS00011

FC: OA01262 / —

Pi: -29.70 in Hg

1449 Pf: -5.70 in Hg

Mob to -GS03

Purge 2L @ 200 mL/min

Water Leak Check: PASS

MULTI RAE PID: VOCs: 1.7 H_2S: 0; CO: 0 O_2: 20.9; LEL: 0

LANDFILL GAS METER: CH_4: 0 CO_2: 2.0%

1518 OU3 - BLDG 101C - GS03 - 0114

Can: 1SS00032

FC: OA00747 / AVG03573

Pi: -27.36 in Hg

1523 Pf: -3.34 in Hg

Mob to - GS01

1533 Purge 2L @ 200 mL/min

Water leak check: PASS

VOCs: 0.5 ppmv H_2S: 0

CO: 1.0 % O_2: 6.9%

Location NAS JAX Date 1/22/14

Project / Client Phase 3 JM10

LEL: Ø

CH_4 = 0.0 CO_2 = 4.8

1547 OU3-BLDG101C-GS01-0114

Can = SSS00012

FC = OAØØ230 / AVG00863

P_i = -29.80 in Hg

1552 P_f = -4.37 in Hg

1600 Mob to -GS02

1604 Purge 2L @ 200mL/min

Water Leak Check: PASS

VOCs = 0.4 ppm, H_2S = Ø

CO = Ø O_2 = 8%

LEL = Ø

1620 CH_4 = Ø CO_2 = 5.2%

~~1624~~ OU3-BLDG101C-GS02-0114

Can = 1SSØØØ28

FC = OAØØ725 / AVG03578

P_i = -30.10 in Hg

1625 P_f = -2.63 in Hg

1630 Check on passive samplers.

1715 Off base for the day.

Location NAS JAX Date 1/23/14

Project / Client Phase 3 JM10

Weather: Partly Cloudy, High 48°F

Personnel: Kim Stokes /DFW

Juan Acaron /GNV

Objective: Collect IA/OA Summa cans

Collect SG samples at B103

0800 Mob to site

Arrive at B103

Attend H&S meeting

H&S moment: Ergonomics

0900 Check on 6L summas

0908 OU3-BLDG103-AI09-0114

P_f = -7.35 in Hg

0913 OU3-BLDG103-AI03-0114

P_f = -2.27 in Hg

0920 Set up at -GS01

0945 Purge 2L @ 200 mL/min

Water leak check: PASS

VOCs = 4.7 O_2 = 20.3

CO = 2.Ø% H_2S = Ø

LEL = Ø

CH_4 = Ø CO_2 = 2.2

1000 OU3-BLDG103-GS01-0114

Can = 1SS0043

FC = OAØ1796 / AVG03569

1005 P_i = -30.07 in Hg P_f = -2.93 in Hg

Location NAS JAX Date 1/23/14

Project / Client Phase 3 VI (JM10)

1000 OU3-BLDG103-GS01P-0114
Can: 1SS00017
FC: 0AØØ798/AVG02306
Pi: -29.35 in Hg
1005 Pf: -3.32 in Hg
1020 mob to -GS12
1024 Purge 2L @ 200 mL/min
Water leak check: PASS
VOCs: 59 ppmv H_2S: Ø
CO: 2.0% O_2: 18.6
LEL: 0%
CH_4: Ø CO_2: 1.5%
1037 OU3-BLDG103-GS12-0114
Can: 1SS00025
FC: 0AØ1232/AVG03253
Pi: -30.25 in Hg
1042 Pf: -4.02 in Hg
1027 OU3-BLDG103-AI03P-0114
Pf: -8.78 in Hg
1045 mob to GS03
1105 Purge 2L @ 200 mL/min
Water leak check: PASS
VOCs: 6.1 ppmv H_2S: Ø
CO: 2% O_2: 18.7

Location NAS JAX Date 1/23/14

Project / Client JM10 Phase 3 VI

LEL: Ø
CH_4: Ø CO_2: 1.4%
1120 OU3-BLDG103-GS03-0114
Can: 1SC00145
FC: 0AØ1Ø98 / AVG01073
Pi: -29.93 in Hg
1125 Pf: -1.30 in Hg
mob to GS10
1140 Purge 2L @ 200 mL/min
Water leak check: PASS
VOCs: 6.4 H_2S: Ø
CO: 3.0% O_2: 19.3
LEL: Ø
CH_4: Ø CO_2: 1.6%
1150 OU3-BLDG103-GS10-0114
Can: 1SC01029
FC: 0AØØ955/AVG03495
Pi: -30.21 in Hg
1155 Pf: -6.1Ø in Hg
1215 Broke for lunch
1245 Returned to NAS JAX; visited w/ Tim Curtin/EMD.
1330 OU3-BLDG103-AØØ1-0114
Pf: -7.60 in Hg

Location NAS JAX Date 1/23/14

Project / Client Phase 3 JM10

1340 Prep adhesive strip for tedlar bag sample
Set up at -GS02
1347 Purge 2L @ 200 mL/min
Water leak check: PASS
VOCs = 1.9 ppmv H_2S = Ø
CO = 2.0% O_2 = 18.2%
LEL = Ø
CH_4 = Ø CO_2 = 1.8%
1405 OU3-BLDG103-GS02-0114
Can: 1SC00348
FC = OAØØ731/AVG01148
Pi = -30.22 in Hg
1410 Pf = -4.87 in Hg
mob to -GS11
1420 Fill up tedlar bag with outdoor air (collocated with BLDG103-AØØ1) - south of 103.
1430 Set up at -GS11
Purge 2L @ 200mL/min
Water leack test = PASS
VOCs = 23.5 H_2S = Ø CO_2 = 1.3
CO = 1.0% O_2 = 18.2%
LEL = Ø CH_4 = Ø

Location NAS JAX Date 1/23/14

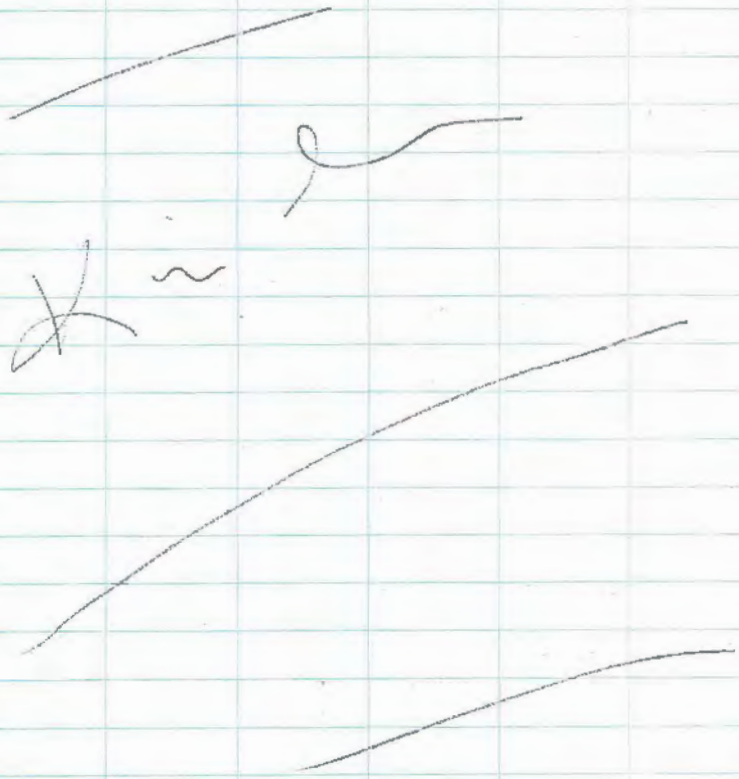
Project / Client JM10 Phase 3 VI

1447 OU3-BLDG103-GS11-0114
Can = 1SC01057
FC = OAØØ165/AVG02345
Pi = -29.99 in Hg
1452 Pf = -5.63 in Hg
1500 mob to -GS15
Purge 2L @ 200 mL/min
water leak test = PASS
VOCs = 0.9 ppmv H_2S = Ø
CO = Ø O_2 = 16.7%
LEL = Ø CH_4 = N/A*
CO_2 = 3.1
1515 OU3-BLDG103-GS15-0114
Can = 1SC01021
FC = OAØØ680/AVG03279
Pi = -30.37 in Hg
1520 Pf = -2.12 in Hg
1515 OU3-BLDG103-GS15P-0114
Can = 1SC01120
FC = OAØØ811/AVG03567
Pi = -30.29" Hg
1520 Pf = -2.60 in Hg
* GEM Landfill Gas meter reading "<<<<"

Location NAS JAX Date 1/23/14

Project / Client Phase 3 VI JM10

1530 ADHESIVE "TO-15 Full List"
Can: 1SC1078
FC: OAØØ726 / no gauge
Pi: -29.99 in Hg
1535 Pf: -8.46 in Hg
1615 Off site

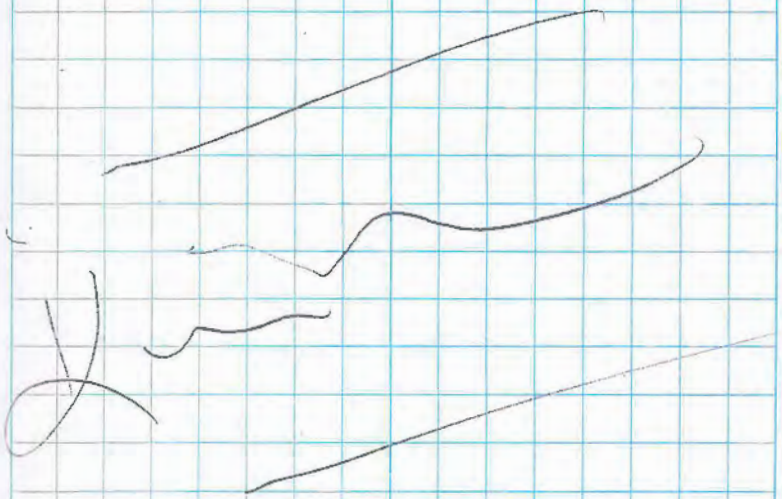


Location NAS JAX Date 1/24/14

Project / Client Phase 3 JM10

Weather: Partly Cloudy; High 44°F

Personnel: Kim Stokes / DFW
Juan Acaron / GNV
Objective: Pack and ship samples and equipment
0900 Organize equipment, supplies and samples.
1000 Finalize COCs for ~~East~~ ALS Simi Valley
Fed Ex # 7977 1639 6509
1200 Drop off shipments to Fed Ex.



Location NAS JAX Date 2/5/14

Project / Client Phase 3 VI JM10

Personnel: Juan Acaron 16NV

Weather: 74°F Cloudy

H+S: Heat Stress

Objective: Collect Passive Samples

0900 en base

0915 @ FRC to pick up pass

0945 @ BLDG 101

0955 043-BLDG 101-AO01-0114

Unicarb HO 199679

Chromosorb 60167398

1000 043-BLDG 101C-AO01-0114

Unicarb 60164632

Chromosorb 60169240

1015 043-BLDG 101C-AI01-0114

Unicarb 60165024

Chromosorb 60166892

1025 043-BLDG 101C-AI02-0114

Unicarb HO 199265

Chromosorb 60167098

1045 043-BLDG 101-AI07-0114

Unicarb 60164252

Chromosorb 60167007

1055 043-BLDG 101-AI04-0114

Unicarb HO 199631

Chromosorb 60168216

Location NAS JAX Date 2/5/14

Project / Client Phase 3 VI JM10

1105 043-BLDG 101-AI08-0114

Unicarb 60163205

Chromosorb 60167006

1110 043-BLDG 101-AI09-0114

Unicarb MI 103040

Chromosorb 60166070

1120 043-BLDG 101-AI06-0114

Unicarb 60164141

Chromosorb 60166099

1125 043-BLDG 101-AI05-0114

Unicarb HO 199632

Chromosorb 60166895

1130 043-BLDG 101-AI02-0114

Unicarb 60164555

Chromosorb 60168242

1135 043-BLDG 101-AI02P-0114

Unicarb HO 200289

Chromosorb 60168231

1150 043-BLDG 101-AI03-0114

Unicarb HO 200853

Chromosorb 60167042

1205 @ BLDG 103

1210 043-BLDG 103-AO01-0114

Unicarb MI 103031

Chromosorb 60167653

126

Location NAS JAX Date 2/5/14

Project / Client Phase 3 VI JM10

1220 043- BLDG 103- AI03- 0114
Unicarb HO 199630
Chromosorb GO 166832

1225 043-BLDG 103-AI03P-0114
Unicarb HO 200232
Chromosorb GO 169063

1235 043-BLDG 103-AI09-0114
Unicarb GO 163208
Chromosorb GO 167624

1245 043-BLDG 103-AI08-0114
Unicarb GO 165044
Chromosorb GO 169721

1250 043-BLDG 103 AI06-0114
Unicarb HO 199687
Chromosorb GO 168237

1325 off-base to ship samples

2/5/14

Attachment B
Chain of Custody Forms

CH2MHILL

3011 S.W. Williston Road
Gainesville, FL 32608

Tel No: (352) 384-7002
Fax No: (352) 214-2814

CHAIN-OF-CUSTODY RECORD

[1] COC NUMBER: **470875- 012414-01**

[2] PROJECT NAME:	[5] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
OU3 - NAS Jacksonville	**470875.04.04.02.06**	**ALS-Simi Valley; Kate Aguilera [c/o Empirical Sonya Gordon]**	**Bethany Garvey / CH2M HILL bgarvey@ch2m.com**	**Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone**
[3] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
OU3 Phase 3 Vapor Intrusion Investigation	**JM10**	**N/A**	**Eric Davis / CH2M HILL eric.davis@ch2m.com**	**Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone**
[4] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Kimberly Stokes	**phone: 214-998-4839**	**phone: 805-526-7161 (ALS); 615.345.1115 ext. 238 (Empirical)**	**Kimberly Stokes/CH2M HILL kstokes@ch2m.com**	**12750 Merit Drive Suite 1100 Dallas, TX 75251-2224 30328 972-663-2269 phone**

[25] ANALYSES

[17] ITEM	[19] SAMPLE ID	[20] MATRIX (see codes on SOP)	[21] DATE START	[21] DATE FINISHED	[22] TIME START	[22] TIME STOP	[23] CANISTER VACUUM IN FIELD HG (START)	[23] CANISTER VACUUM IN FIELD HG (STOP)	FLOW CONTROLLER ID	CANISTER ID	[23] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	**Select VOCs by TO-15 LL**	**Select VOCs by TO-15**	[26] SAMPLE TYPE (see codes on SOP)	[27] LAB ID (for lab's use)	[28] COMMENTS/ SCREENING READINGS
1	**OU3-BLDG103-AI09-0114**	**AI**	**1/22/2014**	**1/23/2014**	**11:30**	**9:08**	**-30.32**	**-7.35**	**FCA00590**	**AS00512**	**IV**	**14**	**X**				**AVG03457**
2	**OU3-BLDG103-AI03-0114**	**AI**	**1/22/2014**	**1/23/2014**	**11:45**	**9:13**	**-30.31**	**-2.27**	**FCA00586**	**AS00463**	**IV**	**14**	**X**				**AVG03108**
3	**OU3-BLDG103-AI03P-0114**	**AI**	**1/22/2014**	**1/23/2014**	**11:45**	**10:27**	**-30.28**	**-8.78**	**FCA00356**	**AS00580**	**IV**	**14**	**X**				**AVG03499**
4	**OU3-BLDG103-AO01-0114**	**AO**	**1/22/2014**	**1/23/2014**	**11:55**	**13:30**	**-30.04**	**-7.60**	**FCA00891**	**AC00703**	**IV**	**14**	**X**				**AVG03450**
5	**OU3-BLDG101C-GS05-0114**	**GS**	**1/22/2014**	**1/22/2014**	**14:15**	**14:20**	**-30.29**	**-4.60**	**OA00230**	**1SS00053**	**IV**	**14**		**X**			**AVG03576; VOCs = 0.3 ppmv**
6	**OU3-BLDG101C-GS04-0114**	**GS**	**1/22/2014**	**1/22/2014**	**14:44**	**14:49**	**-29.70**	**-5.70**	**OA01262**	**1SS00011**	**IV**	**14**		**X**			**N/A; VOCs = 2.6 ppmv**
7	**OU3-BLDG101C-GS03-0114**	**GS**	**1/22/2014**	**1/22/2014**	**15:18**	**15:23**	**-27.36**	**-3.34**	**OA00747**	**1SS00032**	**IV**	**14**		**X**			**AVG03573; VOCs = 1.7 ppmv**
8	**OU3-BLDG101C-GS01-0114**	**GS**	**1/22/2014**	**1/22/2014**	**15:47**	**15:52**	**-29.80**	**-4.37**	**OA00230**	**SSS00012**	**IV**	**14**		**X**			**AVG00863; VOCs = 0.5 ppmv**
9	**OU3-BLDG101C-GS02-0114**	**GS**	**1/22/2014**	**1/22/2014**	**16:20**	**16:25**	**-30.10**	**-2.63**	**OA00725**	**1SS00028**	**IV**	**14**		**X**			**AVG03578; VOCs = 0.4 ppmv**
10	**OU3-BLDG103-GS01-0114**	**GS**	**1/23/2014**	**1/23/2014**	**10:00**	**10:05**	**-30.27**	**-2.93**	**OA01796**	**1SS0043**	**IV**	**14**		**X**			**AVG03569; VOCs = 4.7 ppmv**

[29] SAMPLER(S) AND COMPANY: (please print)	[30] FedEX number:	[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
Juan Acaron / CH2M HILL **Kim Stokes / CH2M HILL**	**7977 1639 6509**	

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: **[x] Original** - Laboratory (To be returned with Analytical Report); **[ ] Copy 1** - Project File; **[ ] Copy 2** - PMO

Form CCI001, Rev 06/00

CH2MHILL

3011 S.W. Williston Road
Gainesville, FL 32608

Tel No: (352) 384-7002
Fax No: (352) 214-2814

CHAIN-OF-CUSTODY RECORD

[1] COC NUMBER: **470875- 012414-02**

[2] PROJECT NAME:	[5] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
OU3 - NAS Jacksonville	**470875.04.04.02.06**	**ALS-Simi Valley; Kate Aguilera [c/o Empirical Sonya Gordon]**	**Bethany Garvey / CH2M HILL bgarvey@ch2m.com**	**Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone**
[3] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
OU3 Phase 3 Vapor Intrusion Investigation	**JM10**	**N/A**	**Eric Davis / CH2M HILL eric.davis@ch2m.com**	**Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone**
[4] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Kimberly Stokes	**phone: 214-998-4839**	**phone: 805-526-7161 (ALS); 615.345.1115 ext. 238 (Empirical)**	**Kimberly Stokes/CH2M HILL kstokes@ch2m.com**	**12750 Merit Drive Suite 1100 Dallas, TX 75251-2224 30328 972-663-2269 phone**

[25] ANALYSES

[17] ITEM	[19] SAMPLE ID	[20] MATRIX (see codes on SOP)	[21] DATE START	[21] DATE FINISHED	[22] TIME START	[22] TIME STOP	[23] CANISTER VACUUM IN FIELD HG (START)	[23] CANISTER VACUUM IN FIELD HG (STOP)	FLOW CONTROLLER ID	CANISTER ID	[23] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	Select VOCs by TO-15 LL	Select VOCs by TO-15	[26] SAMPLE TYPE (see codes on SOP)	[27] LAB ID (for lab's use)	[28] COMMENTS/ SCREENING READINGS
1	**OU3-BLDG103-GS01P-0114**	**GS**	**1/23/2014**	**1/23/2014**	**10:00**	**10:05**	**-29.35**	**-3.32**	**OA00798**	**1SS00017**	**IV**	**14**		**X**			**AVG02306; VOCs = 4.7 ppmv**
2	**OU3-BLDG103-GS12-0114**	**GS**	**1/23/2014**	**1/23/2014**	**10:37**	**10:42**	**-30.25**	**-4.02**	**OA01232**	**1SS00025**	**IV**	**14**		**X**			**AVG03253; VOCs = 59 ppmv**
3	**OU3-BLDG103-GS03-0114**	**GS**	**1/23/2014**	**1/23/2014**	**11:20**	**11:25**	**-29.93**	**-1.30**	**OA01098**	**1SC00145**	**IV**	**14**		**X**			**AVG01073; VOCs = 6.1 ppmv**
4	**OU3-BLDG103-GS10-0114**	**GS**	**1/23/2014**	**1/23/2014**	**11:50**	**11:55**	**-30.21**	**-6.10**	**OA00955**	**1SC01029**	**IV**	**14**		**X**			**AVG03495; VOCs = 6.4 ppmv**
5	**OU3-BLDG103-GS02-0114**	**GS**	**1/23/2014**	**1/23/2014**	**14:05**	**14:10**	**-30.22**	**-4.87**	**OA00731**	**1SC00348**	**IV**	**14**		**X**			**AVG01148; VOCs = 1.9 ppmv**
6	**OU3-BLDG103-GS11-0114**	**GS**	**1/23/2014**	**1/23/2014**	**14:47**	**14:52**	**-29.99**	**-5.63**	**OA00165**	**1SC01057**	**IV**	**14**		**X**			**AVG02345; VOCs = 23.5 ppmv**
7	**OU3-BLDG103-GS15-0114**	**GS**	**1/23/2014**	**1/23/2014**	**15:15**	**15:20**	**-30.37**	**-2.12**	**OA00680**	**1SC01021**	**IV**	**14**		**X**			**AVG03279; VOCs = 0.9 ppmv**
8	**OU3-BLDG103-GS15P-0114**	**GS**	**1/23/2014**	**1/23/2014**	**15:15**	**15:20**	**-30.29**	**-2.60**	**OA00811**	**1SC01120**	**IV**	**14**		**X**			**AVG03567; VOCs = 0.9 ppmv**
9	**ADHESIVE**	**AA**	**1/23/2014**	**1/23/2014**	**15:30**	**15:35**	**-29.99**	**-8.46**	**OA00726**	**1SC1078**	**IV**	**14**		**X**			**FULL TO-15 LIST for this canister only**

[29] SAMPLER(S) AND COMPANY: (please print)	[30] FedEX number:	[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
Juan Acaron / CH2M HILL **Kim Stokes / CH2M HILL**	**7977 1639 6509**	

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: **[x] Original** - Laboratory (To be returned with Analytical Report); **[ ] Copy 1** - Project File; **[ ] Copy 2** - PMO

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager: Kim Stokes	BEACON Project No.: 2796
Company: CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:	Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:	Location: Jacksonville, FL	☐ Normal
Phone:	Sampler Name(s):	☒ Rush (Specify): 14 days

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	NIST traceable Thermometer ID: / Notes	Analysis: TO-17	Analysis: 8260C	Analysis: TICs	Matrix: Indoor/Ambient Air	Matrix: Soil Gas
OU3-BLDG101C AI01	G0165024	01/21/14	1255			65	Unicarb	X			X	
	OU3-BLDG101C-AI01-0114			02/05/14	1015	65						
OU3-BLDG101C-AI01	G0166892	01/21/14	1255			65	Chromosorb 106	X			X	
	OU3-BLDG101C-AI01-0114			02/05/14	1015	65						
OU3-~~101C~~ BLDG~~101C~~-AI02	H0199265	01/21/14	1320			65	Unicarb	X			X	
	OU3-BLDG~~101C~~-AI02-0114			2/5/14	1025	65						
OU3-~~101C~~ BLDG~~101C~~-AI02	G0167098	01/21/14	1320			65	Chromosorb 106	X			X	
	OU3-BLDG~~101C~~-AI02-0114			2/5/14	1025	65						
OU3-BLDG101C-AI07	G0167007	01/21/14	1335			65	Chromosorb 106	X			X	
	OU3-BLDG101C-AI07-0114			2/5/14	1045	65						
OU3-BLDG101C-AI07	G0164252	01/21/14	1335			65	Unicarb	X			X	
	OU3-BLDG101C-AI07-0114			2/5/14	1045	65						

Special Instructions/Notes:

Relinquished by: (signature) Juan Acaron	Date/Time: 2/5/14 1700	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

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Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager: Kim Stokes	BEACON Project No.: 2796
Company: CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:	Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:	Location: Jacksonville, FL	☐ Normal
Phone:	Sampler Name(s):	☒ Rush (Specify): 14 days

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	NIST traceable Thermometer ID: / Notes	Analysis: TO-17	Analysis: 8260C	Analysis: TICs	Matrix: Indoor/Ambient Air	Matrix: Soil Gas
OU3-BLDG101C-AIO3	H02ØØ853	01/21/14	1350			65	Unicarb	X			X	
	OU3-BLDG101C-AIO3-0114			2/5/14	1150	65						
OU3-BLDG101C-AIO3	G0167Ø42	01/21/14	1350			65	Chromosorb 106	X			X	
	OU3-BLDG101C-AIO3-0114			2/5/14	1150	65						
OU3-BLDG101C-AIO2	G0168242	01/21/14	1400			65	Chromosorb 106	X			X	
	OU3-BLDG101-AIO2-0114			2/5/14	1130	65						
OU3-BLDG101-AIO2	G0164555	01/21/14	1400			65	Unicarb	X			X	
	OU3-BLDG101-AIO2-0114			2/5/14	1130	65						
OU3-BLDG101-AIO2	H02ØØ289	01/21/14	1400			65	Unicarb	X			X	
	OU3-BLDG101-AIO2P-0114			2/5/14	1135	65						
OU3-BLDG101-AIO2	G0168231	01/21/14	1400			65	Chromosorb 106	X			X	
	OU3-BLDG101-AIO2P-0114			2/5/14	1135	65						

Special Instructions/Notes:

Relinquished by: (signature) JUAN ACARON	Date/Time: 2/5/14 1700	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact (Yes / No / None)	Custody Seal Number

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager: Kim Stokes	BEACON Project No.: 2796	Analysis			Matrix	
Company: CH2M Hill	Phone: (215) 640-9615	Client PO No.					
Address:	Project Name: NAS Jacksonville	Analysis Turnaround Time					
City/State/Zip:	Location: Jacksonville, FL	☐ Normal					
Phone:	Sampler Name(s):	☒ Rush (Specify): 14 days					

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time (24 hr)	Interior Temp. (F)	NIST traceable Thermometer ID: / Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3-BLDG101-AI04	G0168216	01/21/14	1420			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI04-0114			2/5/14	1055	65						
OU3-BLDG101-AI04	H0199631	01/21/14	1420			65	Unicarb	X			X	
	OU3-BLDG101-AI04-0114			2/5/14	1055	65						
OU3-BLDG101-AI05	G0166895	01/21/14	1430			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI05-0114			2/5/14	1125	65						
OU3-BLDG101-AI05	H0199632	01/21/14	1430			65	Unicarb	X			X	
	OU3-BLDG101-AI05-0114			2/5/14	1125	65						
OU3-BLDG101-AI06	G0164141	01/21/14	1435			65	Unicarb	X			X	
	OU3-BLDG101-AI06-0114			2/5/14	1120	65						
OU3-BLDG101-AI06	G0166099	01/21/14	1435			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI06-0114			2/5/14	1120	65						

Special Instructions/Notes:

Relinquished by: (signature) JUAN ACARON	Date/Time: 2/4/15 1700	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

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Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager: Kim Stokes	BEACON Project No.: 2796
Company: CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:	Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:	Location: Jacksonville, FL	☐ Normal
Phone:	Sampler Name(s):	☒ Rush (Specify): 14 days

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	NIST traceable Thermometer ID: / Notes	Analysis: TO-17	Analysis: 8260C	Analysis: TICs	Matrix: Indoor/Ambient Air	Matrix: Soil Gas
OU3-BLDG101-AI09	G0166070	01/21/14	1450			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI09-0114			2/5/14	1110	65						
OU3-BLDG101-AI09	MI103040	01/21/14	1450			65	Unicarb	X			X	
	OU3-BLDG101-AI09-0114			2/5/14	1110	65						
OU3-BLDG101-AI08	G0167006	01/21/14	1500			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI08-0114			2/5/14	1105	65						
OU3-BLDG101-AI08	G0163205	01/21/14	1500			65	Unicarb	X			X	
	OU3-BLDG101-AI08-0114			2/5/14	1105	65						
OU3-BLDG101-A001	G0167398	01/21/14	1530			65	Chromosorb 106	X			X	
	OU3-BLDG101-A001-0114			02/05/14	0955	71						
OU3-BLDG101-A001	H0199679	01/21/14	1530			65	Unicarb	X			X	
	OU3-BLDG101-A001-0114			02/05	0955	71						

Special Instructions/Notes:

Relinquished by: (signature) Juan Acaron	Date/Time: 2/5/14 1700	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

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Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager: Kim Stokes	BEACON Project No.: 2796
Company: CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:	Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:	Location: Jacksonville, FL	☐ Normal
Phone:	Sampler Name(s):	☒ Rush (Specify): 14 days

NIST traceable Thermometer ID:

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	Notes	Analysis: TO-17	Analysis: 8260C	Analysis: TICs	Matrix: Indoor/Ambient Air	Matrix: Soil Gas
OU3-BLDG101C-A001	G01 64632	01/21/14	1535			65	Unicarb	X			X	
	OU3-BLDG101C-A001-0114			02/05/14	1000	71						
OU3-BLDG101C A001	G01 69240	01/21/14	1535			65	Chromosorb 106	X			X	
	OU3-BLDG101C-A001-0114			02/05/14	1000	71						
OU3-BLDG103-AI03	G01 66832	01/21/14	1550			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI03-0114			2/5/14	1220	70						
OU3-BLDG103-AI03	H01 99630	01/21/14	1550			65	Unicarb	X			X	
	OU3-BLDG103-AI03-0114			2/5/14	1220	70						
OU3-BLDG103-AI03	H02 00232	01/21/14	1550			65	Unicarb	X			X	
	OU3-BLDG103-AI03P-0114			2/5/14	1225	70						
OU3-BLDG103-AI03	G01 69063	01/21/14	1550			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI03P-0114			2/5/14	1225	70						

Special Instructions/Notes:

Relinquished by: (signature) JUAN ACARON	Date/Time: 2/5/14 1700	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

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Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes	BEACON Project No.: 2796
Company:	CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:		Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:		Location: Jacksonville, FL	☐ Normal
Phone:		Sampler Name(s):	☒ Rush (Specify): 14 days

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time (24 hr)	Interior Temp. (F)	NIST traceable Thermometer ID: / Notes	Analysis: TO-17	Analysis: 8260C	Analysis: TICs	Matrix: Indoor/Ambient Air	Matrix: Soil Gas
OU3-BLDG103-AI09	G0163208	01/21/14	1600			65	Unicarb	X			X	
	OU3-BLDG103-AI09-0114			2/5/14	1235	70						
OU3-BLDG103-AI09	G0167624	01/21/14	1600			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI09-0114			2/5/14	1235	70						
OU3-BLDG103-AI08	G0169721	01/21/14	1615			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI08-0114			2/5/14	1245	70						
OU3-BLDG103-AI08	G0165044	01/21/14	1615			65	Unicarb	X			X	
	OU3-BLDG103-AI08-0114			2/5/14	1245	70						
OU3-BLDG103-AI06	G0168237	01/21/14	1620			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI06-0114			2/5/14	1250	70						
OU3-BLDG103-AI06	H0199687	01/21/14	1620			65	Unicarb	X			X	
	OU3-BLDG103-AI06-0114			2/5/14	1250	70						

Special Instructions/Notes:

Relinquished by: (signature) JUAN ACEVEDO	Date/Time: 2/5/14 1700	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes	BEACON Project No.: 2796
Company:	CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:		Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:		Location: Jacksonville, FL	☐ Normal
Phone:		Sampler Name(s):	☒ Rush (Specify): 14 days

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	NIST traceable Thermometer ID: / Notes	Analysis: TO-17	Analysis: 8260C	Analysis: TICs	Matrix: Indoor/Ambient Air	Matrix: Soil Gas
OU3-BLDG103-AØ1	Mi103031	01/21/14	1640			65	Unicarb	X			X	
	OU3-BLDG103-AØ1-0114			2/5/14	1210	75						
OU3-BLDG103-AØ1	G0167653	01/21/14	1640			65	Chromosorb 106	X			X	
	OU3-BLDG103-AØ1-0114			2/5/14	1210	75						

Special Instructions/Notes:

Relinquished by: (signature) Juan Acaron	Date/Time: 2/5/14 1700	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Attachment C
3M™ Command™ Product Information

Command™ Clear Decorating Clips

Clear Hooks



- Damage-Free Hanging
- Clear clips, clear strips
- Color: Clear
- Package Contents: 20 clips, 24 strips
- Holds strongly and removes cleanly
- Easy to apply and remove
- Works on a variety of surfaces

Udwlqj =#

Read all 40 reviews ¡#Review this product

Where to Buy

Overview | Videos | Related Products | Customer Reviews

Forget about nails, screws and tacks, Command™ Clear Hooks are fast and easy to hang! The revolutionary Command™ Clear Adhesive Strip, holds strongly on a variety of surfaces, including paint, wood, tile and more. Yet, removes cleanly - no holes, marks, sticky residue. Command™ Clear Hooks and Strips blend in seamlessly allowing you to show what matters most, your decor, not how it's hung up. Rehanging them is as easy as applying a replacement Mounting Strip, so you can take down, move and reuse them again and again!

Instruction Sheet

Command™ Instructions 17026CLR (PDF, 206.7KB)

Specifications

Apprx. Out of Pkg Product Size (L x W x D)	3/4 X 1/2 X 1/4 Inches
Good for Humid Environments	No
Material	Plastic
Package Contents	20 clips, 24 strips

Need Help?

Questions? We can help

Contact Us

Ready to try Command™ Products?

GET COUPONS

Get Our eNewsletter

Get special offers, valuable coupons and product samples

SIGN ME UP

Follow us:

FAQs

Have questions? You're not the only one. Read the Command™ FAQ (and the answers) to learn more about using Command™ Products.

Surfaces

Q: To what surfaces will Command™ Products stick?
A: Painted, stained or varnished wood, glass, tile, painted cinder block, plaster, metal, and painted wallboard.

Command™ Outdoor Products can also be used on smooth, sealed and finished surfaces including vinyl siding and fences, doors, windows, decks, gutters and trim. The Outdoor Product line is not recommended for use on rough surfaces, such as cement board, brick or rough-sawn wood.

Q: Will Command™ Products stick to brick?
A: No. Command™ Products are intended for mostly smooth surfaces such as those listed above. However, our products will stick to painted, smooth cinder block (the type found inside many school and office buildings).

Q: Can I use Command™ Products on fresh paint?
A: Paint should be fully cured (check paint can for manufacturer's cure time) before using Command Products. We recommend waiting a week before use on fresh paint. Also, alcohol may remove or dull the surface of fresh paint.

Q: Can I use Command™ Products on wallpaper?
A: No. Most wallpapers are too delicate and can tear when adhesives are applied.

Q: Can I use Command™ Products on glass windows?
A: It is okay to use Command™ Products if the glass is not exposed to direct sunlight and not flooded with water. For example: Do not use inside or outside on south or west windows. For glass shower doors use our special Water-Resistant line of products (blue strip) which are clearly marked on our packaging.

However, all Command™ Outdoor Products can be used on windows that have direct exposure to sunlight. These products are UV-resistant.

Q: Can I use Command™ Products on my car windows?
A: Due to weather temperature extremes, only Command™ Outdoor Products can be used on automobiles windows.

Climate and Temperature

Q: Can I use Command™ Products outside in cold climates?
A: Yes you can with Command™ Outdoor Products. The adhesive should be applied to a clean, smooth, dry surface when the temperature is above 15°F (-9°C). The products hold strongly down to -20°F (-29°C).

Q: Can I use Command™ Products outside in hot climates?
A: Yes you can with Command™ Outdoor Products. The products hold strongly up to 125°F (51°C).

Q: Can I use Command™ Products in my car?
A: Because the adhesive could soften and lose adhesion above 125°F (51°C), we don't recommend using it in your car. In addition, vinyl dashboards and door panels contain high amounts of plasticizers to maintain flexibility, and this makes adhesion to these surfaces difficult.

Product Information and Use

Q: What are some possible uses for Command™ Products?
A: Hooks are perfect for closets, lockers, offices, kitchens, laundry rooms, mud rooms, kids' rooms, dorm rooms, baths, boats and campers. Each package of hooks comes with

extra strips so the hooks can be reused or repositioned.

Picture Hanging Strips are great for hanging frames on the wall and creating collages without wall damage.

Spring clips are an efficient way to organize receipts in your office, photos on your computer or children's artwork on your refrigerator.

Command™ Outdoor Adhesive Strips are water- and UV-resistant, and specially formulated to withstand most weather conditions including rain, snow, and extreme temperatures. The hooks and clips hold strongly to a variety of smooth outdoor surfaces that were previously difficult to decorate – such as doors, windows, siding, decks, gutters and trim. Specifically designed for outdoor use, Command™ Outdoor Products make hanging wreaths, signs, thermometers, lights, or other seasonal decorations outside the home easy.

Q: What happens if I pull too hard and the strip breaks?
A: Simply heat up the base plate with a hair dryer to soften the adhesive. Then use dental floss to gently cut through the foam to remove the hook or hanger from the surface. Stretch or peel off the remaining adhesive. See How to Use page.

Q: Why do I have to wait an hour before using the product?
A: The one-hour wait ensures that the adhesive has had enough time to build strong adhesion to the wall or surface.

Q: Why can't I clean the surface with a household cleaner?
A: Many household and window cleaners leave behind a very thin layer of residue that affects how strongly the adhesive will bond to the surface.

Q: Can I use more than one hook if I want to hang an item that's heavier than the weight listed on the package?
A: No. We don't recommend it.

Q: Is there latex in Command™ Strips?
A: No. Command™ Strips contain an adhesive that is a synthetic rubber resin and does not contain natural rubber latex.

Q. Where can I buy Command™ Products?
A: Command™ Products are available at many retail stores and online. Find a store near you.

Material Safety Data Sheet

This material safety data sheet (MSDS) is provided as a courtesy in response to a customer request. This product is not regulated under, and a MSDS is not required for this product by the OSHA Hazard Communication Standard (29 CFR 1910.1200) because, when used as recommended or under ordinary conditions, it should not present a health and safety hazard. However, use or processing of the product not in accordance with the product's recommendations or not under ordinary conditions may affect the performance of the product and may present potential health and safety hazards.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Command (TM) Strips
MANUFACTURER: 3M
DIVISION: Construction And Home Improvement Prods

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 08/01/2007
Supercedes Date: 09/12/2006

Document Group: 21-8761-5

Product Use:
Intended Use: To be used in conjunction with Command (TM) hooks for hanging pictures, utensils, calendars, and other miscellaneous items.

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
POLYETHYLENE-EVA FOAM	None	50 - 60
Paper liner	None	25 - 35
Cured Adhesive	None	20 - 30

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: No odor, white foam adhesive strip
General Physical Form: Solid
Immediate health, physical, and environmental hazards: This product, when used under reasonable conditions and in accordance with the 3M directions for use, should not present a health hazard. However, use or processing of the product in a

manner not in accordance with the product's directions for use may affect the performance of the product and may present potential health and safety hazards.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Skin Contact:
Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Inhalation:
No health effects are expected.

Ingestion:
No health effects are expected.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention. No need for first aid is anticipated.

Skin Contact: Wash affected area with soap and water. If signs/symptoms develop, get medical attention. No need for first aid is anticipated.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention. No need for first aid is anticipated.

If Swallowed: No need for first aid is anticipated.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	*No Data Available*
Flash Point	*No Data Available*
Flammable Limits - LEL	*No Data Available*
Flammable Limits - UEL	*No Data Available*

5.2 EXTINGUISHING MEDIA
Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Not applicable.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING
This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

7.2 STORAGE
Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Not applicable.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
Not applicable.

8.2.2 Skin Protection
Not applicable.

8.2.3 Respiratory Protection
Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

8.2.4 Prevention of Swallowing
Not applicable.

8.3 EXPOSURE GUIDELINES

None Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor, Color, Grade:	No odor, white foam adhesive strip
General Physical Form:	Solid
Autoignition temperature	*No Data Available*
Flash Point	*No Data Available*
Flammable Limits - LEL	*No Data Available*
Flammable Limits - UEL	*No Data Available*
Boiling point	*Not Applicable*
Density	*Not Applicable*
Vapor Density	*Not Applicable*
Vapor Pressure	*Not Applicable*
Specific Gravity	*No Data Available*
pH	*Not Applicable*
Melting point	*Not Applicable*
Solubility in Water	Nil
Softening point	40 ºC

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: High shear and high temperature conditions

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified

Hazardous Decomposition: Under recommended usage conditions, hazardous decomposition products are not expected. Hazardous decomposition products may occur as a result of oxidation, heating, or reaction with another material.

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not applicable.

CHEMICAL FATE INFORMATION

Not applicable.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of waste product in a sanitary landfill. As a disposal alternative, incinerate in an industrial or commercial facility.

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14:TRANSPORT INFORMATION

ID Number(s):
44-0025-9729-0, 44-0025-9730-8, 44-0025-9731-6, 44-0025-9837-1, 44-0025-9838-9, 44-0025-9839-7, 44-0025-9998-1, 44-0025-9999-9, 70-0707-1818-7, 70-0707-2921-8, 70-0712-0425-2, 70-0712-0427-8, 70-0712-0464-1, 70-0713-0442-5, 70-0713-0444-1

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS
Contact 3M for more information.

STATE REGULATIONS
Contact 3M for more information.

CHEMICAL INVENTORIES
This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 0 **Flammability:** 1 **Reactivity:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Reason for Reissue: The MSDS has been revised because 3M has adopted the 16-section ANSI/ISO format. The potential hazards of the product have not changed. We encourage you to reread the MSDS and review the information.

Revision Changes:
Section 1: Product use information was modified.
Copyright was modified.
Section 3: Potential effects from eye contact was modified.
Section 3: Potential effects from skin contact information was modified.
Section 2: Ingredient table was modified.
Section 1: Initial issue message was modified.
Section 4: First aid for eye contact - decontamination - was added.
Section 4: First aid for eye contact - medical assistance - was added.
Section 4: First aid for skin contact - decontamination - was added.
Section 4: First aid for skin contact - medical assistance - was added.
Section 4: First aid for inhalation - termination of exposure - was added.
Section 4: First aid for inhalation - medical assistance - was added.
Section 16: Reason for reissue heading was added.
Section 16: Reason for reissue phrase was added.

3M MSDSs are available at www.3M.com

Attachment D
Screening Levels

Industrial Screening Levels
Phase 3 OU3 Vapor Intrusion Investigation Report
NAS Jacksonville, Florida

			Subslab Soil Gas Screening Levels [2] (SGSLs)			Indoor Air Screening Levels (IASLs)		
Analyte	CAS	Units	Industrial Cancer Risk = 10^{-6}	Industrial Cancer Risk = 10^{-4}	Industrial Noncancer Hazard Quotient[3] = 1.0	Industrial Cancer Risk = 10^{-6}	Industrial Cancer Risk = 10^{-4}	Industrial Noncancer Hazard Quotient[3] = 1.0
cis-1,2-Dichloroethene[1]	156-59-2	µg/m^3	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	µg/m^3	47,000	4,700,000	180,000	47	4,700	180
trans-1,2-Dichloroethene	156-60-5	µg/m^3	NA	NA	260,000	NA	NA	260
Trichloroethene	79-01-6	µg/m^3	3,000	300,000	8,800	3.0	300	8.8
Vinyl Chloride	75-01-4	µg/m^3	2,800	280,000	440,000	2.8	280	440

Notes:

[1] A SL for cis-1,2-DCE was not calculated due to the lack of inhalation toxicity data in the RSL tables

[2] These SGSLs were developed with a base-specific attenuation factor of 0.001; developed with EPA RSLs (November 2013)

[3] Screening levels based on a noncancer hazard quotient (HQ) of 0.1 were included in the Work Plan (CH2M HILL, 2012) as a basis for evaluating analytical quantitation and reporting limits. This is based on the possibility that multiple analytes are detected and the results cumulative noncancer hazard could exceed an HQ of 1 even if the HQ associated with individual analytes are below a HQ of 1. The potential for cumulative, indoor-air, noncancer hazards is addressed directly in Section 5.0 based on actual detections; thus, it is not necessary to screen subslab and indoor air results against the HQ = 0.1 screening levels and they are not considered further in this report.

Attachment E
Analytical Data

JM10
NAS JACKSONVILLE
Phase 3-VI-Data
Data Summary Table

Location					BLDG101-AI02		BLDG101-AI03	BLDG101-AI04	BLDG101-AI05	BLDG101-AI06	BLDG101-AI07
Sample ID					OU3-BLDG101-AI02-0114	OU3-BLDG101-AI02P-0114	OU3-BLDG101-AI03-0114	OU3-BLDG101-AI04-0114	OU3-BLDG101-AI05-0114	OU3-BLDG101-AI06-0114	OU3-BLDG101-AI07-0114
Sample Depth (ft)					0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Sample Date					2/5/2014	2/5/2014	2/5/2014	2/5/2014	2/5/2014	2/5/2014	2/5/2014
Analyte	**Units**	**IASL-10-6**	**IASL-10-4**	**IASL-Q3-1**							
TO15SIM (UG/M3)											
cis-1,2-Dichloroethene	UG/M3	--	--	--	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	UG/M3	47	4700	180	NA	NA	NA	NA	NA	NA	NA
TRANS-1,2-DICHLOROETHENE	UG/M3	--	--	260	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	UG/M3	3	300	8.8	NA	NA	NA	NA	NA	NA	NA
VINYL CHLORIDE	UG/M3	2.8	280	440	NA	NA	NA	NA	NA	NA	NA
TO-17 (ug/m3)											
cis-1,2-Dichloroethene	UG/M3	--	--	--	0.37 U	0.37 U	2.22 U	0.37 U	0.08 J	1	0.37 U
Tetrachloroethene	UG/M3	47	4700	180	0.2 J	0.51 U	0.15 J	0.51 U	0.18 J	0.3 J	0.16 J
trans-1,2-Dichloroethene	UG/M3	--	--	260	31.92	29.39	14.34	0.58 J	0.44 J	1.1	0.9
Trichloroethene	UG/M3	3	300	8.8	0.5 U	0.5 U	0.19 J	0.5 U	0.5 U	1.39	0.4 J
Vinyl chloride	UG/M3	2.8	280	440	0.3 U	0.3 U	1.79 U	0.3 U	0.3 U	0.3 U	0.3 U

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

IASL-10-6--Indoor Air Screening Levels (IASLs) -Industrial Cancer Risk = 10-6
IASL-10-4--Indoor Air Screening Levels (IASLs) -Industrial Cancer Risk = 10-4
IASL-Q3-1--Indoor Air Screening Levels (IASLs) -Industrial Noncancer Hazard Quotient 3 = 1.0

Values Bolded are analytes not detected by the Lab but are above the **IASL-10-6**
Values Boxed are analytes not detected by the Lab but are above **IASL-10-4**

Values Shaded Pale Yellow are analytes not detected by the Lab but are above the **IASL-Q3-1**

Values Bolded and Shaded Pale Yellow are analytes not detected by the Lab but are above **IASL-10-6, IASL-10-4** and **IASL-Q3-1**

Values Bold and Pale Blue are hits exceeding the **IASL-10-6**
Values Shaded Green are hits that exceed the **IASL-10-4**
Values Shaded Grey are hits that exceed the **IASL-Q3-1**

Values Bold and Shaded Grey are hits that exceed both **IASL-10-6** and **IASL-Q3-1**
Values Bold and Shaded Orange are hits that exceed both **IASL-10-6** and **IASL-10-4**
Values Bold and Shaded Red are hits that exceed **IASL-10-6**' **IASL-10-4** and **IASL-Q3-1**

JM10
NAS JACKSONVILLE
Phase 3-VI-Data
Data Summary Table

Location					BLDG101-AI08	BLDG101-AI09	BLDG101-AO01	BLDG101C-AI01	BLDG101C-AI02	BLDG101C-AO01	
Sample ID					OU3-BLDG101-AI08-0114	OU3-BLDG101-AI09-0114	OU3-BLDG101-AO01-0114	OU3-BLDG101C-AI01-0114	OU3-BLDG101C-AI02-0114	OU3-BLDG101C-AO01-0114	OU3-BLDG103-AI03-0114
Sample Depth (ft)					0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Sample Date					2/5/2014	2/5/2014	2/5/2014	2/5/2014	2/5/2014	2/5/2014	1/23/2014
Analyte	**Units**	**IASL-10-6**	**IASL-10-4**	**IASL-Q3-1**							
TO15SIM (UG/M3)											
cis-1,2-Dichloroethene	UG/M3	--	--	--	NA	NA	NA	NA	NA	NA	3
Tetrachloroethene	UG/M3	47	4700	180	NA	NA	NA	NA	NA	NA	2.9
TRANS-1,2-DICHLOROETHENE	UG/M3	--	--	260	NA	NA	NA	NA	NA	NA	1.8
Trichloroethene	UG/M3	3	300	8.8	NA	NA	NA	NA	NA	NA	0.63
VINYL CHLORIDE	UG/M3	2.8	280	440	NA	NA	NA	NA	NA	NA	0.025 U
TO-17 (ug/m3)											
cis-1,2-Dichloroethene	UG/M3	--	--	--	0.37 U	0.07 J	0.38 U	0.37 U	0.37 U	0.38 U	NA
Tetrachloroethene	UG/M3	47	4700	180	0.51 U	0.18 J	0.51 U	0.51 U	0.51 U	0.51 U	NA
trans-1,2-Dichloroethene	UG/M3	--	--	260	0.53 J	0.51 J	0.99	1	0.83	1.46	NA
Trichloroethene	UG/M3	3	300	8.8	0.5 U	0.5 U	0.5 U	0.3 J	0.12 J	0.5 U	NA
Vinyl chloride	UG/M3	2.8	280	440	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	NA

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

IASL-10-6--Indoor Air Screening Levels (IASLs) -Industrial Cancer Risk = 10-6
IASL-10-4--Indoor Air Screening Levels (IASLs) -Industrial Cancer Risk = 10-4
IASL-Q3-1--Indoor Air Screening Levels (IASLs) -Industrial Noncancer Hazard Quotient 3 = 1.0

Values Bolded are analytes not detected by the Lab but are above the **IASL-10-6**
Values Boxed are analytes not detected by the Lab but are above **IASL-10-4**

Values Shaded Pale Yellow are analytes not detected by the Lab but are above the **IASL-Q3-1**

Values Bolded and Shaded Pale Yellow are analytes not detected by the Lab but are above **IASL-10-6, IASL-10-4** and **IASL-Q3-1**

Values Bold and Pale Blue are hits exceeding the **IASL-10-6**
Values Shaded Green are hits that exceed the **IASL-10-4**
Values Shaded Grey are hits that exceed the **IASL-Q3-1**

Values Bold and Shaded Grey are hits that exceed both **IASL-10-6** and **IASL-Q3-1**
Values Bold and Shaded Orange are hits that exceed both **IASL-10-6** and **IASL-10-4**
Values Bold and Shaded Red are hits that exceed **IASL-10-6**' **IASL-10-4** and **IASL-Q3-1**

JM10
NAS JACKSONVILLE
Phase 3-VI-Data
Data Summary Table

Location					BLDG103-AI03			BLDG103-AI06	BLDG103-AI08	BLDG103-AI09	
Sample ID					OU3-BLDG103-AI03P-0114	OU3-BLDG103-AI03-0114-A	OU3-BLDG103-AI03P-0114-A	OU3-BLDG103-AI06-0114	OU3-BLDG103-AI08-0114	OU3-BLDG103-AI09-0114	OU3-BLDG103-AI09-0114-A
Sample Depth (ft)					0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Sample Date					1/23/2014	2/5/2014	2/5/2014	2/5/2014	2/5/2014	1/23/2014	2/5/2014
Analyte	**Units**	**IASL-10-6**	**IASL-10-4**	**IASL-Q3-1**							
TO15SIM (UG/M3)											
cis-1,2-Dichloroethene	UG/M3	--	--	--	3	NA	NA	NA	NA	12	NA
Tetrachloroethene	UG/M3	47	4700	180	2.7	NA	NA	NA	NA	5	NA
TRANS-1,2-DICHLOROETHENE	UG/M3	--	--	260	1.8	NA	NA	NA	NA	6.2	NA
Trichloroethene	UG/M3	3	300	8.8	0.64	NA	NA	NA	NA	2.1	NA
VINYL CHLORIDE	UG/M3	2.8	280	440	0.032 U	NA	NA	NA	NA	0.03 U	NA
TO-17 (ug/m3)											
cis-1,2-Dichloroethene	UG/M3	--	--	--	NA	1.93	2.18	0.19 J	0.83	NA	11.25
Tetrachloroethene	UG/M3	47	4700	180	NA	2.58	2.63	1.14	1.42	NA	6.69
trans-1,2-Dichloroethene	UG/M3	--	--	260	NA	1.6	1.87	0.58 J	1.17	NA	7.14
Trichloroethene	UG/M3	3	300	8.8	NA	1.05	0.93 J	0.17 J	0.24 J	NA	**3.25**
Vinyl chloride	UG/M3	2.8	280	440	NA	0.3 U	0.3 U	0.3 U	0.3 U	NA	0.3 U

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

IASL-10-6--Indoor Air Screening Levels (IASLs) -Industrial Cancer Risk = 10-6
IASL-10-4--Indoor Air Screening Levels (IASLs) -Industrial Cancer Risk = 10-4
IASL-Q3-1--Indoor Air Screening Levels (IASLs) -Industrial Noncancer Hazard Quotient 3 = 1.0

Values Bolded are analytes not detected by the Lab but are above the **IASL-10-6**
Values Boxed are analytes not detected by the Lab but are above **IASL-10-4**

Values Shaded Pale Yellow are analytes not detected by the Lab but are above the **IASL-Q3-1**

Values Bolded and Shaded Pale Yellow are analytes not detected by the Lab but are above **IASL-10-6, IASL-10-4** and **IASL-Q3-1**

Values Bold and Pale Blue are hits exceeding the **IASL-10-6**
Values Shaded Green are hits that exceed the **IASL-10-4**
Values Shaded Grey are hits that exceed the **IASL-Q3-1**

Values Bold and Shaded Grey are hits that exceed both **IASL-10-6** and **IASL-Q3-1**
Values Bold and Shaded Orange are hits that exceed both **IASL-10-6** and **IASL-10-4**
Values Bold and Shaded Red are hits that exceed **IASL-10-6**' **IASL-10-4** and **IASL-Q3-1**

JM10
NAS JACKSONVILLE
Phase 3-VI-Data
Data Summary Table

Location					BLDG103-AO01	
Sample ID					OU3-BLDG103-AO01-0114	OU3-BLDG103-AO01-0114-A
Sample Depth (ft)					0 - 0	0 - 0
Sample Date					1/23/2014	2/5/2014
Analyte	**Units**	**IASL-10-6**	**IASL-10-4**	**IASL-Q3-1**		
TO15SIM (UG/M3)						
cis-1,2-Dichloroethene	UG/M3	--	--	--	0.16 J	NA
Tetrachloroethene	UG/M3	47	4700	180	0.0533	NA
TRANS-1,2-DICHLOROETHENE	UG/M3	--	--	260	0.033 U	NA
Trichloroethene	UG/M3	3	300	8.8	0.033 U	NA
VINYL CHLORIDE	UG/M3	2.8	280	440	0.03 U	NA
TO-17 (ug/m3)						
cis-1,2-Dichloroethene	UG/M3	--	--	--	NA	0.55 J
Tetrachloroethene	UG/M3	47	4700	180	NA	0.16 J
trans-1,2-Dichloroethene	UG/M3	--	--	260	NA	0.74 J
Trichloroethene	UG/M3	3	300	8.8	NA	1.26
Vinyl chloride	UG/M3	2.8	280	440	NA	0.3 U

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

IASL-10-6--Indoor Air Screening Levels (IASLs) -Industrial Cancer Risk = 10-6
IASL-10-4--Indoor Air Screening Levels (IASLs) -Industrial Cancer Risk = 10-4
IASL-Q3-1--Indoor Air Screening Levels (IASLs) -Industrial Noncancer Hazard Quotient 3 = 1.0

Values Bolded are analytes not detected by the Lab but are above the **IASL-10-6**
Values Boxed are analytes not detected by the Lab but are above **IASL-10-4**

Values Shaded Pale Yellow are analytes not detected by the Lab but are above the **IASL-Q3-1**

Values Bolded and Shaded Pale Yellow are analytes not detected by the Lab but are above **IASL-10-6, IASL-10-4** and **IASL-Q3-1**

Values Bold and Pale Blue are hits exceeding the **IASL-10-6**
Values Shaded Green are hits that exceed the **IASL-10-4**
Values Shaded Grey are hits that exceed the **IASL-Q3-1**

Values Bold and Shaded Grey are hits that exceed both **IASL-10-6** and **IASL-Q3-1**
Values Bold and Shaded Orange are hits that exceed both **IASL-10-6** and **IASL-10-4**
Values Bold and Shaded Red are hits that exceed **IASL-10-6**' **IASL-10-4** and **IASL-Q3-1**

JM10
NAS JACKSONVILLE
Phase 3-VI-Data
Data Summary Table

Location					BLDG101C-GS01	BLDG101C-GS02	BLDG101C-GS03	BLDG101C-GS04	BLDG101C-GS05	BLDG1
Sample ID					OU3-BLDG101C-GS01-0114	OU3-BLDG101C-GS02-0114	OU3-BLDG101C-GS03-0114	OU3-BLDG101C-GS04-0114	OU3-BLDG101C-GS05-0114	OU3-BLDG103-GS01-0114
Sample Depth (ft)					0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Sample Date					1/22/2014	1/22/2014	1/22/2014	1/22/2014	1/22/2014	1/23/2014
Analyte	**Units**	**SGSL-10-6**	**SGSL-10-4**	**SGSL-Q3-1**						
TO15 (UG/M3)										
cis-1,2-Dichloroethene	UG/M3	--	--	--	1.7 U	1.6 U	1.8 J	29 U	1.8 U	3100
Tetrachloroethene	UG/M3	47000	4700000	180000	1.5 U	3.4	1.5 U	26 U	3.1	8300
TRANS-1,2-DICHLOROETHENE	UG/M3	--	--	260000	1.7 U	1.6 U	2.2	28 U	1.7 U	2800
Trichloroethene	UG/M3	3000	300000	8800	3.5	1.6 U	450	**6700**	120	1200
VINYL CHLORIDE	UG/M3	2800	280000	440000	1.5 U	1.5 U	1.5 U	26 U	1.6 U	38 U

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

SGSL-10-6--Subslab Soil Gas Screening Levels (SGSLs) -Industrial Cancer Risk = 10-6

SGSL-10-4--Subslab Soil Gas Screening Levels (SGSLs) -Industrial Cancer Risk = 10-4

SGSL-Q3-1--Subslab Soil Gas Screening Levels (SGSLs) -Industrial Noncancer Hazard Quotient 3 = 1.0

Values Bolded are analytes not detected by the Lab but are above the **SGSL-10-6**

Values Boxed are analytes not detected by the Lab but are above **SGSL-10-4**

Values Shaded Pale Yellow are analytes not detected by the Lab but are above the **SGSL-Q3-1**

Values Bolded and Shaded Pale Yellow are analytes not detected by the Lab but are above **SGSL-10-6, SGSL-10-4 and SGSL-Q3-1**

Values Bold and Pale Blue are hits exceeding the **SGSL-10-6**

Values Shaded Green are hits that exceed the **SGSL-10-4**

Values Shaded Grey are hits that exceed the **SGSL-Q3-1**

Values Bold and Shaded Grey are hits that exceed both **SGSL-10-6 and SGSL-Q3-1**

Values Bold and Shaded Orange are hits that exceed both **SGSL-10-6 and SGSL-10-4**

Values Bold and Shaded Red are hits that exceed **SGSL-10-6, SGSL-10-4 and SGSL-Q3-1**

JM10
NAS JACKSONVILLE
Phase 3-VI-Data
Data Summary Table

Location					03-GS01	BLDG103-GS02	BLDG103-GS03	BLDG103-GS10	BLDG103-GS11	BLDG103-GS12
Sample ID					OU3-BLDG103-GS01P-0114	OU3-BLDG103-GS02-0114	OU3-BLDG103-GS03-0114	OU3-BLDG103-GS10-0114	OU3-BLDG103-GS11-0114	OU3-BLDG103-GS12-0114
Sample Depth (ft)					0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Sample Date					1/23/2014	1/23/2014	1/23/2014	1/23/2014	1/23/2014	1/23/2014
Analyte	**Units**	**SGSL-10-6**	**SGSL-10-4**	**SGSL-Q3-1**						
TO15 (UG/M3)										
cis-1,2-Dichloroethene	UG/M3	--	--	--	3400	40 U	1600	880	20000	72000
Tetrachloroethene	UG/M3	47000	4700000	180000	9100	8000	12000	26000	11000	**75000**
TRANS-1,2-DICHLOROETHENE	UG/M3	--	--	260000	3100	39 U	1800	2500	14000	42000
Trichloroethene	UG/M3	3000	300000	8800	1300	140	1200	**3400**	**5300**	**17000**
VINYL CHLORIDE	UG/M3	2800	280000	440000	41 U	36 U	54 U	130 U	85 U	300 U

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

SGSL-10-6--Subslab Soil Gas Screening Levels (SGSLs) -Industrial Cancer Risk = 10-6

SGSL-10-4--Subslab Soil Gas Screening Levels (SGSLs) -Industrial Cancer Risk = 10-4

SGSL-Q3-1--Subslab Soil Gas Screening Levels (SGSLs) -Industrial Noncancer Hazard Quotient 3 = 1.0

Values Bolded are analytes not detected by the Lab but are above the **SGSL-10-6**

Values Boxed are analytes not detected by the Lab but are above **SGSL-10-4**

Values Shaded Pale Yellow are analytes not detected by the Lab but are above the **SGSL-Q3-1**

Values Bolded and Shaded Pale Yellow are analytes not detected by the Lab but are above **SGSL-10-6, SGSL-10-4 and SGSL-Q3-1**

Values Bold and Pale Blue are hits exceeding the **SGSL-10-6**

Values Shaded Green are hits that exceed the **SGSL-10-4**

Values Shaded Grey are hits that exceed the **SGSL-Q3-1**

Values Bold and Shaded Grey are hits that exceed both **SGSL-10-6 and SGSL-Q3-1**

Values Bold and Shaded Orange are hits that exceed both **SGSL-10-6 and SGSL-10-4**

Values Bold and Shaded Red are hits that exceed **SGSL-10-6, SGSL-10-4 and SGSL-Q3-1**

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NAS JACKSONVILLE
Phase 3-VI-Data
Data Summary Table

Location					BLDG103-GS15	
Sample ID					OU3-BLDG103-GS15-0114	OU3-BLDG103-GS15P-0114
Sample Depth (ft)					0 - 0	0 - 0
Sample Date					1/23/2014	1/23/2014
Analyte	**Units**	**SGSL-10-6**	**SGSL-10-4**	**SGSL-Q3-1**		
TO15 (UG/M3)						
cis-1,2-Dichloroethene	UG/M3	--	--	--	1.5 U	15
Tetrachloroethene	UG/M3	47000	4700000	180000	2.3 J	35 J
TRANS-1,2-DICHLOROETHENE	UG/M3	--	--	260000	1.5 U	27
Trichloroethene	UG/M3	3000	300000	8800	1.5 U	9.1
VINYL CHLORIDE	UG/M3	2800	280000	440000	1.4 U	1.3 U

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

SGSL-10-6--Subslab Soil Gas Screening Levels (SGSLs) -Industrial Cancer Risk = 10-6

SGSL-10-4--Subslab Soil Gas Screening Levels (SGSLs) -Industrial Cancer Risk = 10-4

SGSL-Q3-1--Subslab Soil Gas Screening Levels (SGSLs) -Industrial Noncancer Hazard Quotient 3 = 1.0

Values Bolded are analytes not detected by the Lab but are above the **SGSL-10-6**
Values Boxed are analytes not detected by the Lab but are above **SGSL-10-4**

Values Shaded Pale Yellow are analytes not detected by the Lab but are above the **SGSL-Q3-1**

Values Bolded and Shaded Pale Yellow are analytes not detected by the Lab but are above **SGSL-10-6, SGSL-10-4 and SGSL-Q3-1**

Values Bold and Pale Blue are hits exceeding the **SGSL-10-6**
Values Shaded Green are hits that exceed the **SGSL-10-4**
Values Shaded Grey are hits that exceed the **SGSL-Q3-1**

Values Bold and Shaded Grey are hits that exceed both **SGSL-10-6 and SGSL-Q3-1**
Values Bold and Shaded Orange are hits that exceed both **SGSL-10-6 and SGSL-10-4**
Values Bold and Shaded Red are hits that exceed **SGSL-10-6, SGSL-10-4 and SGSL-Q3-1**

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NAS JACKSONVILLE
Phase 3-VI-Data
Data Summary Table

Location		ADHESIVE
Sample ID		ADHESIVE
Sample Depth (ft)		0 - 0
Sample Date		1/23/2014
Analyte	**Units**	
TO15 (UG/M3)		
1,1,1-TRICHLOROETHANE	UG/M3	1.6 U
1,1,2,2-TETRACHLOROETHANE	UG/M3	1.6 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	UG/M3	1.7 U
1,1,2-TRICHLOROETHANE	UG/M3	1.7 U
1,1-DICHLOROETHANE	UG/M3	1.7 U
1,1-DICHLOROETHENE	UG/M3	1.7 U
1,2,4-TRICHLOROBENZENE	UG/M3	1.7 U
1,2,4-TRIMETHYLBENZENE	UG/M3	1.7 U
1,2-DIBROMO-3-CHLOROPROPANE	UG/M3	1.7 U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	UG/M3	1.7 U
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE (CFC 114)	UG/M3	1.6 U
1,2-DICHLOROBENZENE	UG/M3	1.7 U
1,2-DICHLOROETHANE	UG/M3	1.7 U
1,2-DICHLOROPROPANE	UG/M3	1.7 U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	UG/M3	1.7 U
1,3-BUTADIENE	UG/M3	1.9 U
1,3-DICHLOROBENZENE	UG/M3	1.7 U
1,4-DICHLOROBENZENE	UG/M3	1.7 U
1,4-DIOXANE (P-DIOXANE)	UG/M3	1.7 U
2-HEXANONE	UG/M3	1.7 U
4-ETHYLTOLUENE	UG/M3	1.7 U
ACETONE	UG/M3	**48**
ACETONITRILE	UG/M3	1.6 U
ACROLEIN	UG/M3	1.7 U
ACRYLONITRILE	UG/M3	1.7 U
ALLYL CHLORIDE (3-CHLOROPROPENE)	UG/M3	1.7 U
alpha-Pinene	UG/M3	1.7 U
BENZENE	UG/M3	1.7 U
BENZYL CHLORIDE	UG/M3	1.7 U
BROMODICHLOROMETHANE	UG/M3	1.7 U
BROMOFORM	UG/M3	1.7 U
BROMOMETHANE	UG/M3	1.6 U
CARBON DISULFIDE	UG/M3	1.6 U
CARBON TETRACHLORIDE	UG/M3	1.7 U
CHLOROBENZENE	UG/M3	1.7 U
CHLOROETHANE	UG/M3	1.6 U
CHLOROFORM	UG/M3	1.7 U
CHLOROMETHANE	UG/M3	1.5 U
cis-1,2-Dichloroethene	UG/M3	**18**
cis-1,3-DICHLOROPROPENE	UG/M3	1.6 U
CYCLOHEXANE	UG/M3	3.3 U
DIBROMOCHLOROMETHANE	UG/M3	1.7 U
DICHLORODIFLUOROMETHANE	UG/M3	**2.3**
d-Limonene	UG/M3	**2.8**

JM10
NAS JACKSONVILLE
Phase 3-VI-Data
Data Summary Table

Location		ADHESIVE
Sample ID		ADHESIVE
Sample Depth (ft)		0 - 0
Sample Date		1/23/2014
Analyte	**Units**	
ETHANOL	UG/M3	**11 J**
ETHYL ACETATE	UG/M3	**7.4**
ETHYLBENZENE	UG/M3	1.7 U
HEXACHLOROBUTADIENE	UG/M3	1.7 U
ISOPROPANOL	UG/M3	**22**
ISOPROPYLBENZENE (CUMENE)	UG/M3	1.6 U
m,p-Xylene	UG/M3	3.3 U
METHYL ETHYL KETONE (2-BUTANONE)	UG/M3	1.7 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	UG/M3	1.7 U
METHYL METHACRYLATE	UG/M3	3.3 U
METHYLENE CHLORIDE	UG/M3	1.6 U
NAPHTHALENE	UG/M3	1.6 U
n-BUTYL ACETATE	UG/M3	1.8 U
n-HEPTANE	UG/M3	1.7 U
N-HEXANE	UG/M3	1.6 U
n-NONANE	UG/M3	1.6 U
N-OCTANE	UG/M3	1.6 U
n-PROPYLBENZENE	UG/M3	1.6 U
o-Xylene	UG/M3	1.6 U
PROPYLENE	UG/M3	**4.9**
STYRENE	UG/M3	1.7 U
tert-BUTYL METHYL ETHER	UG/M3	1.7 U
Tetrachloroethene	UG/M3	**430**
TETRAHYDROFURAN	UG/M3	1.7 U
TOLUENE	UG/M3	**2.9**
TRANS-1,2-DICHLOROETHENE	UG/M3	**10**
TRANS-1,3-DICHLOROPROPENE	UG/M3	1.6 U
Trichloroethene	UG/M3	**22**
TRICHLOROFLUOROMETHANE	UG/M3	1.6 U
VINYL ACETATE	UG/M3	8 U
VINYL CHLORIDE	UG/M3	1.6 U

Notes:

NA Not analyzed

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Bold indicates the analyte was detected

Shading indicates the analyte exceded screening criteria

Attachment F
Data Quality Evaluation Laboratory Reports

MEMORANDUM **CH2MHILL**

Data Validation Summary – NAS Jacksonville / OU3 Phase III Vapor Intrusion Investigation 2014

PREPARED FOR: NAS Jacksonville / OU3 Phase III Vapor Intrusion Investigation 2014

FROM: Camden Robinson/CH2M HILL/ATL

COPIES: Eric Davis /Project Manager/CH2M HILL

DATE: April 8th, 2014

SUBJECT: Quality Assessment for Samples Collected January 21st, 2014 thru January 23rd, 2014

The purpose of this memorandum is to present the results of the data validation process for the samples collected at the Naval Air Station in Jacksonville, Florida. The samples were collected on January 21st, 2014 thru January 23rd, 2014. These samples were collected as a part of the OU3 Phase III Vapor Intrusion Investigation 2014 sampling event conducted at the site. The specific samples and analytical fractions reviewed are summarized below in Table 1.

The Quality Control areas that were reviewed and the resulting findings are documented within each subsection that follows. This data was validated for compliance with the analytical method requirements, the validation criteria outlined in the UFP-QAPP (CH2M HILL, April 2012), and the general guidance provided in the Department of Defense (DOD) Quality Systems Manual - Version 4.2 Final October 2010 (based on NELAC Voted Version – 5 June 2003). This process also included a review of the data to assess the accuracy, precision, and completeness based upon procedures described in the guidance documents such as the Environmental Protection Agency (EPA *National Functional Guidelines for Organic Data Review (EPA 2008)*. Quality assurance/quality control (QA/QC) summary forms and data reports were reviewed.

Samples were submitted to Empirical Laboratory of Nashville, Tennessee, who subcontracted the samples to ALS Environmental in Simi Valley, California for the following analysis: EPA method TO-15 or TO-15 SIM Select List or Full List Volatile Organic Compounds (VOC) in Air.

Samples were also submitted to Beacon Environmental Services, Inc in Forest Hill Maryland, for the following analysis: EPA method TO-17 Select Volatile Organic Compounds (VOC) in Air.

Table 1 - Chemical Analytical Methods – Field and Quality Control Samples

SDG	Sample ID	Lab Sample ID	Matrix	Sample Type	Date Collected	Analyses Performed
2796	OU3-BLDG101C-AI01-0114	C14020710	A	N	01/21/2014	[2]
2796	OU3-BLDG101C-AI02-0114	C14020711	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AI07-0114	C14020712	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AI03-0114	C14021005	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AI02-0114	C14021006	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AI02P-0114	C14021007	A	FD	01/21/2014	[2]
2796	OU3-BLDG101-AI04-0114	C14021008	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AI05-0114	C14021009	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AI06-0114	C14021010	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AI09-0114	C14021011	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AI08-0114	C14021105	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AO01-0114	C14021106	A	N	01/21/2014	[2]
2796	OU3-BLDG101C-AO01-0114	C14021107	A	N	01/21/2014	[2]
2796	OU3-BLDG103-AI03-0114-A	C14021108	A	N	01/21/2014	[2]
2796	OU3-BLDG103-AI03P-0114-A	C14021109	A	FD	01/21/2014	[2]
2796	OU3-BLDG103-AI09-0114-A	C14021110	A	N	01/21/2014	[2]
2796	OU3-BLDG103-AI08-0114	C14021111	A	N	01/21/2014	[2]
2796	OU3-BLDG103-AI06-0114	C14021112	A	N	01/21/2014	[2]
2796	OU3-BLDG103-AO01-0114-A	C14021113	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AI02-0114	C14021114	A	N	01/21/2014	[2]
2796	OU3-BLDG101-AI02P-0114	C14021115	A	FD	01/21/2014	[2]
1401168 P1400358	OU3-BLDG103-AI09-0114	1401168-01 P1400358-001	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-AI03-0114	1401168-02 P1400358-002	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-AI03P-0114	1401168-03 P1400358-003	A	FD	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-AO01-0114	1401168-04 P1400358-004	A	N	01/23/2014	[1]

SDG	Sample ID	Lab Sample ID	Matrix	Sample Type	Date Collected	Analyses Performed
1401168 P1400358	OU3-BLDG101C-GS05-0114	1401168-05 P1400358-005	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG101C-GS04-0114	1401168-06 P1400358-006	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG101C-GS03-0114	1401168-07 P1400358-007	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG101C-GS01-0114	1401168-08 P1400358-008	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG101C-GS02-0114	1401168-09 P1400358-009	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-GS01-0114	1401168-10 P1400358-010	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-GS01P-0114	1401168-11 P1400358-011	A	FD	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-GS12-0114	1401168-12 P1400358-012	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-GS03-0114	1401168-13 P1400358-013	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-GS10-0114	1401168-14 P1400358-014	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-GS02-0114	1401168-15 P1400358-015	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-GS11-0114	1401168-16 P1400358-016	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-GS15-0114	1401168-17 P1400358-017	A	N	01/23/2014	[1]
1401168 P1400358	OU3-BLDG103-GS15P-0114	1401168-18 P1400358-018	A	FD	01/23/2014	[1]
1401168 P1400358	ADHESIVE	1401168-19 P1400358-019	A	N	01/23/2014	[1]

SDG	Sample ID	Lab Sample ID	Matrix	Sample Type	Date Collected	Analyses Performed

MATRIX CODE

A – Air
WQ – Water Quality Control

SAMPLE TYPE CODE

N – Native Sample
FD – Field Duplicate

ANALYSIS CODE

[1] – VOC –Select or Full List Volatile Organic Compounds in Air by EPA Method TO-15 or TO-15 SIM
[2] – VOC – Select List Volatile Organic Compounds in Air by EPA Method TO-17

Organic Parameters

Quality Control Review

The following list represents the QA/QC measures that were reviewed during the data quality evaluation procedure for organic data.

- **Holding Times** – The holding times are evaluated to verify that samples were extracted and analyzed within holding times.
- **Blank samples** – Method blanks were provided for this project. Blank samples enable the reviewer to determine if an analyte may be attributed to sampling or laboratory procedures, rather than environmental contamination from site activities.
- **Surrogate Recoveries** – Surrogate Compounds are added to each sample and the recoveries are used to monitor lab performance and possible matrix interference.
- **Lab Control Sample (LCS)** – This sample is a "controlled matrix", either laboratory reagent water or Ottawa sand, in which target compounds have been added prior to extraction/analysis. The recoveries serve as a monitor of the overall performance of each step during the analysis, including sample preparation.
- **Field Duplicate Samples** – These samples are collected to determine precision between a native and it's duplicate. This information can only be determined when target compounds are detected.
- **Laboratory Duplicate Samples** – The results from laboratory duplicate samples are used to evaluate that the laboratory is maintaining analytical or measurement precision.
- **GC/MS Tuning** – The mass spectrum of the tuning compound is evaluated for method compliance. The criteria are established to verify the proper mass assignment and mass resolution.
- **Initial Calibration** – The initial calibration ensures that the instrument is capable of producing acceptable qualitative and quantitative data for the compounds of interest.
- **Continuing Calibration** – The continuing calibration checks satisfactory performance of the instrument and its predicted response to the target compounds.
- **Internal Standards** – The internal standards (retention time and response) are evaluated for method compliance. The internal standards are used in quantitation of the target parameters and monitor the instrument sensitivity and response for stability during each analysis.

Summary of Sample Analyses

Hardcopy Data Packages

No major issues were identified as a result of data validation. Minor issues are described below. Project data qualifiers are added to the laboratory reports. A list of project data qualifiers is shown in Table 2. A list of qualifier codes and a brief description is shown in Table 3.

Field samples are qualified for the introduction of contaminants resulting from laboratory and field activities as measured in the method blank, equipment rinse blank, field blank, and trip blank audit samples. When present, equipment rinse blank, field blank, and trip blank audit samples are not qualified.

TABLE 2
Project Qualifiers

QUALIFIER	
U	Undetected. Not detected or not detected at significantly greater than that in an associated blank. The analyte was analyzed for, but was not detected or is qualified as nondetect because of blank contamination
UJ	Not detected, quantitation limit is estimated. Sample was analyzed for this parameter, but it was not detected above the reported quantitation limit. The quantitation limit for this parameter is estimated due to a quality control exceedance.
J	Estimated. The analyte was positively identified; the quantitation is an estimation because of discrepancies in meeting certain analyte-specific qualify control criteria.
UR/R	Rejected. The data are rejected because of deficiencies in meeting QC criteria and may not be used for decision making.

TABLE 3
Project Qualifier Codes

Code	Definition
FD	Field Duplicate
LD	Laboratory Duplicate

Major Technical Issues

No major technical issues were identified.

Minor Technical Issues for Select Volatile Organic Compounds (VOCs) Analyses by EPA Method TO-17

Sample Login, Preservation, and Holding Time

All samples were received in good condition, properly preserved, and correctly labeled

GC/MS Instrument Performance

All GC/MS Instrument Performance criteria were met.

Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met.

Blanks

There were no detects noted in the method blank samples.

Laboratory Control Sample and Laboratory Control Sample Duplicate Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples.

Surrogate Recoveries

All surrogate recoveries were within acceptable quality control limits.

Internal Standard Recoveries

All internal standard recoveries were within acceptable quality control limits.

Field Duplicates

Field samples OU3-BLDG101-AI02-0114 and OU3-BLDG103-AI03-0114 were collected and analyzed in duplicate. Field duplicate precision objectives were met for all the samples.

Sample Dilutions

The dilutions performed on the samples noted below were required due to the presence of high target analyte concentrations which resulted in elevated reporting limits:

OU3-BLDG101-AI02-0114

OU3-BLDG101P-AI02-0114

OU3-BLDG101-AI03-0114

The laboratory noted that an equipment failure caused the Unicarb tube desorption of the original sample analysis for sample OU3-BLDG101-AI03-0114 to fail, which resulted in the original analysis falling outside the 12 hour tune window. The recollected portion of this sample was subsequently analyzed along with the Chromosorb 106 tube and reported as one analysis. The recollected portion of this sample results in a dilution factor of six for those compounds targeted with Unicarb (vinyl chloride, trans-1,2-dichloroethene, and cis-1,2-dichloroethene).

Data Rejected during the Data Validation Process

Some samples may be analyzed multiple times by the laboratory because of dilution requirements or because spike recoveries are outside the method target acceptance limits. The laboratory reports all analyses; therefore, it is possible that several sample results may exist for a specific sample and analysis. During the data validation, all the sample results are evaluated and the "best answer" for each sample and analysis is chosen, and the other results are rejected.

The initial results for trans-1,2-dichloroethene for samples OU3-BLDG101-AI02-0114 and OU3-BLDG101P-AI02-0144 were rejected because the samples required a dilution in order to obtain a result within the method target acceptance limits.

Minor Technical Issues for Select List or Full List Volatile Organic Compounds (VOCs) Analyses by EPA Method TO-15

Sample Login, Preservation, and Holding Time

All samples were received in good condition, properly preserved, and correctly labeled. Due to LIMs limitations, the laboratory reported all straight run analysis and additional diluted analyses as one analysis.

GC/MS Instrument Performance

All GC/MS Instrument Performance criteria were met.

Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met.

Blanks

There were no detects noted in the method blank samples.

Laboratory Control Sample and Laboratory Control Sample Duplicate Recoveries

Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS/LCSD samples.

Surrogate Recoveries

All surrogate recoveries were within acceptable quality control limits.

Internal Standard Recoveries

All internal standard recoveries were within acceptable quality control limits.

Field Duplicates

Field samples OU3-BLDG103-AI03-0114, OU3-BLDG103-GS01-0114, and OU3-BLDG103-GS15-0114 were collected and analyzed in duplicate Field duplicate precision objectives were not met for the samples listed in table 4 below:

TABLE 4
Field Duplicate RPD Out of QC Limits: VOCs in Air
OU3 Phase III Vapor Intrusion Investigation 2014

Compound	Affected Samples	%RPD
Tetrachloroethene	OU3-BLDG103-GS15-0114 / OU3-BLDG103-GS15P-0114	175%

Field duplicate precision could not be calculated for the samples listed below; therefore no qualifiers were applied.

Compound	Affected Samples
Trans-1,2-Dichloroethene	OU3-BLDG103-GS15-0114 / OU3-BLDG103-GS15P-0114
Cis-1,2-Dichloroethene	OU3-BLDG103-GS15-0114 / OU3-BLDG103-GS15P-0114
Trichloroethene	OU3-BLDG103-GS15-0114 / OU3-BLDG103-GS15P-0114

Laboratory Duplicates

Laboratory duplicate precision objectives were not met for the sample listed in table 5 below, and the sample result was qualified as estimated "J":

TABLE 5
Laboratory Duplicate RPD Out of QC Limits: VOCs in Air
OU3 Phase III Vapor Intrusion Investigation 2014

Compound	Affected Samples	%RPD
Cis-1,2-Dichloroethene	OU3-BLDG103-AO01-0114	50%

Sample Dilutions

The dilutions noted on the form ones for all samples were due to a canister pressurization step performed by the laboratory at the time of receipt which dilutes the sample, and results in an increase in the base reporting limits.

The dilutions performed on the samples noted below were required due to the presence of high target and/or non-target analyte concentrations which resulted in elevated reporting limits:

OU3-BLDG101C-GS03-0114

OU3-BLDG103-GS03-0114

OU3-BLDG101C-GS01-0114

OU3-BLDG101C-GS02-0114

OU3-BLDG101C-GS04-0114

OU3-BLDG101C-GS05-0114

OU3-BLDG103-GS02-0114

OU3-BLDG103-GS01-0114

OU3-BLDG103-GS01P-0114

OU3-BLDG103-GS10-0114

OU3-BLDG103-GS11-0114

OU3-BLDG103-GS12-0114

OU3-BLDG103-GS15-0114

OU3-BLDG103-GS15P-0114

ADHESIVE

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Indoor Air Industrial Cancer Risk 10.4

All samples collected and analyzed for VOCs in air analyses were less than the industrial cancer risk = 10-4 criteria.

Indoor Air Detects Above Industrial Cancer Risk = 10-6

All samples collected and analyzed for VOCs in air analyses were less than the industrial cancer risk = 10-6 criteria except as noted below:

Analyte (VOC List)	Affected Sample	Sample Results (ug/m3)	Industrial Cancer Risk = 10-6 (ug/m3)
Trichloroethene	OU3-BLDG103-A109-0114	3.25	3.0

Indoor Air Industrial Non Cancer Hazard Quotient = 1.0

All samples collected and analyzed for VOCs in air analyses were less than industrial non-cancer hazard quotient = 1.0 criteria.

Soil Gas Industrial Cancer Risk = 10-4

All samples collected and analyzed for VOCs in air analyses were less than industrial cancer risk = 10-4

Soil Gas Detects Above Industrial Cancer Risk = 10-6

All samples collected and analyzed for VOCs in air analyses were less than industrial cancer risk = 10-6 criteria except as noted below:

Analyte (VOC List)	Affected Sample	Sample Results (ug/m3)	Industrial Cancer Risk = 10-6 (ug/m3)
Trichloroethene	OU3-BLDG101C-GS04-0114	6700	3000
Trichloroethene	OU3-BLDG103-GS10-0114	3400	3000
Trichloroethene	OU3-BLDG103-GS11-0114	5300	3000
Trichloroethene	OU3-BLDG103-GS12-0114	17000	3000
Tetrachloroethene	OU3-BLDG103-GS12-0114	75000	47000

Soil Gas Detects Above Industrial Non Cancer Hazard Quotient = 1.0

All samples collected and analyzed for VOCs in air analyses were less than industrial non-cancer hazard quotient = 1.0 criteria except as noted below:

Analyte (VOC List)	Affected Sample	Sample Results (ug/m3)	Industrial NonCancer Hazard Quotient = 1.0 (ug/m3)
Trichloroethene	OU3-BLDG103-GS12-0114	17000	8800

Data Usability

A review of the analytical data submitted regarding the investigation of NAS Jacksonville OU3 Phase III Vapor Intrusion Investigation 2014 by CH2M HILL has been completed. An overall evaluation of the data indicates that the sample handling, shipment, and analytical procedures have been adequately completed, and that the analytical results should be considered usable as qualified.

The data user can use the data recognizing the potential data biases indicated by the data qualifiers assigned to some results. Data was qualified for a subset of results based on field and/or laboratory duplicate imprecision biases.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101C-AI01-0114**
Project Number: 2796
Lab File ID: C14020710
Received Date: 2/6 14
Analysis Date: 2/7 14
Analysis Time: 5:07 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/7/14 17:07	0.60
trans-1,2-Dichloroethene	**1.00**	ug/m^3	2/7/14 17:07	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/7/14 17:07	0.74
Trichloroethene	**0.3 J**	ug/m^3	2/7/14 17:07	0.99
Tetrachloroethene	U	ug/m^3	2/7/14 17:07	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	96	70-130	2/7/14 17:07	C14020710
Toluene-d8	105	70-130	2/7/14 17:07	C14020710

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101C-AI02-0114**
Project Number: 2796
Lab File ID: C14020711
Received Date: 2/6/14
Analysis Date: 2/7/14
Analysis Time: 5:51 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/7/14 17:51	0.60
trans-1,2-Dichloroethene	**0.83**	ug/m^3	2/7/14 17:51	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/7/14 17:51	0.74
Trichloroethene	**0.12 J**	ug/m^3	2/7/14 17:51	0.99
Tetrachloroethene	U	ug/m^3	2/7/14 17:51	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/7/14 17:51	C14020711
Toluene-d8	102	70-130	2/7/14 17:51	C14020711

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI07-0114**
Project Number: 2796
Lab File ID: C14020712
Received Date: 2/6/14
Analysis Date: 2/7/14
Analysis Time: 6:35 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/7/14 18:35	0.60
trans-1,2-Dichloroethene	**0.90**	ug/m^3	2/7/14 18:35	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/7/14 18:35	0.74
Trichloroethene	**0.4 J**	ug/m^3	2/7/14 18:35	0.99
Tetrachloroethene	**0.16 J**	ug/m^3	2/7/14 18:35	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	97	70-130	2/7/14 18:35	C14020712
Toluene-d8	104	70-130	2/7/14 18:35	C14020712

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Note: Equipment failure caused Untcarb portion of original sample analysis to fail, falling outside the 12 hour tune window. Recollected portion is re-analyzed here. No vinyl chloride or cis-1,2-Dichloroethene were seen on the original sample.

Sample ID: **OU3-BLDG101-AI03-0114**
Project Number: 2796
Lab File ID: C14021005
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 11:25 AM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ	
Vinyl Chloride	U DL	ug/m^3	2/10/14 11:25	3.58	U
trans-1,2-Dichloroethene	**14.34 DL**	ug/m^3	2/10/14 11:25	4.43	=
cis-1,2-Dichloroethene	U DL	ug/m^3	2/10/14 11:25	4.43	U
Trichloroethene	**0.19 J**	ug/m^3	2/10/14 11:25	0.99	
Tetrachloroethene	**0.15 J**	ug/m^3	2/10/14 11:25	1.01	

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/10/14 11:25	C14021005
Toluene-d8	101	70-130	2/10/14 11:25	C14021005

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI02-0114**
Project Number: 2796
Lab File ID: C14021006
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 12:09 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ	
Vinyl Chloride	U	ug/m^3	2/10/14 12:09	0.60	
trans-1,2-Dichloroethene	~~**28.36 E**~~	ug/m^3	2/10/14 12:09	0.74	R-DL
cis-1,2-Dichloroethene	U	ug/m^3	2/10/14 12:09	0.74	
Trichloroethene	U	ug/m^3	2/10/14 12:09	0.99	
Tetrachloroethene	**0.2 J**	ug/m^3	2/10/14 12:09	1.01	

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	96	70-130	2/10/14 12:09	C1402100o
Toluene-d8	101	70-130	2/10/14 12:09	C14021006

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI02-0114**
Project Number: 2796
Lab File ID: C14021114
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 5:45 PM
Matrix: Air

COMPOUNDS		Units	Completed	LOQ	
Vinyl Chloride	~~U DL~~	ug/m^3	2/11/14 17:45	3.59	R-DL
trans-1,2-Dichloroethene	**31.92 ~~DL~~**	ug/m^3	2/11/14 17:45	4.44	=
cis-1,2-Dichloroethene	U DL	ug/m^3	2/11/14 17:45	4.44	R-DL
Trichloroethene	NT	ug/m^3	2/11/14 17:45	5.95	
Tetrachloroethene	NT	ug/m^3	2/11/14 17:45	6.08	

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 17:45	C14021114
Toluene-d8	98	70-130	2/11/14 17:45	C14021114

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI02P-0114**
Project Number: 2796
Lab File ID: C14021007
Received Date: 2/6/14
Analysis Date: 2/10 14
Analysis Time: 12:52 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 12:52	0.60
trans-1,2-Dichloroethene	~~24.64 E~~	ug/m^3	2/10/14 12:52	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/10/14 12:52	0.74
Trichloroethene	U	ug/m^3	2/10/14 12:52	0.99
Tetrachloroethene	U	ug/m^3	2/10/14 12:52	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	98	70-130	2/10/14 12:52	C14021007
Toluene-d8	101	70-130	2/10/14 12:52	C14021007

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI02P-0114**
Project Number: 2796
Lab File ID: C14021115
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 6:16 PM
Matrix: Air

COMPOUNDS		Units	Completed	LOQ	
Vinyl Chloride	~~U DL~~	ug/m^3	2/11/14 18:16	3.59	R-DL
trans-1,2-Dichloroethene	**29.39 DL**	ug/m^3	2/11/14 18:16	4.44	=
cis-1,2-Dichloroethene	U DL	ug/m^3	2/11/14 18:16	4.44	R-DL
Trichloroetbene	NT	ug/m^3	2/11/14 18:16	5.95	
Tetrachloroethene	NT	ug/m^3	2/11/14 18:16	6.08	

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 18:16	C14021115
Toluene-d8	97	70-130	2/11/14 18:16	C14021115

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI04-0114**
Project Number: 2796
Lab File ID: C14021008
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 1:36 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 13:36	0.60
trans-1,2-Dichloroethene	**0.58 J**	ug/m^3	2/10/14 13:36	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/10/14 13:36	0.74
Trichloroethene	U	ug/m^3	2/10/14 13:36	0.99
Tetrachloroethene	U	ug/m^3	2/10/14 13:36	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	98	70-130	2/10/14 13:36	C14021008
Toluene-d8	104	70-130	2/10/14 13:36	C14021008

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI05-0114**
Project Number: 2796
Lab File ID: C14021009
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 2:41 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	$ug \cdot m^{-3}$	2/10/14 14:41	0.60
trans-1,2-Dichloroethene	**0.44 J**	$ug \cdot m^{-3}$	2/10/14 14:41	0.74
cis-1,2-Dichloroethene	**0.08 J**	$ug \cdot m^{-3}$	2/10/14 14:41	0.74
Trichloroethene	U	$ug \cdot m^{-3}$	2/10/14 14:41	0.99
Tetrachloroethene	**0.18 J**	$ug \cdot m^{-3}$	2/10/14 14:41	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/10/14 14:41	C14021009
Toluene-d8	105	70-130	2/10/14 14:41	C14021009

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road. Suite 1600
Atlanta. GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-A106-0114**
Project Number: 2796
Lab File ID: C14021010
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 3:25 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 15:25	0.60
trans-1,2-Dichloroethene	**1.10**	ug/m^3	2/10/14 15:25	0.74
cis-1,2-Dichloroethene	**1.00**	ug/m^3	2/10/14 15:25	0.74
Trichloroethene	**1.39**	ug/m^3	2/10/14 15:25	0.99
Tetrachloroethene	**0.3 J**	ug/m^3	2/10/14 15:25	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/10/14 15:25	C14021010
Toluene-d8	103	70-130	2/10/14 15:25	C14021010

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-A109-0114**
Project Number: 2796
Lab File ID: C14021011
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 4:09 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 16:09	0.60
trans-1,2-Dichloroethene	**0.51 J**	ug/m^3	2/10/14 16:09	0.74
cis-1,2-Dichloroethene	**0.07 J**	ug/m^3	2/10/14 16:09	0.74
Trichloroethene	U	ug/m^3	2/10/14 16:09	1.00
Tetrachloroethene	**0.18 J**	ug/m^3	2/10/14 16:09	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	97	70-130	2/10/14 16:09	C14021011
Toluene-d8	103	70-130	2/10/14 16:09	C14021011

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI08-0114**
Project Number: 2796
Lab File ID: C14021105
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 10:53 AM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 10:53	0.60
trans-1,2-Dichloroethene	**0.53 J**	ug/m^3	2/11/14 10:53	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/11/14 10:53	0.74
Trichloroethene	U	ug/m^3	2/11/14 10:53	1.00
Tetrachloroethene	U	ug/m^3	2/11/14 10:53	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/11/14 10:53	C14021105
Toluene-d8	103	70-130	2/11/14 10:53	C14021105

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**OU3-BLDG101-AO01-0114**
Project Number:	2796
Lab File ID:	C14021106
Received Date:	2/6/14
Analysis Date:	2/11/14
Analysis Time:	11:38 AM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 11:38	0.60
trans-1,2-Dichloroethene	**0.99**	ug/m^3	2/11/14 11:38	0.75
cis-1,2-Dichloroethene	U	ug/m^3	2/11/14 11:38	0.75
Trichloroethene	U	ug/m^3	2/11/14 11:38	1.00
Tetrachloroethene	U	ug/m^3	2/11/14 11:38	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/11/14 11:38	C14021106
Toluene-d8	103	70-130	2/11/14 11:38	C14021106

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101C-AO01-0114**
Project Number: 2796
Lab File ID: C14021107
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 12:22 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 12:22	0.60
trans-1,2-Dichloroethene	**1.46**	ug/m^3	2/11/14 12:22	0.75
cis-1,2-Dichloroethene	U	ug/m^3	2/11/14 12:22	0.75
Trichloroethene	U	ug/m^3	2/11/14 12:22	1.00
Tetrachloroethene	U	ug/m^3	2/11/14 12:22	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/11/14 12:22	C14021107
Toluene-d8	95	70-130	2/11/14 12:22	C14021107

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG103-AI03-0114-A**
Project Number: 2796
Lab File ID: C14021108
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 1:06 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 13:06	0.60
trans-1,2-Dichloroethene	**1.60**	ug/m^3	2/11/14 13:06	0.74
cis-1,2-Dichloroethene	**1.93**	ug/m^3	2/11/14 13:06	0.74
Trichloroethene	**1.05**	ug/m^3	2/11/14 13:06	0.99
Tetrachloroethene	**2.58**	ug/m^3	2/11/14 13:06	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/11/14 13:06	C14021108
Toluene-d8	95	70-130	2/11/14 13:06	C14021108

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG103-AI03P-0114-A**
Project Number: 2796
Lab File ID: C14021109
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 1:49 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 13:49	0.60
trans-1,2-Dichloroethene	**1.87**	ug/m^3	2/11/14 13:49	0.74
cis-1,2-Dichloroethene	**2.18**	ug/m^3	2/11/14 13:49	0.74
Trichloroethene	**0.93 J**	ug/m^3	2/11/14 13:49	0.99
Tetrachloroethene	**2.63**	ug/m^3	2/11/14 13:49	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/11/14 13:49	C14021109
Toluene-d8	97	70-130	2/11/14 13:49	C14021109

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG103-A109-0114-A**
Project Number: 2796
Lab File ID: C14021110
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 2:33 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 14:33	0.60
trans-1,2-Dichloroethene	**7.14**	ug/m^3	2/11/14 14:33	0.74
cis-1,2-Dichloroethene	**11.25**	ug/m^3	2/11/14 14:33	0.74
Trichloroethene	**3.25**	ug/m^3	2/11/14 14:33	0.99
Tetrachloroethene	**6.69**	ug/m^3	2/11/14 14:33	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/11/14 14:33	C14021110
Toluene-d8	97	70-130	2/11/14 14:33	C14021110

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG103-A108-0114**
Project Number: 2796
Lab File ID: C14021111
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 3:16 PM
Matrix: Air

COMPOUNDS		Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 15:16	0.60
trans-1,2-Dichloroethene	**1.17**	ug/m^3	2/11/14 15:16	0.74
cis-1,2-Dichloroethene	**0.83**	ug/m^3	2/11/14 15:16	0.74
Trichloroethene	**0.24 J**	ug/m^3	2/11/14 15:16	0.99
Tetrachloroethene	**1.42**	ug/m^3	2/11/14 15:16	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 15:16	C14021111
Toluene-d8	97	70-130	2/11/14 15:16	C14021111

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:
CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**OU3-BLDG103-A106-0114**
Project Number:	2796
Lab File ID:	C14021112
Received Date:	2/6/14
Analysis Date:	2/11/14
Analysis Time:	4:05 PM
Matrix:	Air

COMPOUNDS		Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 16:05	0.60
trans-1,2-Dichloroethene	**0.58 J**	ug/m^3	2/11/14 16:05	0.74
cis-1,2-Dichloroethene	**0.19 J**	ug/m^3	2/11/14 16:05	0.74
Trichloroethene	**0.17 J**	ug/m^3	2/11/14 16:05	0.99
Tetrachloroethene	**1.14**	ug/m^3	2/11/14 16:05	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 16:05	C14021112
Toluene-d8	95	70-130	2/11/14 16:05	C14021112

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road. Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG103-AO01-0114-A**
Project Number: 2796
Lab File ID: C14021113
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 5:14 PM
Matrix: Air

COMPOUNDS		Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 17:14	0.60
trans-1,2-Dichloroethene	**0.74 J**	ug/m^3	2/11/14 17:14	0.74
cis-1,2-Dichloroethene	**0.55 J**	ug/m^3	2/11/14 17:14	0.74
Trichloroethene	**1.26**	ug/m^3	2/11/14 17:14	1.00
Tetrachloroethene	**0.16 J**	ug/m^3	2/11/14 17:14	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 17:14	C14021113
Toluene-d8	97	70-130	2/11/14 17:14	C14021113

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-A109-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-001

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00512

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.28 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	0.030	0.040	0.030	0.011	U
156-60-5	trans-1,2-Dichloroethene	**6.2**	0.040	0.034	0.010	
156-59-2	cis-1,2-Dichloroethene	**12**	0.040	0.035	0.0098	
79-01-6	Trichloroethene	**2.1**	0.040	0.034	0.012	
127-18-4	Tetrachloroethene	**5.0**	0.040	0.032	0.012	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-AI03-0114** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-002

Test Code: EPA TO-15 SIM Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/4/14
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00463

Initial Pressure (psig): -0.78 Final Pressure (psig): 3.56

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	0.025	0.033	0.025	0.0089	U
156-60-5	trans-1,2-Dichloroethene	**1.8**	0.033	0.028	0.0084	
156-59-2	cis-1,2-Dichloroethene	**3.0**	0.033	0.029	0.0080	
79-01-6	Trichloroethene	**0.63**	0.033	0.028	0.0094	
127-18-4	Tetrachloroethene	**2.9**	0.033	0.026	0.0097	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-A103P-0114** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-003

Test Code: EPA TO-15 SIM Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/4/14
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00580
Initial Pressure (psig): -3.93 Final Pressure (psig): 3.58

Canister Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	0.032	0.043	0.032	0.012	U
156-60-5	trans-1,2-Dichloroethene	1.8	0.043	0.036	0.011	
156-59-2	cis-1,2-Dichloroethene	3.0	0.043	0.037	0.010	
79-01-6	Trichloroethene	0.64	0.043	0.036	0.012	
127-18-4	Tetrachloroethene	2.7	0.043	0.034	0.013	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-AO01-0114** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-004

Test Code: EPA TO-15 SIM Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/4/14
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00703

Initial Pressure (psig): -3.16 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	0.030	0.040	0.030	0.013	U
156-60-5	trans-1,2-Dichloroethene	0.033	0.040	0.033	0.010	U
156-59-2	cis-1,2-Dichloroethene	**0.16**	0.040	0.035	0.0097	J - LD
79-01-6	Trichloroethene	0.033	0.040	0.033	0.011	U
127-18-4	Tetrachloroethene	**0.053**	0.040	0.032	0.012	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS05-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-005

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00053

Date Collected: 1/22/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -2.03 Final Pressure (psig): 6.20

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.6	2.1	1.6	0.70	U
156-60-5	trans-1,2-Dichloroethene	1.7	2.1	1.7	0.78	U
156-59-2	cis-1,2-Dichloroethene	1.8	2.1	1.8	0.66	U
79-01-6	Trichloroethene	**120**	2.1	1.7	0.58	
127-18-4	Tetrachloroethene	**3.1**	2.1	1.6	0.58	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS04-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-006

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: ISS00011

Date Collected: 1/22/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.025 Liter(s)

Initial Pressure (psig): -2.51 Final Pressure (psig): 5.71

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	26	33	26	11	U
156-60-5	trans-1,2-Dichloroethene	28	33	28	13	U
156-59-2	cis-1,2-Dichloroethene	29	33	29	11	U
79-01-6	Trichloroethene	6,700	33	28	9.4	
127-18-4	Tetrachloroethene	26	33	26	9.4	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS03-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-007

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: ISS00032

Date Collected: 1/22/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.40 Liter(s)
0.040 Liter(s)

Initial Pressure (psig): -1.31 Final Pressure (psig): 5.31

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.5	1.9	1.5	0.63	U
156-60-5	trans-1,2-Dichloroethene	2.2	1.9	1.6	0.71	
156-59-2	cis-1,2-Dichloroethene	1.8	1.9	1.6	0.60	J
79-01-6	Trichloroethene	450	19	16	5.2	D
127-18-4	Tetrachloroethene	1.5	1.9	1.5	0.52	U

U = Undetected at the limit of detection: The associated data value is the limit of deteetion, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS01-0114** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-008

Test Code: EPA TO-15 Date Collected: 1/22/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/3/14
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: ISS00012

Initial Pressure (psig): -1.74 Final Pressure (psig): 5.74

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.5	2.0	1.5	0.67	U
156-60-5	trans-1,2-Dichloroethene	1.7	2.0	1.7	0.75	U
156-59-2	cis-1,2-Dichloroethene	1.7	2.0	1.7	0.63	U
79-01-6	Trichloroethene	3.5	2.0	1.7	0.55	
127-18-4	Tetrachloroethene	1.5	2.0	1.5	0.55	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS02-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-009

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00028

Date Collected: 1/22/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.87 Final Pressure (psig): 5.91

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.5	1.9	1.5	0.63	U
156-60-5	trans-1,2-Dichloroethene	1.6	1.9	1.6	0.71	U
156-59-2	cis-1,2-Dichloroethene	1.6	1.9	1.6	0.60	U
79-01-6	Trichloroethene	1.6	1.9	1.6	0.52	U
127-18-4	Tetrachloroethene	3.4	1.9	1.5	0.52	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS01-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-010

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00043

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.015 Liter(s)

Initial Pressure (psig): -0.98 Final Pressure (psig): 5.53

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	38	49	38	17	U
156-60-5	trans-1,2-Dichloroethene	**2,800**	49	41	19	
156-59-2	cis-1,2-Dichloroethene	**3,100**	49	42	16	
79-01-6	Trichloroethene	**1,200**	49	41	14	
127-18-4	Tetrachloroethene	**8,300**	49	38	14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client:	**Empirical Labs**		
Client Sample ID:	**OU3-BLDG103-GS01P-0114**	ALS Project ID:	P1400358
Client Project ID:	**OU3 - NAS Jacksonville / 470875.04.04.02.06**	ALS Sample ID:	P1400358-011
Test Code:	EPA TO-15	Date Collected:	1/23/14
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8	Date Received:	1/29/14
Analyst:	Wida Ang	Date Analyzed:	2/3/14
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.015 Liter(s)
Test Notes:			
Container ID:	1SS00017		

Initial Pressure (psig): -1.15 Final Pressure (psig): 6.50

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	41	52	41	18	U
156-60-5	trans-1,2-Dichloroethene	**3,100**	52	44	20	
156-59-2	cis-1,2-Dichloroethene	**3,400**	52	45	17	
79-01-6	Trichloroethene	**1,300**	52	44	15	
127-18-4	Tetrachloroethene	**9,100**	52	41	15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS12-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-012

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: ISS00025

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.0020 Liter(s)

Initial Pressure (psig): -1.63 Final Pressure (psig): 5.55

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	300	390	300	130	U
156-60-5	trans-1,2-Dichloroethene	**42,000**	390	330	150	
156-59-2	cis-1,2-Dichloroethene	**72,000**	390	330	120	
79-01-6	Trichloroethene	**17,000**	390	330	110	
127-18-4	Tetrachloroethene	**75,000**	390	300	110	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS03-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-013

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: ISC00145

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.010 Liter(s)
0.0025 Liter(s)

Initial Pressure (psig): -0.30 Final Pressure (psig): 5.33

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	54	70	54	24	U
156-60-5	trans-1,2-Dichloroethene	**1,800**	70	58	26	
156-59-2	cis-1,2-Dichloroethene	**1,600**	70	60	22	
79-01-6	Trichloroethene	**1,200**	70	58	19	
127-18-4	Tetrachloroethene	**12,000**	280	220	78	D

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS10-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-014

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01029

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.0050 Liter(s)

Initial Pressure (psig): -2.54 Final Pressure (psig): 5.87

Canister Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	130	170	130	57	U
156-60-5	trans-1,2-Dichloroethene	2,500	170	140	64	
156-59-2	cis-1,2-Dichloroethene	880	170	150	54	
79-01-6	Trichloroethene	3,400	170	140	47	
127-18-4	Tetrachloroethene	26,000	170	130	47	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS02-0114** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-015

Test Code: EPA TO-15 Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/3/14
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: ISC00348

Initial Pressure (psig): -0.35 Final Pressure (psig): 5.39

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	36	47	36	16	U
156-60-5	trans-1,2-Dichloroethene	39	47	39	18	U
156-59-2	cis-1,2-Dichloroethene	40	47	40	15	U
79-01-6	Trichloroethene	**140**	47	39	13	
127-18-4	Tetrachloroethene	**8,000**	47	36	13	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client:	**Empirical Labs**		
Client Sample ID:	**OU3-BLDG103-GS11-0114**	ALS Project ID:	P1400358
Client Project ID:	**OU3 - NAS Jacksonville / 470875.04.04.02.06**	ALS Sample ID:	P1400358-016
Test Code:	EPA TO-15	Date Collected:	1/23/14
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8	Date Received:	1/29/14
Analyst:	Wida Ang	Date Analyzed:	2/4/14
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.0065 Liter(s)
Test Notes:			
Container ID:	ISC01057		

Initial Pressure (psig): -0.17 Final Pressure (psig): 5.90

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	85	110	85	37	U
156-60-5	trans-1,2-Dichloroethene	**14,000**	110	92	42	
156-59-2	cis-1,2-Dichloroethene	**20,000**	110	94	35	
79-01-6	Trichloroethene	**5,300**	110	92	31	
127-18-4	Tetrachloroethene	**11,000**	110	85	31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS15-0114** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-017

Test Code: EPA TO-15 Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/3/14
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: ISC01021

Initial Pressure (psig): -0.29 Final Pressure (psig): 5.76

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.4	1.8	1.4	0.60	U
156-60-5	trans-1,2-Dichloroethene	1.5	1.8	1.5	0.67	U
156-59-2	cis-1,2-Dichloroethene	1.5	1.8	1.5	0.57	U
79-01-6	Trichloroethene	1.5	1.8	1.5	0.50	U
127-18-4	Tetrachloroethene	2.3	1.8	1.4	0.50	J-FD

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

C 4

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS15P-0114** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-018

Test Code: EPA TO-15 Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/3/14
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: ISC01120

Initial Pressure (psig): -0.12 Final Pressure (psig): 5.29

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.3	1.7	1.3	0.58	U
156-60-5	trans-1,2-Dichloroethene	27	1.7	1.4	0.65	
156-59-2	cis-1,2-Dichloroethene	15	1.7	1.3	0.55	
79-01-6	Trichloroethene	9.1	1.7	1.4	0.48	
127-18-4	Tetrachloroethene	35	1.7	1.3	0.48	J-FD

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Page 1 of 3

Client: **Empirical Labs**
Client Sample ID: **ADHESIVE** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-019

Test Code: EPA TO-15 Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/4/14
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: ISC01078

Initial Pressure (psig): -1.99 Final Pressure (psig): 5.48

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	4.9	2.0	1.6	0.56	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	2.0	1.6	0.68	
74-87-3	Chloromethane	1.5	2.0	1.5	0.60	U
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	1.6	2.0	1.6	0.76	U
75-01-4	Vinyl Chloride	1.6	2.0	1.6	0.68	U
106-99-0	1,3-Butadiene	1.9	2.0	1.9	0.87	U
74-83-9	Bromomethane	1.6	2.0	1.6	0.76	U
75-00-3	Chloroethane	1.6	2.0	1.6	0.68	U
64-17-5	Ethanol	11	20	8.0	3.2	J
75-05-8	Acetonitrile	1.6	2.0	1.6	0.72	U
107-02-8	Acrolein	1.7	8.0	1.7	0.68	U
67-64-1	Acetone	48	20	8.3	3.1	
75-69-4	Trichlorofluoromethane	1.6	2.0	1.6	0.68	U
67-63-0	2-Propanol (Isopropyl Alcohol)	22	20	3.3	1.7	
107-13-1	Acrylonitrile	1.7	2.0	1.7	0.68	U
75-35-4	1,1-Dichloroethene	1.7	2.0	1.7	0.68	U
75-09-2	Methylene Chloride	1.6	2.0	1.6	0.68	U
107-05-1	3-Chloro-1-propene (Allyl Chloride)	1.7	2.0	1.7	0.64	U
76-13-1	Trichlorotrifluoroethane	1.7	2.0	1.7	0.68	U
75-15-0	Carbon Disulfide	1.6	20	1.6	0.60	U
156-60-5	trans-1,2-Dichloroethene	10	2.0	1.7	0.76	
75-34-3	1,1-Dichloroethane	1.7	2.0	1.7	0.64	U
1634-04-4	Methyl tert-Butyl Ether	1.7	2.0	1.7	0.68	U
108-05-4	Vinyl Acetate	8.0	20	8.0	2.6	U
78-93-3	2-Butanone (MEK)	1.7	20	1.7	0.83	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

C-1

RESULTS OF ANALYSIS

Client: Empirical Labs
Client Sample ID: ADHESIVE
Client Project ID: OU3 - NAS Jacksonville / 470875.04.04.02.06

ALS Project ID: P1400358
ALS Sample ID: P1400358-019

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: ISC01078

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.40 Liter(s)
0.040 Liter(s)

Initial Pressure (psig): -1.99 Final Pressure (psig): 5.48

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	18	2.0	1.7	0.64	
141-78-6	Ethyl Acetate	7.4	4.0	3.3	1.4	
110-54-3	n-Hexane	1.6	2.0	1.6	0.60	U
67-66-3	Chloroform	1.7	2.0	1.7	0.68	U
109-99-9	Tetrahydrofuran (THF)	1.7	2.0	1.7	0.80	U
107-06-2	1,2-Dichloroethane	1.7	2.0	1.7	0.64	U
71-55-6	1,1,1-Trichloroethane	1.6	2.0	1.6	0.68	U
71-43-2	Benzene	1.7	2.0	1.7	0.64	U
56-23-5	Carbon Tetrachloride	1.7	2.0	1.7	0.60	U
110-82-7	Cyclohexane	3.3	4.0	3.3	1.2	U
78-87-5	1,2-Dichloropropane	1.7	2.0	1.7	0.64	U
75-27-4	Bromodichloromethane	1.7	2.0	1.7	0.60	U
79-01-6	Trichloroethene	22	2.0	1.7	0.56	
123-91-1	1,4-Dioxane	1.7	2.0	1.7	0.64	U
80-62-6	Methyl Methacrylate	3.3	4.0	3.3	1.2	U
142-82-5	n-Heptane	1.7	2.0	1.7	0.68	U
10061-01-5	cis-1,3-Dichloropropene	1.6	2.0	1.6	0.56	U
108-10-1	4-Methyl-2-pentanone	1.7	2.0	1.7	0.64	U
10061-02-6	trans-1,3-Dichloropropene	1.6	2.0	1.6	0.64	U
79-00-5	1,1,2-Trichloroethane	1.7	2.0	1.7	0.64	U
108-88-3	Toluene	2.9	2.0	1.7	0.68	
591-78-6	2-Hexanone	1.7	2.0	1.7	0.64	U
124-48-1	Dibromochloromethane	1.7	2.0	1.7	0.64	U
106-93-4	1,2-Dibromoethane	1.7	2.0	1.7	0.64	U
123-86-4	n-Butyl Acetate	1.8	2.0	1.8	0.64	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

CL

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **ADHESIVE**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-019

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01078

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.40 Liter(s)
0.040 Liter(s)

Initial Pressure (psig): -1.99 Final Pressure (psig): 5.48

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
111-65-9	n-Octane	1.6	2.0	1.6	0.72	U
127-18-4	Tetrachloroethene	430	20	16	5.6	D
108-90-7	Chlorobenzene	1.7	2.0	1.7	0.64	U
100-41-4	Ethylbenzene	1.7	2.0	1.7	0.64	U
179601-23-1	m,p-Xylenes	3.3	4.0	3.3	1.2	U
75-25-2	Bromoform	1.7	2.0	1.7	0.60	U
100-42-5	Styrene	1.7	2.0	1.7	0.60	U
95-47-6	o-Xylene	1.6	2.0	1.6	0.60	U
111-84-2	n-Nonane	1.6	2.0	1.6	0.60	U
79-34-5	1,1,2,2-Tetrachloroethane	1.6	2.0	1.6	0.60	U
98-82-8	Cumene	1.6	2.0	1.6	0.60	U
80-56-8	alpha-Pinene	1.7	2.0	1.7	0.56	U
103-65-1	n-Propylbenzene	1.6	2.0	1.6	0.64	U
622-96-8	4-Ethyltoluene	1.7	2.0	1.7	0.64	U
108-67-8	1,3,5-Trimethylbenzene	1.7	2.0	1.7	0.64	U
95-63-6	1,2,4-Trimethylbenzene	1.7	2.0	1.7	0.60	U
100-44-7	Benzyl Chloride	1.7	2.0	1.7	0.44	U
541-73-1	1,3-Dichlorobenzene	1.7	2.0	1.7	0.60	U
106-46-7	1,4-Dichlorobenzene	1.7	2.0	1.7	0.56	U
95-50-1	1,2-Dichlorobenzene	1.7	2.0	1.7	0.60	U
5989-27-5	d-Limonene	2.8	2.0	1.7	0.56	
96-12-8	1,2-Dibromo-3-chloropropane	1.7	2.0	1.7	0.39	U
120-82-1	1,2,4-Trichlorobenzene	1.7	2.0	1.7	0.64	U
91-20-3	Naphthalene	1.6	2.0	1.6	0.72	U
87-68-3	Hexachlorobutadiene	1.7	2.0	1.7	0.56	U

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes				BEACON Project No.: 2796						
Company: CH2M Hill		Phone (215) 640-9615				Client PO No.	Analysis			Matrix		
Address:		Project Name: NAS Jacksonville				Analysis Turnaround Time						
City/State/Zip:		Location: Jacksonville, FL				☒ Normal BD 2/12/14						
Phone:		Sampler Name(s):				☒ Rush (Specify) 14 days						
		Start Time		Stop Time		NIST traceable Thermometer ID:						
Location ID	Tube/Sample number	Date (mm/dd/yy)	Time (24 hr)	Date (mm/dd/yy)	Time (24 hr)	Interior Temp (F)	Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3 BLDG 101C AIC1	GC165824	01/21/14	1255			65	Unicarb	X			X	
	OU3-BLDG101C-AIC1-0114			02/05/14	1015	65						
OU3 BLDG 101C AIC1	GC166612	01/21/14	1255			65	Chromosorb 106	X			X	
	OU3 BLDG 101C-AIC1-0114			02/05/14	1015	65						
OU3 101C BLDG 101C AIC2	HQ194265	01/21/14	1320			65	Unicarb	X			X	
	OU3 BLDG 101C-AIC2-0114			2/5/14	1025	65						
OU3 101C BLDG 101C AIC2	GC167E78	01/21/14	1320			65	Chromosorb 106	X			X	
	OU3-BLDG 101C AIC2-0114			2/5/14	1025	65						
OU3 BLDG101C AIC7	GC167807	01/21/14	1335			65	Chromosorb 106	X			X	
	OU3 BLDG101C-AIC7-0114			2/5/14	1045	65						
OU3 BLDG101C AIC7	GC164252	01/21/14	1335			65	Unicarb	X			X	
	OU3 BLDG101C-AIC7-0114			2/5/14	1045	65						

Special Instructions/Notes:

Relinquished by: (signature) JUAN ACEVEDO	Date/Time: 2/5/14 1700	Received by: (signature) Kenny Ipock	Date/Time: 02-06-2014/1302 HRS
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes		BEACON Project No.: 2795						
Company: CH2M Hill		Phone: (215) 640-9615		Client PO No.		Analysis			Matrix	
Address:		Project Name: NAS Jacksonville		Analysis Turnaround Time						
City/State/Zip:		Location: Jacksonville, FL		[X] Normal TAT 2/12/14						
Phone:		Sampler Name(s):		[X] Rush (Specify): 15 days						
				NIST traceable Thermometer ID						
Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp (F)	Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3 BLDG101 AIO3	H02200853 OU3-BLDG101-AIO3 0114	01/21/14	1350	2/5/14	1150	65 65	Unicarb	X			X	
OU3 BLDG101 AIO3	G01667042 OU3 BLDG101-AIO3 0114	01/21/14	1350	2/5/14	1150	65 65	Chromosorb 106	X			X	
OU3 BLDG101 AIO2	GC16B242 OU3-BLDG101-AIO2-0114	01/21/14	1400	2/5/14	1130	65 65	Chromosorb 106	X			X	
OU3 BLDG101 AIO2	G01664555 OU3 BLDG101-AIO2 0114	01/21/14	1400	2/5/14	1130	65 65	Unicarb	X			X	
OU3 BLDG101 AIO2P	H02200289 OU3 BLDG101-AIO2P 0114	01/21/14	1400	2/5/14	1135	65 65	Unicarb	X			X	
OU3 BLDG101 AIO2P	G01668231 OU3-BLDG101-AIO2P 0114	01/21/14	1400	2/5/14	1135	65 65	Chromosorb 106	X			X	

Special Instructions/Notes:

Relinquished by: (signature) JUAN ACARON	Date/Time: 2/5/14 1700	Received by: (signature) Fanny Ipuche	Date/Time: 02-06-2014 1300 hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager: Kim Stokes	BEACON Project No.: 2796	
Company: CH2M Hill	Phone: (215) 640-9615	Client PO No.	
Address:	Project Name: NAS Jacksonville	Analysis Turnaround Time	
City/State/Zip:	Location: Jacksonville, FL	[X] Normal 180 2/11/14	
Phone:	Sampler Name(s):	[X] Rush (Specify): 14 days	

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp (F)	NIST traceable Thermometer ID: / Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3-BLDG101-AIO4	GC16B216	01/21/14	1420			65	Chromosorb 106	X			X	
	OU3-BLDG101-AIO4-0114			2/5/14	1055	65						
OU3-BLDG101 AIO4	GC199631	01/21/14	1420			65	Un.carb	X			X	
	OU3-BLDG101-AIO4-0114			2/5/14	1055	65						
OU3-BLDG101-AIO5	GC166E95	01/21/14	1430			65	Chromosorb 106	X			X	
	OU3-BLDG101-AIO5-0114			2/5/14	1125	65						
OU3-BLDG101-AIO5	GC199652	01/21/14	1430			65	Un.carb	X			X	
	OU3-BLDG101 AIO5-0114			2/5/14	1125	65						
OU3-BLDG101-AIO6	GCL64141	01/21/14	1435			65	Unicarb	X			X	
	OU3 BLDG101-AIO6-0114			2/5/14	1120	65						
OU3-BLDG101 AIO6	GCL66B94	01/21/14	1435			65	Chromosorb 106	X			X	
	OU3-BLDG101-AIO6-0114			2/5/14	1120	65						

Special Instructions/Notes:

Relinquished by: (signature) Juan Acaron	Date/Time: 2/4/15 1700	Received by: (signature) Kenny Ifeachu	Date/Time: 02-06-2014 / 1300hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes		BEACON Project No.: 2796						
Company:	CH2M Hill	Phone: (215) 640-9615		Client PO No.	Analysis			Matrix		
Address:		Project Name: NAS Jacksonville		Analysis Turnaround Time						
City/State/Zip:		Location: Jacksonville, FL		☒ Normal RSD 2/14/14						
Phone:		Sampler Name(s):		☒ Rush (Specify): 14 days						
				NIST traceable Thermometer ID:						

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time (24 hr)	Interior Temp. (F)	Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3-BLD6101-AI09	G0166870	01/21/14	1450			65	Chromosorb 106	X			X	
	OU3-BLD6101-AI09-0114			2/5/14	1110	65						
OU3-BLD6101-AI09	M-103904-C	01/21/14	1450			65	Unicarb	X			X	
	OU3-BLD6101-AI09-0114			2/5/14	1110	65						
OU3-BLD6101-AI06	G0167006	01/21/14	1500			65	Chromosorb 106	X			X	
	OU3-BLD6101-AI06-0114			2/5/14	1105	65						
OU3-BLD6101-AI08	G0163205	01/21/14	1500			65	Unicarb	X			X	
	OU3-BLD6101-AI08-0114			2/5/14	1105	65						
OU3-BLD6101-AQ01	G0167398	01/21/14	1530			65	Chromosorb 106	X			X	
	OU3-BLD6101-AQ01-0114			02/05/14	0955	71						
OU3-BLD6101-AQ01	HC194679	01/21/14	1530			65	Unicarb	X			X	
	OU3-BLD6101-AQ01-0114			02/05	0955	71						

Special Instructions/Notes:

Relinquished by: (signature) Juan Acaron	Date/Time: 2/5/14 1700	Received by: (signature) Kenny Iglesias	Date/Time: 02-06-2014 / 1320 Hrs.
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact Yes No None	Custody Seal Number

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager: Kim Stokes	BEACON Project No.: 2796
Company: CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:	Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:	Location: Jacksonville, FL	☒ Normal TAT 2/12/14
Phone:	Sampler Name(s):	☒ Rush (Specify) 14 days
		NIST traceable Thermometer ID

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	Notes	TO-17	8260C	TICs	Matrix: Indoor/Ambient Air	Matrix: Soil Gas
OU3 BLDG101C-A001	G01646 32	01/21/14	1535			65	Unicarb	X			X	
	OU3 BLDG101C-A001-0114			02/05/14	1000	71						
OU3 BLDG101C A002	G01692 4C	01/21/14	1535			65	Chromosorb 106	X			X	
	OU3 BLDG101C-A002-0114			02/05/14	1000	71						
OU3 BLDG103 AI03	G01668 32	01/21/14	1550			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI03-0114			2/5/14	1220	70						
OU3 BLDG103 AI03	HC199630	01/21/14	1550			65	Unicarb	X			X	
	OU3-BLDG103-AI03-0114			2/5/14	1220	70						
OU3 BLDG103 AI03P	HC20023 2	01/21/14	1550			65	Unicarb	X			X	
	OU3 BLDG103 AI03P 0114			2/5/14	1225	70						
OU3 BLDG103 AI03P	G01690 63	01/21/14	1550			65	Chromosorb 106	X			X	
	OU3 BLDG103-AI03P 0114			2/5/14	1225	70						

Special Instructions/Notes:

Relinquished by: (signature) JUAN ACOSTA	Date/Time: 2/5/14 1700	Received by: (signature) Kelsey Ipsaks	Date/Time: 02-06-2014 / 13:30 hrs
Relinquished by (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact (Yes / No / None)	Custody Seal Number

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite J
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes		BEACON Project No.: 2796						
Company: CH2M Hill		Phone: (215) 640-9615		Client PO No.		Analysis			Matrix	
Address:		Project Name: NAS Jacksonville		Analysis Turnaround Time						
City/State/Zip:		Location: Jacksonville, FL		☒ Normal BD 2/12/14						
Phone:		Sampler Name(s):		☒ Rush (Specify): 14 days						
				NIST traceable Thermometer ID:						

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3-BLDG103-AI09	G0163208	01/21/14	1600			65	Unicarb	X			X	
	OU3-BLDG103-AI09-0114			2/5/14	1235	70						
OU3-BLDG103-AI09	G0167624	01/21/14	1600			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI09-0114			2/5/14	1235	70						
OU3-BLDG103-AI08	G0169721	01/21/14	1615			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI08-0114			2/5/14	1245	70						
OU3-BLDG103-AI08	G0165044	01/21/14	1615			65	Unicarb	X			X	
	OU3-BLDG103-AI08-0114			2/5/14	1245	70						
OU3-BLDG103-AI06	G0168237	01/21/14	1620			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI06-0114			2/5/14	1250	70						
OU3-BLDG103-AI06	H0199687	01/21/14	1620			65	Unicarb	X			X	
	OU3-BLDG103-AI06-0114			2/5/14	1250	70						

Special Instructions/Notes:

Relinquished by: (signature) JUAN Acaron	Date/Time: 2/5/14 1700	Received by: (signature) Kenny Ifeachu	Date/Time: 02-06-2014 / 1300 hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Cooler Temp.	Courier Name	Shipment Condition	Custody Seal Intact? Yes No None	Custody Seal Number

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes		BEACON Project No.: 2796						
Company: CH2M Hill		Phone: (215) 640-9615		Client PO No.		Analysis			Matrix	
Address:		Project Name: NAS Jacksonville		Analysis Turnaround Time						
City/State/Zip:		Location: Jacksonville, FL		☒ Normal TAT 2/12/14						
Phone:		Sampler Name(s):		☒ Rush (Specify): 14 days						
				NIST traceable Thermometer ID:						
Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3-BLDG103-A001	Mi103031	01/21/14	1640			65	Uncarb	X			X	
	OU3-BLDG103-A001-0114			2/5/14	1210	75						
OU3-BLDG103-A001	G0167653	01/21/14	1640			65	Chromasorb 106	X			X	
	OU3-BLDG103-A001-0114			2/5/14	1210	75						

Special Instructions/Notes:

Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Juan Acaron	2/5/14 1700	Kenny Ifeachu	02-06-2014/1300 hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact: Yes No None	Custody Seal Number

P1400358

9

CH2MHILL

2211 SW Wilburn Road
Stuart, FL 34997
Tel No. (772) 781-7092
Fax No. (772) 781-7211

CHAIN-OF-CUSTODY RECORD

COC SID/PCOC: 470875-012414-01

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORT/EDD TO: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
OU3 - NAS Jacksonville	470875.04.04.02.06	ALS-Simi Valley: Katie Aguilera [c/o Empirical Sonya Gurzino]	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1600 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
TASK ORDER NO./CONTRACT	COD OR DO NUMBER	LAB PO NUMBER	FAX AND MAIL REPORT/EDD TO: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.)
OU 3 Phase 3 Vapor Intrusion Investigation	JM10	N/A	Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1600 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
FIELD CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORT/EDD TO: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.)
Kimberly Stokes	phone: 214-098-4829	phone: 805-526-7161 (ALS); 615.343.1115 ext. 238 (Empirical)	Kimberly Stokes/CH2M HILL kstokes@ch2m.com	12750 Merit Drive Suite 1400 Dallas, TX 75251-2224 30328 972-663-2769 phone

	SAMPLE ID	MATRIX (see codes on EDF)	DATE START	DATE FINISHED	TIME START	TIME STOP	CANISTER VACUUM IN FIELD (in Hg) START	CANISTER VACUUM IN FIELD (in Hg) STOP	FLOW CONTROLLER ID	CANISTER ID	DATA PKG LEVEL (see codes on EDF)	TAT (calendar days)	ANALYSIS: Select VOCs by TO-15 LL	ANALYSIS: Select VOCs by TO-15	SAMPLE TYPE (see codes on EDF)	LAB ID (for info only)	COMMENTS/ SCREENING READINGS
	-3.13 OU3-BLDG103-A109-0114	AI	1/22/2014	1/23/2014	11:30	9:08	-30.32	-7.35	FCA00590	AS00512	IV	14	X				AVG03467
2	-10.63 OU3-BLDG103-A103-0114	AI	1/22/2014	1/23/2014	11:45	9:13	-30.31	-2.27	FCA00586	AS00463	IV	14	X				AVG03109
3	-3.89 OU3-BLDG103-A103P-0114	AI	1/22/2014	1/23/2014	11:45	10:27	-30.26	-8.78	FCA00356	AS00580	IV	14	X				AVG03499
4	-3.03 OU3-BLDG103-AO01-0114	AO	1/22/2014	1/23/2014	11:55	13:30	-30.04	-7.60	FCA00891	AC00703	IV	14	X				AVG03460
5	-1.89 OU3-BLDG101C-GS06-0114	GS	1/22/2014	1/22/2014	14:15	14:20	-30.20	-4.60	OA00230	1SS00053	IV	14		X			AVG03576; VOCs = 0.3 ppmv
7	-2.10 OU3-BLDG101C-GS04-0114	GS	1/22/2014	1/22/2014	14:44	14:49	-29.70	-5.70	OA01262	1SS00011	IV	14		X			N/A; VOCs = 2.6 ppmv
8	-1.05 OU3-BLDG101C-GS03-0114	GS	1/22/2014	1/22/2014	15:18	15:23	-27.36	-3.34	OA00747	1SS00032	IV	14		X			AVG03573; VOCs = 1.7 ppmv
9	-1.57 OU3-BLDG101C-GS01-0114	GS	1/22/2014	1/22/2014	15:47	15:52	-29.80	-4.37	OA00230	SSS00012	IV	14		X			AVG00853; VOCs = 0.5 ppmv
10	-0.74 OU3-BLDG101C-GS02-0114	GS	1/22/2014	1/22/2014	16:20	16:25	-30.10	-2.63	OA00725	1SS00058	IV	14		X			AVG03578; VOCs = 0.4 ppmv
16	-0.81 OU3-BLDG103-GS01-0114	GS	1/23/2014	1/23/2014	10:00	10:05	-30.27	-2.93	OA01796	1SS00043	IV	14		X			AVG03569; VOCs = 0.7 ppmv

SAMPLER(S) NAME AND COMPANY (if not listed)	Fed-Ex number	SAMPLER(S) SIGNATURE AND CONDITION UPON RECEIPT (for lab use)
Tony Acerno / CH2M HILL Kim Stokes / CH2M HILL	7977 1439 6509	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:	1/24/14	12:00	Printed Name and Signature: Reese Mactavis	1/29/14	1010
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: Page 1 - Original - Laboratory (To be returned with Analytical Report) | | Copy 1 - Project File | | Copy 2 - PMO

Form CH2MH, Rev 04/09

1401168

PM100358

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CHAIN-OF-CUSTODY RECORD

Test America 2846 S.W. Wilston Road Gainesville, FL 32608 Tel No. (352) 354-7092 Fax No. (352) 314-2014			COC NUMBER 470875-012414-02
PROJECT NAME OU3 - NAS Jacksonville	PROJECT NUMBER 470875.04.06.02.06	LAB NAME AND CONTACT ALS-Simi Valley: Kate Aguilera (c/o Empirical Sonya Gordon)	FAX AND MAIL REPORT/SEND TO: RECIPIENT 1 (Name and Company) Bethany Garvey / CH2M HILL bgarvey@ch2m.com	RECIPIENT 1 (Address, Tel No., and Fax No.) Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
PROJECT DESCRIPTION OU3 Phase 3 Vapor Intrusion Investigation	CTO (TO SUB-HDR) JB10	LAB PO NUMBER N/A	FAX AND MAIL REPORT/SEND TO: RECIPIENT 2 (Name and Company) Eric Davis / CH2M HILL eric.davis@ch2m.com	RECIPIENT 2 (Address, Tel No., and Fax No.) Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
SAMPLER CONTACT Kimberly Stokes	PROJECT TEL. NO AND FAX NO. phone: 214-998-4830	LAB TEL NO AND FAX NO. phone: 805-526-7161 (ALS); 615.345.1115 ext. 238 (Empirical)	FAX AND MAIL REPORT/SEND TO: RECIPIENT 3 (Name and Company) Kimberly Stokes/CH2M HILL kstokes@ch2m.com	RECIPIENT 3 (Address, Tel No., and Fax No.) 12750 Merit Drive Suite 1100 Dallas, TX 75251-2214 30328 972-663-2269 phone
			ANALYSIS	

LINE	SAMPLE ID	MATRIX (see codes on COC)	DATE START	DATE FINISHED	TIME START	TIME STOP	CANISTER VACUUM IN FIELD (in Hg) (START)	CANISTER VACUUM IN FIELD (in Hg) (STOP)	FLOW CONTROLLER ID	CANISTER ID	DATA PKG LEVEL (see codes on COC)	TAT (Calendar days)	Select VOCs by TO-15 LL	Select VOCs by TO-15	SAMPLE TYPE (see codes on COC)	LAB ID (for lab's use)	COMMENTS/ SCREENING READINGS
30																	
11	-1.02	OU3-BLDG103-GS01P-0114	GS	1/23/2014	1/23/2014	10:00	10:05	-29.35	-3.32	OA00798	1SS00017	IV	14		X			AVG02306; VOCs = 6.7 ppmv
12	-1.52	OU3-BLDG103-GS02-0114	GS	1/23/2014	1/23/2014	10:37	10:42	-30.25	-4.02	OA01232	1SS00025	IV	14		X			AVG03253; VOCs = 59 ppmv
13	-0.16	OU3-BLDG103-GS03-0114	GS	1/23/2014	1/23/2014	12:20	11:25	-29.93	-1.30	OA01098	1SC00145	IV	14		X			AVG01073; VOCs = 0.1 ppmv
14	-2.42	OU3-BLDG103-GS10-0114	GS	1/23/2014	1/23/2014	11:50	11:55	-30.21	-6.10	OA00955	1SC01029	IV	14		X			AVG00495; VOCs = 0.4 ppmv
15	-1.81	OU3-BLDG103-GS02-0114	GS	1/23/2014	1/23/2014	16:05	16:10	-30.22	-4.87	OA00731	1SC00348	IV	14		X			AVG01145; VOCs = 1.0 ppmv
16	+0.00	OU3-BLDG103-GS11-0114	GS	1/23/2014	1/23/2014	14:47	14:52	-29.99	-5.63	OA00165	1SC01057	IV	14		X			AVG03345; VOCs = 23.5 ppmv
17	-0.16	OU3-BLDG103-GS15-0114	GS	1/23/2014	1/23/2014	15:15	15:20	-30.37	-2.12	OA00680	1SC01021	IV	14		X			AVG03279; VOCs = 0.0 ppmv
18	+0.02	OU3-BLDG103-GS15P-0114	GS	1/23/2014	1/23/2014	15:15	15:20	-30.20	-2.60	OA00811	1SC01120	IV	14		X			AVG03567; VOCs = 0.0 ppmv
9	-1.82	ADHESIVE	AA	1/23/2014	1/23/2014	15:50	15:55	-29.99	-8.46	OA00720	1SC1078	IV	14		X			FULL TO-15 LIST for this canister only

SAMPLED AND COMPANY (if other than)	FedEx number	SAMPLER TEMPERATURE AND CONDITION UPON RECEIPT (by lab, see)
Evan Aceron / CH2M HILL Kim Stokes / CH2M HILL	7977 1539 6509	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature			Printed Name and Signature		
[signature]	1/24/14	1200	Robert Mackenzie [signature]	1/24/14	1010
Printed Name and Signature			Printed Name and Signature		
Printed Name and Signature			Printed Name and Signature		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 2 - Project File; [ ] Copy 3 - QED

Form CCR1, Rev 06/00

1401168

PIH00358

CH2MHILL

2485 Notre Dame Blvd
Chico, CA 95928
Tel No. (530) 343-2600
Fax No. (530) 345-3143

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 476875-012414-01

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORT/EDD TO: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.)
OU3 - NAS Jacksonville	476875.04.04.02.06	ALS-Simi Valley; Kate Aguilera (c/o Empirical Sonya Gordon)	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
PROJECT PHASE/SITE/TASK	CTO OR DO NUMBER	LAB PO NUMBER	FAX AND MAIL REPORT/EDD TO: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.)
OU3 Phase 3 Vapor Intrusion Investigation	JM10	N/A	Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
PROJECT CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORT/EDD TO: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.)
Kimberly Stokes	phone: 214-998-4819	phone: 805-526-7161 (ALS); 615.345.1115 ext. 238 (Empirical)	Kimberly Stokes/CH2M HILL kstokes@ch2m.com	12750 Merit Drive Suite 1100 Dallas, TX 75251-2224 38328 972-663-2269 phone

TYPE	SAMPLE ID	MATRIX (see codes on SOP)	DATE SAMPLED	DATE FINISHED	TIME START	TIME STOP	CANISTER VACUUM IN FIELD IN HG (START)	CANISTER VACUUM IN FIELD IN HG (STOP)	FLOW CONTROLLER ID	CANISTER ID	DATA TYPE LEVEL (see codes on SOP)	FAC (choose one)	ANALYSIS: Select VOCs by TO-15 LL	ANALYSIS: Select VOCs by TO-15	ANALYSIS: TYPE (see codes on SOP)	LAB ID (for lab use)	COMMENTS/ SCREENING REASONS
1	-3.13 OU3-BLDG103-AI09-0114	AI	1/23/2014	1/23/2014	11:30	9:08	-30.32	-7.35	FCA00590	AS00512	IV	14	X				AVG03437
2	-0.63 OU3-BLDG103-AI03-0114	AI	1/22/2014	1/23/2014	11:45	9:13	-30.31	-2.27	FCA00586	AS00463	IV	14	X				AVG03165
3	-3.89 OU3-BLDG103-AI03P-0114	AI	1/22/2014	1/23/2014	11:45	10:27	-30.28	-8.78	FCA00556	AS00580	IV	14	X				AVG03499
4	-3.03 OU3-BLDG103-AO01-0114	AO	1/22/2014	1/23/2014	11:55	13:30	-30.04	-7.60	FCA00891	AC00703	IV	14	X				AVG03450
5	-1.89 OU3-BLDG101C-GS05-0114	GS	1/22/2014	1/22/2014	14:15	14:20	-30.29	-4.00	OA00230	ISS00053	IV	14		X			AVG03576; VOCs = 0.5 ppmv
6	-2.40 OU3-BLDG101C-GS04-0114	GS	1/22/2014	1/22/2014	14:44	14:49	-29.70	-5.70	OA01262	ISS00011	IV	14		X			NA; VOCs = 2.6 ppmv
7	-1.15 OU3-BLDG101C-GS03-0114	GS	1/22/2014	1/22/2014	15:18	15:23	-27.36	-3.34	OA00747	ISS00032	IV	14		X			AVG03573; VOCs = 1.7 ppmv
8	-1.57 OU3-BLDG101C-GS01-0114	GS	1/22/2014	1/22/2014	15:47	15:52	-29.80	-4.37	OA00230	SSS00012	IV	14		X			AVG20863; VOCs = 0.5 ppmv
9	-0.74 OU3-BLDG101C-GS02-0114	GS	1/22/2014	1/22/2014	16:20	16:25	-30.10	-2.63	OA00725	ISS00028	IV	14		X			AVG03578; VOCs = 0.4 ppmv
10	-0.81 OU3-BLDG103-GS01-0114	GS	1/23/2014	1/23/2014	10:00	10:05	-30.27	-2.93	OA01796	ISS0043	IV	14		X			AVG03569; VOCs = 4.7 ppmv

SOP 10.5

SAMPLERS AND COMPANY (please print): Jesse Acuron / CH2M HILL; Kim Stokes / CH2M HILL

FedEx number: 7977 1639 6509

SAMPLE SHIPMENT AND QUALITY CONTROL INFORMATION (see below)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Kim Stokes	1/24/14	1200	Jesse Marturano	1/29/14	1010
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [x] Original - Laboratory (To be returned with Analytical Report) [ ] Copy 1 - Project File [ ] Copy 2 - PMO

Form 24.0001, Rev 09/13

PM00358

CH2MHILL

2111 S.W. Williston Road
Gainesville, FL 32608
Tel No. (352) 384-7400
Fax No. (352) 336-5414

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 470875-012414-02

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORTS/COC TO: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.)
OU3 - NAS Jacksonville	470875.04.04.02.06	ALS-Simi Valley; Kate Aguilera c/o Empirical Sonya Gordon	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4685 phone
PROJECT PHASE/TASK/	CTO OR DO NUMBER	LAB PO NUMBER	FAX AND MAIL REPORTS/COC TO: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.)
OU3 Phase 3 Vapor Intrusion Investigation	JM10	N/A	Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4685 phone
PROJECT CONTACT	PROJECT TEL NO AND FAX NO	LAB TEL NO AND FAX NO	FAX AND MAIL REPORTS/COC TO: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.)
Kimberly Stokes	phone: 214-998-4839	phone: 805-526-7161 (ALS); 615.345.1115 ext. 154 (Empirical)	Kimberly Stokes/CH2M HILL kstokes@ch2m.com	12750 Merit Drive Suite 1160 Dallas, TX 75251-1224 30328 972-663-2269 phone

ANALYSIS

ITEM	SAMPLE ID	MATRIX (see codes on SOP)	DATE STARTED	DATE FINISHED	TIME START	TIME END	CANISTER VACUUM IN FIELD IN HG (START)	CANISTER VACUUM IN FIELD IN HG (STOP)	FLOW CONTROLLER ID	CANISTER ID	DATA PACKAGE LEVEL (see codes on SOP)	TAT (calendar days)	Select VOCs by TO-15 LL	Select VOCs by TO-15	RANGE TYPE (see codes on SOP)	LAB ID (for lab use)	COMMENTS (SPECIFIC REQUIREMENTS)
11	-1.02 OU3-BLDG103-GS01P-0114	GS	1/23/2014	1/23/2014	10:00	10:05	-29.35	-3.11	OA00793	1SB00017	IV	14		X			AVG01300; VOCs = 4.7 ppbv
12	-1.52 OU3-BLDG103-GS12-0114	GS	1/23/2014	1/23/2014	10:37	10:42	-30.25	-4.02	OA01252	1SB00025	IV	14		X			AVG03253; VOCs = 59 ppbv
13	-0.16 OU3-BLDG103-GS03-0114	GS	1/23/2014	1/23/2014	11:20	11:25	-29.93	-1.30	OA01098	1SC00145	IV	14		X			AVG01073; VOCs = 0.1 ppbv
14	-2.42 OU3-BLDG103-GS10-0114	GS	1/23/2014	1/23/2014	11:50	11:55	-30.21	-6.10	OA00955	1SC01029	IV	14		X			AVG03495; VOCs = 0.4 ppbv
15	-1.81 OU3-BLDG103-GS02-0114	GS	1/23/2014	1/23/2014	14:05	14:10	-30.22	-4.87	OA00731	1SC00348	IV	14		X			AVG01145; VOCs = 1.9 ppbv
16	+0.00 OU3-BLDG103-GS11-0114	GS	1/23/2014	1/23/2014	14:47	14:52	-29.99	-5.63	OA00165	1SC01057	IV	14		X			AVG02345; VOCs = 23.5 ppbv
17	-0.16 OU3-BLDG103-GS15-0114	GS	1/23/2014	1/23/2014	15:15	15:20	-30.37	-2.12	OA00680	1SC01021	IV	14		X			AVG03279; VOCs = 0.5 ppbv
18	+0.02 OU3-BLDG103-GS15P-0114	GS	1/23/2014	1/23/2014	15:15	15:20	-30.29	-2.60	OA00811	1SC01120	IV	14		X			AVG03567; VOCs = 0.9 ppbv
19	-1.82 ADHESIVE	AA	1/23/2014	1/23/2014	15:30	15:35	-29.99	-8.40	OA00726	1SC1078	IV	14		X			EGLT TO-15 LL5 for this canister only

SAMPLER(S) AND COMPANY (please print)	FedEx number	SAMPLE SHIPMENT/HANDLING AND CONSIGNMENT INFORMATION (if known)
Juan Acuna / CH2M HILL Kim Stokes / CH2M HILL	7977 1639 6509	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature	1/24/14	1200	Printed Name and Signature: Reese Mortenier Reese	1/29/14	1010
Printed Name and Signature			Printed Name and Signature		
Printed Name and Signature			Printed Name and Signature		

Distribution: [x] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCOC1 Rev 06/06

Attachment G
Laboratory Reports

NARRATIVE

Client: CH2M Hill
Northpark 400
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
Attn: Ms. Kama White

Air Samples -- Analytical Report

Date: March 6, 2014
Beacon Project No. 2796

Project Reference:	NAS Jacksonville, Jacksonville, Florida
Sampling Period:	January 21, 2014 to February 5, 2014
Samples Received:	February 6, 2014
Analyses Completed:	February 11, 2014

Results for the following indoor and ambient air samples are included in this data package:

Sample ID	Matrix	Analysis
OU3-BLDG101C-AI01-0114	Air	TO-17
OU3-BLDG101C-AI02-0114	Air	TO-17
OU3-BLDG101-AI07-0114	Air	TO-17
OU3-BLDG101-AI03-0114	Air	TO-17
OU3-BLDG101-AI02-0114	Air	TO-17
OU3-BLDG101-AI02P-0114	Air	TO-17
OU3-BLDG101-AI04-0114	Air	TO-17
OU3-BLDG101-AI05-0114	Air	TO-17
OU3-BLDG101-AI06-0114	Air	TO-17
OU3-BLDG101-AI09-0114	Air	TO-17
OU3-BLDG101-AI08-0114	Air	TO-17
OU3-BLDG101-AO01-0114	Air	TO-17
OU3-BLDG101C-AO01-0114	Air	TO-17
OU3-BLDG103-AI03-0114-A	Air	TO-17
OU3-BLDG103-AI03P-0114-A	Air	TO-17
OU3-BLDG103-AI09-0114-A	Air	TO-17
OU3-BLDG103-AI08-0114	Air	TO-17
OU3-BLDG103-AI06-0114	Air	TO-17
OU3-BLDG103-AO01-0114-A	Air	TO-17

Sample Collection

Beacon Environmental provided CH2M Hill with thermally conditioned stainless steel tubes packed with Chromosorb-106 and Unicarb (a Spherocarb equivalent adsorbent) to target a custom compound list, with analyses following U.S. EPA Method TO-17. Both types of packed tubes were deployed at each location to collect a single sample. These passive diffusion samples (PDS) were exposed to air for 14 days (i.e., from 21,265 to 21,480 minutes) and the resulting mass of target analytes captured on each sampler was reported as a concentration following procedures detailed in ISO 16017-2, *Indoor, ambient and workplace air-Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography-Part 2: Diffusive sampling.* Note that there are no published uptakes rates for cis-1,2-DCE or trans-1,2-DCE; however, an adsorbent type with demonstrated efficiency for similar chlorinated compounds was used for this project along with an uptake rate that is published for similar compounds.

U. S. EPA Method TO-17

All samples were analyzed for a custom target compound list following U.S. EPA Method TO-17. The Chromosorb 106 and Unicarb tubes are desorbed sequentially onto the cold trap and injected into the GC, with results from both tubes combined to provide a single analytical result for each sample location.

The analytical results are reported in **Table 1**, which provides analytical results reported in µg/m^3 based on the measured mass, dilution factor, the sampling time, and the uptake rates (Vinyl chloride=0.78 mL/min; trans-1,2-Dichloroethene=0.63 mL/min; cis-1,2-Dichloroethene=0.63 mL/min; Trichloroethene=0.47 mL/min; Tetrachloroethene=0.46 mL/min), using the following equation:

$$C = \frac{1000 \times M \times d}{U \times t}$$

where:

C	=	concentration (µg/m^3)
M	=	mass (ng)
d	=	dilution factor
U	=	uptake rate (ml/min)
t	=	time (min)

Practical Quantification Levels (PQL) for EPA Method TO-17

The lowest point in the calibration curve and the limit of quantitation (LOQ) is 10 nanograms (ng); however, when reporting concentration data in **Table 1**, the values are provided in micrograms per meter cubed (µg/m^3) and the LOQs are additionally based on the sample collection times, the uptake rates, and the dilution factors. A summary of the LOQ, limit of detection (LOD), and method detection limit (MDL) for each compound is provided below:

Compound	LOQ (nanograms)	LOD (nanograms)	MDL (nanograms)
Vinyl chloride	10	5	0.7
trans-1,2-Dichlororoethene	10	5	0.7
cis-1,2-Dichloroethene	10	5	0.9
Trichloroethene	10	5	1.0
Tetrachloroethene	10	5	1.4

Calibration Verification

The continuing calibration verification (CCV) values for the analytes were all within ±20% of the true values as defined by the initial five-point calibration and met the requirements specified in Beacon Environmental's Quality Manual.

Internal Standards and Surrogates

Internal standards and surrogates are spiked at 100 ng and 50 ng, respectively, and percentage of recovery is calculated. Acceptance criteria for internal standards are 60 to 140 percent and surrogate recoveries are 70 to 130 percent; all internal standards and surrogates were within the acceptance criteria.

Blank Contamination

No targeted compounds above the method detection limit (MDL) for each compound were observed in the Laboratory Method Blanks (mb140207c1, mb140210c1, and mb140211c1). For comparison to field sample results, the longest sampling time (21,480 minutes) was used to calculate the LOQs for the blanks.

Laboratory Control Samples
Laboratory control samples are spiked at 50 ng and percentage of recovery is calculated and reported. Acceptance criteria for surrogate and analytes recoveries are 70 to 130 percent; all surrogates and analytes were within the acceptance criteria.

Discussion
Nineteen (19) passive indoor/ambient air samples were received by Beacon Environmental on February 6, 2014. Individual deployment and retrieval times will be found in the Chain of Custody (**Attachment 1**). Analyses of these samples were completed on February 11, 2014.

Dilutions were required for two (2) samples (OU3-BLDG101-A102-0114 and OU3-BLDG101-A102P-0114), which had measurements that exceeded the calibration range for trans-1,2-dichloroethene. Dilutions were performed for these samples to bring the detected concentrations of these analytes into the calibration range of the GC/MSD instrument. Both samples were diluted once with a dilution factor of six (6). The LOQs of these diluted samples are higher, which are noted in **Table 1**. The Chromosorb 106 tubes were not analyzed in the dilution runs, as trichloroethene and tetrachloroethene results in the intial analyses did not exceed the calibration range. Results for these two analytes in the diluted sample analyses are shown as NT (not targeted) in **Table 1**. Results for both the initial and the dilution runs are provided in **Table 1**, with the original analyses performed on February 7, 2014, and the dilution analyses on February 11, 2014.

During the analysis of sample OU3-BLDG101-AI03-0114, an equipment failure caused the Unicarb tube desorption of the original sample analysis to fail, which resulted in the original analysis falling outside the twelve (12) hour tune window. The recollected portion of this sample was subsequently analyzed along with the Chromosorb 106 tube and reported as one analysis. The recollected portion of this sample results in a dilution factor of six (6) for those compounds targeted with Unicarb (*i.e.*, vinyl chloride; trans-1,2-dichloroethene; and cis-1,2-dichloroethene).

Demonstrated Linear Range of the GC-MS Instrumentation (EPA Method TO-17)
An initial five-point calibration is performed on the instrumentation from 10 to 200 ng per analyte.

Attachments:

-**1**- Chain of Custody

I certify that this data package is in compliance with the terms and conditions of the AGVIQ-CH2M Hill contract, Statement of Work, and Navy's Installation Restoration Chemical Data Quality Manual (IR CDQM), NFESC SP-2056-ENV, September 1999, which includes the final version of the Department of Defense Laboratory Quality Systems Manual for Environmental Laboratories both technically and for completeness, for other than the condition detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

ALL DATA MEET REQUIREMENTS AS SPECIFIED IN THE BEACON ENVIRONMENTAL SERVICES, INC. QUALITY ASSURANCE PROJECT PLAN AND THE RESULTS RELATE ONLY TO THE SAMPLES REPORTED. BEACON ENVIRONMENTAL SERVICES IS ACCREDITED TO DOD ELAP, AND THE WORK PERFORMED WAS IN ACCORDANCE WITH DOD REQUIREMENTS. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY. RELEASE OF THE DATA CONTAINED IN THIS HARDCOPY DATA PACKAGE HAS BEEN AUTHORIZED BY THE LABORATORY DIRECTOR OR HIS SIGNEE, AS VERIFIED BY THE FOLLOWING SIGNATURES:

Steven C. Thornley
Laboratory Director

Patti J. Riggs
Quality Manager

Date: 6 March 2014

Data Package for Phase II Vapor Intrusion Investigation
Operable Unit 3 Naval Air Station, Jacksonville

Table of Contents

COVER PAGE - VOLATILE ANALYSIS DATA PACKAGE

Lab Name: Beacon Environmental Services, Inc. **Contract:** 2796

Lab Code: BEACON **Case No.:** 2796 **SAS No.:** # **SDG No.:** 2796.14.02.06

Method Type: TO-17

Lab Sample ID	Client Sample ID	QC Description
CALV LCSD140114C	calv lcsd140114c	Calibration Verification
MB140114C	mb140114c	Method Blank
LCS140207C1	ccal/lcs140207c1	Continuing Calibration/Laboratory Control Sample
MB140207C1	mb140207c1	Method Blank
LCSD140207C1	lcsd140207c1	Laboratory Control Sample Duplicate
2796 OU3-BLDG101C-AI	2796 OU3-BLDG101C-AI01-0114	
2796 OU3-BLDG101C-AI	2796 OU3-BLDG101C-AI02-0114	
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI07-0114	
LCS140210C1	ccal/lcs140210c1	Continuing Calibration/Laboratory Control Sample
MB140210C1	mb140210c1	Method Blank
LCSD140210C1	lcsd140210c1	Laboratory Control Sample Duplicate
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI03-0114	
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI02-0114	
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI02P-0114	
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI04-0114	
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI05-0114	
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI06-0114	
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI09-0114	
LCS140211C1	ccal/lcs140211c1	Continuing Calibration/Laboratory Control Sample
MB140211C1	mb140211c1	Method Blank
LCSD140211C1	lcsd140211c1	Laboratory Control Sample Duplicate
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI08-0114	
2796 OU3-BLDG101-AO	2796 OU3-BLDG101-AO01-0114	
2796 OU3-BLDG101C-A	2796 OU3-BLDG101C-AO01-0114	
2796 OU3-BLDG103-AI0	2796 OU3-BLDG103-AI03-0114A	
2796 OU3-BLDG103-AI0	2796 OU3-BLDG103-AI03P-0114	
2796 OU3-BLDG103-AI0	2796 OU3-BLDG103-AI09-0114A	

Comments:

Signature: **Name:** Steven Thornley

Date: **Title:** Laboratory Director

COVER PAGE - VOLATILE ANALYSIS DATA PACKAGE

Lab Name: Beacon Environmental Services, Inc. **Contract:** 2796

Lab Code: BEACON **Case No.:** 2796 **SAS No.:** # **SDG No.:** 2796.14.02.06

Method Type: TO-17

Lab Sample ID	Client Sample ID	QC Description
2796 OU3-BLDG103-AI0	2796 OU3-BLDG103-AI08-0114	
2796 OU3-BLDG103-AI0	2796 OU3-BLDG103-AI06-0114	
2796 OU3-BLDG103-AO(	2796 OU3-BLDG103-AO01-0114A	
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI02-0114	
2796 OU3-BLDG101-AI0	2796 OU3-BLDG101-AI02P-0114	

Comments:

Signature: **Name:** Steven Thornley

Date: **Title:** Laboratory Director

Results in micrograms per meter cubed (ug/m^3).

B=Detected in method blank and any associated samples.

DL =Used for all compounds identified in an analysis at a secondary dilution factor. DL is used only for the samples reported at more than one dilution factor.

E=The value reported for an analyte exceeds the linear calibration range for that analyte.

J=Values below limit of quantitation (LOQ) but above method detection limit (MDL).

NT=Not targeted.

U=Analysis included an analyte, but it was not detected, or detected below it's MDL.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**ccal/lcs140207c1**
Project Number:	
Lab File ID:	C14020707
Received Date:	
Analysis Date:	2/7/14
Analysis Time:	3:39 PM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	Limits
Vinyl Chloride	**113%**	%REC	2/7/14 15:39	80-120
trans-1,2-Dichloroethene	**118%**	%REC	2/7/14 15:39	80-120
cis-1,2-Dichloroethene	**100%**	%REC	2/7/14 15:39	80-120
Trichloroethene	**96%**	%REC	2/7/14 15:39	80-120
Tetrachloroethene	**91%**	%REC	2/7/14 15:39	80-120

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/7/14 15:39	C14020707
Toluene-d8	109	70-130	2/7/14 15:39	C14020707

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**mb140207c1**
Project Number:	
Lab File ID:	C14020708
Received Date:	
Analysis Date:	2/7/14
Analysis Time:	4:01 PM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/7/14 16:01	0.60
trans-1,2-Dichloroethene	U	ug/m^3	2/7/14 16:01	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/7/14 16:01	0.74
Trichloroethene	U	ug/m^3	2/7/14 16:01	0.99
Tetrachloroethene	U	ug/m^3	2/7/14 16:01	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	96	70-130	2/7/14 16:01	C14020708
Toluene-d8	107	70-130	2/7/14 16:01	C14020708

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**lcsd140207c1**
Project Number:	
Lab File ID:	C14020709
Received Date:	
Analysis Date:	2/7/14
Analysis Time:	4:23 PM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	Limits
Vinyl Chloride	**103%**	%REC	2/7/14 16:23	70-130
trans-1,2-Dichloroethene	**112%**	%REC	2/7/14 16:23	70-130
cis-1,2-Dichloroethene	**101%**	%REC	2/7/14 16:23	70-130
Trichloroethene	**96%**	%REC	2/7/14 16:23	70-130
Tetrachloroethene	**90%**	%REC	2/7/14 16:23	70-130

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/7/14 16:23	C14020709
Toluene-d8	108	70-130	2/7/14 16:23	C14020709

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101C-AI01-0114**
Project Number: 2796
Lab File ID: C14020710
Received Date: 2/6/14
Analysis Date: 2/7/14
Analysis Time: 5:07 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/7/14 17:07	0.60
trans-1,2-Dichloroethene	**1.00**	ug/m^3	2/7/14 17:07	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/7/14 17:07	0.74
Trichloroethene	**0.3 J**	ug/m^3	2/7/14 17:07	0.99
Tetrachloroethene	U	ug/m^3	2/7/14 17:07	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	96	70-130	2/7/14 17:07	C14020710
Toluene-d8	105	70-130	2/7/14 17:07	C14020710

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101C-AI02-0114**
Project Number: 2796
Lab File ID: C14020711
Received Date: 2/6/14
Analysis Date: 2/7/14
Analysis Time: 5:51 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/7/14 17:51	0.60
trans-1,2-Dichloroethene	**0.83**	ug/m^3	2/7/14 17:51	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/7/14 17:51	0.74
Trichloroethene	**0.12 J**	ug/m^3	2/7/14 17:51	0.99
Tetrachloroethene	U	ug/m^3	2/7/14 17:51	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/7/14 17:51	C14020711
Toluene-d8	102	70-130	2/7/14 17:51	C14020711

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI07-0114**
Project Number: 2796
Lab File ID: C14020712
Received Date: 2/6/14
Analysis Date: 2/7/14
Analysis Time: 6:35 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/7/14 18:35	0.60
trans-1,2-Dichloroethene	**0.90**	ug/m^3	2/7/14 18:35	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/7/14 18:35	0.74
Trichloroethene	**0.4 J**	ug/m^3	2/7/14 18:35	0.99
Tetrachloroethene	**0.16 J**	ug/m^3	2/7/14 18:35	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	97	70-130	2/7/14 18:35	C14020712
Toluene-d8	104	70-130	2/7/14 18:35	C14020712

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**ccal/lcs140210c1**
Project Number:	
Lab File ID:	C14021002
Received Date:	
Analysis Date:	2/10/14
Analysis Time:	9:57 AM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	Limits
Vinyl Chloride	**108%**	%REC	2/10/14 9:57	80-120
trans-1,2-Dichloroethene	**117%**	%REC	2/10/14 9:57	80-120
cis-1,2-Dichloroethene	**100%**	%REC	2/10/14 9:57	80-120
Trichloroethene	**98%**	%REC	2/10/14 9:57	80-120
Tetrachloroethene	**90%**	%REC	2/10/14 9:57	80-120

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/10/14 9:57	C14021002
Toluene-d8	106	70-130	2/10/14 9:57	C14021002

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**mb140210c1**
Project Number:	
Lab File ID:	C14021003
Received Date:	
Analysis Date:	2/10/14
Analysis Time:	10:19 AM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 10:19	0.60
trans-1,2-Dichloroethene	U	ug/m^3	2/10/14 10:19	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/10/14 10:19	0.74
Trichloroethene	U	ug/m^3	2/10/14 10:19	0.99
Tetrachloroethene	U	ug/m^3	2/10/14 10:19	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	98	70-130	2/10/14 10:19	C14021003
Toluene-d8	103	70-130	2/10/14 10:19	C14021003

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**lcsd140210c1**
Project Number:	
Lab File ID:	C14021004
Received Date:	
Analysis Date:	2/10/14
Analysis Time:	10:41 AM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	Limits
Vinyl Chloride	**97%**	%REC	2/10/14 10:41	70-130
trans-1,2-Dichloroethene	**115%**	%REC	2/10/14 10:41	70-130
cis-1,2-Dichloroethene	**100%**	%REC	2/10/14 10:41	70-130
Trichloroethene	**97%**	%REC	2/10/14 10:41	70-130
Tetrachloroethene	**88%**	%REC	2/10/14 10:41	70-130

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/10/14 10:41	C14021004
Toluene-d8	109	70-130	2/10/14 10:41	C14021004

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Note: Equipment failure caused Unicarb portion of original sample analysis to fail, falling outside the 12 hour tune window. Recollected portion is re-analyzed here. No vinyl chloride or cis-1,2-Dichloroethene were seen on the original sample.

Sample ID: **OU3-BLDG101-AI03-0114**
Project Number: 2796
Lab File ID: C14021005
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 11:25 AM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U DL	ug/m^3	2/10/14 11:25	3.58
trans-1,2-Dichloroethene	**14.34 DL**	ug/m^3	2/10/14 11:25	4.43
cis-1,2-Dichloroethene	U DL	ug/m^3	2/10/14 11:25	4.43
Trichloroethene	**0.19 J**	ug/m^3	2/10/14 11:25	0.99
Tetrachloroethene	**0.15 J**	ug/m^3	2/10/14 11:25	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/10/14 11:25	C14021005
Toluene-d8	101	70-130	2/10/14 11:25	C14021005

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI02-0114**
Project Number: 2796
Lab File ID: C14021006
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 12:09 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 12:09	0.60
trans-1,2-Dichloroethene	**28.36 E**	ug/m^3	2/10/14 12:09	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/10/14 12:09	0.74
Trichloroethene	U	ug/m^3	2/10/14 12:09	0.99
Tetrachloroethene	**0.2 J**	ug/m^3	2/10/14 12:09	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	96	70-130	2/10/14 12:09	C14021006
Toluene-d8	101	70-130	2/10/14 12:09	C14021006

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI02P-0114**
Project Number: 2796
Lab File ID: C14021007
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 12:52 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 12:52	0.60
trans-1,2-Dichloroethene	**24.64 E**	ug/m^3	2/10/14 12:52	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/10/14 12:52	0.74
Trichloroethene	U	ug/m^3	2/10/14 12:52	0.99
Tetrachloroethene	U	ug/m^3	2/10/14 12:52	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	98	70-130	2/10/14 12:52	C14021007
Toluene-d8	101	70-130	2/10/14 12:52	C14021007

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI04-0114**
Project Number: 2796
Lab File ID: C14021008
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 1:36 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 13:36	0.60
trans-1,2-Dichloroethene	**0.58 J**	ug/m^3	2/10/14 13:36	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/10/14 13:36	0.74
Trichloroethene	U	ug/m^3	2/10/14 13:36	0.99
Tetrachloroethene	U	ug/m^3	2/10/14 13:36	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	98	70-130	2/10/14 13:36	C14021008
Toluene-d8	104	70-130	2/10/14 13:36	C14021008

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI05-0114**
Project Number: 2796
Lab File ID: C14021009
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 2:41 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 14:41	0.60
trans-1,2-Dichloroethene	**0.44 J**	ug/m^3	2/10/14 14:41	0.74
cis-1,2-Dichloroethene	**0.08 J**	ug/m^3	2/10/14 14:41	0.74
Trichloroethene	U	ug/m^3	2/10/14 14:41	0.99
Tetrachloroethene	**0.18 J**	ug/m^3	2/10/14 14:41	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/10/14 14:41	C14021009
Toluene-d8	105	70-130	2/10/14 14:41	C14021009

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI06-0114**
Project Number: 2796
Lab File ID: C14021010
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 3:25 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 15:25	0.60
trans-1,2-Dichloroethene	**1.10**	ug/m^3	2/10/14 15:25	0.74
cis-1,2-Dichloroethene	**1.00**	ug/m^3	2/10/14 15:25	0.74
Trichloroethene	**1.39**	ug/m^3	2/10/14 15:25	0.99
Tetrachloroethene	**0.3 J**	ug/m^3	2/10/14 15:25	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/10/14 15:25	C14021010
Toluene-d8	103	70-130	2/10/14 15:25	C14021010

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI09-0114**
Project Number: 2796
Lab File ID: C14021011
Received Date: 2/6/14
Analysis Date: 2/10/14
Analysis Time: 4:09 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/10/14 16:09	0.60
trans-1,2-Dichloroethene	**0.51 J**	ug/m^3	2/10/14 16:09	0.74
cis-1,2-Dichloroethene	**0.07 J**	ug/m^3	2/10/14 16:09	0.74
Trichloroethene	U	ug/m^3	2/10/14 16:09	1.00
Tetrachloroethene	**0.18 J**	ug/m^3	2/10/14 16:09	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	97	70-130	2/10/14 16:09	C14021011
Toluene-d8	103	70-130	2/10/14 16:09	C14021011

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**ccal/lcs140211c1**
Project Number:	
Lab File ID:	C14021102
Received Date:	
Analysis Date:	2/11/14
Analysis Time:	9:20 AM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	Limits
Vinyl Chloride	**109%**	%REC	2/11/14 9:20	80-120
trans-1,2-Dichloroethene	**118%**	%REC	2/11/14 9:20	80-120
cis-1,2-Dichloroethene	**100%**	%REC	2/11/14 9:20	80-120
Trichloroethene	**97%**	%REC	2/11/14 9:20	80-120
Tetrachloroethene	**92%**	%REC	2/11/14 9:20	80-120

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 9:20	C14021102
Toluene-d8	108	70-130	2/11/14 9:20	C14021102

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**mb140211c1**
Project Number:	
Lab File ID:	C14021103
Received Date:	
Analysis Date:	2/11/14
Analysis Time:	9:42 AM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 9:42	0.60
trans-1,2-Dichloroethene	U	ug/m^3	2/11/14 9:42	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/11/14 9:42	0.74
Trichloroethene	U	ug/m^3	2/11/14 9:42	0.99
Tetrachloroethene	U	ug/m^3	2/11/14 9:42	1.01

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	96	70-130	2/11/14 9:42	C14021103
Toluene-d8	104	70-130	2/11/14 9:42	C14021103

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**lcsd140211c1**
Project Number:	
Lab File ID:	C14021104
Received Date:	
Analysis Date:	2/11/14
Analysis Time:	10:04 AM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	Limits
Vinyl Chloride	**99%**	%REC	2/11/14 10:04	70-130
trans-1,2-Dichloroethene	**117%**	%REC	2/11/14 10:04	70-130
cis-1,2-Dichloroethene	**100%**	%REC	2/11/14 10:04	70-130
Trichloroethene	**95%**	%REC	2/11/14 10:04	70-130
Tetrachloroethene	**91%**	%REC	2/11/14 10:04	70-130

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/11/14 10:04	C14021104
Toluene-d8	109	70-130	2/11/14 10:04	C14021104

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**OU3-BLDG101-AI08-0114**
Project Number:	2796
Lab File ID:	C14021105
Received Date:	2/6/14
Analysis Date:	2/11/14
Analysis Time:	10:53 AM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 10:53	0.60
trans-1,2-Dichloroethene	**0.53 J**	ug/m^3	2/11/14 10:53	0.74
cis-1,2-Dichloroethene	U	ug/m^3	2/11/14 10:53	0.74
Trichloroethene	U	ug/m^3	2/11/14 10:53	1.00
Tetrachloroethene	U	ug/m^3	2/11/14 10:53	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/11/14 10:53	C14021105
Toluene-d8	103	70-130	2/11/14 10:53	C14021105

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**OU3-BLDG101-AO01-0114**
Project Number:	2796
Lab File ID:	C14021106
Received Date:	2/6/14
Analysis Date:	2/11/14
Analysis Time:	11:38 AM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 11:38	0.60
trans-1,2-Dichloroethene	**0.99**	ug/m^3	2/11/14 11:38	0.75
cis-1,2-Dichloroethene	U	ug/m^3	2/11/14 11:38	0.75
Trichloroethene	U	ug/m^3	2/11/14 11:38	1.00
Tetrachloroethene	U	ug/m^3	2/11/14 11:38	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	99	70-130	2/11/14 11:38	C14021106
Toluene-d8	103	70-130	2/11/14 11:38	C14021106

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**OU3-BLDG101C-AO01-0114**
Project Number:	2796
Lab File ID:	C14021107
Received Date:	2/6/14
Analysis Date:	2/11/14
Analysis Time:	12:22 PM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 12:22	0.60
trans-1,2-Dichloroethene	**1.46**	ug/m^3	2/11/14 12:22	0.75
cis-1,2-Dichloroethene	U	ug/m^3	2/11/14 12:22	0.75
Trichloroethene	U	ug/m^3	2/11/14 12:22	1.00
Tetrachloroethene	U	ug/m^3	2/11/14 12:22	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/11/14 12:22	C14021107
Toluene-d8	95	70-130	2/11/14 12:22	C14021107

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**OU3-BLDG103-AI03-0114-A**
Project Number:	2796
Lab File ID:	C14021108
Received Date:	2/6/14
Analysis Date:	2/11/14
Analysis Time:	1:06 PM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 13:06	0.60
trans-1,2-Dichloroethene	**1.60**	ug/m^3	2/11/14 13:06	0.74
cis-1,2-Dichloroethene	**1.93**	ug/m^3	2/11/14 13:06	0.74
Trichloroethene	**1.05**	ug/m^3	2/11/14 13:06	0.99
Tetrachloroethene	**2.58**	ug/m^3	2/11/14 13:06	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/11/14 13:06	C14021108
Toluene-d8	95	70-130	2/11/14 13:06	C14021108

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**OU3-BLDG103-AI03P-0114-A**
Project Number:	2796
Lab File ID:	C14021109
Received Date:	2/6/14
Analysis Date:	2/11/14
Analysis Time:	1:49 PM
Matrix:	Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 13:49	0.60
trans-1,2-Dichloroethene	**1.87**	ug/m^3	2/11/14 13:49	0.74
cis-1,2-Dichloroethene	**2.18**	ug/m^3	2/11/14 13:49	0.74
Trichloroethene	**0.93 J**	ug/m^3	2/11/14 13:49	0.99
Tetrachloroethene	**2.63**	ug/m^3	2/11/14 13:49	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/11/14 13:49	C14021109
Toluene-d8	97	70-130	2/11/14 13:49	C14021109

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG103-AI09-0114-A**
Project Number: 2796
Lab File ID: C14021110
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 2:33 PM
Matrix: Air

COMPOUNDS	Results	Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 14:33	0.60
trans-1,2-Dichloroethene	**7.14**	ug/m^3	2/11/14 14:33	0.74
cis-1,2-Dichloroethene	**11.25**	ug/m^3	2/11/14 14:33	0.74
Trichloroethene	**3.25**	ug/m^3	2/11/14 14:33	0.99
Tetrachloroethene	**6.69**	ug/m^3	2/11/14 14:33	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	100	70-130	2/11/14 14:33	C14021110
Toluene-d8	97	70-130	2/11/14 14:33	C14021110

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**OU3-BLDG103-AI08-0114**
Project Number:	2796
Lab File ID:	C14021111
Received Date:	2/6/14
Analysis Date:	2/11/14
Analysis Time:	3:16 PM
Matrix:	Air

COMPOUNDS		Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 15:16	0.60
trans-1,2-Dichloroethene	**1.17**	ug/m^3	2/11/14 15:16	0.74
cis-1,2-Dichloroethene	**0.83**	ug/m^3	2/11/14 15:16	0.74
Trichloroethene	**0.24 J**	ug/m^3	2/11/14 15:16	0.99
Tetrachloroethene	**1.42**	ug/m^3	2/11/14 15:16	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 15:16	C14021111
Toluene-d8	97	70-130	2/11/14 15:16	C14021111

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**OU3-BLDG103-AI06-0114**
Project Number:	2796
Lab File ID:	C14021112
Received Date:	2/6/14
Analysis Date:	2/11/14
Analysis Time:	4:05 PM
Matrix:	Air

COMPOUNDS		Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 16:05	0.60
trans-1,2-Dichloroethene	**0.58 J**	ug/m^3	2/11/14 16:05	0.74
cis-1,2-Dichloroethene	**0.19 J**	ug/m^3	2/11/14 16:05	0.74
Trichloroethene	**0.17 J**	ug/m^3	2/11/14 16:05	0.99
Tetrachloroethene	**1.14**	ug/m^3	2/11/14 16:05	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 16:05	C14021112
Toluene-d8	95	70-130	2/11/14 16:05	C14021112

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG103-AO01-0114-A**
Project Number: 2796
Lab File ID: C14021113
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 5:14 PM
Matrix: Air

COMPOUNDS		Units	Completed	LOQ
Vinyl Chloride	U	ug/m^3	2/11/14 17:14	0.60
trans-1,2-Dichloroethene	**0.74 J**	ug/m^3	2/11/14 17:14	0.74
cis-1,2-Dichloroethene	**0.55 J**	ug/m^3	2/11/14 17:14	0.74
Trichloroethene	**1.26**	ug/m^3	2/11/14 17:14	1.00
Tetrachloroethene	**0.16 J**	ug/m^3	2/11/14 17:14	1.02

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 17:14	C14021113
Toluene-d8	97	70-130	2/11/14 17:14	C14021113

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID:	**OU3-BLDG101-AI02-0114**
Project Number:	2796
Lab File ID:	C14021114
Received Date:	2/6/14
Analysis Date:	2/11/14
Analysis Time:	5:45 PM
Matrix:	Air

COMPOUNDS		Units	Completed	LOQ
Vinyl Chloride	U DL	ug/m^3	2/11/14 17:45	3.59
trans-1,2-Dichloroethene	**31.92 DL**	ug/m^3	2/11/14 17:45	4.44
cis-1,2-Dichloroethene	U DL	ug/m^3	2/11/14 17:45	4.44
Trichloroethene	NT	ug/m^3	2/11/14 17:45	5.95
Tetrachloroethene	NT	ug/m^3	2/11/14 17:45	6.08

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 17:45	C14021114
Toluene-d8	98	70-130	2/11/14 17:45	C14021114

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road
Forest Hill, MD 21050 USA

Analysis by U.S. EPA Method TO-17

Client:

CH2M Hill
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328
CH2M Hill Project No.: 470875

Sample ID: **OU3-BLDG101-AI02P-0114**
Project Number: 2796
Lab File ID: C14021115
Received Date: 2/6/14
Analysis Date: 2/11/14
Analysis Time: 6:16 PM
Matrix: Air

COMPOUNDS		Units	Completed	LOQ
Vinyl Chloride	U DL	ug/m^3	2/11/14 18:16	3.59
trans-1,2-Dichloroethene	**29.39 DL**	ug/m^3	2/11/14 18:16	4.44
cis-1,2-Dichloroethene	U DL	ug/m^3	2/11/14 18:16	4.44
Trichloroethene	NT	ug/m^3	2/11/14 18:16	5.95
Tetrachloroethene	NT	ug/m^3	2/11/14 18:16	6.08

Surrogates	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	101	70-130	2/11/14 18:16	C14021115
Toluene-d8	97	70-130	2/11/14 18:16	C14021115

2C - FORM II VOA-3
VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: Beacon Environmental Services, I Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref. No.: # SDG No.: 2796.14.02.06

Level: (LOW/MED) LOW

	EPA SAMPLE NO.	VDMC1 (DCA) #	VDMC2 (TOL) #	VDMC3	VDMC4	VDMC5	VDMC6	VDMC7
01	mb140114c	95	95					

	QC LIMITS
VDMC1 (DCA) = 1,2-DCA-d4	(70-130)
VDMC2 (TOL) = Toluene-d8	(70-130)

Column to be used to flag recovery values
* Values outside of contract required QC Limits

2C - FORM II VOA-3
VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: Beacon Environmental Services, I Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref. No.: # SDG No.: 2796.14.02.06

Level: (LOW/MED) LOW

	EPA SAMPLE NO.	VDMC1 (DCA) #	VDMC2 (TOL) #	VDMC3	VDMC4	VDMC5	VDMC6	VDMC7
02	ccal/lcs140207c1	100	109					
03	mb140207c1	96	107					
04	lcsd140207c1	99	108					
05	2796 OU3-BLDG101C-AI01	96	105					
06	2796 OU3-BLDG101C-AI02	99	102					
07	2796 OU3-BLDG101-AI07-	97	104					

	QC LIMITS
VDMC1 (DCA) = 1,2-DCA-d4	(70-130)
VDMC2 (TOL) = Toluene-d8	(70-130)

Column to be used to flag recovery values
* Values outside of contract required QC Limits

2C - FORM II VOA-3
VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: Beacon Environmental Services, I Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref. No.: # SDG No.: 2796.14.02.06

Level: (LOW/MED) LOW

	EPA SAMPLE NO.	VDMC1 (DCA) #	VDMC2 (TOL) #	VDMC3	VDMC4	VDMC5	VDMC6	VDMC7
08	2796 OU3-BLDG101-AI03-	97	103					
09	ccal/lcs140210c1	101	106					
10	mb140210c1	98	103					
11	lcsd140210c1	100	109					
12	2796 OU3-BLDG101-AI02-	96	101					
13	2796 OU3-BLDG101-AI02P	98	101					
14	2796 OU3-BLDG101-AI04-	98	104					
15	2796 OU3-BLDG101-AI05-	99	105					
16	2796 OU3-BLDG101-AI06-	99	103					
17	2796 OU3-BLDG101-AI09-	97	103					

	QC LIMITS
VDMC1 (DCA) = 1,2-DCA-d4	(70-130)
VDMC2 (TOL) = Toluene-d8	(70-130)

Column to be used to flag recovery values
* Values outside of contract required QC Limits

2C - FORM II VOA-3
VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: Beacon Environmental Services, I Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref. No.: # SDG No.: 2796.14.02.06

Level: (LOW/MED) LOW

	EPA SAMPLE NO.	VDMC1 (DCA) #	VDMC2 (TOL) #	VDMC3	VDMC4	VDMC5	VDMC6	VDMC7
18	ccal/lcs140211c1	101	104					
19	mb140211c1	96	104					
20	lcsd140211c1	100	109					
21	2796 OU3-BLDG101-AI08-	99	103					
22	2796 OU3-BLDG101-AO01-	99	103					
23	2796 OU3-BLDG101C-AO01	100	95					
24	2796 OU3-BLDG103-AI03-	100	95					
25	2796 OU3-BLDG103-AI03P	100	97					
26	2796 OU3-BLDG103-AI09-	100	97					
27	2796 OU3-BLDG103-AI08-	101	97					
28	2796 OU3-BLDG103-AI06-	101	95					
29	2796 OU3-BLDG103-AO01-	101	97					
30	2796 OU3-BLDG101-AI02-	101	98					
31	2796 OU3-BLDG101-AI02P	101	97					

	QC LIMITS
VDMC1 (DCA) = 1,2-DCA-d4	(70-130)
VDMC2 (TOL) = Toluene-d8	(70-130)

Column to be used to flag recovery values
* Values outside of contract required QC Limits

VOLATILE ORGANICS ANALYSIS DATA SHEET
SECOND SOURCE CALIBRATION VERIFICATION

EPA SAMPLE NO.

calv lcsd140114c

Lab Name: Beacon Environmental Services, Inc. **Contract:** 2796

Lab Code: BEACON **Case No.:** 2796 **Mod. Ref No.:** # **SDG No.:** 2796.14.02.06

CAS NO.	COMPOUND	SPIKE ug/m3	CALV ug/m3	%D	%D LIMIT	Q
75-01-4	Vinyl chloride	50.0	46	8		
156-60-5	trans-1,2-Dichloroethene	50.0	49	2		
156-59-2	cis-1,2-Dichloroethene	50.0	50	1		
79-01-6	Trichloroethene	50.0	50	1		
127-18-4	Tetrachloroethene	50.0	50	0		

3B - FORM III VOA-2

VOLATILE LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Beacon Environmental Services, Inc. Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Matrix Spike - EPA Sample No: lcsd140207c1 Level: (TRACE or LOW/MED) LOW

COMPOUND	SPIKE ADDED (ng)	LCS CONCENTRATION (ng)	LCS % REC#	QC LIMITS REC
Vinyl Chloride	50.0	52	104	(70-130)
trans-1,2-Dichloroethe	50.0	56	112	(70-130)
cis-1,2-Dichloroethene	50.0	51	102	(70-130)
Trichloroethene	50.0	48	96	(70-130)
Tetrachloroethene	50.0	45	90	(70-130)

Matrix Spike - EPA Sample No: lcsd140210c1 Level: (TRACE or LOW/MED) LOW

COMPOUND	SPIKE ADDED (ng)	LCS CONCENTRATION (ng)	LCS % REC#	QC LIMITS REC
Vinyl Chloride	50.0	48	96	(70-130)
trans-1,2-Dichloroethe	50.0	58	116	(70-130)
cis-1,2-Dichloroethene	50.0	50	100	(70-130)
Trichloroethene	50.0	48	96	(70-130)
Tetrachloroethene	50.0	44	88	(70-130)

Matrix Spike - EPA Sample No: lcsd140211c1 Level: (TRACE or LOW/MED) LOW

COMPOUND	SPIKE ADDED (ng)	LCS CONCENTRATION (ng)	LCS % REC#	QC LIMITS REC
Vinyl Chloride	50.0	50	100	(70-130)
trans-1,2-Dichloroethe	50.0	58	116	(70-130)
cis-1,2-Dichloroethene	50.0	50	100	(70-130)
Trichloroethene	50.0	48	96	(70-130)
Tetrachloroethene	50.0	46	92	(70-130)

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 5 outside limits

Comments:

3B - FORM III VOA-2

VOLATILE LCS/LCSD RECOVERY

Lab Name: Beacon Environmental Services, Inc. Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Matrix Spike - EPA Sample No: lcsd140207c1 Level: (TRACE or LOW/MED) LOW

COMPOUND	SPIKE ADDED (ng)	LCS CONC (ng)	LCSD CONC (ng)	LCSD % REC #	LCSD % RPD #	QC LIMITS RPD	QC LIMITS REC
Vinyl Chloride	50.0	57	52	104	10	25	(70-130)
trans-1,2-Dichloroethe	50.0	59	56	112	5	25	(70-130)
cis-1,2-Dichloroethene	50.0	50	51	102	1	25	(70-130)
Trichloroethene	50.0	48	48	96	0	25	(70-130)
Tetrachloroethene	50.0	45	45	90	1	25	(70-130)

Matrix Spike - EPA Sample No: lcsd140210c1 Level: (TRACE or LOW/MED) LOW

COMPOUND	SPIKE ADDED (ng)	LCS CONC (ng)	LCSD CONC (ng)	LCSD % REC #	LCSD % RPD #	QC LIMITS RPD	QC LIMITS REC
Vinyl Chloride	50.0	54	48	96	11	25	(70-130)
trans-1,2-Dichloroethe	50.0	59	58	116	2	25	(70-130)
cis-1,2-Dichloroethene	50.0	50	50	100	0	25	(70-130)
Trichloroethene	50.0	49	48	96	1	25	(70-130)
Tetrachloroethene	50.0	45	44	88	2	25	(70-130)

Matrix Spike - EPA Sample No: lcsd140211c1 Level: (TRACE or LOW/MED) LOW

COMPOUND	SPIKE ADDED (ng)	LCS CONC (ng)	LCSD CONC (ng)	LCSD % REC #	LCSD % RPD #	QC LIMITS RPD	QC LIMITS REC
Vinyl Chloride	50.0	59	50	100	17	25	(70-130)
trans-1,2-Dichloroethe	50.0	54	58	116	7	25	(70-130)
cis-1,2-Dichloroethene	50.0	50	50	100	0	25	(70-130)
Trichloroethene	50.0	49	48	96	2	25	(70-130)
Tetrachloroethene	50.0	44	46	92	3	25	(70-130)

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 5 outside limits

Comments:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
mb140114c

Lab Name: Beacon Environmental Services Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Lab File ID: C14011408.D Lab Sample ID: MB140114C

Instrument ID: INST C

Matrix: PACKED TUBE Date Analyzed: 01/14/2014

Level: (TRACE or LOW/MED) LOW Time Analyzed: 12:15

GC Column: 624silMS ID: 0.18 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01				

COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
mb140207c1

Lab Name: Beacon Environmental Services Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Lab File ID: C14020708.D Lab Sample ID: MB140207C1

Instrument ID: INST C

Matrix: PACKED TUBE Date Analyzed: 02/07/2014

Level: (TRACE or LOW/MED) LOW Time Analyzed: 16:01

GC Column: 624silMS ID: 0.18 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
02	lcsd140207c1	LCSD140207C1	C14020709.D	16:23
03	2796 OU3-BLDG101C-AI01-0	2796 OU3-BLDG101C-AI	C14020710.D	17:07
04	2796 OU3-BLDG101C-AI02-0	2796 OU3-BLDG101C-AI	C14020711.D	17:51
05	2796 OU3-BLDG101-AI07-01	2796 OU3-BLDG101-AI0	C14020712.D	18:35

COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
mb140210c1

Lab Name: Beacon Environmental Services Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Lab File ID: C14021003.D Lab Sample ID: MB140210C1

Instrument ID: INST C

Matrix: PACKED TUBE Date Analyzed: 02/10/2014

Level: (TRACE or LOW/MED) LOW Time Analyzed: 10:19

GC Column: 624silMS ID: 0.18 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
06	lcsd140210c1	LCSD140210C1	C14021004.D	10:41
07	2796 OU3-BLDG101-AI03-01	2796 OU3-BLDG101-AI0	C14021005.D	11:25
08	2796 OU3-BLDG101-AI02-01	2796 OU3-BLDG101-AI0	C14021006.D	12:09
09	2796 OU3-BLDG101-AI02P-0	2796 OU3-BLDG101-AI0	C14021007.D	12:52
10	2796 OU3-BLDG101-AI04-01	2796 OU3-BLDG101-AI0	C14021008.D	13:36
11	2796 OU3-BLDG101-AI05-01	2796 OU3-BLDG101-AI0	C14021009.D	14:41
12	2796 OU3-BLDG101-AI06-01	2796 OU3-BLDG101-AI0	C14021010.D	15:25
13	2796 OU3-BLDG101-AI09-01	2796 OU3-BLDG101-AI0	C14021011.D	16:09

COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
mb140211c1

Lab Name: Beacon Environmental Services Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Lab File ID: C14021103.D Lab Sample ID: MB140211C1

Instrument ID: INST C

Matrix: PACKED TUBE Date Analyzed: 02/11/2014

Level: (TRACE or LOW/MED) LOW Time Analyzed: 09:42

GC Column: 624silMS ID: 0.18 (mm)

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
14	lcsd140211c1	LCSD140211C1	C14021104.D	10:04
15	2796 OU3-BLDG101-AI08-01	2796 OU3-BLDG101-AI0	C14021105.D	10:53
16	2796 OU3-BLDG101-AO01-01	2796 OU3-BLDG101-AO0	C14021106.D	11:38
17	2796 OU3-BLDG101C-AO01-0	2796 OU3-BLDG101C-AO	C14021107.D	12:22
18	2796 OU3-BLDG103-AI03-01	2796 OU3-BLDG103-AI0	C14021108.D	13:06
19	2796 OU3-BLDG103-AI03P-0	2796 OU3-BLDG103-AI0	C14021109.D	13:49
20	2796 OU3-BLDG103-AI09-01	2796 OU3-BLDG103-AI0	C14021110.D	14:33
21	2796 OU3-BLDG103-AI08-01	2796 OU3-BLDG103-AI0	C14021111.D	15:16
22	2796 OU3-BLDG103-AI06-01	2796 OU3-BLDG103-AI0	C14021112.D	16:05
23	2796 OU3-BLDG103-AO01-01	2796 OU3-BLDG103-AO0	C14021113.D	17:14
24	2796 OU3-BLDG101-AI02-01	2796 OU3-BLDG101-AI0	C14021114.D	17:45
25	2796 OU3-BLDG101-AI02P-0	2796 OU3-BLDG101-AI0	C14021115.D	18:16

COMMENTS:

5A - FORM V VOA

VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

bfb140114c

Lab Name: Beacon Environmental Services Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Lab File ID: C14011401.D BFB Injection Date: 01/14/2014

Instrument ID: INST C BFB Injection Time: 09:37

GC Column: 624silMS ID: 0.18 (mm) Column Length: 20 (m)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.6
75	30.0 - 80.0% of mass 95	47.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.6(0.6) 1
174	50.0 - 120% of mass 95	96.4
175	5.0 - 9.0% of mass 174	6.9 (7.2) 1
176	95.0 - 101% of mass 174	93.7 (97.2) 1
177	5.0 - 9.0% of mass 176	6.1 (6.5) 2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	10 ng	10 NG	C14011402.D	01/14/2014	09:59
02	25 ng	25 NG	C14011403.D	01/14/2014	10:21
03	50 ng	50 NG	C14011404.D	01/14/2014	10:43
04	100 ng	100 NG	C14011405.D	01/14/2014	11:08
05	200 ng	200 NG	C14011406.D	01/14/2014	11:30
06	calv lcsd140114c	CALV LCSD140114C	C14011407.D	01/14/2014	11:53
07	mb140114c	MB140114C	C14011408.D	01/14/2014	12:15

5A - FORM V VOA

VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

bfb140207c1

Lab Name: Beacon Environmental Services Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Lab File ID: C14020706.D BFB Injection Date: 02/07/2014

Instrument ID: INST C BFB Injection Time: 15:17

GC Column: 624silMS ID: 0.18 (mm) Column Length: 20 (m)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.6
75	30.0 - 80.0% of mass 95	47.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.6(0.6) 1
174	50.0 - 120% of mass 95	96.4
175	5.0 - 9.0% of mass 174	6.9 (7.2) 1
176	95.0 - 101% of mass 174	93.7 (97.2) 1
177	5.0 - 9.0% of mass 176	6.1 (6.5) 2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	ccal/lcs140207c1	LCS140207C1	C14020707.D	02/07/2014	15:39
02	mb140207c1	MB140207C1	C14020708.D	02/07/2014	16:01
03	lcsd140207c1	LCSD140207C1	C14020709.D	02/07/2014	16:23
04	2796 OU3-BLDG101C-AI01-	2796 OU3-BLDG101C	C14020710.D	02/07/2014	17:07
05	2796 OU3-BLDG101C-AI02-	2796 OU3-BLDG101C	C14020711.D	02/07/2014	17:51
06	2796 OU3-BLDG101-AI07-0	2796 OU3-BLDG101-	C14020712.D	02/07/2014	18:35

5A - FORM V VOA

VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

bfb140210c1

Lab Name: Beacon Environmental Services Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Lab File ID: C14021001.D BFB Injection Date: 02/10/2014

Instrument ID: INST C BFB Injection Time: 09:35

GC Column: 624silMS ID: 0.18 (mm) Column Length: 20 (m)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.9
75	30.0 - 80.0% of mass 95	50.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.2(0.2) 1
174	50.0 - 120% of mass 95	80.2
175	5.0 - 9.0% of mass 174	5.8 (7.3) 1
176	95.0 - 101% of mass 174	77.9 (97.0) 1
177	5.0 - 9.0% of mass 176	5.1 (6.6) 2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	ccal/lcs140210c1	LCS140210C1	C14021002.D	02/10/2014	09:57
02	mb140210c1	MB140210C1	C14021003.D	02/10/2014	10:19
03	lcsd140210c1	LCSD140210C1	C14021004.D	02/10/2014	10:41
04	2796 OU3-BLDG101-AI03-0	2796 OU3-BLDG101-	C14021005.D	02/10/2014	11:25
05	2796 OU3-BLDG101-AI02-0	2796 OU3-BLDG101-	C14021006.D	02/10/2014	12:09
06	2796 OU3-BLDG101-AI02P-	2796 OU3-BLDG101-	C14021007.D	02/10/2014	12:52
07	2796 OU3-BLDG101-AI04-0	2796 OU3-BLDG101-	C14021008.D	02/10/2014	13:36
08	2796 OU3-BLDG101-AI05-0	2796 OU3-BLDG101-	C14021009.D	02/10/2014	14:41
09	2796 OU3-BLDG101-AI06-0	2796 OU3-BLDG101-	C14021010.D	02/10/2014	15:25
10	2796 OU3-BLDG101-AI09-0	2796 OU3-BLDG101-	C14021011.D	02/10/2014	16:09

5A - FORM V VOA

VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

bfb140211c1

Lab Name: Beacon Environmental Services Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Lab File ID: C14021101.D BFB Injection Date: 02/11/2014

Instrument ID: INST C BFB Injection Time: 08:58

GC Column: 624silMS ID: 0.18 (mm) Column Length: 20 (m)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.3
75	30.0 - 80.0% of mass 95	50.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.5(0.7) 1
174	50.0 - 120% of mass 95	76.3
175	5.0 - 9.0% of mass 174	5.6 (7.3) 1
176	95.0 - 101% of mass 174	73.4 (96.2) 1
177	5.0 - 9.0% of mass 176	4.8 (6.6) 2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	ccal/lcs140211c1	LCS140211C1	C14021102.D	02/11/2014	09:20
02	mb140211c1	MB140211C1	C14021103.D	02/11/2014	09:42
03	lcsd140211c1	LCSD140211C1	C14021104.D	02/11/2014	10:04
04	2796 OU3-BLDG101-AI08-0	2796 OU3-BLDG101-	C14021105.D	02/11/2014	10:53
05	2796 OU3-BLDG101-AO01-0	2796 OU3-BLDG101-	C14021106.D	02/11/2014	11:38
06	2796 OU3-BLDG101C-AO01-	2796 OU3-BLDG101C	C14021107.D	02/11/2014	12:22
07	2796 OU3-BLDG103-AI03-0	2796 OU3-BLDG103-	C14021108.D	02/11/2014	13:06
08	2796 OU3-BLDG103-AI03P-	2796 OU3-BLDG103-	C14021109.D	02/11/2014	13:49
09	2796 OU3-BLDG103-AI09-0	2796 OU3-BLDG103-	C14021110.D	02/11/2014	14:33
10	2796 OU3-BLDG103-AI08-0	2796 OU3-BLDG103-	C14021111.D	02/11/2014	15:16
11	2796 OU3-BLDG103-AI06-0	2796 OU3-BLDG103-	C14021112.D	02/11/2014	16:05
12	2796 OU3-BLDG103-AO01-0	2796 OU3-BLDG103-	C14021113.D	02/11/2014	17:14
13	2796 OU3-BLDG101-AI02-0	2796 OU3-BLDG101-	C14021114.D	02/11/2014	17:45
14	2796 OU3-BLDG101-AI02P-	2796 OU3-BLDG101-	C14021115.D	02/11/2014	18:16

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Beacon Environmental Services, Inc. Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Instrument ID: INST C Calibration Date(s): 01/14/2014 01/14/2014

Calibration Time(s): 09:59 11:30

GC Column: 624silMS ID: 0.18 (mm) Length: 20 (m)

LAB FILE ID: RRF10 = C14011402.D RRF25 = C14011403.D

RRF50 = C14011404.D RRF100 = C14011405.D RRF200 = C14011406.D

COMPOUND	RRF10	RRF25	RRF50	RRF100	RRF200	$\overline{RRF}$	%RSD
Vinyl chloride	0.183	0.199	0.197	0.200	0.193	0.194	3.5
trans-1,2-Dichloroethene	0.343	0.343	0.338	0.336	0.343	0.340	1.0
cis-1,2-Dichloroethene	0.312	0.295	0.290	0.287	0.289	0.295	3.4
Trichloroethene	0.189	0.175	0.179	0.178	0.183	0.181	3.0
Tetrachloroethene	0.490	0.483	0.488	0.499	0.492	0.490	1.2

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Beacon Environmental Services, Inc Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Instrument ID: INST C Calibration Date(s): 01/14/2014 01/14/2014

Calibration Time(s): 09:59 11:30

GC Column: 624silMS ID: 0.18 (mm) Length: 20 (m)

LAB FILE ID: RRF10 = C14011402. RRF25 = C14011403.D

RRF50 = C14011404.D RRF100 = C14011405.D RRF200 = C14011406.

COMPOUND	RRF10	RRF25	RRF50	RRF100	RRF200	$\overline{RRF}$	% RSD
1,2-DCA-d4	0.346	0.337	0.328	0.324	0.329	0.333	2.7
Toluene-d8	1.348	1.318	1.323	1.338	1.313	1.328	1.1

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: Beacon Environmental Services, Inc **Contract:** 2796

Lab Code: BEACON **Case No.:** 2796 **Mod. Ref No.:** # **SDG No.:** 2796.14.02.06

Instrument ID: INST C **Calibration Date:** 02/07/2014 **Time:** 15:39

Lab File ID: C14020707.D **Init. Calib. Date(s):** 01/14/2014 01/14/2014

EPA Sample No. (VSTD#####): ccal/lcs1402 **Init. Calib. Time(s):** 09:59 11:30

GC Column: 624silMS **ID:** 0.18 (mm) **Length:** 20 (m)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX%D
Vinyl chloride	0.194	0.221	0.100	13.9	20.0
trans-1,2-Dichloroethene	0.340	0.401	0.100	17.9	20.0
cis-1,2-Dichloroethene	0.295	0.295	0.100	0.0	20.0
Trichloroethene	0.181	0.174	0.100	-3.9	20.0
Tetrachloroethene	0.490	0.444	0.100	-9.4	20.0

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: Beacon Environmental Services, Inc **Contract:** 2796

Lab Code: BEACON **Case No.:** 2796 **Mod. Ref No.:** # **SDG No.:** 2796.14.02.06

Instrument ID: INST C **Calibration Date:** 02/10/2014 **Time:** 09:57

Lab File ID: C14021002.D **Init. Calib. Date(s):** 01/14/2014 01/14/2014

EPA Sample No. (VSTD#####): ccal/lcs1402 **Init. Calib. Time(s):** 09:59 11:30

GC Column: 624silMS **ID:** 0.18 (mm) **Length:** 20 (m)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX%D
Vinyl chloride	0.194	0.211	0.100	8.8	20.0
trans-1,2-Dichloroethene	0.340	0.399	0.100	17.4	20.0
cis-1,2-Dichloroethene	0.295	0.295	0.100	0.0	20.0
Trichloroethene	0.181	0.177	0.100	-2.2	20.0
Tetrachloroethene	0.490	0.443	0.100	-9.6	20.0

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: Beacon Environmental Services, Inc **Contract:** 2796

Lab Code: BEACON **Case No.:** 2796 **Mod. Ref No.:** # **SDG No.:** 2796.14.02.06

Instrument ID: INST C **Calibration Date:** 02/11/2014 **Time:** 09:20

Lab File ID: C14021102.D **Init. Calib. Date(s):** 01/14/2014 01/14/2014

EPA Sample No. (VSTD#####): ccal/lcs1402 **Init. Calib. Time(s):** 09:59 11:30

GC Column: 624silMS **ID:** 0.18 (mm) **Length:** 20 (m)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX%D
Vinyl chloride	0.194	0.228	0.100	17.5	20.0
trans-1,2-Dichloroethene	0.340	0.370	0.100	8.8	20.0
cis-1,2-Dichloroethene	0.295	0.295	0.100	0.0	20.0
Trichloroethene	0.181	0.176	0.100	-2.8	20.0
Tetrachloroethene	0.490	0.434	0.100	-11.4	20.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: Beacon Environmental Services, Inc Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Instrument ID: INST C Calibration Date: 02/07/2014 Time: 15:39

Lab File ID: C14020707.D Init. Calib. Date(s): 01/14/2014 01/14/2014

EPA Sample No. (VSTD#####): ccal/lcs14020 Init. Calib. Time(s): 09:59 11:30

GC Column: 624silMS ID: 0.18 (mm) Length: 20 (m)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX%D
1,2-DCA-d4	0.333	0.331		-0.6	
Toluene-d8	1.328	1.448		9.0	

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: Beacon Environmental Services, Inc Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Instrument ID: INST C Calibration Date: 02/10/2014 Time: 09:57

Lab File ID: C14021002.D Init. Calib. Date(s): 01/14/2014 01/14/2014

EPA Sample No. (VSTD#####): ccal/lcs14021 Init. Calib. Time(s): 09:59 11:30

GC Column: 624silMS ID: 0.18 (mm) Length: 20 (m)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX%D
1,2-DCA-d4	0.333	0.337		1.2	
Toluene-d8	1.328	1.411		6.3	

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: Beacon Environmental Services, Inc Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

Instrument ID: INST C Calibration Date: 02/11/2014 Time: 09:20

Lab File ID: C14021102.D Init. Calib. Date(s): 01/14/2014 01/14/2014

EPA Sample No. (VSTD#####): ccal/lcs14021 Init. Calib. Time(s): 09:59 11:30

GC Column: 624silMS ID: 0.18 (mm) Length: 20 (m)

COMPOUND	RRF	RRF50	MIN RRF	%D	MAX%D
1,2-DCA-d4	0.333	0.335		0.6	
Toluene-d8	1.328	1.376		3.6	

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Beacon Environmental Services, Inc. Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

GC Column: 624silMS ID: 0.18 (mm) Init. Calib. Date(s): 1/14/2014 1/14/2014

EPA Sample No. (VSTD#####): ccal/lcs1402 Date Analyzed: 02/07/2014

Lab File ID (Standard): C14020707.D Time Analyzed: 15:39

Instrument ID: INST C

		IS1 (FLB) AREA #	RT #	IS2 (CBZ) AREA #	RT #	AREA #	RT #
	12 HOUR STD	195853	6.08	123134	9.14	0	0.00
	UPPER LIMIT	274194	6.15	172388	9.19	0	0.00
	LOWER LIMIT	117512	6.01	73880	9.10	0	0.00
	EPA SAMPLE NO.						
01	ccal/lcs140207c1	195853	6.08	123134	9.14	0	0.00
02	mb140207c1	186920	6.09	116313	9.14	0	0.00
03	lcsd140207c1	199451	6.09	126775	9.14	0	0.00
04	2796 OU3-BLDG101C-	201670	6.08	127988	9.14	0	0.00
05	2796 OU3-BLDG101C-	211262	6.08	136899	9.14	0	0.00
06	2796 OU3-BLDG101-A	205875	6.08	133919	9.14	0	0.00
07	2796 OU3-BLDG101-A	190430	6.08	122718	9.14	0	0.00

IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
=

AREA UPPER LIMIT = +40% of internal standard area
AREA LOWER LIMIT = -40% of internal standard area
RT UPPER LIMIT = +0.07 minutes of internal standard RT
RT LOWER LIMIT = -0.07 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Beacon Environmental Services, Inc. Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

GC Column: 624silMS ID: 0.18 (mm) Init. Calib. Date(s): 1/14/2014 1/14/2014

EPA Sample No. (VSTD#####): ccal/lcs1402 Date Analyzed: 02/10/2014

Lab File ID (Standard): C14021002.D Time Analyzed: 09:57

Instrument ID: INST C

		IS1 (FLB) AREA #	RT #	IS2 (CBZ) AREA #	RT #	AREA #	RT #
	12 HOUR STD	189575	6.08	121100	9.14	0	0.00
	UPPER LIMIT	265405	6.15	169540	9.19	0	0.00
	LOWER LIMIT	113745	6.01	72660	9.10	0	0.00
	EPA SAMPLE NO.						
01	ccal/lcs140210c1	189575	6.08	121100	9.14	0	0.00
02	mb140210c1	187796	6.09	120324	9.14	0	0.00
03	lcsd140210c1	202983	6.08	127607	9.14	0	0.00
04	2796 OU3-BLDG101-A	192844	6.08	124668	9.14	0	0.00
05	2796 OU3-BLDG101-A	183152	6.08	128240	9.14	0	0.00
06	2796 OU3-BLDG101-A	194010	6.07	129724	9.14	0	0.00
07	2796 OU3-BLDG101-A	177843	6.07	117538	9.14	0	0.00
08	2796 OU3-BLDG101-A	174354	6.08	104760	9.14	0	0.00
09	2796 OU3-BLDG101-A	189309	6.07	124640	9.14	0	0.00
10	2796 OU3-BLDG101-A	179091	6.08	116343	9.14	0	0.00

IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
=

AREA UPPER LIMIT = +40% of internal standard area
AREA LOWER LIMIT = -40% of internal standard area
RT UPPER LIMIT = +0.07 minutes of internal standard RT
RT LOWER LIMIT = -0.07 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

Page 1 of 1

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Beacon Environmental Services, Inc. Contract: 2796

Lab Code: BEACON Case No.: 2796 Mod. Ref No.: # SDG No.: 2796.14.02.06

GC Column: 624silMS ID: 0.18 (mm) Init. Calib. Date(s): 1/14/2014 1/14/2014

EPA Sample No. (VSTD#####): ccal/lcs1402 Date Analyzed: 02/11/2014

Lab File ID (Standard): C14021102.D Time Analyzed: 09:20

Instrument ID: INST C

		IS1 (FLB) AREA #	RT #	IS2 (CBZ) AREA #	RT #	AREA #	RT #
	12 HOUR STD	193445	6.08	127943	9.14	0	0.00
	UPPER LIMIT	270823	6.15	179120	9.19	0	0.00
	LOWER LIMIT	116067	6.01	76766	9.10	0	0.00
	EPA SAMPLE NO.						
01	ccal/lcs140211c1	193445	6.08	127943	9.14	0	0.00
02	mb140211c1	188330	6.08	119332	9.14	0	0.00
03	lcsd140211c1	197828	6.09	123959	9.14	0	0.00
04	2796 OU3-BLDG101-A	182870	6.08	119604	9.14	0	0.00
05	2796 OU3-BLDG101-A	131139	6.07	86201	9.14	0	0.00
06	2796 OU3-BLDG101C-	177067	6.07	124345	9.14	0	0.00
07	2796 OU3-BLDG103-A	176014	6.07	124898	9.14	0	0.00
08	2796 OU3-BLDG103-A	188682	6.08	130132	9.14	0	0.00
09	2796 OU3-BLDG103-A	186874	6.08	126121	9.14	0	0.00
10	2796 OU3-BLDG103-A	174042	6.08	120365	9.14	0	0.00
11	2796 OU3-BLDG103-A	171952	6.08	120139	9.14	0	0.00
12	2796 OU3-BLDG103-A	169424	6.08	118852	9.14	0	0.00
13	2796 OU3-BLDG101-A	174404	6.08	119863	9.14	0	0.00
14	2796 OU3-BLDG101-A	170030	6.08	116449	9.14	0	0.00

IS1 (FLB) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
=

AREA UPPER LIMIT = +40% of internal standard area
AREA LOWER LIMIT = -40% of internal standard area
RT UPPER LIMIT = +0.07 minutes of internal standard RT
RT LOWER LIMIT = -0.07 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

Attachment 1

Chain of Custody

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes	BEACON Project No.: 2796
Company:	CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:		Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:		Location: Jacksonville, FL	☒ Normal RBO 2/12/14
Phone:		Sampler Name(s):	☒ Rush (Specify): 14 days
			NIST traceable Thermometer ID:

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time (24 hr)	Interior Temp. (F)	Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3-BLDG101C AIO1	G0165024	01/21/14	1255			65	Unicarb	X			X	
	OU3-BLDG101C-AIO1-0114			02/05/14	1015	65						
OU3-BLDG101C-AIO1	G0166892	01/21/14	1255			65	Chromosorb 106	X			X	
	OU3-BLDG101C-AIO1-0114			02/05/14	1015	65						
OU3-~~101C~~ BLDG ~~101C~~ AIO2	HO199265	01/21/14	1320			65	Unicarb	X			X	
	OU3-BLDG ~~101C~~ 101L-AIO2-0114			2/5/14	1025	65						
OU3-~~101C~~ BLDG ~~101C~~ AIO2	G0167098	01/21/14	1320			65	Chromosorb 106	X			X	
	OU3-BLDG ~~101C~~ AIO2-0114			2/5/14	1025	65						
OU3-BLDG101C-AIO7	G0167007	01/21/14	1335			65	Chromosorb 106	X			X	
	OU3-BLDG101C-AIO7-0114			2/5/14	1045	65						
OU3-BLDG101C-AIO7	G0164252	01/21/14	1335			65	Unicarb	X			X	
	OU3-BLDG101C-AIO7-0114			2/5/14	1045	65						

Special Instructions/Notes:

Relinquished by: (signature) Juan Acaron	Date/Time: 2/5/14 1700	Received by: (signature) Kenny Ifeachu	Date/Time: 02-06-2014/1300hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes				BEACON Project No.: 2796						
Company: CH2M Hill		Phone: (215) 640-9615				Client PO No.	Analysis			Matrix		
Address:		Project Name: NAS Jacksonville				Analysis Turnaround Time						
City/State/Zip:		Location: Jacksonville, FL				☒ Normal VSO 2/12/14						
Phone:		Sampler Name(s):				☒ Rush (Specify): 14 days						
						NIST traceable Thermometer ID:						
Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3-BLDG101C-AI03	H02ØØ853	01/21/14	1350			65	Unicarb	X			X	
	OU3-BLDG101C-AI03-0114			2/5/14	1150	65						
OU3-BLDG101C-AI03	G0167042	01/21/14	1350			65	Chromosorb 106	X			X	
	OU3-BLDG101C-AI03-0114			2/5/14	1150	65						
OU3-BLDG101C-AI02	G0168242	01/21/14	1400			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI02-0114			2/5/14	1130	65						
OU3-BLDG101-AI02	G0164555	01/21/14	1400			65	Unicarb	X			X	
	OU3-BLDG101-AI02-0114			2/5/14	1130	65						
OU3-BLDG101-AI02P	H02ØØ289	01/21/14	1400			65	Unicarb	X			X	
	OU3-BLDG101-AI02P-0114			2/5/14	1135	65						
OU3-BLDG101-AI02P	G0168231	01/21/14	1400			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI02P-0114			2/5/14	1135	65						

Special Instructions/Notes:

Relinquished by: (signature) Juan Acaron	Date/Time: 2/5/14 1700	Received by: (signature) Kenny Ipeacho	Date/Time: 02-06-2014 / 1300 hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes		BEACON Project No.: 2796						
Company:	CH2M Hill	Phone: (215) 640-9615		Client PO No.		Analysis			Matrix	
Address:		Project Name: NAS Jacksonville		Analysis Turnaround Time						
City/State/Zip:		Location: Jacksonville, FL		☒ Normal BSO 2/12/14						
Phone:		Sampler Name(s):		☒ Rush (Specify): 14 days						
				NIST traceable Thermometer ID:						

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time (24 hr)	Interior Temp. (F)	Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3-BLDG101-AI04	G0168216	01/21/14	1420			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI04-0114			2/5/14	1055	65						
OU3-BLDG101-AI04	H0199631	01/21/14	1420			65	Unicarb	X			X	
	OU3-BLDG101-AI04-0114			2/5/14	1055	65						
OU3-BLDG101-AI05	G0166895	01/21/14	1430			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI05-0114			2/5/14	1125	65						
OU3-BLDG101-AI05	H0199632	01/21/14	1430			65	Unicarb	X			X	
	OU3-BLDG101-AI05-0114			2/5/14	1125	65						
OU3-BLDG101-AI06	G0164141	01/21/14	1435			65	Unicarb	X			X	
	OU3-BLDG101-AI06-0114			2/5/14	1120	65						
OU3-BLDG101-AI06	G0166099	01/21/14	1435			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI06-0114			2/5/14	1120	65						

Special Instructions/Notes:

Relinquished by: (signature) Juan Acaron,	Date/Time: 2/4/15 1700	Received by: (signature) Kenny Ipeachu	Date/Time: 02-06-2014 / 1300hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes	BEACON Project No.: 2796
Company:	CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:		Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:		Location: Jacksonville, FL	☒ Normal HSD 2/12/14
Phone:		Sampler Name(s):	☒ Rush (Specify): 14 days
			NIST traceable Thermometer ID:

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	Notes	Analysis: TO-17	Analysis: 8260C	Analysis: TICs	Matrix: Indoor/Ambient Air	Matrix: Soil Gas
OU3-BLDG101-AI09	G0166070	01/21/14	1450			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI09-0114			2/5/14	1110	65						
OU3-BLDG101-AI09	Mi103040	01/21/14	1450			65	Unicarb	X			X	
	OU3-BLDG101-AI09-0114			2/5/14	1110	65						
OU3-BLDG101-AI08	G0167006	01/21/14	1500			65	Chromosorb 106	X			X	
	OU3-BLDG101-AI08-0114			2/5/14	1105	65						
OU3-BLDG101-AI08	G0163205	01/21/14	1500			65	Unicarb	X			X	
	OU3-BLDG101-AI08-0114			2/5/14	1105	65						
OU3-BLDG101-A001	G0167398	01/21/14	1530			65	Chromosorb 106	X			X	
	OU3-BLDG101-A001-0114			02/05/14	0955	71						
OU3-BLDG101-A001	H0199679	01/21/14	1530			65	Unicarb	X			X	
	OU3-BLDG101-A001-0114			02/05	0955	71						

Special Instructions/Notes:

Relinquished by: (signature) Juan Acaron	Date/Time: 2/5/14 1700	Received by: (signature) Kenny Ifeacho	Date/Time: 02-06-2014 / 1300hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact (Yes / No / None)	Custody Seal Number

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes	BEACON Project No.: 2796
Company:	CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:		Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:		Location: Jacksonville, FL	☒ Normal ~~ASO~~ 2/12/14
Phone:		Sampler Name(s):	☒ ~~Rush (Specify):~~ 14 days

NIST traceable Thermometer ID:

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time (24 hr)	Interior Temp. (F)	Notes	Analysis: TO-17	Analysis: 8260C	Analysis: TICs	Matrix: Indoor/Ambient Air	Matrix: Soil Gas
OU3-BLDG101C-A001	G0164632	01/21/14	1535			65	Unicarb	X			X	
	OU3-BLDG101C-A001-0114			02/05/14	1000	71						
OU3-BLDG101C A001	G0169240	01/21/14	1535			65	Chromosorb 106	X			X	
	OU3-BLDG101C-A001-0114			02/05/14	1000	71						
OU3-BLDG103-AI03	G0166832	01/21/14	1550			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI03-0114			2/5/14	1220	70						
OU3-BLDG103-AI03	H0199630	01/21/14	1550			65	Unicarb	X			X	
	OU3-BLDG103-AI03-0114			2/5/14	1220	70						
OU3-BLDG103-AI03P	H0200232	01/21/14	1550			65	Unicarb	X			X	
	OU3-BLDG103-AI03P-0114			2/5/14	1225	70						
OU3-BLDG103-AI03P	G0169063	01/21/14	1550			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI03P-0114			2/5/14	1225	70						

Special Instructions/Notes:

Relinquished by: (signature) JUAN Acaron,	Date/Time: 2/5/14 1700	Received by: (signature) Kenny Ifeachu	Date/Time: 02-06-2014 / 1300 hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes	BEACON Project No.: 2796
Company:	CH2M Hill	Phone: (215) 640-9615	Client PO No.
Address:		Project Name: NAS Jacksonville	Analysis Turnaround Time
City/State/Zip:		Location: Jacksonville, FL	☒ Normal TBD 2/12/14
Phone:		Sampler Name(s):	☒ Rush (Specify): 14 days
			NIST traceable Thermometer ID:

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time Time (24 hr)	Interior Temp. (F)	Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3-BLDG103-AI09	G01632O8	01/21/14	1600			65	Unicarb	X			X	
	OU3-BLDG103-AI09-0114			2/5/14	1235	70						
OU3-BLDG103-AI09	G01676Z4	01/21/14	1600			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI09-0114			2/5/14	1235	70						
OU3-BLDG103-AI08	G01697Z1	01/21/14	1615			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI08-0114			2/5/14	1245	70						
OU3-BLDG103-AI08	G01650Z4	01/21/14	1615			65	Unicarb	X			X	
	OU3-BLDG103-AI08-0114			2/5/14	1245	70						
OU3-BLDG103-AI06	G01682Z7	01/21/14	1620			65	Chromosorb 106	X			X	
	OU3-BLDG103-AI06-0114			2/5/14	1250	70						
OU3-BLDG103-AI06	H0199687	01/21/14	1620			65	Unicarb	X			X	
	OU3-BLDG103-AI06-0114			2/5/14	1250	70						

Special Instructions/Notes:

Relinquished by: (signature) JUAN Acaron	Date/Time: 2/5/14 1700	Received by: (signature) Kenny Ifeacho	Date/Time: 02-06-2014 / 1300 hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information		Project Manager: Kim Stokes		BEACON Project No.: 2796						
Company: CH2M Hill		Phone: (215) 640-9615		Client PO No.		Analysis			Matrix	
Address:		Project Name: NAS Jacksonville		Analysis Turnaround Time						
City/State/Zip:		Location: Jacksonville, FL		☒ Normal ☒ Rush (Specify): 14 days	ISO 2/12/14					
Phone:		Sampler Name(s):		NIST traceable Thermometer ID:						

Location ID	Tube/Sample number	Start Time Date (mm/dd/yy)	Start Time (24 hr)	Stop Time Date (mm/dd/yy)	Stop Time (24 hr)	Interior Temp. (F)	Notes	TO-17	8260C	TICs	Indoor/Ambient Air	Soil Gas
OU3-BLDG103-A001	Mi103031	01/21/14	1640			65	Unicarb	X			X	
	OU3-BLDG103-A001-0114			2/5/14	1210	75						
OU3-BLDG103-A001	G0167653	01/21/14	1640			65	Chromasorb 106	X			X	
	OU3-BLDG103-A001-0114			2/5/14	1210	75						

Special Instructions/Notes:

Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Juan Acaron	2/5/14 1700	Kenny Ifeachu	02-06-2014/1300 hrs
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Custody Seal Intact	Custody Seal Number
			Yes No None	

7 of 7

From: (352) 384-7002
Juan Acaron

3011 SW Williston Road

Gainesville, FL 32608

Origin ID: GNVA

FedEx Express

J14101312270326

Ship Date: 05FEB14
ActWgt: 9.0 LB
CAD: 102297847/INET3490

Dims: 20 X 12 X 10 IN

Delivery Address Bar Code

Ref # 470875.04.04.02.06
Invoice #
PO #
Dept #

SHIP TO: (410) 838-8780 BILL SENDER

Sample Receiving
Beacon Environmental Services, Inc.
2203A Commerce Road
Suite 1
FOREST HILL, MD 21050

THU - 06 FEB AM
STANDARD OVERNIGHT

TRK# 7978 2137 2878
0201

XE DLOA

21050
MD-US
BWI

522G1/562F/F220

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinform ment your actual loss and file a timely claim.Limitations found in or any loss, including intrinsic value of the package, loss of sal e whether direct, incidental,consequential, or spe very cannot exceed actual documented loss.Maximum for i able instruments and other items listed in our ServiceGuide rvice Guide.

BEACON ENVIRONMENTAL SERVICES, INC.

Beacon Project #: 2796
CH2M Hill
NAS Jacksonville Site
Jacksonville, FL

SEALED
3014175

From: Bethany.Garvey@CH2M.com
Sent: Tuesday, February 11, 2014 5:40 PM
To: patti.riggs@beacon-usa.com
Cc: steve.thornley@beacon-usa.com; harry.oneill@beacon-usa.com; cciedds@CH2M.com
Subject: RE: Sample Receipt for NAS, Jacksonville

Hi Patti,

I wanted to point out that the TAT on the COC is incorrect for SDG – 2796. It should be a 28 day TAT and not 14 day TAT. Please let me know if it's too late to change this now.

Also, can you please add a "-A" to the end of the following sample IDs:
--OU3-BLDG103-AI03-0114-A
--OU3-BLDG103-AI03P-0114-A
--OU3-BLDG103-AI09-0114-A
--OU3-BLDG103-AO01-0114-A

Sorry for the trouble.

Thanks,
Bethany

From: Patti Riggs [mailto:patti.riggs@beacon-usa.com]
Sent: Thursday, February 06, 2014 4:11 PM
To: Garvey, Bethany/ATL
Cc: Steve Thornley; Harry O'Neill
Subject: Sample Receipt for NAS, Jacksonville

Bethany,

Beacon received the samples for the Phase II Vapor Intrusion Investigation, Operable Unit 3 Naval Air Station (NAS), Jacksonville today, February 6, 2014. The samples arrived in good condition, will be analyzed by USEPA Method TO-17, and the results and report will be issued to CH2M Hill on or before February 20, 2014 (14 calendar days as noted on the chain of custody). A pdf of the chain of custody is attached, as is the sample acceptance letter and ELD.

Patti Riggs
Quality Manager
Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1 | Forest Hill, MD 21050 USA
phone: 410-838-8780 ext 111 | fax: 410-838-8740
Email: Patti.Riggs@Beacon-USA.com
Web: www.Beacon-USA.com
"Expect the Best from Beacon"

PSG Sampling Procedures Video: https://vimeo.com/74496526

DoD ELAP/ISO17025 Accredited Laboratory for Soil Gas and Air Analyses
TNI NEFAP Accredited Field Sampling Organization
Accreditation No. 72690

From: Bethany.Garvey@CH2M.com
Sent: Wednesday, February 12, 2014 9:59 AM
To: Harry.ONeill@beacon-usa.com
Cc: Camden.Robinson@CH2M.com; Kimberly.Stokes@CH2M.com; patti.riggs@beacon-usa.com; steve.thornley@beacon-usa.com
Subject: RE: bottle order for JM-10 / NAS-JAX Vapor Intrusion air sampling

Hi Harry,

The contract was set up for a 28 day TAT and unfortunately I didn't double check this when I submitted the bottle order and Kimberly didn't realize this when she submitted the COC. All the other work under this project is for 14 days and it looks like we didn't remember that you guys were for 28 days. If we are too late to change the TAT, then we really can't do much about it. I just wanted to see. Based on your email, it looks like we are too late to make the TAT per the contract.

Thanks,
Bethany

From: Harry O'Neill [Harry.ONeill@beacon-usa.com]
Sent: Tuesday, February 11, 2014 4:23 PM
To: Garvey, Bethany/ATL
Cc: Robinson, Camden/ATL; Stokes, Kimberly/DFW; Patti Riggs; Steve Thornley
Subject: Re: bottle order for JM-10 / NAS-JAX Vapor Intrusion air sampling

Bethany,

In response to your email today concerning TAT, we have been working to deliver the results in 14 days as noted in your request below from Jan. 10 and as was noted on the chain of custodies received with the samples. What changed and when?

Please double check the deliverable requirement.

Thank you,
Harry

Harry O'Neill
Sent from my wireless device

Bethany.Garvey@CH2M.com wrote:

Hi Harry,

We will be collecting air samples for JM-10 / SBRAC 2 NAS-JAX the week of January 20th, 2014. Please send the below bottle order for delivery on **Friday, 1/17/14**. The bottle order is as follows:

17 samples (+ 2 duplicates) for:
Select VOCs – TO-17
*Select VOCs = cis-1,2-DCE; trans-1,2-DCE; PCE, TCE; and VC
(level C package / 14-day TAT final package)

Please send labels, custody seals, and shipping instructions for direct shipment to Beacon to the below address.

Hilton Garden Inn

ATTN: Kim Stokes (guest)

9745 Gate Pkwy N
Jacksonville, FL 32246
(904) 997-6600

Thanks,

Bethany

ANALYTICAL DATA PACKAGE
SDG # 1401168

PROJECT NAME: NAS JACKSONVILLE JM-10
PROJECT LOCATION: JACKSONVILLE, FL
CONTRACT #: 817501

SUBMITTAL TO:
Kama White
Northpark 400
CH2M HILL, Inc.
1000 Abernathy RD NE, Suite 1600
Atlanta, GA 30328

SUBMITTAL BY:
Empirical Laboratories, LLC (EL)
621 Mainstream Drive, Suite 270
Nashville, TN 37228
Tel (615)345-1115
Fax (866)417-0548

LABORATORY CONTACT PERSON:
Project Manager: Sonya Gordon
Tel (615)345-1115
Fax (866)417-0548
Email: sgordon@empirlabs.com

Original Report Date: February 12, 2014
Report Revision #: N/A
Revision Date: N/A
Total # of Pages: 321

THIS DOCUMENT MEETS DoD QSM 4.2 STANDARDS

The results relate to only the samples associated with the referenced SDG and the submitted data has been produced in accordance with laboratory procedures. The Laboratory's Technical Lab Director, Mr. Rick Davis, is responsible for the final data produced and reported. His signature is listed at the end of the Case Narrative within the Analytical Data Package. If applicable to this report package, details on report revisions and the information on subcontracted analysis are listed in the package Case Narrative. This report shall not be reproduced, except in full, without the written approval of Empirical Laboratories, LLC.

L-A-B Accredited Certificate Number L2226

Table of Contents

Sample Delivery Group Case Narrative

Receipt Information
The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. Samples were subcontracted to ALS Environmental for Volatile Organic Compounds by EPA TO-15.

Changes to the Revision
This is an original submittal of the final report package.

Statement of Data Authenticity:
I certify that, based upon my inquiry of those individuals immediately responsible for obtaining the information and to the best of my knowledge, the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, with the exception of the conditions detailed in this Case Narrative, as verified by my signature below. During absences, Ms. Marcia K. McGinnity or an approved technical designee is authorized to sign this Statement of Data Authenticity.

Lorraine Noronha for
Mr. Rick D. Davis
Laboratory Technical Director / VP Operations

Empirical Laboratories, LLC
Certifications/Approvals
(Revised 12/16/2013)

DoD ELAP, Certificate Number L2226
- Aqueous
- Non-aqueous
- Expires: 11/30/2015

State of Florida, Department of Health – NELAP, Lab ID: E87646
- Clean Water Act
- RCRA/CERCLA
- Expires: 06/30/2014

State of Georgia, Environmental Protection Agency – NELAP
- Expires: 06/30/2014

State of Illinois, Environmental Protection Agency – NELAP, Certificate No.: 003300
- Groundwater
- Solid and Hazardous Waste
- Expires: 09/13/2014

State of Kansas Department of Health and Environment – NELAP, Certificate No.: E-10407
- Aqueous
- Non-aqueous
- Expires: 04/30/2014

State of Kentucky Department of Environmental Protection – NELAP, Certificate No.: 77
- Aqueous
- Non-aqueous
- Expires: 06/30/2014

State of Nevada, Department of Conservation and Natural Resources – NELAP, Certificate No.: TN000042013-1
- Aqueous
- Non-aqueous
- Expires: 07/31/2014

State of New Jersey Department of Environmental Protection – NELAP, Lab ID: TN473
- Water Pollution
- Solid and Hazardous Waste
- Expires: 06/30/2014

State of North Carolina, Department of Environment and Natural Resources - Certificate No.: 643
- Aqueous
- Non-aqueous
- Expires: 12/31/2014

State of North Dakota, Department of Health – NELAP, Certificate No.: R-204
- Aqueous
- Non-aqueous
- Expires: 06/30/2014

State of Texas, Commission on Environmental Quality – NELAP, Certificate No.: T104704307-13-8
- Aqueous
- Non-aqueous
- Expires: 12/31/2013

State of Utah, Department of Health – NELAP, Certificate No.: TN0042013-5
- Aqueous
- Non-aqueous
- Expires: 07/31/2014

Commonwealth of Virginia, Department of General Services – VELAP, Certificate No.: 2558 – Lab ID: 460243
- Aqueous
- Non-aqueous
- Expires: 12/14/2014

State of Washington, Department of Ecology – NELAP, Lab ID: C934-13
- Groundwater
- Solid and Hazardous Waste
- Expires: 03/18/2014

Sample Receipt Information

ALS Environmental
2655 Park Center Drive, Suite A
Simi Valley, CA 93065

Confirmation of Sample Receipt

To:	Sonya Gordon	**From:**	Kate Aguilera
Email:	sgordon@empirlabs.com	**Email:**	Kate.Aguilera@alsglobal.com
Fax:	615-846-5426	**Fax:**	805-526-7270
Phone:	615-345-1115	**Phone:**	805-526-7161 x234

Samples for analysis have been received by ALS Environmental on 1/29/14 and assigned our Service Request number **P1400358**. **Please verify the following information and notify me of any corrections as soon as possible.**

The estimated completion date for this work is: **2/7/14**

Client: Empirical Labs
Project: OU3 - NAS Jacksonville/470875.04.04.02.06

EDD Required: Yes

Tier: IV

Report To:
Sonya Gordon
Empirical Labs
621 Mainstream Drive
Suite 270
Nashville, TN 37228

Billing Address:
Sonya Gordon
Empirical Labs
621 Mainstream Drive
Suite 270
Nashville, TN 37228

Comments: DOD J Flag to MDL, If ND populate with LOD & U flag, CCI Level C deliverable, Final due in 14 calendar days for EDD and Report

Thank you for your business!

A - Test is Authorized H - Test is On Hold HP - Test is On Hold Pending Input P - Test is Authorized for Prep Only C - Test has been Cancelled * - Test has assigned QC

				NA Return B-QC Can	NA Return I-QC Can	TO-15 VOC Cans	TO-15 VOC SIM
P1400358-001	OU3-BLDG103-AI09-0114	Air	1/23/14 0908				A
P1400358-002	OU3-BLDG103-AI03-0114	Air	1/23/14 0913				A
P1400358-003	OU3-BLDG103-AI03P-0114	Air	1/23/14 1027				A
P1400358-004	OU3-BLDG103-AO01-0114	Air	1/23/14 1330				A
P1400358-005	OU3-BLDG101C-GS05-0114	Air	1/22/14 1420			A	
P1400358-006	OU3-BLDG101C-GS04-0114	Air	1/22/14 1449			A	
P1400358-007	OU3-BLDG101C-GS03-0114	Air	1/22/14 1523			A	
P1400358-008	OU3-BLDG101C-GS01-0114	Air	1/22/14 1552			A	
P1400358-009	OU3-BLDG101C-GS02-0114	Air	1/22/14 1625			A	
P1400358-010	OU3-BLDG103-GS01-0114	Air	1/23/14 1005			A	
P1400358-011	OU3-BLDG103-GS01P-0114	Air	1/23/14 1005			A	
P1400358-012	OU3-BLDG103-GS12-0114	Air	1/23/14 1042			A	
P1400358-013	OU3-BLDG103-GS03-0114	Air	1/23/14 1125			A	
P1400358-014	OU3-BLDG103-GS10-0114	Air	1/23/14 1155			A	

				NA Return B-QC Can	NA Return I-QC Can	TO-15 VOC Cans	TO-15 VOC SIM
P1400358-015	OU3-BLDG103-GS02-0114	Air	1/23/14 1410			A	
P1400358-016	OU3-BLDG103-GS11-0114	Air	1/23/14 1452			A	
P1400358-017	OU3-BLDG103-GS15-0114	Air	1/23/14 1520			A	
P1400358-018	OU3-BLDG103-GS15P-0114	Air	1/23/14 1520			A	
P1400358-019	ADHESIVE	Air	1/23/14 1535			A	
P1400358-020	1SC00749	Air	1/23/14 0000	C			
P1400358-021	AS00057	Air	1/23/14 0000		C		

Test Comments:

Group	Test/Method	Samples	Comments
VOA GCMS AIR	TO-15/VOC Cans	19	0.50ug/m3 75 Compound List
VOA GCMS AIR	TO-15/VOC Cans	5-18	0.50ug/m3 VC, TCE, PCE, cis&trans-1,2-DCE
VOA GCMS AIR	TO-15/VOC SIM	1-4	0.025ug/m3 VC, TCE, PCE, cis&trans-1,2-DCE

P1400358

9

CHAIN-OF-CUSTODY RECORD

CH2MHILL.

3011 S.W. Williston Road
Gainesville, FL 32608
Tel No: (352) 384-7002
Fax No: (352) 214-2814

[1] COC NUMBER: 470875- 012414-01

[2] PROJECT NAME:	[3] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
OU3 - NAS Jacksonville	470875.04.04.02.06	ALS-Simi Valley; Kate Aguilera [c/o Empirical Sonya Gordon]	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
[4] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
OU3 Phase 3 Vapor Intrusion Investigation	JM10	N/A	Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
[5] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Kimberly Stokes	phone: 214-998-4839	phone: 805-526-7161 (ALS); 615.345.1115 ext. 238 (Empirical)	Kimberly Stokes/CH2M HILL kstokes@ch2m.com	12750 Merit Drive Suite 1100 Dallas, TX 75251-2224 30328 972-663-2269 phone

[25] ANALYSES

[17] ITEM	[19] SAMPLE ID	[20] MATRIX (see codes on SOP)	[21] DATE START	[21] DATE FINISHED	[21] TIME START	[21] TIME STOP	[23] CANISTER VACUUM IN FIELD, HG (START)	[23] CANISTER VACUUM IN FIELD, HG (STOP)	FLOW CONTROLLER ID	CANISTER ID	[22] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	Select VOCs by TO-15 LL	Select VOCs by TO-15	[26] SAMPLE TYPE (see codes on SOP)	[27] LAB ID (for lab's use)	[28] COMMENTS/ SCREENING READINGS
1	-3,13 OU3-BLDG103-AI09-0114	AI	1/22/2014	1/23/2014	11:30	9:08	-30.32	-7.35	FCA00590	AS00512	IV	14	X				AVG03457
2	-0,63 OU3-BLDG103-AI03-0114	AI	1/22/2014	1/23/2014	11:45	9:13	-30.31	-2.27	FCA00586	AS00463	IV	14	X				AVG03108
3	-3,89 OU3-BLDG103-AI03P-0114	AI	1/22/2014	1/23/2014	11:45	10:27	-30.28	-8.78	FCA00356	AS00580	IV	14	X				AVG03499
4	-3,03 OU3-BLDG103-AO01-0114	AO	1/22/2014	1/23/2014	11:55	13:30	-30.04	-7.60	FCA00891	AC00703	IV	14	X				AVG03450
5	-1,89 OU3-BLDG101C-GS05-0114	GS	1/22/2014	1/22/2014	14:15	14:20	-30.29	-4.60	OA00230	1SS00053	IV	14		X			AVG03576; VOCs = 0.3 ppmv
6	-2,40 OU3-BLDG101C-GS04-0114	GS	1/22/2014	1/22/2014	14:44	14:49	-29.70	-5.70	OA01262	1SS00011	IV	14		X			N/A; VOCs = 2.6 ppmv
7	-1,15 OU3-BLDG101C-GS03-0114	GS	1/22/2014	1/22/2014	15:18	15:23	-27.36	-3.34	OA00747	1SS00032	IV	14		X			AVG03573; VOCs = 1.7 ppmv
8	-1,57 OU3-BLDG101C-GS01-0114	GS	1/22/2014	1/22/2014	15:47	15:52	-29.80	-4.37	OA00230	SSS00012	IV	14		X			AVG00863; VOCs = 0.5 ppmv
9	-0,74 OU3-BLDG101C-GS02-0114	GS	1/22/2014	1/22/2014	16:20	16:25	-30.10	-2.63	OA00725	1SS00028	IV	14		X			AVG03578; VOCs = 0.4 ppmv
10	-0,81 OU3-BLDG103-GS01-0114	GS	1/23/2014	1/23/2014	10:00	10:05	-30.27	-2.93	OA01796	1SS0043	IV	14		X			AVG03569; VOCs = 4.7 ppmv

[29] SAMPLER(S) AND COMPANY: (please print)	[30] FedEX number:	[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
Juan Acaron / CH2M HILL Kim Stokes / CH2M HILL	7977 1639 6509	

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
[signature]	1/24/14	12 00	Reese Masterson [signature]	1/29/14	1010
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [x] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 06/00

1401168

PM00358

CHAIN-OF-CUSTODY RECORD

CH2MHILL

3011 S.W. Williston Road
Gainesville, FL 32608
Tel No: (352) 384-7000
Fax No: (352) 214-2814

[1] COC NUMBER: 470875- 012414-02

[2] PROJECT NAME:	[3] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
OU3 - NAS Jacksonville	470875.04.04.02.06	ALS-Simi Valley; Kate Aguilera [c/o Empirical Sonya Gordon]	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
[4] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
OU3 Phase 3 Vapor Intrusion Investigation	JM10	N/A	Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
[5] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Kimberly Stokes	phone: 214-998-4839	phone: 805-526-7161 (ALS); 615.345.1115 ext. 238 (Empirical)	Kimberly Stokes/CH2M HILL kstokes@ch2m.com	12750 Merit Drive Suite 1100 Dallas, TX 75251-2224 30328 972-663-2269 phone

[25] ANALYSES

[17] ITEM	[19] SAMPLE ID	[20] MATRIX (see codes on SOP)	[21] DATE START	[22] DATE FINISHED	[23] TIME START	[24] TIME STOP	[25] CANISTER VACUUM IN FIELD, HG (START)	[26] CANISTER VACUUM IN FIELD, HG (STOP)	FLOW CONTROLLER ID	CANISTER ID	[27] DATA PKG LEVEL (see codes on SOP)	[28] TAT (calendar days)	Select VOCs by TO-15 LL	Select VOCs by TO-15	[29] SAMPLE TYPE (see codes on SOP)	[27] LAB ID (for lab's use)	[28] COMMENTS/ SCREENING READINGS
11	-1,07 OU3-BLDG103-GS01P-0114	GS	1/23/2014	1/23/2014	10:00	10:05	-29.35	-3.32	OA00798	1SS00017	IV	14		X			AVG02306; VOCs = 4.7 ppmv
12	-1,52 OU3-BLDG103-GS12-0114	GS	1/23/2014	1/23/2014	10:37	10:42	-30.25	-4.02	OA01232	1SS00025	IV	14		X			AVG03253; VOCs = 59 ppmv
13	-0,16 OU3-BLDG103-GS03-0114	GS	1/23/2014	1/23/2014	11:20	11:25	-29.93	-1.30	OA01098	1SC00145	IV	14		X			AVG01073; VOCs = 6.1 ppmv
14	-2,42 OU3-BLDG103-GS10-0114	GS	1/23/2014	1/23/2014	11:50	11:55	-30.21	-6.10	OA00955	1SC01029	IV	14		X			AVG03495; VOCs = 6.4 ppmv
15	-1,81 OU3-BLDG103-GS02-0114	GS	1/23/2014	1/23/2014	14:05	14:10	-30.22	-4.87	OA00731	1SC00348	IV	14		X			AVG01148; VOCs = 1.9 ppmv
16	+0,00 OU3-BLDG103-GS11-0114	GS	1/23/2014	1/23/2014	14:47	14:52	-29.99	-5.63	OA00165	1SC01057	IV	14		X			AVG02345; VOCs = 23.5 ppmv
17	-0,16 OU3-BLDG103-GS15-0114	GS	1/23/2014	1/23/2014	15:15	15:20	-30.37	-2.12	OA00680	1SC01021	IV	14		X			AVG03279; VOCs = 0.9 ppmv
18	+0,02 OU3-BLDG103-GS15P-0114	GS	1/23/2014	1/23/2014	15:15	15:20	-30.29	-2.60	OA00811	1SC01120	IV	14		X			AVG03567; VOCs = 0.9 ppmv
19	-1,82 ADHESIVE	AA	1/23/2014	1/23/2014	15:30	15:35	-29.99	-8.46	OA00726	1SC1078	IV	14		X			FULL TO-15 LIST for this canister only

[29] SAMPLER(S) AND COMPANY: (please print)	[30] FedEX number:	[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
Juan Acaron / CH2M HILL Kim Stokes / CH2M HILL	7977 1639 6509	

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
[signature]	1/24/14	1200	Reese Markenies [signature]	1/29/14	1010
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [x] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 06/00

10

1401168

SUBCONTRACT ORDER

Empirical Laboratories, LLC

1401168

SENDING LABORATORY:

Empirical Laboratories, LLC
621 Mainstream Drive, Suite 270
Nashville, TN 37228
Phone: 615.345.1115
Fax: 866.417.0548
Project Manager: Sonya Gordon

RECEIVING LABORATORY:

ALS Environmental - WA (SUB) [1]
1317 S. 13th Avenue
Kelso, WA 98626
Phone :(360) 577-7222
Fax: x

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: OU3-BLDG103-AI09-0114				
Reference No: 1401168-01 **Air**	**Sampled: 01/23/2014 09:08**			
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 08:08		Low Level
Containers Supplied:				
Sample ID: OU3-BLDG103-AI03-0114				
Reference No: 1401168-02 **Air**	**Sampled: 01/23/2014 09:13**			
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 08:13		Low Level
Containers Supplied:				
Sample ID: OU3-BLDG103-AI03P-0114				
Reference No: 1401168-03 **Air**	**Sampled: 01/23/2014 10:27**			
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 09:27		Low Level
Containers Supplied:				
Sample ID: OU3-BLDG103-AO01-0114				
Reference No: 1401168-04 **Air**	**Sampled: 01/23/2014 13:30**			
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 12:30		Low Level
Containers Supplied:				
Sample ID: OU3-BLDG101C-GS05-0114				
Reference No: 1401168-05 **Air**	**Sampled: 01/22/2014 14:20**			
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/05/2014 13:20		
Containers Supplied:				
Sample ID: OU3-BLDG101C-GS04-0114				
Reference No: 1401168-06 **Air**	**Sampled: 01/22/2014 14:49**			
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/05/2014 13:49		
Containers Supplied:				

Released By	Date	Received By	Date
Released By	Date	Received By	Date

SUBCONTRACT ORDER

Empirical Laboratories, LLC

1401168

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: OU3-BLDG101C-GS03-0114				
Reference No: 1401168-07	**Air**	**Sampled: 01/22/2014 15:23**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/05/2014 14:23		
Containers Supplied:				
Sample ID: OU3-BLDG101C-GS01-0114				
Reference No: 1401168-08	**Air**	**Sampled: 01/22/2014 15:52**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/05/2014 14:52		
Containers Supplied:				
Sample ID: OU3-BLDG101C-GS02-0114				
Reference No: 1401168-09	**Air**	**Sampled: 01/22/2014 16:25**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/05/2014 15:25		
Containers Supplied:				
Sample ID: OU3-BLDG103-GS01-0114				
Reference No: 1401168-10	**Air**	**Sampled: 01/23/2014 10:05**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 09:05		
Containers Supplied:				
Sample ID: OU3-BLDG103-GS01P-0114				
Reference No: 1401168-11	**Air**	**Sampled: 01/23/2014 10:05**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 09:05		
Containers Supplied:				
Sample ID: OU3-BLDG103-GS12-0114				
Reference No: 1401168-12	**Air**	**Sampled: 01/23/2014 10:42**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 09:42		
Containers Supplied:				
Sample ID: OU3-BLDG103-GS03-0114				
Reference No: 1401168-13	**Air**	**Sampled: 01/23/2014 11:25**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 10:25		
Containers Supplied:				
Sample ID: OU3-BLDG103-GS10-0114				
Reference No: 1401168-14	**Air**	**Sampled: 01/23/2014 11:55**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 10:55		
Containers Supplied:				

Released By	Date	Received By	Date
Released By	Date	Received By	Date

SUBCONTRACT ORDER

Empirical Laboratories, LLC

1401168

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: OU3-BLDG103-GS02-0114				
Reference No: 1401168-15	**Air**	**Sampled: 01/23/2014 14:10**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 13:10		
Containers Supplied:				
Sample ID: OU3-BLDG103-GS11-0114				
Reference No: 1401168-16	**Air**	**Sampled: 01/23/2014 14:52**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 13:52		
Containers Supplied:				
Sample ID: OU3-BLDG103-GS15-0114				
Reference No: 1401168-17	**Air**	**Sampled: 01/23/2014 15:20**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 14:20		
Containers Supplied:				
Sample ID: OU3-BLDG103-GS15P-0114				
Reference No: 1401168-18	**Air**	**Sampled: 01/23/2014 15:20**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 14:20		
Containers Supplied:				
Sample ID: ADHESIVE				
Reference No: 1401168-19	**Air**	**Sampled: 01/23/2014 15:35**		
SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	02/06/2014 14:35		Full TO-15 list
Containers Supplied:				

Released By	Date	Received By	Date
Released By	Date	Received By	Date

1401168

Empirical Laboratories, LLC

Client: CH2M Hill, Inc.
Project: NAS Jacksonville JM-10

Project Manager: Sonya Gordon
Project Number: CH2_Jax_JM10

Report To:
CH2M Hill, Inc.
Kama White
Northpark 400 1000 Abernathy Road Suite 1600
Atlanta, GA 30328
Phone: (678) 530-4385
Fax: (303) 771-0952

Invoice To:
CH2M Hill, Inc.
Accounts Payable
P.O.Box 241329
Denver, CO 80224-____
Phone :(303) 771-0952
Fax: (303) 771-0952

Due to Client: 02/12/2014 16:00 *This is the projected due date to the client, at the time of receipt, and is for report delivery via upload, and/or email, and/or shipment to meet TAT as setup by project*

Received By: Sonya Gordon
Date Received: 01/29/2014 10:10

Logged In By: Sonya Gordon
Date Logged In: 01/31/2014 17:05

Samples Received at:

Custody Seals	No	Received On Ice	No
Containers Intact	No		
COC/Labels Agree	No		
Preservation Confirme	No		

Method	Test Code	Due	TAT	Expires	Comments
ALS Environmental - WA (SUB) [1]					
1401168-01 OU3-BLDG103-AI09-0114 [Air] Sampled 01/23/2014 09:08 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 08:08	Low Level
1401168-02 OU3-BLDG103-AI03-0114 [Air] Sampled 01/23/2014 09:13 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 08:13	Low Level
1401168-03 OU3-BLDG103-AI03P-0114 [Air] Sampled 01/23/2014 10:27 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 09:27	Low Level
1401168-04 OU3-BLDG103-AO01-0114 [Air] Sampled 01/23/2014 13:30 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 12:30	Low Level
1401168-05 OU3-BLDG101C-GS05-0114 [Air] Sampled 01/22/2014 14:20 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/05/2014 13:20	
1401168-06 OU3-BLDG101C-GS04-0114 [Air] Sampled 01/22/2014 14:49 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/05/2014 13:49	

1401168

Empirical Laboratories, LLC

Client:	**CH2M Hill, Inc.**	**Project Manager:**	**Sonya Gordon**
Project:	**NAS Jacksonville JM-10**	**Project Number:**	**CH2_Jax_JM10**

Method	Test Code	Due	TAT	Expires	Comments
ALS Environmental - WA (SUB) [1]					
1401168-07 OU3-BLDG101C-GS03-0114 [Air] Sampled 01/22/2014 15:23 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/05/2014 14:23	
1401168-08 OU3-BLDG101C-GS01-0114 [Air] Sampled 01/22/2014 15:52 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/05/2014 14:52	
1401168-09 OU3-BLDG101C-GS02-0114 [Air] Sampled 01/22/2014 16:25 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/05/2014 15:25	
1401168-10 OU3-BLDG103-GS01-0114 [Air] Sampled 01/23/2014 10:05 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 09:05	
1401168-11 OU3-BLDG103-GS01P-0114 [Air] Sampled 01/23/2014 10:05 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 09:05	
1401168-12 OU3-BLDG103-GS12-0114 [Air] Sampled 01/23/2014 10:42 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 09:42	
1401168-13 OU3-BLDG103-GS03-0114 [Air] Sampled 01/23/2014 11:25 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 10:25	
1401168-14 OU3-BLDG103-GS10-0114 [Air] Sampled 01/23/2014 11:55 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 10:55	
1401168-15 OU3-BLDG103-GS02-0114 [Air] Sampled 01/23/2014 14:10 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 13:10	
1401168-16 OU3-BLDG103-GS11-0114 [Air] Sampled 01/23/2014 14:52 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 13:52	
1401168-17 OU3-BLDG103-GS15-0114 [Air] Sampled 01/23/2014 15:20 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 14:20	

1401168

Empirical Laboratories, LLC

Client:	**CH2M Hill, Inc.**	**Project Manager:**	**Sonya Gordon**
Project:	**NAS Jacksonville JM-10**	**Project Number:**	**CH2_Jax_JM10**

Method	Test Code	Due	TAT	Expires	Comments
ALS Environmental - WA (SUB) [1]					
1401168-18 OU3-BLDG103-GS15P-0114 [Air] Sampled 01/23/2014 15:20 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 14:20	
1401168-19 ADHESIVE [Air] Sampled 01/23/2014 15:35 Eastern 'Client Sample'					
bVOCs-TO15 S\	SUB_VOCs-TO15 SW 8260B	02/07/2014 14:00	10	02/06/2014 14:35	Full TO-15 list

Reviewed By

Date

Sample Delivery Group Assignment Form

CLIENT: CH2M Hill, Inc.
PROJECT NAME: NAS Jacksonville JM-10
SDG #: 1401168

QC LEVEL: Level IV
Report Due: 2/12/2014
Client Sample Count: 19

Sample Type	Sampled	Received	Lab ID	Client ID	Report Matrix	bVOCs-TO15 SW 8260B-A
Client Sample	1/23/2014	1/29/2014	1401168-01	OU3-BLDG103-AI09-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-02	OU3-BLDG103-AI03-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-03	OU3-BLDG103-AI03P-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-04	OU3-BLDG103-AO01-0114	Air	X
Client Sample	1/22/2014	1/29/2014	1401168-05	OU3-BLDG101C-GS05-0114	Air	X
Client Sample	1/22/2014	1/29/2014	1401168-06	OU3-BLDG101C-GS04-0114	Air	X
Client Sample	1/22/2014	1/29/2014	1401168-07	OU3-BLDG101C-GS03-0114	Air	X
Client Sample	1/22/2014	1/29/2014	1401168-08	OU3-BLDG101C-GS01-0114	Air	X
Client Sample	1/22/2014	1/29/2014	1401168-09	OU3-BLDG101C-GS02-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-10	OU3-BLDG103-GS01-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-11	OU3-BLDG103-GS01P-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-12	OU3-BLDG103-GS12-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-13	OU3-BLDG103-GS03-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-14	OU3-BLDG103-GS10-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-15	OU3-BLDG103-GS02-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-16	OU3-BLDG103-GS11-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-17	OU3-BLDG103-GS15-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-18	OU3-BLDG103-GS15P-0114	Air	X
Client Sample	1/23/2014	1/29/2014	1401168-19	ADHESIVE	Air	X

Subcontractor Data Package

2655 Park Center Dr., Suite A
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LABORATORY REPORT

February 12, 2014

Sonya Gordon
Empirical Labs
621 Mainstream Drive Suite 270
Nashville, TN 37228

RE: OU3 - NAS Jacksonville / 470875.04.04.02.06

Dear Sonya:

Enclosed are the results of the samples submitted to our laboratory on January 29, 2014. For your reference, these analyses have been assigned our service request number P1400358.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Aguilera
By Kate Aguilera at 10:20 am, Feb 12, 2014

Kate Aguilera
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: Empirical Labs
Project: OU3 - NAS Jacksonville / 470875.04.04.02.06

Service Request No: P1400358

CASE NARRATIVE

The samples were received intact under chain of custody on January 29, 2014 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

Fifteen of the samples were analyzed in Scan mode and four in SIM mode for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is not included on the laboratory's AIHA-LAP scope of accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP scope of accreditation.

The Relative Percent Difference (RPD) for cis-1,2-Dichloroethene in sample OU3-BLDG103-AO01-0114 (P1400358-004 DUP) was outside control criteria. However, precision for these compounds was exhibited by the analysis of a Laboratory Control Sample (LCS) and Duplicate Laboratory Control Sample (DLCS). No further corrective action was required.

The Summa canisters were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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ALS Environmental – Simi Valley

Certifications, Accreditations, and Registrations

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L11-203-R1
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2012039
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	643428
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	CA200007
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-13-4
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272013-3
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Empirical Labs Service Request: P1400358

Project ID: OU3 - NAS Jacksonville / 470875.04.04.02.06

Date Received: 1/29/2014

Time Received: 10:10

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC SIM	TO-15 - VOC Cans
OU3-BLDG103-AI09-0114	P1400358-001	Air	1/23/2014	09:08	AS00512	-3.28	3.55	X	
OU3-BLDG103-AI03-0114	P1400358-002	Air	1/23/2014	09:13	AS00463	-0.78	3.56	X	
OU3-BLDG103-AI03P-0114	P1400358-003	Air	1/23/2014	10:27	AS00580	-3.92	3.58	X	
OU3-BLDG103-AO01-0114	P1400358-004	Air	1/23/2014	13:30	AC00703	-3.16	3.61	X	
OU3-BLDG101C-GS05-0114	P1400358-005	Air	1/22/2014	14:20	1SS00053	-2.03	6.20		X
OU3-BLDG101C-GS04-0114	P1400358-006	Air	1/22/2014	14:49	1SS00011	-2.51	5.71		X
OU3-BLDG101C-GS03-0114	P1400358-007	Air	1/22/2014	15:23	1SS00032	-1.31	5.31		X
OU3-BLDG101C-GS01-0114	P1400358-008	Air	1/22/2014	15:52	1SS00012	-1.74	5.74		X
OU3-BLDG101C-GS02-0114	P1400358-009	Air	1/22/2014	16:25	1SS00028	-0.87	5.91		X
OU3-BLDG103-GS01-0114	P1400358-010	Air	1/23/2014	10:05	1SS00043	-0.98	5.53		X
OU3-BLDG103-GS01P-0114	P1400358-011	Air	1/23/2014	10:05	1SS00017	-1.15	6.50		X
OU3-BLDG103-GS12-0114	P1400358-012	Air	1/23/2014	10:42	1SS00025	-1.63	5.55		X
OU3-BLDG103-GS03-0114	P1400358-013	Air	1/23/2014	11:25	1SC00145	-0.30	5.33		X
OU3-BLDG103-GS10-0114	P1400358-014	Air	1/23/2014	11:55	1SC01029	-2.54	5.87		X
OU3-BLDG103-GS02-0114	P1400358-015	Air	1/23/2014	14:10	1SC00348	-0.35	5.39		X
OU3-BLDG103-GS11-0114	P1400358-016	Air	1/23/2014	14:52	1SC01057	-0.17	5.90		X
OU3-BLDG103-GS15-0114	P1400358-017	Air	1/23/2014	15:20	1SC01021	-0.29	5.76		X
OU3-BLDG103-GS15P-0114	P1400358-018	Air	1/23/2014	15:20	1SC01120	-0.12	5.29		X
ADHESIVE	P1400358-019	Air	1/23/2014	15:35	1SC01078	-1.99	5.48		X

P1400358

CH2MHILL.

3011 S.W. Williston Road
Gainesville, FL 32608

Tel No: (352) 384-7002
Fax No: (352) 214-2814

CHAIN-OF-CUSTODY RECORD

[1] COC NUMBER: 470875- 012414-01

[2] PROJECT NAME:	[3] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
OU3 - NAS Jacksonville	470875.04.04.02.06	ALS-Simi Valley; Kate Aguilera [c/o Empirical Sonya Gordon]	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
[4] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
OU3 Phase 3 Vapor Intrusion Investigation	JM10	N/A	Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
[5] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Kimberly Stokes	phone: 214-998-4839	phone: 805-526-7161 (ALS); 615.345.1115 ext. 238 (Empirical)	Kimberly Stokes/CH2M HILL kstokes@ch2m.com	12750 Merit Drive Suite 1100 Dallas, TX 75251-2224 30328 972-663-2269 phone

[25] ANALYSES

[17] ITEM	[19] SAMPLE ID	[20] MATRIX (see codes on SOP)	[21] DATE START	[21] DATE FINISHED	[21] TIME START	[21] TIME STOP	[23] CANISTER VACUUM IN FIELD, HG (START)	[23] CANISTER VACUUM IN FIELD, HG (STOP)	FLOW CONTROLLER ID	CANISTER ID	[22] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	Select VOCs by TO-15 LL	Select VOCs by TO-15	[26] SAMPLE TYPE (see codes on SOP)	[27] LAB ID (for lab's use)	[28] COMMENTS/ SCREENING READINGS
1	-3,13 OU3-BLDG103-AI09-0114	AI	1/22/2014	1/23/2014	11:30	9:08	-30.32	-7.35	FCA00590	AS00512	IV	14	X				AVG03457
2	-0,63 OU3-BLDG103-AI03-0114	AI	1/22/2014	1/23/2014	11:45	9:13	-30.31	-2.27	FCA00586	AS00463	IV	14	X				AVG03108
3	-3,89 OU3-BLDG103-AI03P-0114	AI	1/22/2014	1/23/2014	11:45	10:27	-30.28	-8.78	FCA00356	AS00580	IV	14	X				AVG03499
4	-3,03 OU3-BLDG103-AO01-0114	AO	1/22/2014	1/23/2014	11:55	13:30	-30.04	-7.60	FCA00891	AC00703	IV	14	X				AVG03450
5	-1,89 OU3-BLDG101C-GS05-0114	GS	1/22/2014	1/22/2014	14:15	14:20	-30.29	-4.60	OA00230	1SS00053	IV	14		X			AVG03576; VOCs = 0.3 ppmv
6	-2,40 OU3-BLDG101C-GS04-0114	GS	1/22/2014	1/22/2014	14:44	14:49	-29.70	-5.70	OA01262	1SS00011	IV	14		X			N/A; VOCs = 2.6 ppmv
7	-1,15 OU3-BLDG101C-GS03-0114	GS	1/22/2014	1/22/2014	15:18	15:23	-27.36	-3.34	OA00747	1SS00032	IV	14		X			AVG03573; VOCs = 1.7 ppmv
8	-1,57 OU3-BLDG101C-GS01-0114	GS	1/22/2014	1/22/2014	15:47	15:52	-29.80	-4.37	OA00230	SSS00012	IV	14		X			AVG00863; VOCs = 0.5 ppmv
9	-0,74 OU3-BLDG101C-GS02-0114	GS	1/22/2014	1/22/2014	16:20	16:25	-30.10	-2.63	OA00725	1SS00028	IV	14		X			AVG03578; VOCs = 0.4 ppmv
10	-0,81 OU3-BLDG103-GS01-0114	GS	1/23/2014	1/23/2014	10:00	10:05	-30.27	-2.93	OA01796	1SS0043	IV	14		X			AVG03569; VOCs = 4.7 ppmv

5 of 303

[29] SAMPLER(S) AND COMPANY: (please print)	[30] FedEX number:	[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
Juan Acaron / CH2M HILL Kim Stokes / CH2M HILL	7977 1639 6509	

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Kim Stokes	1/24/14	12 00	Reese Morton	1/29/14	1010
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [x] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 06/00

PM00358

CHAIN-OF-CUSTODY RECORD

CH2MHILL

3011 S.W. Williston Road
Gainesville, FL 32608

Tel No: (352) 384-7002
Fax No: (352) 214-2814

[1] COC NUMBER: 470875- 012414-02

[4] PROJECT NAME:	[5] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
OU3 - NAS Jacksonville	470875.04.04.02.06	ALS-Simi Valley; Kate Aguilera [c/o Empirical Sonya Gordon]	Bethany Garvey / CH2M HILL bgarvey@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
[3] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
OU3 Phase 3 Vapor Intrusion Investigation	JM10	N/A	Eric Davis / CH2M HILL eric.davis@ch2m.com	Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta GA 30328 678-530-4085 phone
[4] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Kimberly Stokes	phone: 214-998-4839	phone: 805-526-7161 (ALS); 615.345.1115 ext. 238 (Empirical)	Kimberly Stokes/CH2M HILL kstokes@ch2m.com	12750 Merit Drive Suite 1100 Dallas, TX 75251-2224 30328 972-663-2269 phone

[25] ANALYSES

[17] ITEM	[19] SAMPLE ID	[20] MATRIX (see codes on SOP)	[21] DATE START	[22] DATE FINISHED	[23] TIME START	[24] TIME STOP	[25] CANISTER VACUUM IN FIELD, HG (START)	[26] CANISTER VACUUM IN FIELD, HG (STOP)	FLOW CONTROLLER ID	CANISTER ID	[33] DATA PKG LEVEL (see codes on SOP)	[34] TAT (calendar days)	Select VOCs by TO-15 LL	Select VOCs by TO-15	[36] SAMPLE TYPE (see codes on SOP)	[37] LAB ID (for lab's use)	[38] COMMENTS/ SCREENING READINGS
11	-1.07 OU3-BLDG103-GS01P-0114	GS	1/23/2014	1/23/2014	10:00	10:05	-29.35	-3.32	OA00798	1SS00017	IV	14		X			AVG02306; VOCs = 4.7 ppmv
12	-1.52 OU3-BLDG103-GS12-0114	GS	1/23/2014	1/23/2014	10:37	10:42	-30.25	-4.02	OA01232	1SS00025	IV	14		X			AVG03253; VOCs = 59 ppmv
13	-0.16 OU3-BLDG103-GS03-0114	GS	1/23/2014	1/23/2014	11:20	11:25	-29.93	-1.30	OA01098	1SC00145	IV	14		X			AVG01073; VOCs = 6.1 ppmv
14	-2.42 OU3-BLDG103-GS10-0114	GS	1/23/2014	1/23/2014	11:50	11:55	-30.21	-6.10	OA00955	1SC01029	IV	14		X			AVG03495; VOCs = 6.4 ppmv
15	-1.81 OU3-BLDG103-GS02-0114	GS	1/23/2014	1/23/2014	14:05	14:10	-30.22	-4.87	OA00731	1SC00348	IV	14		X			AVG01148; VOCs = 1.9 ppmv
16	+0.00 OU3-BLDG103-GS11-0114	GS	1/23/2014	1/23/2014	14:47	14:52	-29.99	-5.63	OA00165	1SC01057	IV	14		X			AVG02345; VOCs = 23.5 ppmv
17	-0.16 OU3-BLDG103-GS15-0114	GS	1/23/2014	1/23/2014	15:15	15:20	-30.37	-2.12	OA00680	1SC01021	IV	14		X			AVG03279; VOCs = 0.9 ppmv
18	+0.02 OU3-BLDG103-GS15P-0114	GS	1/23/2014	1/23/2014	15:15	15:20	-30.29	-2.60	OA00811	1SC01120	IV	14		X			AVG03567; VOCs = 0.9 ppmv
19	-1.82 ADHESIVE	AA	1/23/2014	1/23/2014	15:30	15:35	-29.99	-8.46	OA00726	1SC1078	IV	14		X			FULL TO-15 LIST for this canister only

[29] SAMPLER(S) AND COMPANY: (please print)
Juan Acaron / CH2M HILL
Kim Stokes / CH2M HILL

[30] FedEX number:
7977 1639 6509

[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
[signature]	1/24/14	1200	Reese Mortenies [signature]	1/29/14	1010
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [x] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CCJ001, Rev 06/00

ALS Environmental
Sample Acceptance Check Form

Client: Empirical Labs Work order: P1400358

Project: OU3 - NAS Jacksonville / 470875.04.04.02.06

Sample(s) received on: 1/29/14 Date opened: 1/29/14 by: RMARTENIES

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by ALS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1400358-001.01	6.0 L Silonite Can					
P1400358-002.01	6.0 L Silonite Can					
P1400358-003.01	6.0 L Silonite Can					
P1400358-004.01	6.0 L Ambient Can					
P1400358-005.01	1.0 L Silonite Can					
P1400358-006.01	1.0 L Silonite Can					
P1400358-007.01	1.0 L Silonite Can					
P1400358-008.01	1.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental
Sample Acceptance Check Form

Client: Empirical Labs Work order: P1400358

Project: OU3 - NAS Jacksonville / 470875.04.04.02.06

Sample(s) received on: 1/29/14 Date opened: 1/29/14 by: RMARTENIES

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1400358-009.01	1.0 L Silonite Can					
P1400358-010.01	1.0 L Silonite Can					
P1400358-011.01	1.0 L Silonite Can					
P1400358-012.01	1.0 L Silonite Can					
P1400358-013.01	1.0 L Source Can					
P1400358-014.01	1.0 L Source Can					
P1400358-015.01	1.0 L Source Can					
P1400358-016.01	1.0 L Source Can					
P1400358-017.01	1.0 L Source Can					
P1400358-018.01	1.0 L Source Can					
P1400358-019.01	1.0 L Source Can					
P1400358-020.02	1.0 L Source Can					
P1400358-021.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS05-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-005

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00053

Date Collected: 1/22/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -2.03 Final Pressure (psig): 6.20

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.6	2.1	1.6	0.70	**U**
156-60-5	trans-1,2-Dichloroethene	1.7	2.1	1.7	0.78	**U**
156-59-2	cis-1,2-Dichloroethene	1.8	2.1	1.8	0.66	**U**
79-01-6	Trichloroethene	**120**	2.1	1.7	0.58	
127-18-4	Tetrachloroethene	**3.1**	2.1	1.6	0.58	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS04-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-006

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00011

Date Collected: 1/22/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.025 Liter(s)

Initial Pressure (psig): -2.51 Final Pressure (psig): 5.71

Canister Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	26	33	26	11	**U**
156-60-5	trans-1,2-Dichloroethene	28	33	28	13	**U**
156-59-2	cis-1,2-Dichloroethene	29	33	29	11	**U**
79-01-6	Trichloroethene	**6,700**	33	28	9.4	
127-18-4	Tetrachloroethene	26	33	26	9.4	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS03-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-007

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00032

Date Collected: 1/22/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.40 Liter(s)
0.040 Liter(s)

Initial Pressure (psig): -1.31 Final Pressure (psig): 5.31

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.5	1.9	1.5	0.63	**U**
156-60-5	trans-1,2-Dichloroethene	**2.2**	1.9	1.6	0.71	
156-59-2	cis-1,2-Dichloroethene	**1.8**	1.9	1.6	0.60	**J**
79-01-6	Trichloroethene	**450**	19	16	5.2	**D**
127-18-4	Tetrachloroethene	1.5	1.9	1.5	0.52	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS01-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00012

Date Collected: 1/22/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -1.74 Final Pressure (psig): 5.74

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.5	2.0	1.5	0.67	**U**
156-60-5	trans-1,2-Dichloroethene	1.7	2.0	1.7	0.75	**U**
156-59-2	cis-1,2-Dichloroethene	1.7	2.0	1.7	0.63	**U**
79-01-6	Trichloroethene	**3.5**	2.0	1.7	0.55	
127-18-4	Tetrachloroethene	1.5	2.0	1.5	0.55	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS02-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-009

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00028

Date Collected: 1/22/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.87 Final Pressure (psig): 5.91

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.5	1.9	1.5	0.63	**U**
156-60-5	trans-1,2-Dichloroethene	1.6	1.9	1.6	0.71	**U**
156-59-2	cis-1,2-Dichloroethene	1.6	1.9	1.6	0.60	**U**
79-01-6	Trichloroethene	1.6	1.9	1.6	0.52	**U**
127-18-4	Tetrachloroethene	**3.4**	1.9	1.5	0.52	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS01-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-010

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00043

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.015 Liter(s)

Initial Pressure (psig): -0.98 Final Pressure (psig): 5.53

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	38	49	38	17	**U**
156-60-5	trans-1,2-Dichloroethene	**2,800**	49	41	19	
156-59-2	cis-1,2-Dichloroethene	**3,100**	49	42	16	
79-01-6	Trichloroethene	**1,200**	49	41	14	
127-18-4	Tetrachloroethene	**8,300**	49	38	14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS01P-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-011

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00017

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.015 Liter(s)

Initial Pressure (psig): -1.15 Final Pressure (psig): 6.50

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	41	52	41	18	**U**
156-60-5	trans-1,2-Dichloroethene	**3,100**	52	44	20	
156-59-2	cis-1,2-Dichloroethene	**3,400**	52	45	17	
79-01-6	Trichloroethene	**1,300**	52	44	15	
127-18-4	Tetrachloroethene	**9,100**	52	41	15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS12-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-012

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00025

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.0020 Liter(s)

Initial Pressure (psig): -1.63 Final Pressure (psig): 5.55

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	300	390	300	130	**U**
156-60-5	trans-1,2-Dichloroethene	**42,000**	390	330	150	
156-59-2	cis-1,2-Dichloroethene	**72,000**	390	330	120	
79-01-6	Trichloroethene	**17,000**	390	330	110	
127-18-4	Tetrachloroethene	**75,000**	390	300	110	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS03-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-013

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00145

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.010 Liter(s)
0.0025 Liter(s)

Initial Pressure (psig): -0.30 Final Pressure (psig): 5.33

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	54	70	54	24	**U**
156-60-5	trans-1,2-Dichloroethene	**1,800**	70	58	26	
156-59-2	cis-1,2-Dichloroethene	**1,600**	70	60	22	
79-01-6	Trichloroethene	**1,200**	70	58	19	
127-18-4	Tetrachloroethene	**12,000**	280	220	78	**D**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS10-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-014

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01029

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.0050 Liter(s)

Initial Pressure (psig): -2.54 Final Pressure (psig): 5.87

Canister Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	130	170	130	57	**U**
156-60-5	trans-1,2-Dichloroethene	**2,500**	170	140	64	
156-59-2	cis-1,2-Dichloroethene	**880**	170	150	54	
79-01-6	Trichloroethene	**3,400**	170	140	47	
127-18-4	Tetrachloroethene	**26,000**	170	130	47	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS02-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-015

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00348

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.015 Liter(s)

Initial Pressure (psig): -0.35 Final Pressure (psig): 5.39

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	36	47	36	16	**U**
156-60-5	trans-1,2-Dichloroethene	39	47	39	18	**U**
156-59-2	cis-1,2-Dichloroethene	40	47	40	15	**U**
79-01-6	Trichloroethene	**140**	47	39	13	
127-18-4	Tetrachloroethene	**8,000**	47	36	13	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS11-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-016

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01057

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.0065 Liter(s)

Initial Pressure (psig): -0.17 Final Pressure (psig): 5.90

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	85	110	85	37	**U**
156-60-5	trans-1,2-Dichloroethene	**14,000**	110	92	42	
156-59-2	cis-1,2-Dichloroethene	**20,000**	110	94	35	
79-01-6	Trichloroethene	**5,300**	110	92	31	
127-18-4	Tetrachloroethene	**11,000**	110	85	31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS15-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-017

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01021

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.29 Final Pressure (psig): 5.76

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.4	1.8	1.4	0.60	**U**
156-60-5	trans-1,2-Dichloroethene	1.5	1.8	1.5	0.67	**U**
156-59-2	cis-1,2-Dichloroethene	1.5	1.8	1.5	0.57	**U**
79-01-6	Trichloroethene	1.5	1.8	1.5	0.50	**U**
127-18-4	Tetrachloroethene	**2.3**	1.8	1.4	0.50	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS15P-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-018

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01120

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.12 Final Pressure (psig): 5.29

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	1.3	1.7	1.3	0.58	**U**
156-60-5	trans-1,2-Dichloroethene	**27**	1.7	1.4	0.65	
156-59-2	cis-1,2-Dichloroethene	**15**	1.7	1.5	0.55	
79-01-6	Trichloroethene	**9.1**	1.7	1.4	0.48	
127-18-4	Tetrachloroethene	**35**	1.7	1.3	0.48	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **ADHESIVE** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-019

Test Code: EPA TO-15 Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/4/14
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01078

Initial Pressure (psig): -1.99 Final Pressure (psig): 5.48

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**4.9**	2.0	1.6	0.56	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	2.0	1.6	0.68	
74-87-3	Chloromethane	1.5	2.0	1.5	0.60	**U**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	1.6	2.0	1.6	0.76	**U**
75-01-4	Vinyl Chloride	1.6	2.0	1.6	0.68	**U**
106-99-0	1,3-Butadiene	1.9	2.0	1.9	0.87	**U**
74-83-9	Bromomethane	1.6	2.0	1.6	0.76	**U**
75-00-3	Chloroethane	1.6	2.0	1.6	0.68	**U**
64-17-5	Ethanol	**11**	20	8.0	3.2	**J**
75-05-8	Acetonitrile	1.6	2.0	1.6	0.72	**U**
107-02-8	Acrolein	1.7	8.0	1.7	0.68	**U**
67-64-1	Acetone	**48**	20	8.3	3.1	
75-69-4	Trichlorofluoromethane	1.6	2.0	1.6	0.68	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**22**	20	3.3	1.7	
107-13-1	Acrylonitrile	1.7	2.0	1.7	0.68	**U**
75-35-4	1,1-Dichloroethene	1.7	2.0	1.7	0.68	**U**
75-09-2	Methylene Chloride	1.6	2.0	1.6	0.68	**U**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	1.7	2.0	1.7	0.64	**U**
76-13-1	Trichlorotrifluoroethane	1.7	2.0	1.7	0.68	**U**
75-15-0	Carbon Disulfide	1.6	20	1.6	0.60	**U**
156-60-5	trans-1,2-Dichloroethene	**10**	2.0	1.7	0.76	
75-34-3	1,1-Dichloroethane	1.7	2.0	1.7	0.64	**U**
1634-04-4	Methyl tert-Butyl Ether	1.7	2.0	1.7	0.68	**U**
108-05-4	Vinyl Acetate	8.0	20	8.0	2.6	**U**
78-93-3	2-Butanone (MEK)	1.7	20	1.7	0.83	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

Client: **Empirical Labs**
Client Sample ID: **ADHESIVE** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-019

Test Code: EPA TO-15 Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/4/14
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01078

Initial Pressure (psig): -1.99 Final Pressure (psig): 5.48

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**18**	2.0	1.7	0.64	
141-78-6	Ethyl Acetate	**7.4**	4.0	3.3	1.4	
110-54-3	n-Hexane	1.6	2.0	1.6	0.60	**U**
67-66-3	Chloroform	1.7	2.0	1.7	0.68	**U**
109-99-9	Tetrahydrofuran (THF)	1.7	2.0	1.7	0.80	**U**
107-06-2	1,2-Dichloroethane	1.7	2.0	1.7	0.64	**U**
71-55-6	1,1,1-Trichloroethane	1.6	2.0	1.6	0.68	**U**
71-43-2	Benzene	1.7	2.0	1.7	0.64	**U**
56-23-5	Carbon Tetrachloride	1.7	2.0	1.7	0.60	**U**
110-82-7	Cyclohexane	3.3	4.0	3.3	1.2	**U**
78-87-5	1,2-Dichloropropane	1.7	2.0	1.7	0.64	**U**
75-27-4	Bromodichloromethane	1.7	2.0	1.7	0.60	**U**
79-01-6	Trichloroethene	**22**	2.0	1.7	0.56	
123-91-1	1,4-Dioxane	1.7	2.0	1.7	0.64	**U**
80-62-6	Methyl Methacrylate	3.3	4.0	3.3	1.2	**U**
142-82-5	n-Heptane	1.7	2.0	1.7	0.68	**U**
10061-01-5	cis-1,3-Dichloropropene	1.6	2.0	1.6	0.56	**U**
108-10-1	4-Methyl-2-pentanone	1.7	2.0	1.7	0.64	**U**
10061-02-6	trans-1,3-Dichloropropene	1.6	2.0	1.6	0.64	**U**
79-00-5	1,1,2-Trichloroethane	1.7	2.0	1.7	0.64	**U**
108-88-3	Toluene	**2.9**	2.0	1.7	0.68	
591-78-6	2-Hexanone	1.7	2.0	1.7	0.64	**U**
124-48-1	Dibromochloromethane	1.7	2.0	1.7	0.64	**U**
106-93-4	1,2-Dibromoethane	1.7	2.0	1.7	0.64	**U**
123-86-4	n-Butyl Acetate	1.8	2.0	1.8	0.64	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Empirical Labs** ALS Project ID: P1400358
Client Sample ID: **ADHESIVE** ALS Sample ID: P1400358-019
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

Test Code: EPA TO-15 Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/4/14
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01078

Initial Pressure (psig): -1.99 Final Pressure (psig): 5.48

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
111-65-9	n-Octane	1.6	2.0	1.6	0.72	**U**
127-18-4	Tetrachloroethene	**430**	20	16	5.6	**D**
108-90-7	Chlorobenzene	1.7	2.0	1.7	0.64	**U**
100-41-4	Ethylbenzene	1.7	2.0	1.7	0.64	**U**
179601-23-1	m,p-Xylenes	3.3	4.0	3.3	1.2	**U**
75-25-2	Bromoform	1.7	2.0	1.7	0.60	**U**
100-42-5	Styrene	1.7	2.0	1.7	0.60	**U**
95-47-6	o-Xylene	1.6	2.0	1.6	0.60	**U**
111-84-2	n-Nonane	1.6	2.0	1.6	0.60	**U**
79-34-5	1,1,2,2-Tetrachloroethane	1.6	2.0	1.6	0.60	**U**
98-82-8	Cumene	1.6	2.0	1.6	0.60	**U**
80-56-8	alpha-Pinene	1.7	2.0	1.7	0.56	**U**
103-65-1	n-Propylbenzene	1.6	2.0	1.6	0.64	**U**
622-96-8	4-Ethyltoluene	1.7	2.0	1.7	0.64	**U**
108-67-8	1,3,5-Trimethylbenzene	1.7	2.0	1.7	0.64	**U**
95-63-6	1,2,4-Trimethylbenzene	1.7	2.0	1.7	0.60	**U**
100-44-7	Benzyl Chloride	1.7	2.0	1.7	0.44	**U**
541-73-1	1,3-Dichlorobenzene	1.7	2.0	1.7	0.60	**U**
106-46-7	1,4-Dichlorobenzene	1.7	2.0	1.7	0.56	**U**
95-50-1	1,2-Dichlorobenzene	1.7	2.0	1.7	0.60	**U**
5989-27-5	d-Limonene	**2.8**	2.0	1.7	0.56	
96-12-8	1,2-Dibromo-3-chloropropane	1.7	2.0	1.7	0.39	**U**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.0	1.7	0.64	**U**
91-20-3	Naphthalene	1.6	2.0	1.6	0.72	**U**
87-68-3	Hexachlorobutadiene	1.7	2.0	1.7	0.56	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **Method Blank**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P140203-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 2/3/14
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	0.39	0.50	0.39	0.17	**U**
156-60-5	trans-1,2-Dichloroethene	0.42	0.50	0.42	0.19	**U**
156-59-2	cis-1,2-Dichloroethene	0.43	0.50	0.43	0.16	**U**
79-01-6	Trichloroethene	0.42	0.50	0.42	0.14	**U**
127-18-4	Tetrachloroethene	0.39	0.50	0.39	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Empirical Labs**
Client Sample ID: **Method Blank** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P140204-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/4/14
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.39	0.50	0.39	0.14	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.40	0.50	0.40	0.17	**U**
74-87-3	Chloromethane	0.38	0.50	0.38	0.15	**U**
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	0.40	0.50	0.40	0.19	**U**
75-01-4	Vinyl Chloride	0.39	0.50	0.39	0.17	**U**
106-99-0	1,3-Butadiene	0.47	0.50	0.47	0.22	**U**
74-83-9	Bromomethane	0.39	0.50	0.39	0.19	**U**
75-00-3	Chloroethane	0.39	0.50	0.39	0.17	**U**
64-17-5	Ethanol	2.0	5.0	2.0	0.80	**U**
75-05-8	Acetonitrile	0.40	0.50	0.40	0.18	**U**
107-02-8	Acrolein	0.42	2.0	0.42	0.17	**U**
67-64-1	Acetone	2.1	5.0	2.1	0.77	**U**
75-69-4	Trichlorofluoromethane	0.40	0.50	0.40	0.17	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.84	5.0	0.84	0.42	**U**
107-13-1	Acrylonitrile	0.42	0.50	0.42	0.17	**U**
75-35-4	1,1-Dichloroethene	0.42	0.50	0.42	0.17	**U**
75-09-2	Methylene Chloride	0.40	0.50	0.40	0.17	**U**
107-05-1	3-Chloro-1-propene (Allyl Chloride)	0.43	0.50	0.43	0.16	**U**
76-13-1	Trichlorotrifluoroethane	0.43	0.50	0.43	0.17	**U**
75-15-0	Carbon Disulfide	0.39	5.0	0.39	0.15	**U**
156-60-5	trans-1,2-Dichloroethene	0.42	0.50	0.42	0.19	**U**
75-34-3	1,1-Dichloroethane	0.42	0.50	0.42	0.16	**U**
1634-04-4	Methyl tert-Butyl Ether	0.42	0.50	0.42	0.17	**U**
108-05-4	Vinyl Acetate	2.0	5.0	2.0	0.65	**U**
78-93-3	2-Butanone (MEK)	0.43	5.0	0.43	0.21	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Empirical Labs**
Client Sample ID: **Method Blank** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P140204-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/4/14
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	0.43	0.50	0.43	0.16	**U**
141-78-6	Ethyl Acetate	0.84	1.0	0.84	0.35	**U**
110-54-3	n-Hexane	0.41	0.50	0.41	0.15	**U**
67-66-3	Chloroform	0.42	0.50	0.42	0.17	**U**
109-99-9	Tetrahydrofuran (THF)	0.43	0.50	0.43	0.20	**U**
107-06-2	1,2-Dichloroethane	0.42	0.50	0.42	0.16	**U**
71-55-6	1,1,1-Trichloroethane	0.41	0.50	0.41	0.17	**U**
71-43-2	Benzene	0.44	0.50	0.44	0.16	**U**
56-23-5	Carbon Tetrachloride	0.42	0.50	0.42	0.15	**U**
110-82-7	Cyclohexane	0.82	1.0	0.82	0.29	**U**
78-87-5	1,2-Dichloropropane	0.42	0.50	0.42	0.16	**U**
75-27-4	Bromodichloromethane	0.43	0.50	0.43	0.15	**U**
79-01-6	Trichloroethene	0.42	0.50	0.42	0.14	**U**
123-91-1	1,4-Dioxane	0.44	0.50	0.44	0.16	**U**
80-62-6	Methyl Methacrylate	0.83	1.0	0.83	0.31	**U**
142-82-5	n-Heptane	0.42	0.50	0.42	0.17	**U**
10061-01-5	cis-1,3-Dichloropropene	0.41	0.50	0.41	0.14	**U**
108-10-1	4-Methyl-2-pentanone	0.43	0.50	0.43	0.16	**U**
10061-02-6	trans-1,3-Dichloropropene	0.41	0.50	0.41	0.16	**U**
79-00-5	1,1,2-Trichloroethane	0.42	0.50	0.42	0.16	**U**
108-88-3	Toluene	0.42	0.50	0.42	0.17	**U**
591-78-6	2-Hexanone	0.44	0.50	0.44	0.16	**U**
124-48-1	Dibromochloromethane	0.43	0.50	0.43	0.16	**U**
106-93-4	1,2-Dibromoethane	0.43	0.50	0.43	0.16	**U**
123-86-4	n-Butyl Acetate	0.45	0.50	0.45	0.16	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Empirical Labs** ALS Project ID: P1400358
Client Sample ID: **Method Blank** ALS Sample ID: P140204-MB
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/4/14
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
111-65-9	n-Octane	0.41	0.50	0.41	0.18	**U**
127-18-4	Tetrachloroethene	0.39	0.50	0.39	0.14	**U**
108-90-7	Chlorobenzene	0.43	0.50	0.43	0.16	**U**
100-41-4	Ethylbenzene	0.43	0.50	0.43	0.16	**U**
179601-23-1	m,p-Xylenes	0.84	1.0	0.84	0.30	**U**
75-25-2	Bromoform	0.43	0.50	0.43	0.15	**U**
100-42-5	Styrene	0.44	0.50	0.44	0.15	**U**
95-47-6	o-Xylene	0.41	0.50	0.41	0.15	**U**
111-84-2	n-Nonane	0.41	0.50	0.41	0.15	**U**
79-34-5	1,1,2,2-Tetrachloroethane	0.40	0.50	0.40	0.15	**U**
98-82-8	Cumene	0.40	0.50	0.40	0.15	**U**
80-56-8	alpha-Pinene	0.42	0.50	0.42	0.14	**U**
103-65-1	n-Propylbenzene	0.40	0.50	0.40	0.16	**U**
622-96-8	4-Ethyltoluene	0.42	0.50	0.42	0.16	**U**
108-67-8	1,3,5-Trimethylbenzene	0.42	0.50	0.42	0.16	**U**
95-63-6	1,2,4-Trimethylbenzene	0.42	0.50	0.42	0.15	**U**
100-44-7	Benzyl Chloride	0.44	0.50	0.44	0.11	**U**
541-73-1	1,3-Dichlorobenzene	0.44	0.50	0.44	0.15	**U**
106-46-7	1,4-Dichlorobenzene	0.42	0.50	0.42	0.14	**U**
95-50-1	1,2-Dichlorobenzene	0.43	0.50	0.43	0.15	**U**
5989-27-5	d-Limonene	0.42	0.50	0.42	0.14	**U**
96-12-8	1,2-Dibromo-3-chloropropane	0.42	0.50	0.42	0.099	**U**
120-82-1	1,2,4-Trichlorobenzene	0.44	0.50	0.44	0.16	**U**
91-20-3	Naphthalene	0.41	0.50	0.41	0.18	**U**
87-68-3	Hexachlorobutadiene	0.44	0.50	0.44	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Empirical Labs**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Project ID: P1400358

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date(s) Collected: 1/22 - 1/23/14
Analyst: Wida Ang Date(s) Received: 1/29/14
Sampling Media: 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 2/3 - 2/4/14
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P140203-MB	**121**	**96**	**89**	70-130	
Method Blank	P140204-MB	**123**	**96**	**92**	70-130	
Lab Control Sample	P140203-LCS	**113**	**91**	**92**	70-130	
Lab Control Sample	P140204-LCS	**122**	**93**	**95**	70-130	
OU3-BLDG101C-GS05-0114	P1400358-005	**122**	**93**	**93**	70-130	
OU3-BLDG101C-GS04-0114	P1400358-006	**123**	**93**	**94**	70-130	
OU3-BLDG101C-GS04-0114	P1400358-006DUP	**123**	**95**	**93**	70-130	
OU3-BLDG101C-GS03-0114	P1400358-007	**121**	**90**	**95**	70-130	
OU3-BLDG101C-GS01-0114	P1400358-008	**123**	**93**	**92**	70-130	
OU3-BLDG101C-GS02-0114	P1400358-009	**126**	**93**	**92**	70-130	
OU3-BLDG103-GS01-0114	P1400358-010	**124**	**95**	**92**	70-130	
OU3-BLDG103-GS01P-0114	P1400358-011	**123**	**95**	**92**	70-130	
OU3-BLDG103-GS01P-0114	P1400358-011DUP	**123**	**96**	**92**	70-130	
OU3-BLDG103-GS12-0114	P1400358-012	**121**	**94**	**93**	70-130	
OU3-BLDG103-GS03-0114	P1400358-013	**123**	**95**	**95**	70-130	
OU3-BLDG103-GS10-0114	P1400358-014	**121**	**95**	**95**	70-130	
OU3-BLDG103-GS02-0114	P1400358-015	**124**	**96**	**92**	70-130	
OU3-BLDG103-GS11-0114	P1400358-016	**120**	**94**	**95**	70-130	
OU3-BLDG103-GS15-0114	P1400358-017	**124**	**93**	**92**	70-130	
OU3-BLDG103-GS15P-0114	P1400358-018	**124**	**94**	**93**	70-130	
ADHESIVE	P1400358-019	**123**	**95**	**97**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Empirical Labs**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P140203-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/3/14
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	DOD Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	200	**196**	**98**	64-127	
156-60-5	trans-1,2-Dichloroethene	212	**216**	**102**	67-124	
156-59-2	cis-1,2-Dichloroethene	214	**208**	**97**	70-121	
79-01-6	Trichloroethene	208	**192**	**92**	71-123	
127-18-4	Tetrachloroethene	196	**168**	**86**	66-124	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Empirical Labs**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P140204-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/4/14
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	DOD Acceptance Limits	Data Qualifier
115-07-1	Propene	200	**186**	**93**	57-136	
75-71-8	Dichlorodifluoromethane (CFC 12)	204	**226**	**111**	59-128	
74-87-3	Chloromethane	198	**180**	**91**	59-132	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	204	**202**	**99**	63-121	
75-01-4	Vinyl Chloride	200	**193**	**97**	64-127	
106-99-0	1,3-Butadiene	212	**220**	**104**	66-134	
74-83-9	Bromomethane	200	**200**	**100**	63-134	
75-00-3	Chloroethane	202	**195**	**97**	63-127	
64-17-5	Ethanol	1,020	**1040**	**102**	59-125	
75-05-8	Acetonitrile	202	**185**	**92**	63-132	
107-02-8	Acrolein	214	**211**	**99**	62-126	
67-64-1	Acetone	1,080	**1110**	**103**	58-128	
75-69-4	Trichlorofluoromethane	198	**209**	**106**	62-126	
67-63-0	2-Propanol (Isopropyl Alcohol)	420	**419**	**100**	52-125	
107-13-1	Acrylonitrile	208	**209**	**100**	71-137	
75-35-4	1,1-Dichloroethene	214	**199**	**93**	61-133	
75-09-2	Methylene Chloride	216	**198**	**92**	62-115	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	**192**	**89**	71-131	
76-13-1	Trichlorotrifluoroethane	214	**200**	**93**	66-126	
75-15-0	Carbon Disulfide	196	**195**	**99**	57-134	
156-60-5	trans-1,2-Dichloroethene	212	**215**	**101**	67-124	
75-34-3	1,1-Dichloroethane	208	**200**	**96**	68-126	
1634-04-4	Methyl tert-Butyl Ether	212	**218**	**103**	66-126	
108-05-4	Vinyl Acetate	1,020	**1160**	**114**	56-139	
78-93-3	2-Butanone (MEK)	218	**202**	**93**	67-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Empirical Labs**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P140204-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/4/14
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	DOD Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	214	**220**	**103**	70-121	
141-78-6	Ethyl Acetate	426	**417**	**98**	65-128	
110-54-3	n-Hexane	210	**209**	**100**	63-120	
67-66-3	Chloroform	214	**223**	**104**	68-123	
109-99-9	Tetrahydrofuran (THF)	206	**203**	**99**	64-123	
107-06-2	1,2-Dichloroethane	210	**241**	**115**	65-128	
71-55-6	1,1,1-Trichloroethane	206	**218**	**106**	68-125	
71-43-2	Benzene	220	**208**	**95**	69-119	
56-23-5	Carbon Tetrachloride	210	**239**	**114**	68-132	
110-82-7	Cyclohexane	420	**420**	**100**	70-117	
78-87-5	1,2-Dichloropropane	212	**192**	**91**	69-123	
75-27-4	Bromodichloromethane	214	**232**	**108**	72-128	
79-01-6	Trichloroethene	208	**193**	**93**	71-123	
123-91-1	1,4-Dioxane	218	**216**	**99**	71-122	
80-62-6	Methyl Methacrylate	420	**404**	**96**	70-128	
142-82-5	n-Heptane	214	**198**	**93**	69-123	
10061-01-5	cis-1,3-Dichloropropene	226	**229**	**101**	70-128	
108-10-1	4-Methyl-2-pentanone	218	**199**	**91**	67-130	
10061-02-6	trans-1,3-Dichloropropene	216	**233**	**108**	75-133	
79-00-5	1,1,2-Trichloroethane	210	**205**	**98**	73-119	
108-88-3	Toluene	210	**184**	**88**	66-119	
591-78-6	2-Hexanone	222	**210**	**95**	62-128	
124-48-1	Dibromochloromethane	220	**214**	**97**	70-130	
106-93-4	1,2-Dibromoethane	216	**195**	**90**	74-122	
123-86-4	n-Butyl Acetate	224	**206**	**92**	63-136	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **Empirical Labs**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P140204-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/4/14
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	DOD Acceptance Limits	Data Qualifier
111-65-9	n-Octane	208	**187**	**90**	69-121	
127-18-4	Tetrachloroethene	196	**173**	**88**	66-124	
108-90-7	Chlorobenzene	216	**192**	**89**	70-119	
100-41-4	Ethylbenzene	212	**201**	**95**	70-124	
179601-23-1	m,p-Xylenes	420	**438**	**104**	61-134	
75-25-2	Bromoform	216	**234**	**108**	66-139	
100-42-5	Styrene	218	**207**	**95**	73-127	
95-47-6	o-Xylene	206	**213**	**103**	67-125	
111-84-2	n-Nonane	206	**191**	**93**	63-128	
79-34-5	1,1,2,2-Tetrachloroethane	202	**220**	**109**	65-127	
98-82-8	Cumene	204	**197**	**97**	68-124	
80-56-8	alpha-Pinene	208	**199**	**96**	66-123	
103-65-1	n-Propylbenzene	202	**202**	**100**	69-123	
622-96-8	4-Ethyltoluene	212	**220**	**104**	67-129	
108-67-8	1,3,5-Trimethylbenzene	212	**218**	**103**	67-130	
95-63-6	1,2,4-Trimethylbenzene	212	**235**	**111**	66-132	
100-44-7	Benzyl Chloride	222	**291**	**131**	50-147	
541-73-1	1,3-Dichlorobenzene	222	**238**	**107**	65-130	
106-46-7	1,4-Dichlorobenzene	214	**206**	**96**	60-131	
95-50-1	1,2-Dichlorobenzene	218	**213**	**98**	63-129	
5989-27-5	d-Limonene	210	**221**	**105**	62-133	
96-12-8	1,2-Dibromo-3-chloropropane	212	**214**	**101**	62-155	
120-82-1	1,2,4-Trichlorobenzene	220	**198**	**90**	55-142	
91-20-3	Naphthalene	204	**210**	**103**	57-138	
87-68-3	Hexachlorobutadiene	218	**199**	**91**	56-138	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG101C-GS04-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-006DUP

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00011

Date Collected: 1/22/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 0.025 Liter(s)

Initial Pressure (psig): -2.51 Final Pressure (psig): 5.71

Canister Dilution Factor: 1.67

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Vinyl Chloride	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	-	-	25	
Trichloroethene	6,700	6,600	6650	**2**	25	
Tetrachloroethene	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-GS01P-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-011DUP

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8
Analyst: Wida Ang
Sampling Media: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00017

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/3/14
Volume(s) Analyzed: 0.015 Liter(s)

Initial Pressure (psig): -1.15 Final Pressure (psig): 6.50

Canister Dilution Factor: 1.56

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Vinyl Chloride	ND	ND	-	-	25	
trans-1,2-Dichloroethene	3,070	2,990	3030	**3**	25	
cis-1,2-Dichloroethene	3,380	3,280	3330	**3**	25	
Trichloroethene	1,260	1,230	1245	**2**	25	
Tetrachloroethene	9,110	8,890	9000	**2**	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs** ALS Project ID: P1400358

Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Lab File ID: 02031402.D

Analyst: Wida Ang Date Analyzed: 2/3/14

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 08:53

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	177477	8.93	782718	10.98	336933	14.55
	Upper Limit	248468	9.26	1095805	11.31	471706	14.88
	Lower Limit	106486	8.60	469631	10.65	202160	14.22
	Client Sample ID						
01	Method Blank	192391	8.92	976766	10.97	407321	14.55
02	Lab Control Sample	194551	8.93	844001	10.98	385858	14.55
03	OU3-BLDG101C-GS05-0114	208018	8.92	1065143	10.97	456347	14.55
04	OU3-BLDG101C-GS03-0114	210078	8.92	1014059	10.97	440222	14.55
05	OU3-BLDG101C-GS03-0114 (Dilution)	187886	8.92	939450	10.97	407791	14.55
06	OU3-BLDG101C-GS01-0114	192946	8.92	981418	10.97	424199	14.55
07	OU3-BLDG101C-GS02-0114	185504	8.92	950582	10.97	409001	14.55
08	OU3-BLDG103-GS01-0114	170261	8.92	866030	10.97	367961	14.55
09	OU3-BLDG103-GS01P-0114	168722	8.92	861737	10.97	363835	14.55
10	OU3-BLDG103-GS01P-0114 (Lab Duplicate)	166637	8.92	848530	10.97	359857	14.55
11	OU3-BLDG103-GS02-0114	163757	8.92	837467	10.97	353495	14.55
12	OU3-BLDG103-GS15-0114	174319	8.92	898999	10.97	387987	14.55
13	OU3-BLDG103-GS15P-0114	176647	8.92	908469	10.97	388385	14.55
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs** ALS Project ID: P1400358

Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS8 Lab File ID: 02041402.D

Analyst: Wida Ang Date Analyzed: 2/4/14

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 08:09

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	193890		8.93		964667		10.98		408270		14.55	
	Upper Limit	271446		9.26		1350534		11.31		571578		14.88	
	Lower Limit	116334		8.60		578800		10.65		244962		14.22	
	Client Sample ID												
01	Method Blank	225317		8.92		1171530		10.97		490941		14.55	
02	Lab Control Sample	195009		8.93		970038		10.98		415503		14.55	
03	OU3-BLDG103-GS12-0114	235043		8.92		1187831		10.97		506549		14.55	
04	OU3-BLDG103-GS03-0114	226278		8.92		1158414		10.97		493330		14.55	
05	OU3-BLDG103-GS10-0114	226431		8.92		1159897		10.97		493561		14.55	
06	OU3-BLDG101C-GS04-0114	196113		8.92		1013937		10.97		436936		14.55	
07	OU3-BLDG101C-GS04-0114 (Lab Duplicate)	196930		8.92		1011211		10.97		427564		14.55	
08	OU3-BLDG103-GS03-0114 (Dilution)	212329		8.92		1082348		10.97		461266		14.55	
09	OU3-BLDG103-GS11-0114	211955		8.92		1058023		10.97		457296		14.55	
10	ADHESIVE	198287		8.92		1009341		10.97		431968		14.55	
11	ADHESIVE (Dilution)	185534		8.92		956909		10.97		408193		14.55	
12													
13													
14													
15													
16													
17													
18													
19													
20													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-AI09-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-001

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00512

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.28 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	0.030	0.040	0.030	0.011	**U**
156-60-5	trans-1,2-Dichloroethene	**6.2**	0.040	0.034	0.010	
156-59-2	cis-1,2-Dichloroethene	**12**	0.040	0.035	0.0098	
79-01-6	Trichloroethene	**2.1**	0.040	0.034	0.012	
127-18-4	Tetrachloroethene	**5.0**	0.040	0.032	0.012	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-AI03-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-002

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00463

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.78 Final Pressure (psig): 3.56

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	0.025	0.033	0.025	0.0089	**U**
156-60-5	trans-1,2-Dichloroethene	**1.8**	0.033	0.028	0.0084	
156-59-2	cis-1,2-Dichloroethene	**3.0**	0.033	0.029	0.0080	
79-01-6	Trichloroethene	**0.63**	0.033	0.028	0.0094	
127-18-4	Tetrachloroethene	**2.9**	0.033	0.026	0.0097	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-AI03P-0114**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P1400358-003

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00580

Date Collected: 1/23/14
Date Received: 1/29/14
Date Analyzed: 2/4/14
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.92 Final Pressure (psig): 3.58

Canister Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	0.032	0.043	0.032	0.012	**U**
156-60-5	trans-1,2-Dichloroethene	**1.8**	0.043	0.036	0.011	
156-59-2	cis-1,2-Dichloroethene	**3.0**	0.043	0.037	0.010	
79-01-6	Trichloroethene	**0.64**	0.043	0.036	0.012	
127-18-4	Tetrachloroethene	**2.7**	0.043	0.034	0.013	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-AO01-0114** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-004

Test Code: EPA TO-15 SIM Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/4/14
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00703

Initial Pressure (psig): -3.16 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	0.030	0.040	0.030	0.011	**U**
156-60-5	trans-1,2-Dichloroethene	0.033	0.040	0.033	0.010	**U**
156-59-2	cis-1,2-Dichloroethene	**0.16**	0.040	0.035	0.0097	
79-01-6	Trichloroethene	0.033	0.040	0.033	0.011	**U**
127-18-4	Tetrachloroethene	**0.053**	0.040	0.032	0.012	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Empirical Labs**
Client Sample ID: **Method Blank**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06**

ALS Project ID: P1400358
ALS Sample ID: P140204-MB

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 2/4/14
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
75-01-4	Vinyl Chloride	0.019	0.025	0.019	0.0068	**U**
156-60-5	trans-1,2-Dichloroethene	0.021	0.025	0.021	0.0064	**U**
156-59-2	cis-1,2-Dichloroethene	0.022	0.025	0.022	0.0061	**U**
79-01-6	Trichloroethene	0.021	0.025	0.021	0.0072	**U**
127-18-4	Tetrachloroethene	0.020	0.025	0.020	0.0074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Empirical Labs**
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Project ID: P1400358

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date(s) Collected: 1/23/14
Analyst: Wida Ang Date(s) Received: 1/29/14
Sample Type: 6.0 L Silonite Canister(s) Date(s) Analyzed: 2/4/14
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 % Recovered	Toluene-d8 % Recovered	Bromofluorobenzene % Recovered	Acceptance Limits	Data Qualifier
Method Blank	P140204-MB	**97**	**99**	**102**	70-130	
Lab Control Sample	P140204-LCS	**101**	**99**	**105**	70-130	
OU3-BLDG103-AI09-0114	P1400358-001	**95**	**100**	**104**	70-130	
OU3-BLDG103-AI03-0114	P1400358-002	**95**	**100**	**103**	70-130	
OU3-BLDG103-AI03P-0114	P1400358-003	**96**	**100**	**104**	70-130	
OU3-BLDG103-AO01-0114	P1400358-004	**97**	**100**	**105**	70-130	
OU3-BLDG103-AO01-0114	P1400358-004DUP	**97**	**99**	**104**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Empirical Labs**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P140204-LCS

Test Code: EPA TO-15 SIM Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date Received: NA
Analyst: Wida Ang Date Analyzed: 2/5/14
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	DOD Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	4.00	**3.96**	**99**	64-127	
156-60-5	trans-1,2-Dichloroethene	4.24	**4.00**	**94**	67-124	
156-59-2	cis-1,2-Dichloroethene	4.28	**4.08**	**95**	70-121	
79-01-6	Trichloroethene	4.16	**3.92**	**94**	71-123	
127-18-4	Tetrachloroethene	3.92	**3.71**	**95**	66-124	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Empirical Labs**
Client Sample ID: **OU3-BLDG103-AO01-0114** ALS Project ID: P1400358
Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Sample ID: P1400358-004DUP

Test Code: EPA TO-15 SIM Date Collected: 1/23/14
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date Received: 1/29/14
Analyst: Wida Ang Date Analyzed: 2/4/14
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00703
Initial Pressure (psig): -3.16 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.59

CAS #	Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
75-01-4	Vinyl Chloride	ND	ND	-	-	25	**U**
156-60-5	trans-1,2-Dichloroethene	ND	ND	-	-	25	**U**
156-59-2	cis-1,2-Dichloroethene	0.160	0.266	0.213	**50**	25	**R**
79-01-6	Trichloroethene	ND	ND	-	-	25	**U**
127-18-4	Tetrachloroethene	0.0528	0.0533	0.05305	**0.9**	25	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
R = Duplicate precision not met.

Client: **Empirical Labs**

Client Project ID: **OU3 - NAS Jacksonville / 470875.04.04.02.06** ALS Project ID: P1400358

Internal Standard Area and RT Summary

Test Code: EPA TO-15 SIM

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Lab File ID: 02041419.D

Analyst: Wida Ang Date Analyzed: 2/4/14

Sample Type: 6.0 L Silonite Canister(s) Time Analyzed: 17:36

Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	29282		6.13	159826		8.73		27614		13.14	
	Upper Limit	40995		6.46	223756		9.06		38660		13.47	
	Lower Limit	17569		5.80	95896		8.40		16568		12.81	
	Client Sample ID											
01	Method Blank	28353		6.12	155815		8.73		27183		13.14	
02	Lab Control Sample	30595		6.12	166258		8.73		28673		13.14	
03	OU3-BLDG103-AI09-0114	31425		6.13	168639		8.73		29884		13.14	
04	OU3-BLDG103-AI03-0114	31197		6.13	168317		8.73		30124		13.14	
05	OU3-BLDG103-AI03P-0114	31086		6.13	168822		8.73		29896		13.14	
06	OU3-BLDG103-AO01-0114	30367		6.12	167660		8.73		29110		13.14	
07	OU3-BLDG103-AO01-0114 (Lab Duplicate)	29751		6.12	163504		8.73		27913		13.14	
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

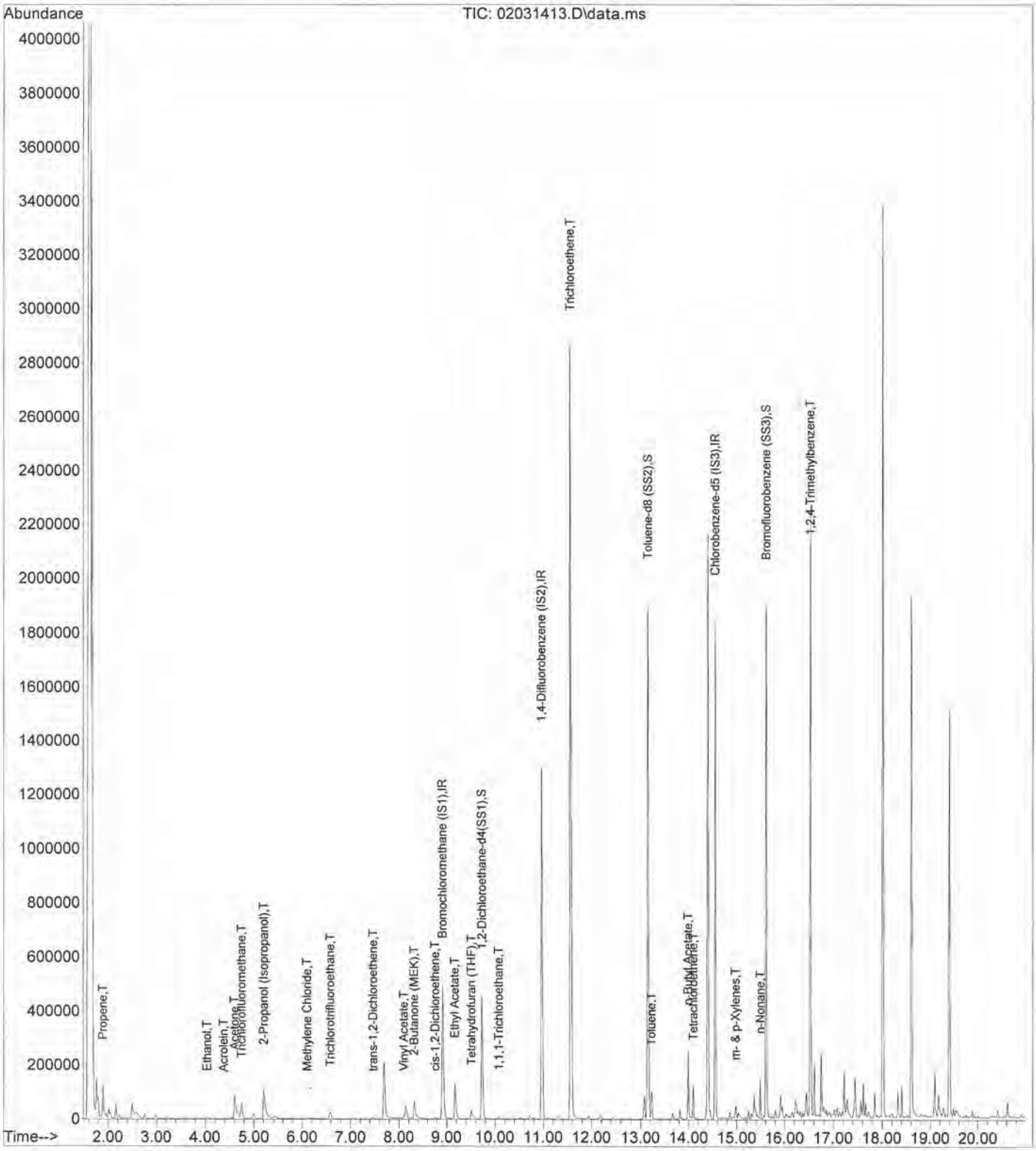
AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits. See case narrative.

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031413.D
Acq On : 3 Feb 2014 17:04 Operator: WA
Sample : P1400358-005 (400mL)
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 05 14:47:09 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031413.D
Acq On : 3 Feb 2014 17:04 Operator: WA
Sample : P1400358-005 (400mL)
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 05 14:47:09 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	208018	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	1065143	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	456347	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.73	65	344357	15.230	ng		0.00
Spiked Amount 12.500			Recovery = 121.84%				
57) Toluene-d8 (SS2)	13.15	98	1125259	11.575	ng		0.00
Spiked Amount 12.500			Recovery = 92.56%				
73) Bromofluorobenzene (SS3)	15.61	174	454264	11.643	ng		0.00
Spiked Amount 12.500			Recovery = 93.12%				
Target Compounds							Qvalue
2) Propene	1.89	42	14952	0.510	ng	#	86
3) Dichlorodifluoromethan...	2.05	85	49	N.D.			
4) Chloromethane	2.24	50	897	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	2.49	135	438	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	3.20	94	1119	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.04	45	11130	0.551	ng		97
11) Acetonitrile	4.21	41	2129	N.D.			
12) Acrolein	4.38	56	2839	0.167	ng		92
13) Acetone	4.60	58	53506	2.644	ng		92
14) Trichlorofluoromethane	4.75	101	52744	1.148	ng		99
15) 2-Propanol (Isopropanol)	5.20	45	223897	3.043	ng		95
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.31	59	2770	N.D.			
19) Methylene Chloride	6.10	84	3416	0.125	ng		89
20) 3-Chloro-1-propene (Al...	6.29	41	57	N.D.			
21) Trichlorotrifluoroethane	6.59	151	13079	0.541	ng		94
22) Carbon Disulfide	6.18	76	6355	N.D.			
23) trans-1,2-Dichloroethene	7.47	61	4398	0.118	ng		93
24) 1,1-Dichloroethane	7.69	63	2278	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.10	86	1910	0.253	ng	#	52
27) 2-Butanone (MEK)	8.32	72	25665	1.340	ng		95
28) cis-1,2-Dichloroethene	8.77	61	4591	0.131	ng		93
29) Diisopropyl Ether	9.16	87	174	N.D.			
30) Ethyl Acetate	9.17	61	24165	2.519	ng		99
31) n-Hexane	9.05	57	1162	N.D.			
32) Chloroform	9.11	83	2675	N.D.			
34) Tetrahydrofuran (THF)	9.51	72	10889	0.627	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	9.73	62	126	N.D.			
38) 1,1,1-Trichloroethane	10.08	97	6396	0.156	ng		95
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.53	78	5667	N.D.			
42) Carbon Tetrachloride	10.67	117	216	N.D.			
43) Cyclohexane	10.77	84	1431	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		

Data File: I:\MS08\Data\2014_02\03\02031413.D
Acq On : 3 Feb 2014 17:04 Operator: WA
Sample : P1400358-005 (400mL)
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 05 14:47:09 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

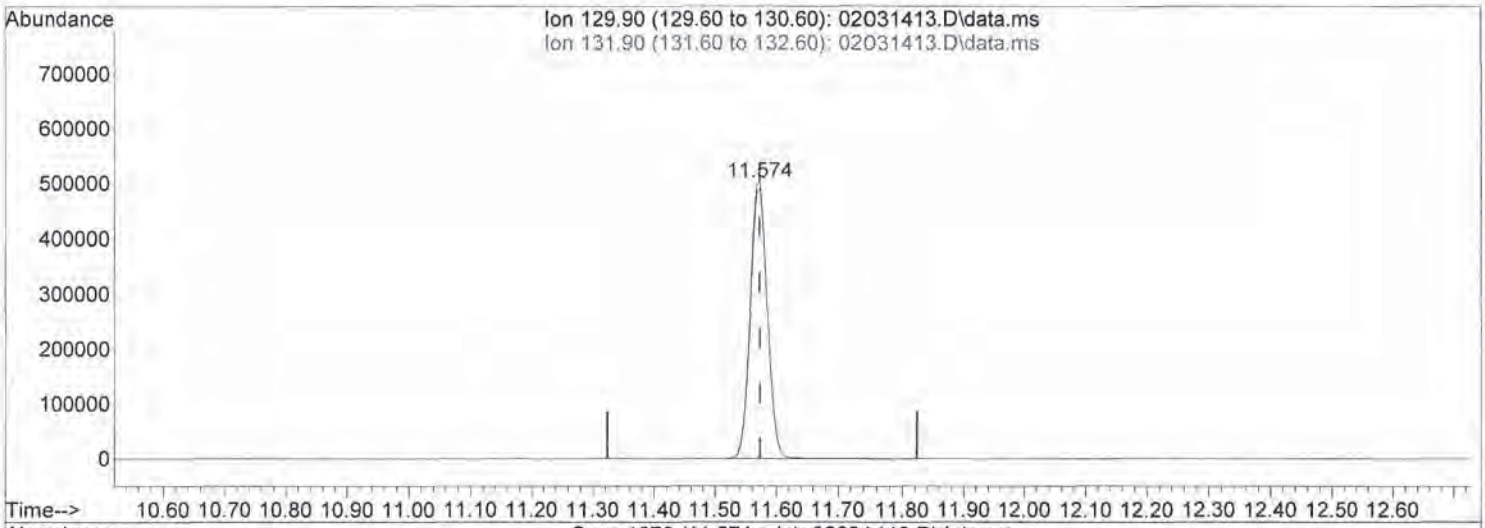
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	962109	29.145 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.64	57	1676	N.D.	
50) Methyl Methacrylate	11.94	100	830	N.D.	
51) n-Heptane	11.93	71	2368	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.49	58	459	N.D.	
54) trans-1,3-Dichloropropene	13.07	75	2909	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	67870	0.536 ng	97
59) 2-Hexanone	13.50	43	1387	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.99	43	157557	2.011 ng	96
63) n-Octane	14.05	57	1130	N.D.	
64) Tetrachloroethene	14.10	166	31405	0.762 ng	99
65) Chlorobenzene	14.58	112	334	N.D.	
66) Ethylbenzene	14.86	91	10874	N.D.	
67) m- & p-Xylenes	14.98	91	30433	0.273 ng	94
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.23	104	1276	N.D.	
70) o-Xylene	15.30	91	8712	N.D.	
71) n-Nonane	15.49	43	40835	0.599 ng	98
72) 1,1,2,2-Tetrachloroethane	15.35	83	2766	N.D.	
74) Cumene	15.71	105	914	N.D.	
75) alpha-Pinene	15.98	93	899	N.D.	
76) n-Propylbenzene	16.07	91	2104	N.D.	
77) 3-Ethyltoluene	16.14	105	4385	N.D.	
78) 4-Ethyltoluene	16.17	105	2354	N.D.	
79) 1,3,5-Trimethylbenzene	16.23	105	1694	N.D.	
80) alpha-Methylstyrene	16.33	118	526	N.D.	
81) 2-Ethyltoluene	16.36	105	1572	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	17077	0.140 ng	83
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	16.60	91	293	N.D.	
85) 1,3-Dichlorobenzene	16.66	146	961	N.D.	
86) 1,4-Dichlorobenzene	16.66	146	961	N.D.	
87) sec-Butylbenzene	16.71	105	377	N.D.	
88) 4-Isopropyltoluene (p-...	16.83	119	995	N.D.	
89) 1,2,3-Trimethylbenzene	16.82	105	1867	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	16.94	68	2872	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	18.26	180	57	N.D.	
95) Naphthalene	18.35	128	3220	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.08	55	2289	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	17.14	91	1781	N.D.	

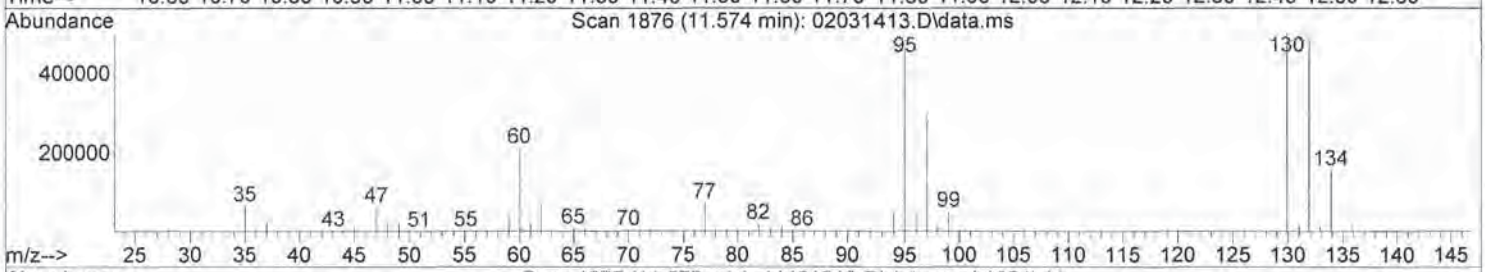
(#) = qualifier out of range (m) = manual integration (+) = signals summed

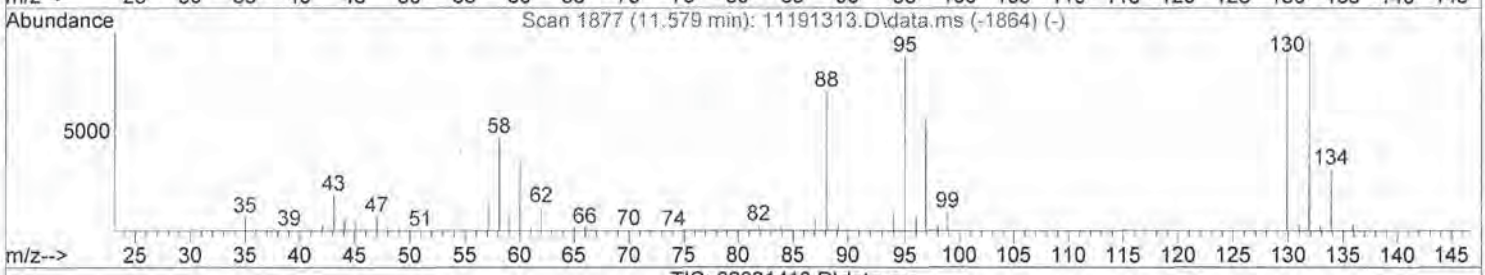
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031413.D
Acq On : 3 Feb 2014 17:04 Operator: WA
Sample : P1400358-005 (400mL)
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 04 07:29:48 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031413.D\data.ms

(47) Trichloroethene (T)

11.574min (+0.000) 29.15ng

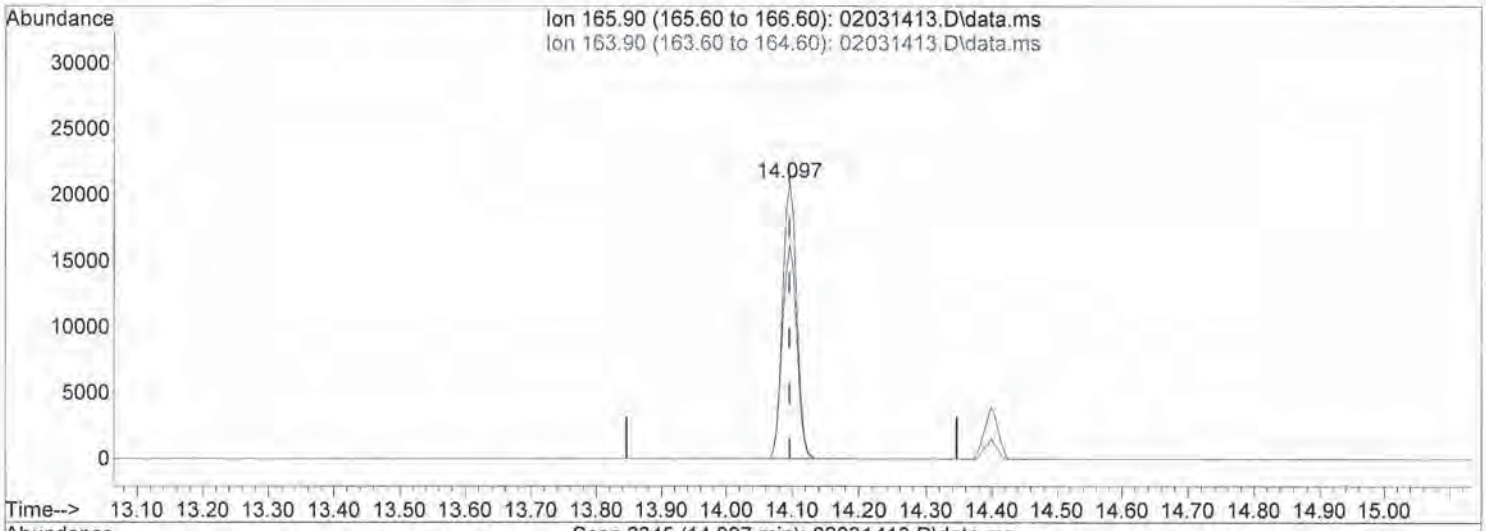
response 962109

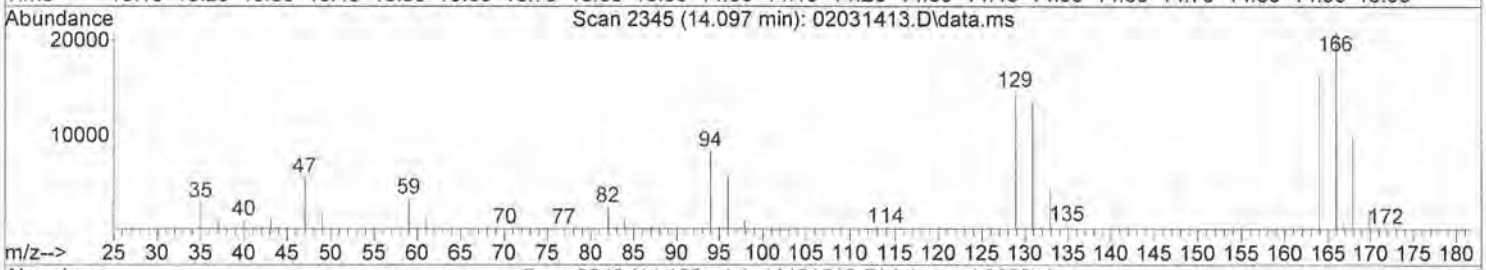
Ion	Exp%	Act%
129.90	100	100
131.90	96.50	97.14
0.00	0.00	0.00
0.00	0.00	0.00

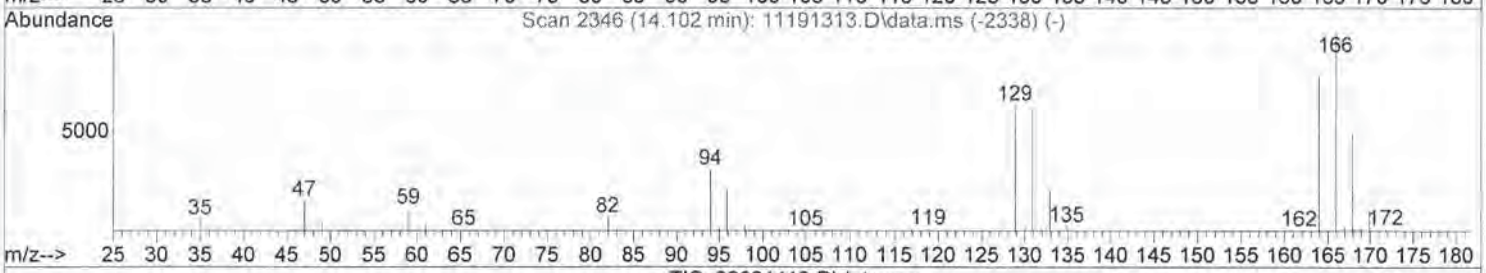
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031413.D
Acq On : 3 Feb 2014 17:04 Operator: WA
Sample : P1400358-005 (400mL)
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 04 07:29:48 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031413.D\data.ms

(64) Tetrachloroethene (T)

14.097min (+0.000) 0.76ng

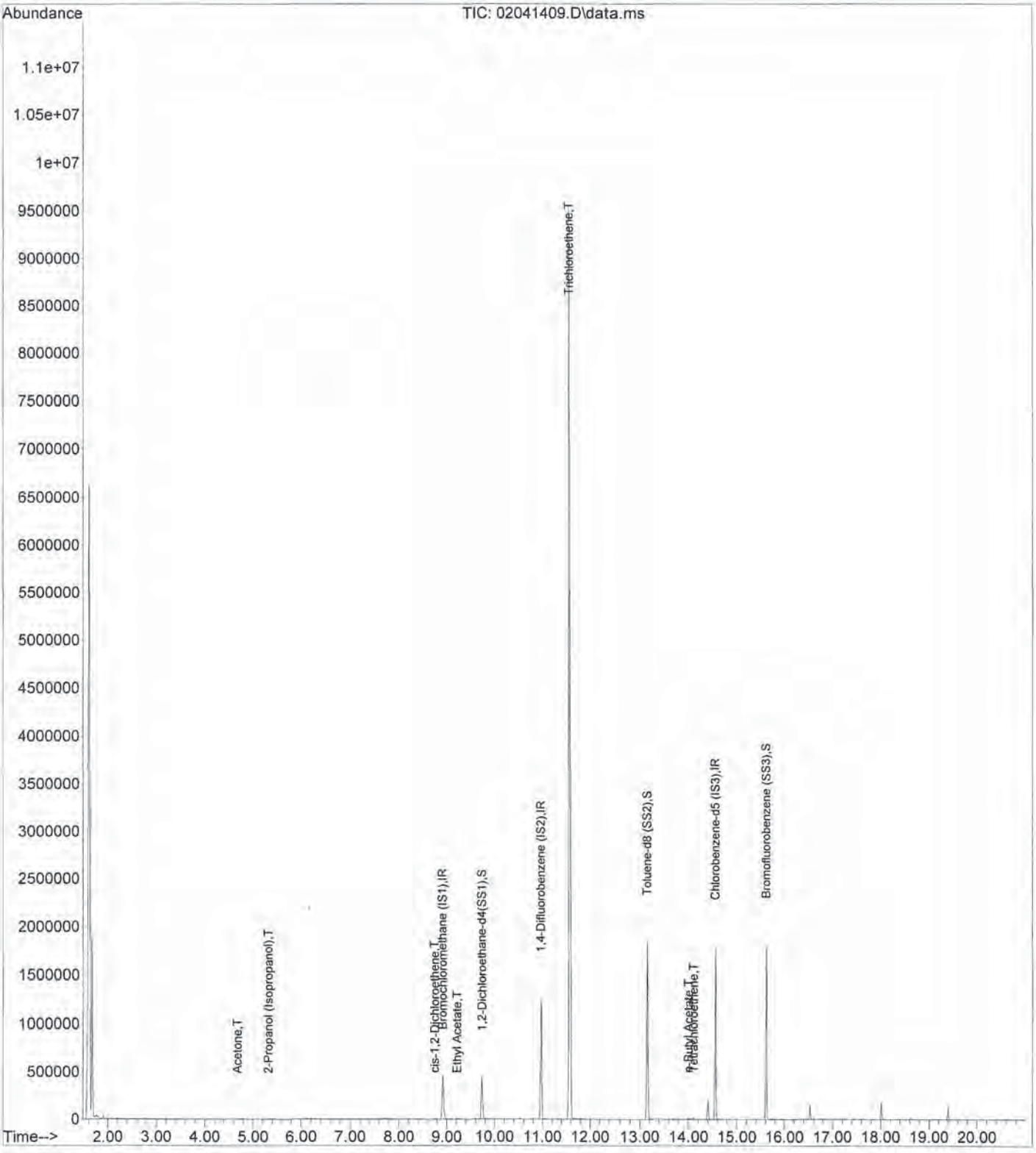
response 31405

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	79.31
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041409.D
Acq On : 4 Feb 2014 12:11 Operator: WA
Sample : P1400358-006 (25mL)
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 05 14:47:57 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041409.D
Acq On : 4 Feb 2014 12:11 Operator: WA
Sample : P1400358-006 (25mL)
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 05 14:47:57 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	196113	12.500 ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	1013937	12.500 ng	0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	436936	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.73	65	327814	15.379 ng	0.00
Spiked Amount 12.500			Recovery =	123.04%	
57) Toluene-d8 (SS2)	13.15	98	1081304	11.617 ng	0.00
Spiked Amount 12.500			Recovery =	92.96%	
73) Bromofluorobenzene (SS3)	15.61	174	436611	11.688 ng	0.00
Spiked Amount 12.500			Recovery =	93.52%	
Target Compounds					Qvalue
2) Propene	1.90	42	1514	N.D.	
3) Dichlorodifluoromethan...	2.02	85	1665	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	2.84	54	603	N.D.	
8) Bromomethane	3.22	94	823	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	4.07	45	1603	N.D.	
11) Acetonitrile	4.27	41	112	N.D.	
12) Acrolein	4.44	56	54	N.D.	
13) Acetone	4.68	58	2814	0.147 ng #	71
14) Trichlorofluoromethane	4.76	101	2063	N.D.	
15) 2-Propanol (Isopropanol)	5.32	45	11371	0.164 ng	96
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	6.11	84	2275	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	6.59	151	111	N.D.	
22) Carbon Disulfide	6.22	76	3974	N.D.	
23) trans-1,2-Dichloroethene	7.47	61	51	N.D.	
24) 1,1-Dichloroethane	7.71	63	54	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	8.43	72	121	N.D.	
28) cis-1,2-Dichloroethene	8.76	61	8310	0.252 ng	93
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	9.22	61	1780	0.197 ng	80
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	9.10	83	1983	N.D.	
34) Tetrahydrofuran (THF)	9.60	72	343	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	10.09	97	1248	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.79	56	292	N.D.	
41) Benzene	10.52	78	4926	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	10.97	84	603	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D. d	

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Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041409.D
Acq On : 4 Feb 2014 12:11 Operator: WA
Sample : P1400358-006 (25mL)
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 05 14:47:57 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

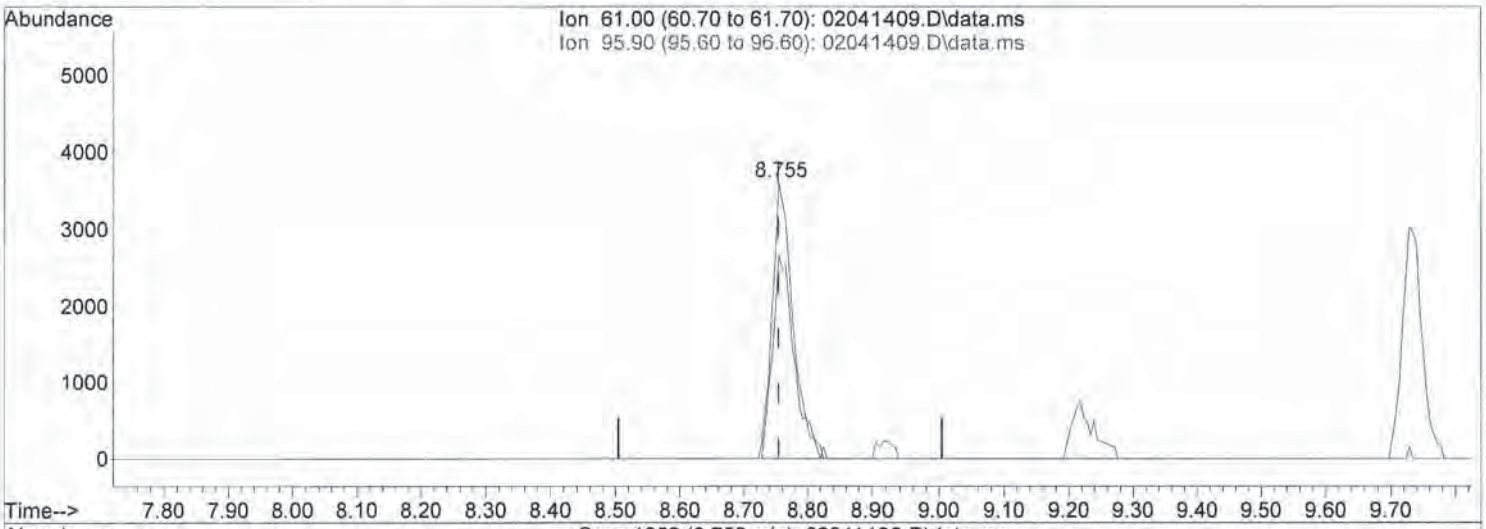
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	3152087	100.308 ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.56	57	84	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	5956	N.D.	
59) 2-Hexanone	13.36	43	66	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.00	43	9621	0.128 ng	94
63) n-Octane	14.01	57	289	N.D.	
64) Tetrachloroethene	14.10	166	4582	0.116 ng	95
65) Chlorobenzene	14.58	112	855	N.D.	
66) Ethylbenzene	14.87	91	848	N.D.	
67) m- & p-Xylenes	14.98	91	2306	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	15.31	91	555	N.D.	
71) n-Nonane	15.49	43	1803	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	15.72	105	103	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	16.15	105	381	N.D.	
78) 4-Ethyltoluene	16.17	105	314	N.D.	
79) 1,3,5-Trimethylbenzene	16.17	105	314	N.D.	
80) alpha-Methylstyrene	16.53	118	1745	N.D.	
81) 2-Ethyltoluene	16.36	105	177	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	1234	N.D.	
83) n-Decane	16.61	57	1707	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	16.83	105	177	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	16.83	105	177	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	16.94	68	114	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.56	57	917	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.35	128	1044	N.D.	
96) n-Dodecane	18.41	57	1025	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.11	55	123	N.D.	
99) tert-Butylbenzene	16.53	119	2778	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

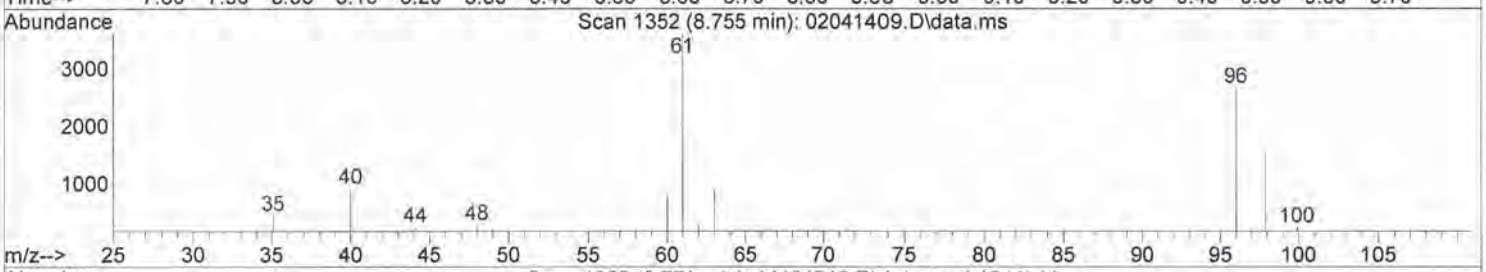
(#) = qualifier out of range (m) = manual integration (+) = signals summed

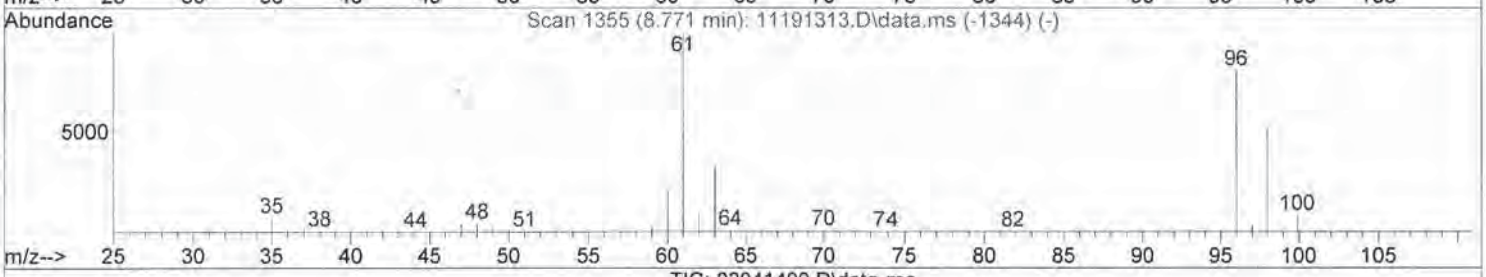
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041409.D
Acq On : 4 Feb 2014 12:11 Operator: WA
Sample : P1400358-006 (25mL)
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 05 07:39:43 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041409.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.755min (+0.000) 0.25ng

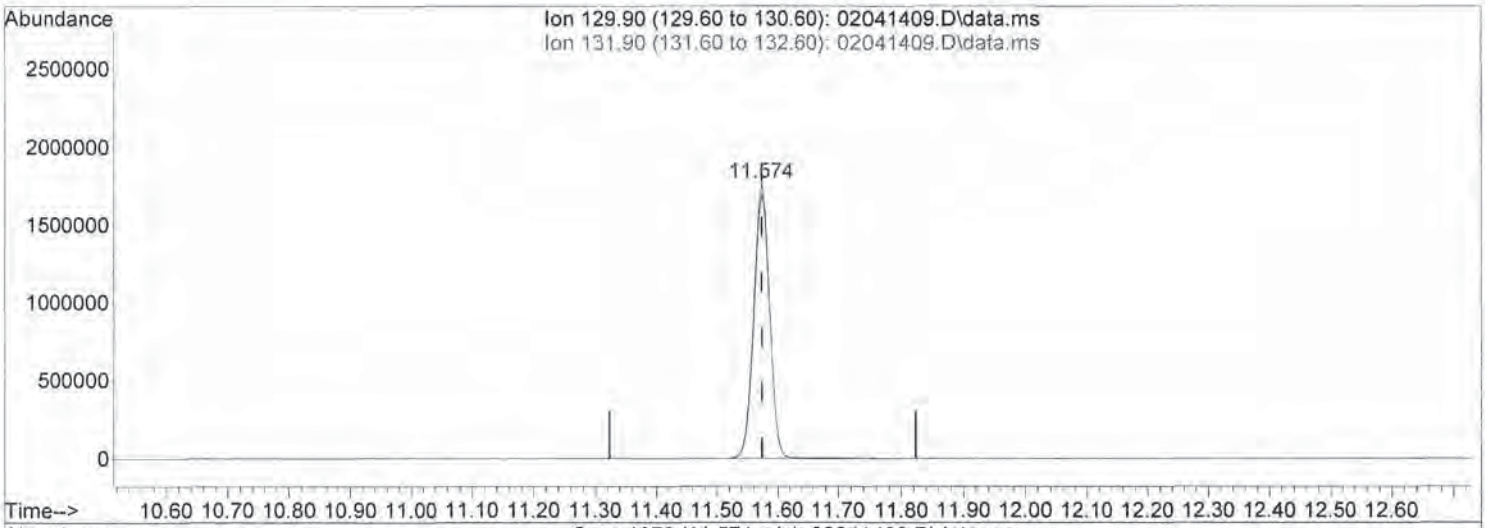
response 8310

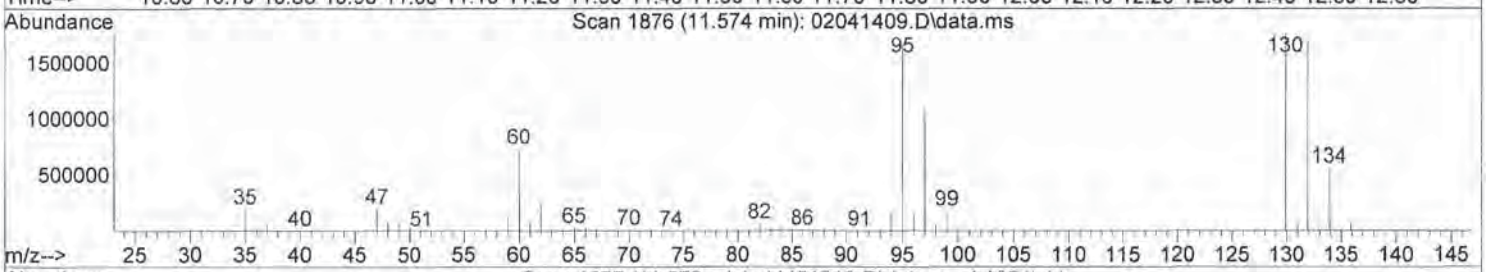
Ion	Exp%	Act%
61.00	100	100
95.90	81.40	75.55
0.00	0.00	0.00
0.00	0.00	0.00

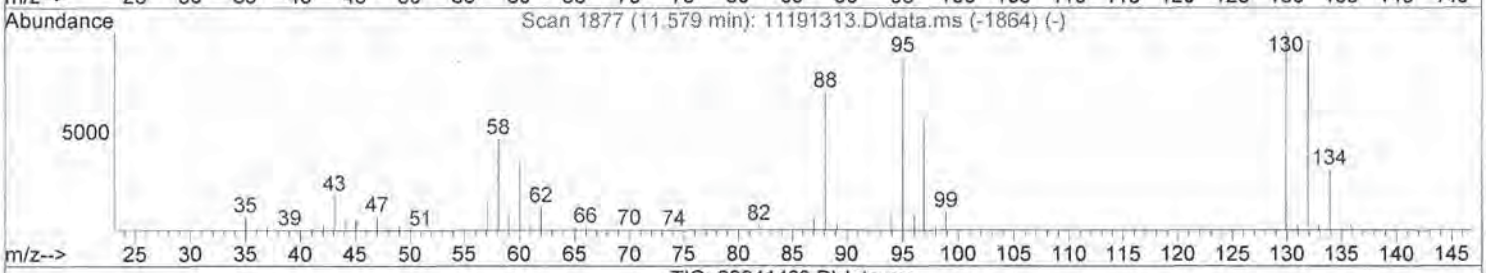
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041409.D
Acq On : 4 Feb 2014 12:11 Operator: WA
Sample : P1400358-006 (25mL)
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 04 12:45:14 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041409.D\data.ms

(47) Trichloroethene (T)

11.574min (-0.000) 100.31ng

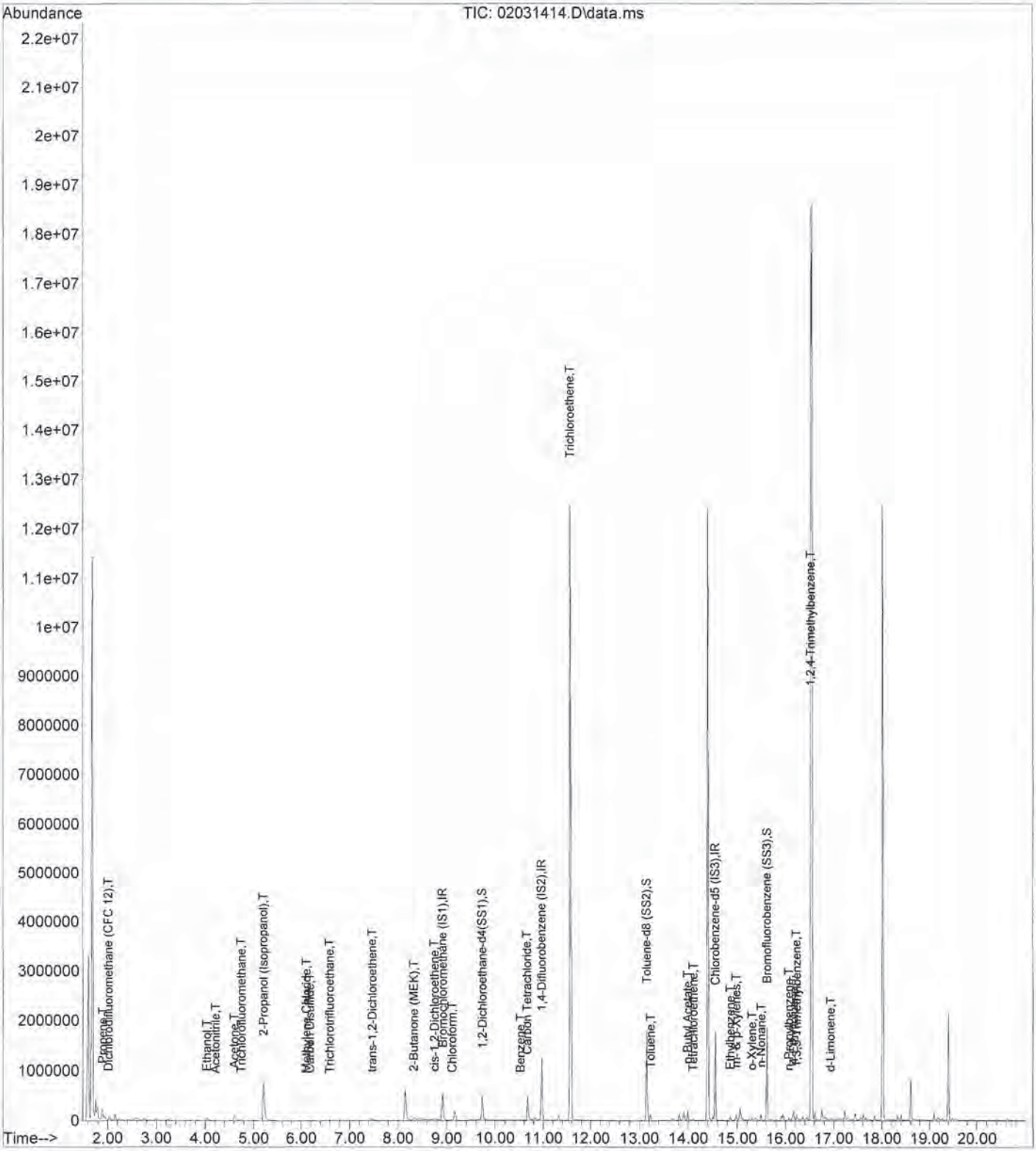
response 3152087

Ion	Exp%	Act%
129.90	100	100
131.90	96.50	96.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031414.D
Acq On : 3 Feb 2014 17:33 Operator: WA
Sample : P1400358-007 (400mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 05 14:50:26 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031414.D
Acq On : 3 Feb 2014 17:33 Operator: WA
Sample : P1400358-007 (400mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 05 14:50:26 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	210078	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	1014059	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	440222	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	346398	15.170 ng		0.00
Spiked Amount 12.500			Recovery = 121.36%			
57) Toluene-d8 (SS2)	13.15	98	1057424	11.275 ng		0.00
Spiked Amount 12.500			Recovery = 90.24%			
73) Bromofluorobenzene (SS3)	15.61	174	445985	11.849 ng		0.00
Spiked Amount 12.500			Recovery = 94.80%			
Target Compounds						Qvalue
2) Propene	1.90	42	13547	0.457 ng		96
3) Dichlorodifluoromethan...	2.01	85	30829	0.615 ng		98
4) Chloromethane	2.25	50	1625	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	2.49	135	687	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.19	94	1280	N.D.		
9) Chloroethane	3.52	64	444	N.D.		
10) Ethanol	4.03	45	72345	3.547 ng		99
11) Acetonitrile	4.21	41	7121	0.127 ng		81
12) Acrolein	4.40	56	1390	N.D.		
13) Acetone	4.60	58	63103	3.087 ng	#	79
14) Trichlorofluoromethane	4.75	101	14651	0.316 ng		96
15) 2-Propanol (Isopropanol)	5.20	45	1312348	17.659 ng		95
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	6.11	84	4884	0.177 ng		95
20) 3-Chloro-1-propene (Al...	6.25	41	2729	N.D.		
21) Trichlorotrifluoroethane	6.59	151	3189	0.131 ng		93
22) Carbon Disulfide	6.18	76	10499	0.108 ng		83
23) trans-1,2-Dichloroethene	7.47	61	22176	0.590 ng		95
24) 1,1-Dichloroethane	7.73	63	2931	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	8.32	72	18281	0.945 ng	#	73
28) cis-1,2-Dichloroethene	8.76	61	16865	0.478 ng		92
29) Diisopropyl Ether	9.16	87	713	N.D.		
30) Ethyl Acetate	9.23	61	127	N.D.		
31) n-Hexane	9.06	57	827	N.D.		
32) Chloroform	9.11	83	7501	0.168 ng		96
34) Tetrahydrofuran (THF)	9.55	72	335	N.D.		
35) Ethyl tert-Butyl Ether	9.70	87	2928	N.D.		
36) 1,2-Dichloroethane	9.85	62	49	N.D.		
38) 1,1,1-Trichloroethane	10.08	97	1393	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.52	78	10020	0.104 ng		99
42) Carbon Tetrachloride	10.66	117	3733	0.112 ng		100
43) Cyclohexane	10.78	84	1360	N.D.		
44) tert-Amyl Methyl Ether	11.21	73	151	N.D.		
45) 1,2-Dichloropropane	11.31	63	48	N.D.		

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Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031414.D
Acq On : 3 Feb 2014 17:33 Operator: WA
Sample : P1400358-007 (400mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 05 14:50:26 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

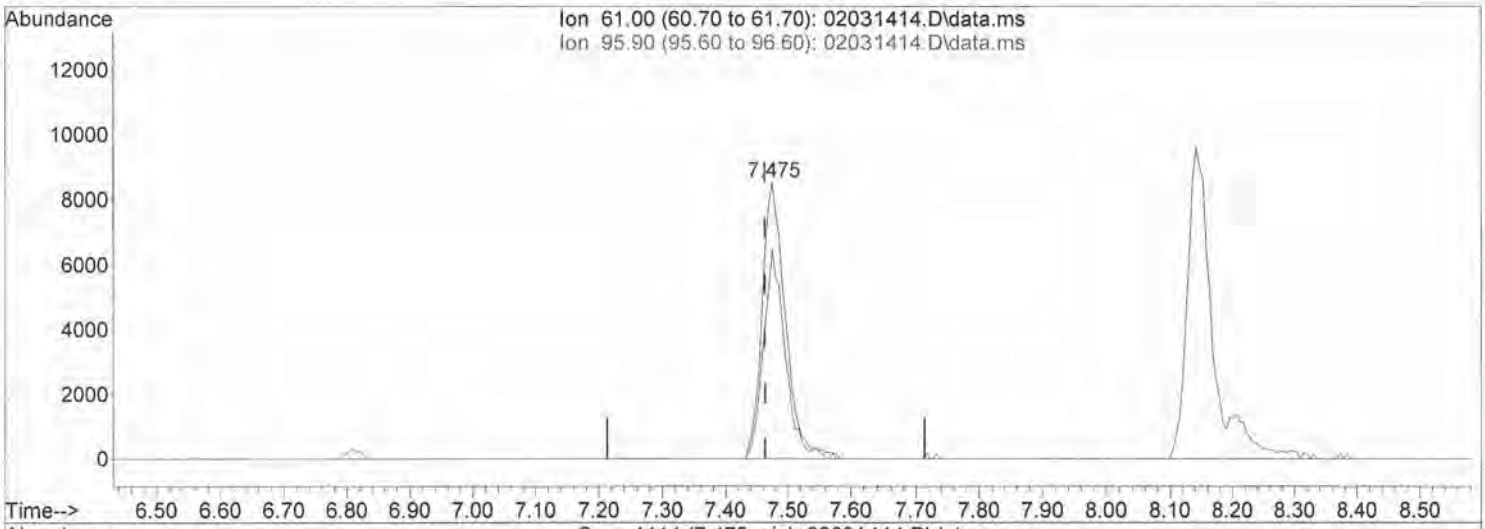
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	4260476	135.564 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D. d	
49) 2,2,4-Trimethylpentane...	11.65	57	2112	N.D.	
50) Methyl Methacrylate	11.88	100	366	N.D.	
51) n-Heptane	11.93	71	1483	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.48	58	1696	N.D.	
54) trans-1,3-Dichloropropene	13.04	75	478	N.D.	
55) 1,1,2-Trichloroethane	13.05	97	781	N.D.	
58) Toluene	13.23	91	76229	0.624 ng	96
59) 2-Hexanone	13.49	43	4507	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	13.81	107	152	N.D.	
62) n-Butyl Acetate	13.99	43	118035	1.562 ng	96
63) n-Octane	14.05	57	1455	N.D.	
64) Tetrachloroethene	14.10	166	10259	0.258 ng	98
65) Chlorobenzene	14.59	112	354	N.D.	
66) Ethylbenzene	14.86	91	36860	0.272 ng	95
67) m- & p-Xylenes	14.98	91	70515	0.656 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.23	104	1836	N.D.	
70) o-Xylene	15.30	91	24802	0.221 ng	93
71) n-Nonane	15.49	43	34590	0.526 ng	96
72) 1,1,2,2-Tetrachloroethane	15.35	83	2336	N.D.	
74) Cumene	15.71	105	6253	N.D.	
75) alpha-Pinene	15.98	93	1225	N.D.	
76) n-Propylbenzene	16.07	91	30824	0.182 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	16.17	105	29946	0.232 ng	98
79) 1,3,5-Trimethylbenzene	16.23	105	28724	0.250 ng	95
80) alpha-Methylstyrene	16.33	118	661	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	16.52	105	166925m	1.415 ng	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	16.61	91	303	N.D.	
85) 1,3-Dichlorobenzene	16.67	146	964	N.D.	
86) 1,4-Dichlorobenzene	16.67	146	964	N.D.	
87) sec-Butylbenzene	16.71	105	2847	N.D.	
88) 4-Isopropyltoluene (p-...	16.83	119	3152	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	16.93	68	4393	0.096 ng	91
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	18.27	180	136	N.D.	
95) Naphthalene	18.35	128	4245	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	17.14	91	3285	N.D.	

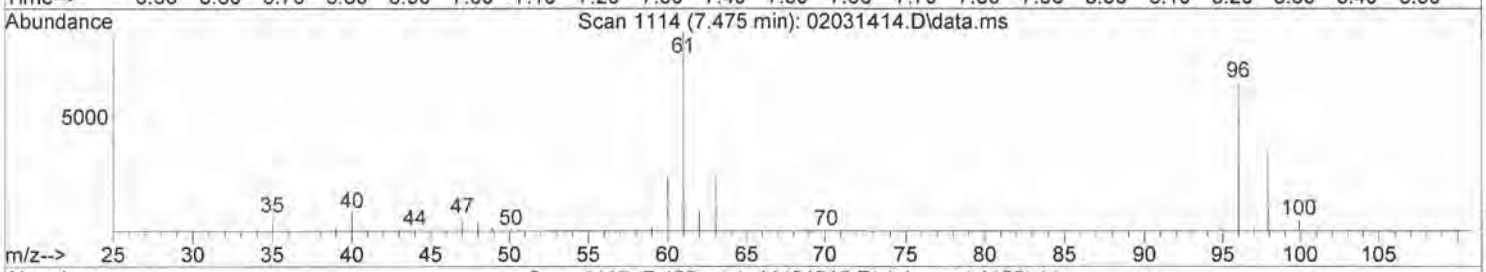
(#) = qualifier out of range (m) = manual integration (+) = signals summed

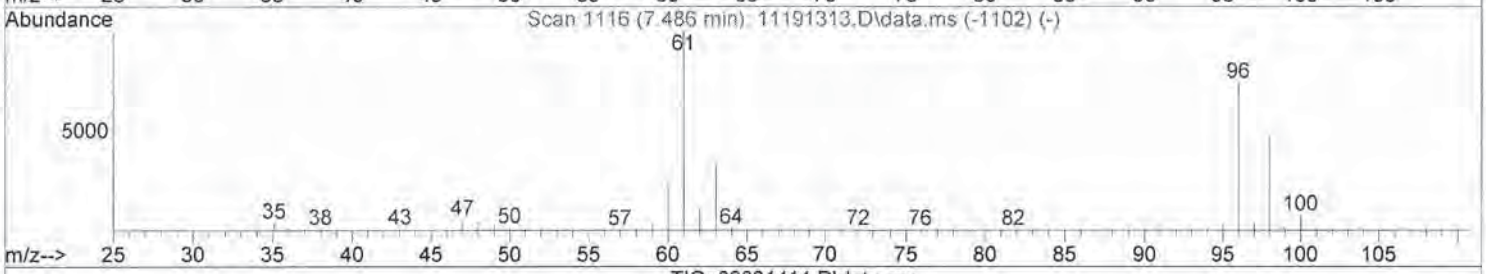
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031414.D
Acq On : 3 Feb 2014 17:33 Operator: WA
Sample : P1400358-007 (400mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 04 07:29:51 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031414.D\data.ms

(23) trans-1,2-Dichloroethene (T)

7.475min (+0.011) 0.59ng

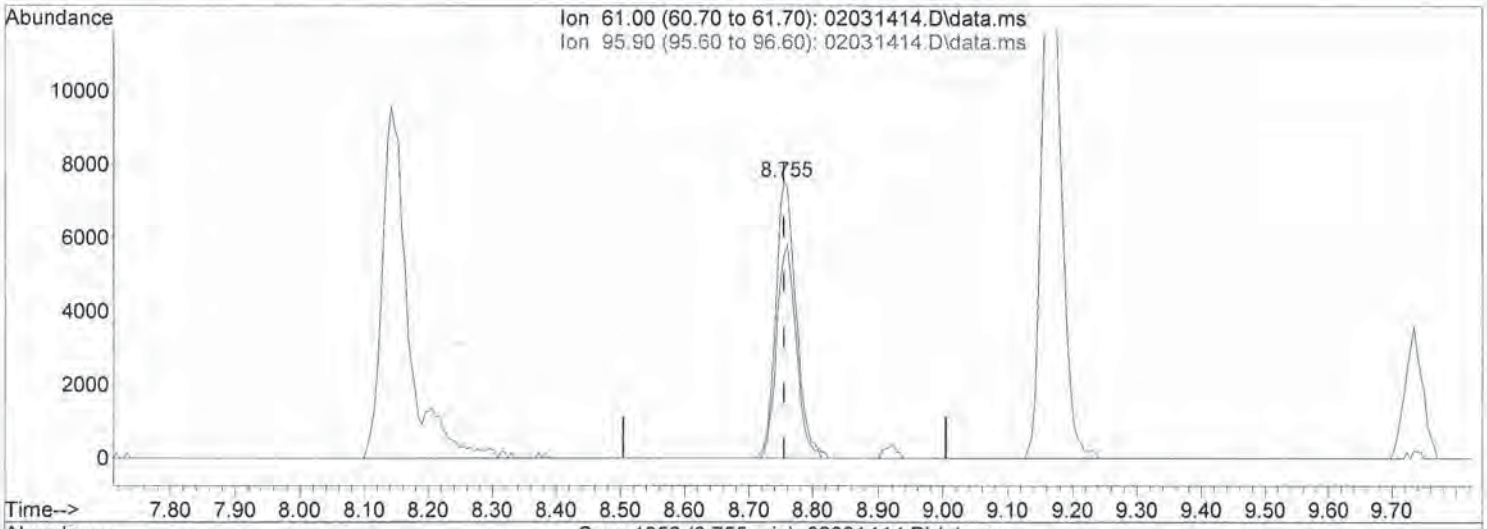
response 22176

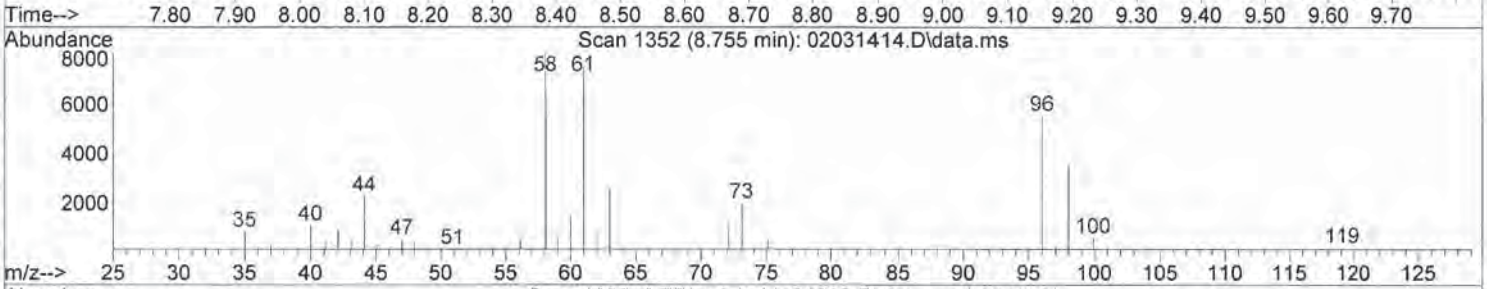
Ion	Exp%	Act%
61.00	100	100
95.90	73.80	69.77
0.00	0.00	0.00
0.00	0.00	0.00

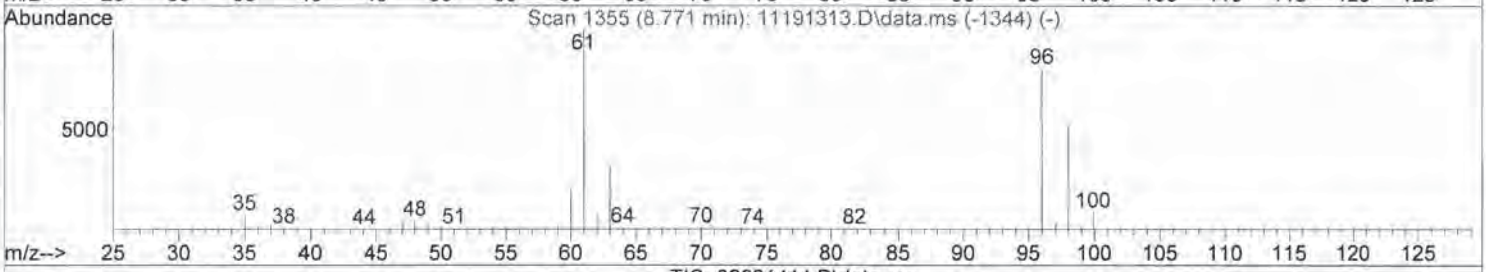
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031414.D
Acq On : 3 Feb 2014 17:33 Operator: WA
Sample : P1400358-007 (400mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 05 07:26:44 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031414.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.755min (+0.000) 0.48ng

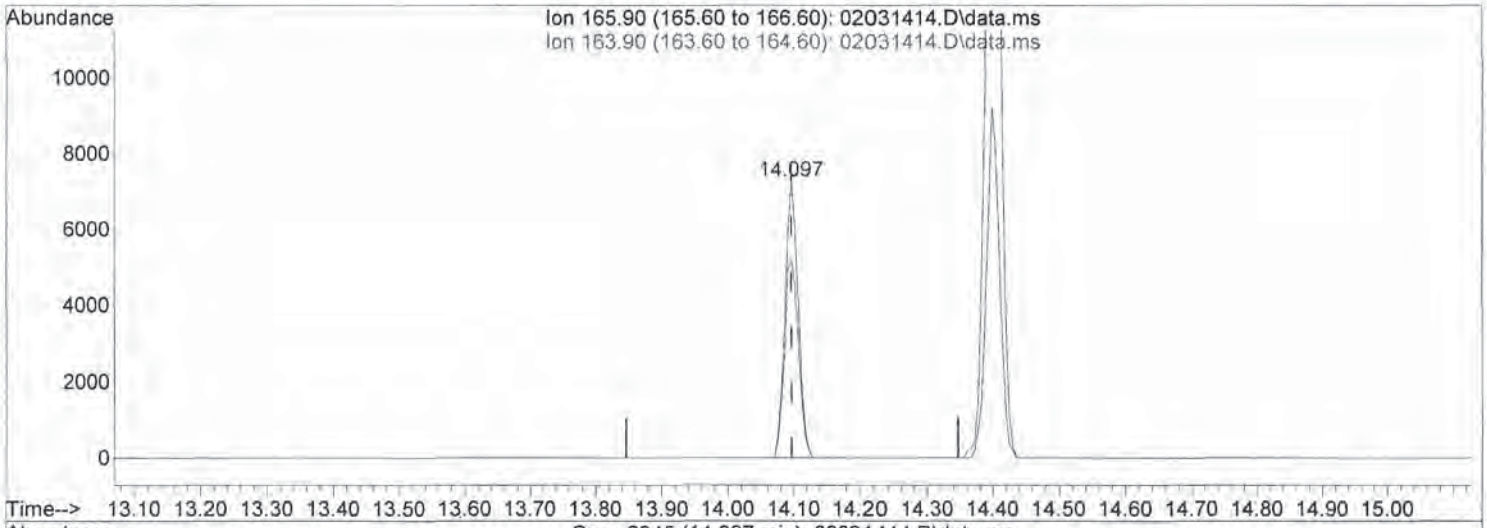
response 16865

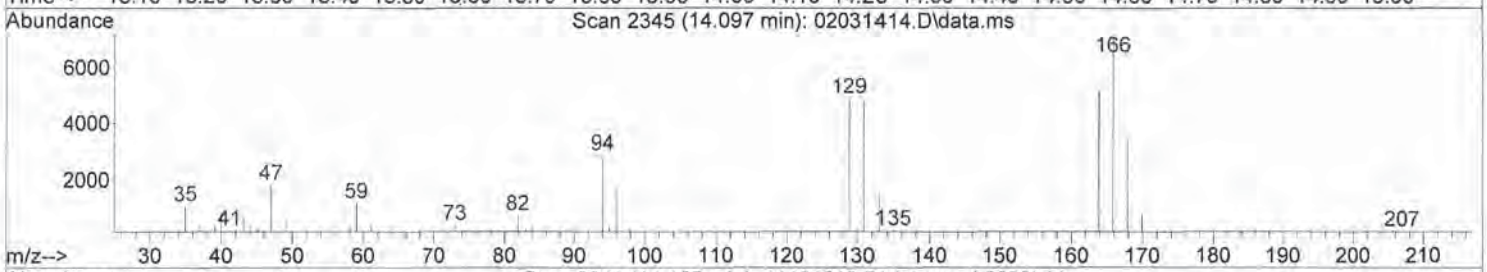
Ion	Exp%	Act%
61.00	100	100
95.90	81.40	74.22
0.00	0.00	0.00
0.00	0.00	0.00

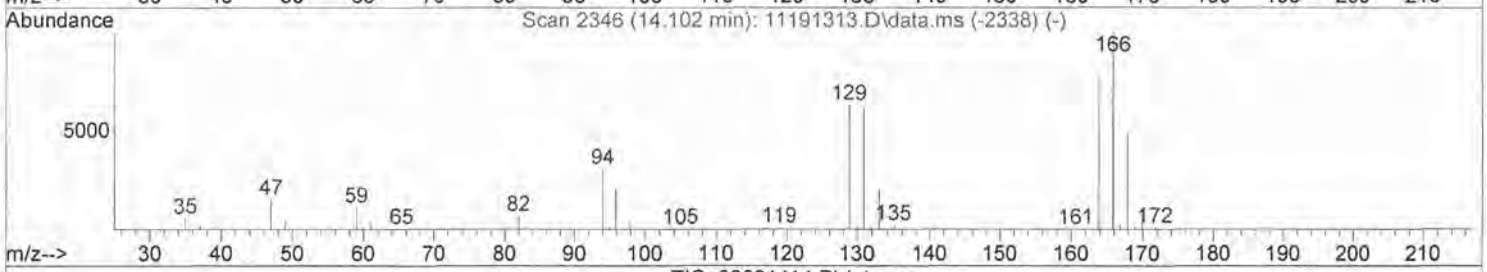
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031414.D
Acq On : 3 Feb 2014 17:33 Operator: WA
Sample : P1400358-007 (400mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 05 07:26:44 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031414.D\data.ms

(64) Tetrachloroethene (T)

14.097min (-0.000) 0.26ng

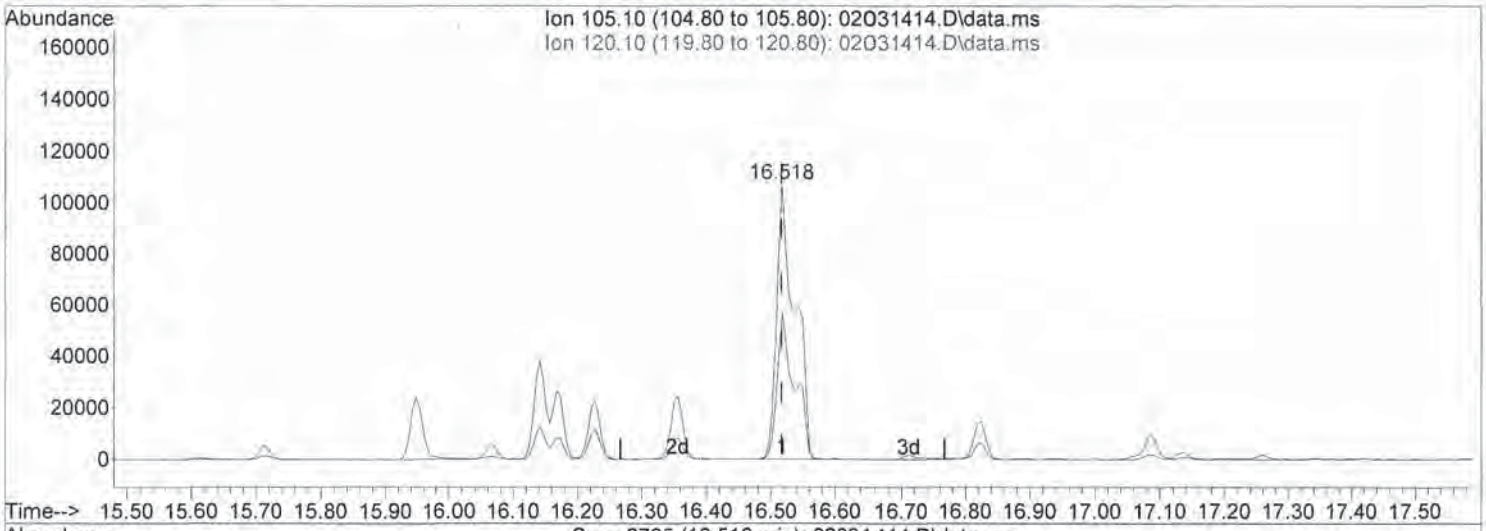
response 10259

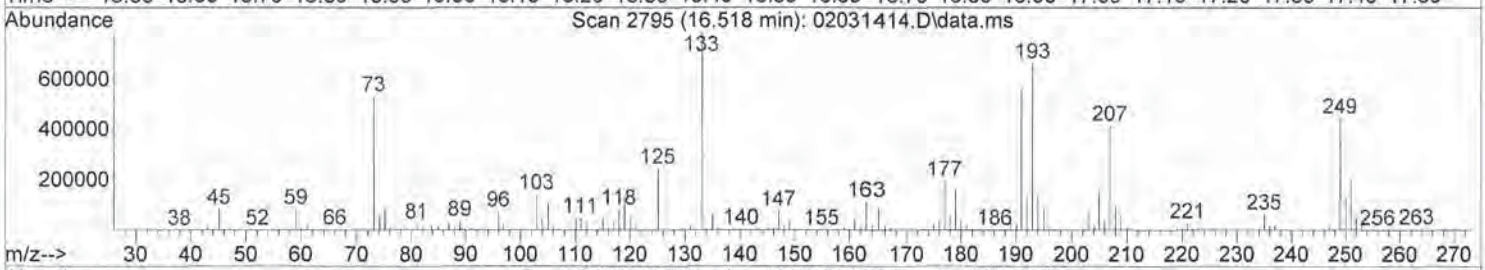
Ion	Exp%	Act%
165.90	100	100
163.90	78.50	76.90
0.00	0.00	0.00
0.00	0.00	0.00

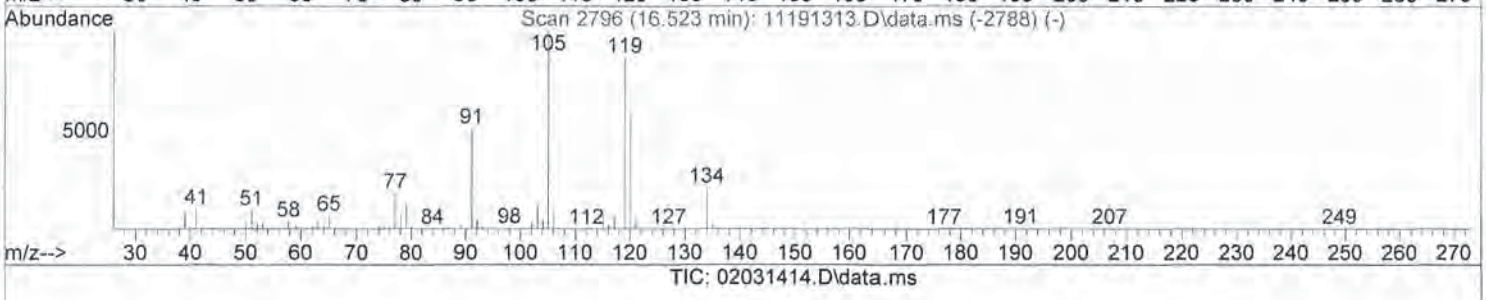
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031414.D
Acq On : 3 Feb 2014 17:33 Operator: WA
Sample : P1400358-007 (400mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 04 07:29:51 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031414.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

16.518min (+0.000) 1.81ng

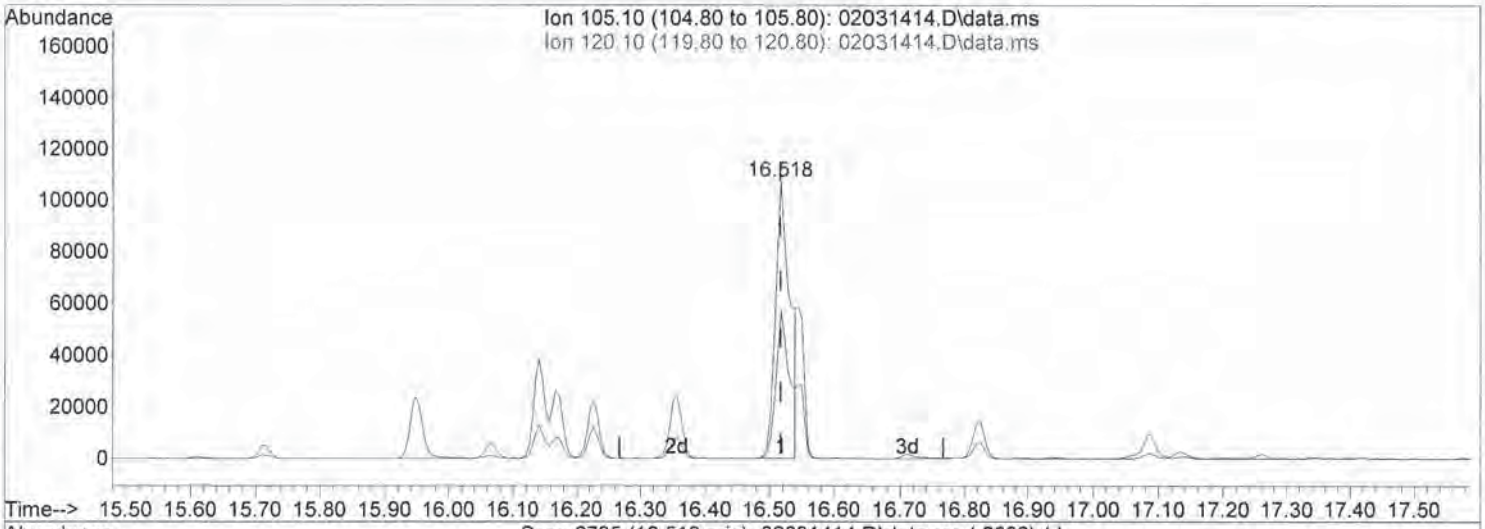
response 213853

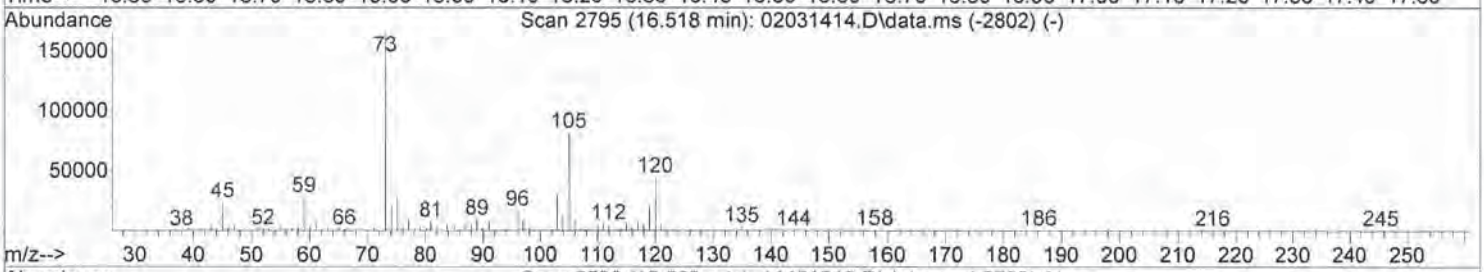
Ion	Exp%	Act%
105.10	100	100
120.10	59.30	50.39
0.00	0.00	0.00
0.00	0.00	0.00

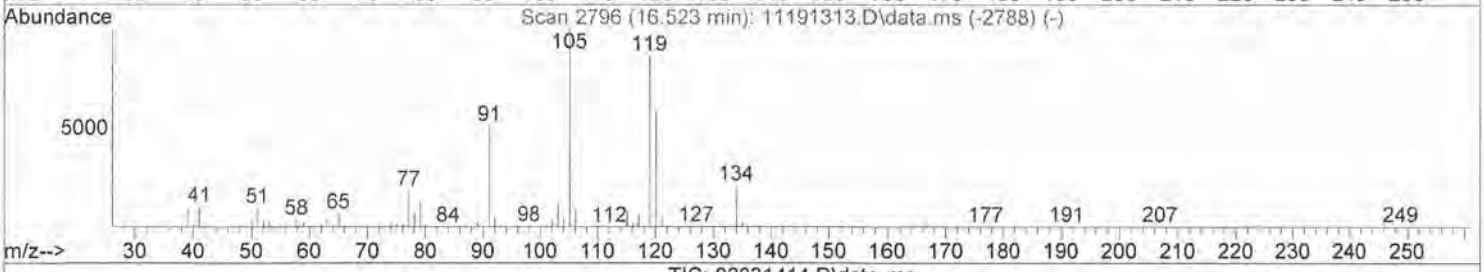
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031414.D
Acq On : 3 Feb 2014 17:33 Operator: WA
Sample : P1400358-007 (400mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 04 07:29:51 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031414.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

16.518min (+0.000) 1.42ng m

response 166925

Ion	Exp%	Act%
105.10	100	100
120.10	59.30	64.55
0.00	0.00	0.00
0.00	0.00	0.00

IPC

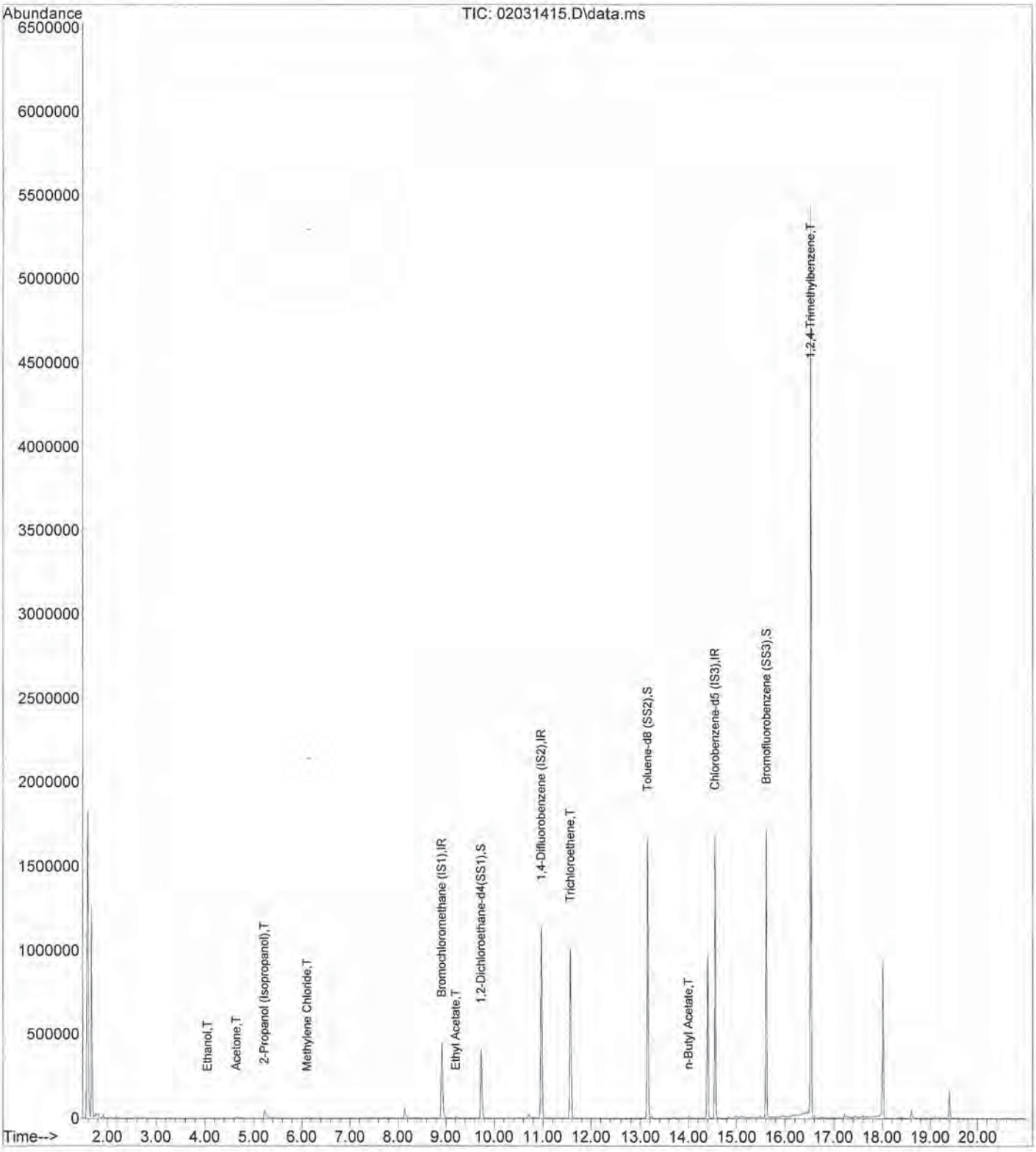
2/5/14

2/6/14

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031415.D
Acq On : 3 Feb 2014 18:02 Operator: WA
Sample : P1400358-007 dil (40mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 05 15:05:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031415.D
Acq On : 3 Feb 2014 18:02 Operator: WA
Sample : P1400358-007 dil (40mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 05 15:05:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	187886	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	939450	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	407791	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	311224	15.240 ng		0.00
Spiked Amount 12.500			Recovery =	121.92%		
57) Toluene-d8 (SS2)	13.15	98	1006958	11.591 ng		0.00
Spiked Amount 12.500			Recovery =	92.72%		
73) Bromofluorobenzene (SS3)	15.61	174	405721	11.637 ng		0.00
Spiked Amount 12.500			Recovery =	93.12%		
Target Compounds						Qvalue
2) Propene	1.91	42	1092	N.D.		
3) Dichlorodifluoromethan...	2.04	85	2630	N.D.		
4) Chloromethane	2.25	50	402	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	2.87	54	102	N.D.		
8) Bromomethane	3.21	94	156	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.05	45	6860	0.376 ng		88
11) Acetonitrile	4.23	41	1660	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.65	58	6541	0.358 ng	#	71
14) Trichlorofluoromethane	4.76	101	484	N.D.		
15) 2-Propanol (Isopropanol)	5.22	45	119484	1.798 ng		96
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.11	84	2736	0.111 ng		97
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	6.22	76	5017	N.D.		
23) trans-1,2-Dichloroethene	7.47	61	1806	N.D.		
24) 1,1-Dichloroethane	7.72	63	242	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	8.39	72	616	N.D.		
28) cis-1,2-Dichloroethene	8.77	61	1538	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	9.21	61	2495	0.288 ng		100
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	9.10	83	755	N.D.		
34) Tetrahydrofuran (THF)	9.59	72	224	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.52	78	3586	N.D.		
42) Carbon Tetrachloride	10.67	117	296	N.D.		
43) Cyclohexane	10.95	84	55	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	11.56	63	690	N.D.		

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031415.D
Acq On : 3 Feb 2014 18:02 Operator: WA
Sample : P1400358-007 dil (40mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 05 15:05:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

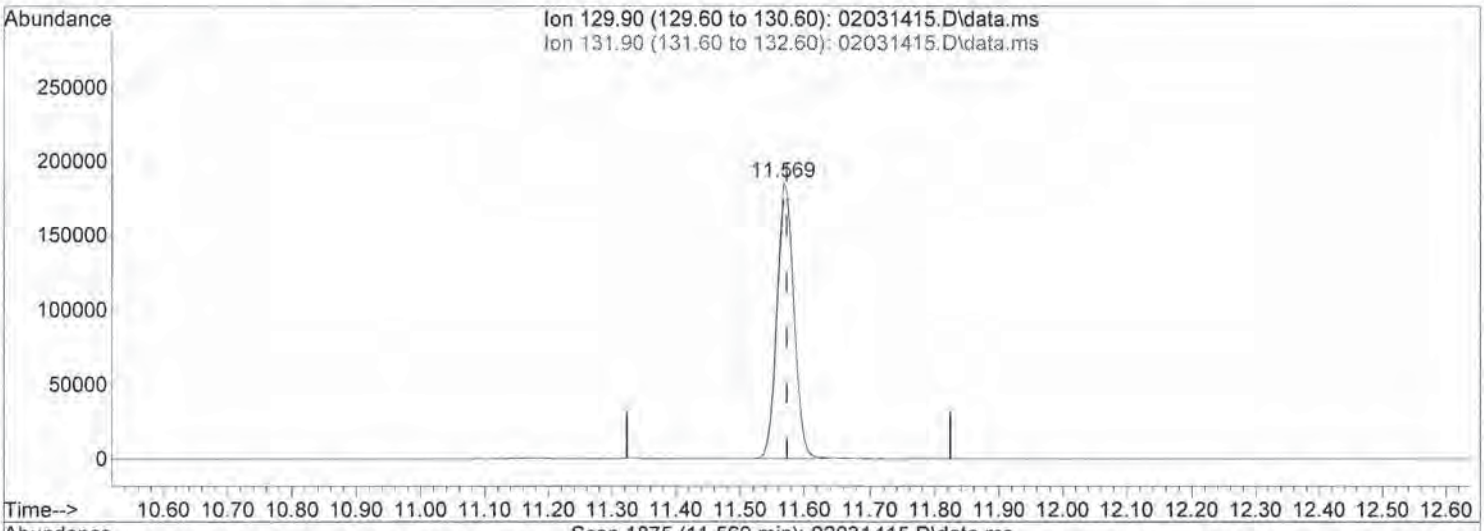
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	351349	12.067 ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.48	58	537	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	8006	N.D.	
59) 2-Hexanone	13.50	43	50	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.00	43	11436	0.163 ng	92
63) n-Octane	14.00	57	580	N.D.	
64) Tetrachloroethene	14.10	166	1187	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	14.86	91	3550	N.D.	
67) m- & p-Xylenes	14.98	91	7030	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.24	104	209	N.D.	
70) o-Xylene	15.31	91	2341	N.D.	
71) n-Nonane	15.49	43	4143	N.D.	
72) 1,1,2,2-Tetrachloroethane	15.36	83	176	N.D.	
74) Cumene	15.71	105	818	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	16.07	91	2914	N.D.	
77) 3-Ethyltoluene	16.14	105	4733	N.D.	
78) 4-Ethyltoluene	16.17	105	3166	N.D.	
79) 1,3,5-Trimethylbenzene	16.23	105	3106	N.D.	
80) alpha-Methylstyrene	16.35	118	693	N.D.	
81) 2-Ethyltoluene	16.36	105	3275	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	30161	0.276 ng	88
83) n-Decane	16.61	57	3464	N.D.	
84) Benzyl Chloride	16.68	91	114	N.D.	
85) 1,3-Dichlorobenzene	16.53	146	5195	N.D.	
86) 1,4-Dichlorobenzene	16.53	146	5195	N.D.	
87) sec-Butylbenzene	16.82	105	1709	N.D.	
88) 4-Isopropyltoluene (p-...	16.82	119	393	N.D.	
89) 1,2,3-Trimethylbenzene	16.82	105	1709	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	16.94	68	444	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.56	57	1949	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.36	128	421	N.D.	
96) n-Dodecane	18.41	57	2213	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.11	55	544	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	17.15	91	247	N.D.	

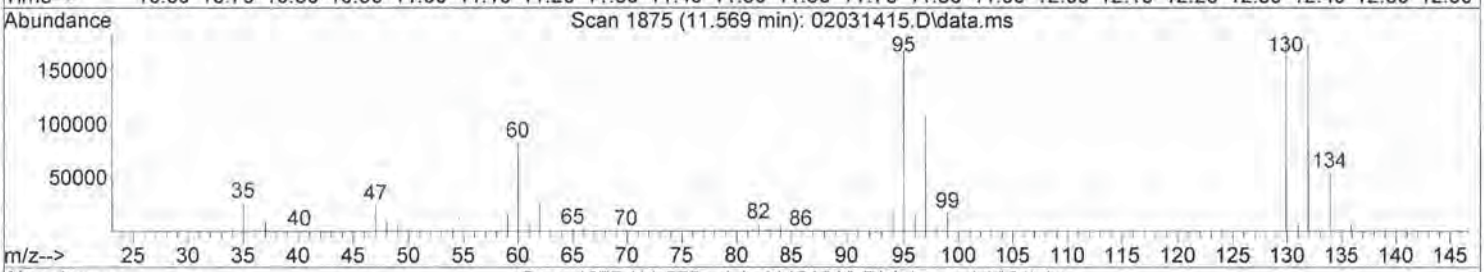
(#) = qualifier out of range (m) = manual integration (+) = signals summed

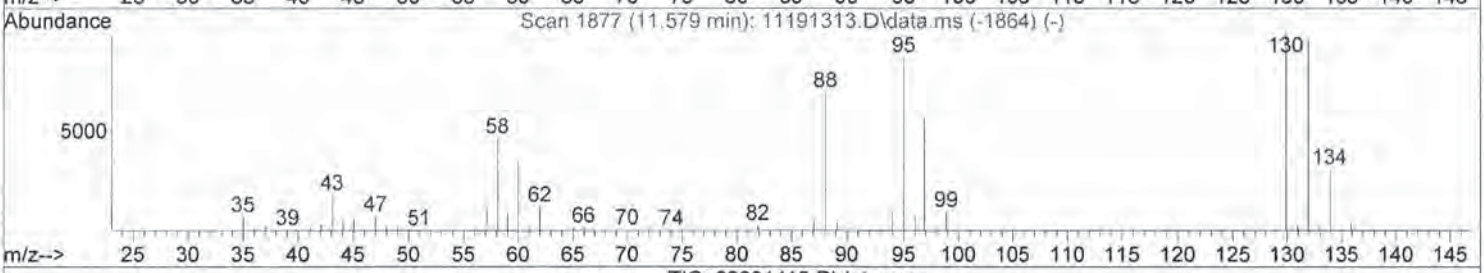
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031415.D
Acq On : 3 Feb 2014 18:02 Operator: WA
Sample : P1400358-007 dil (40mL)
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 04 07:29:54 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031415.D\data.ms

(47) Trichloroethene (T)

11.569min (-0.005) 12.07ng

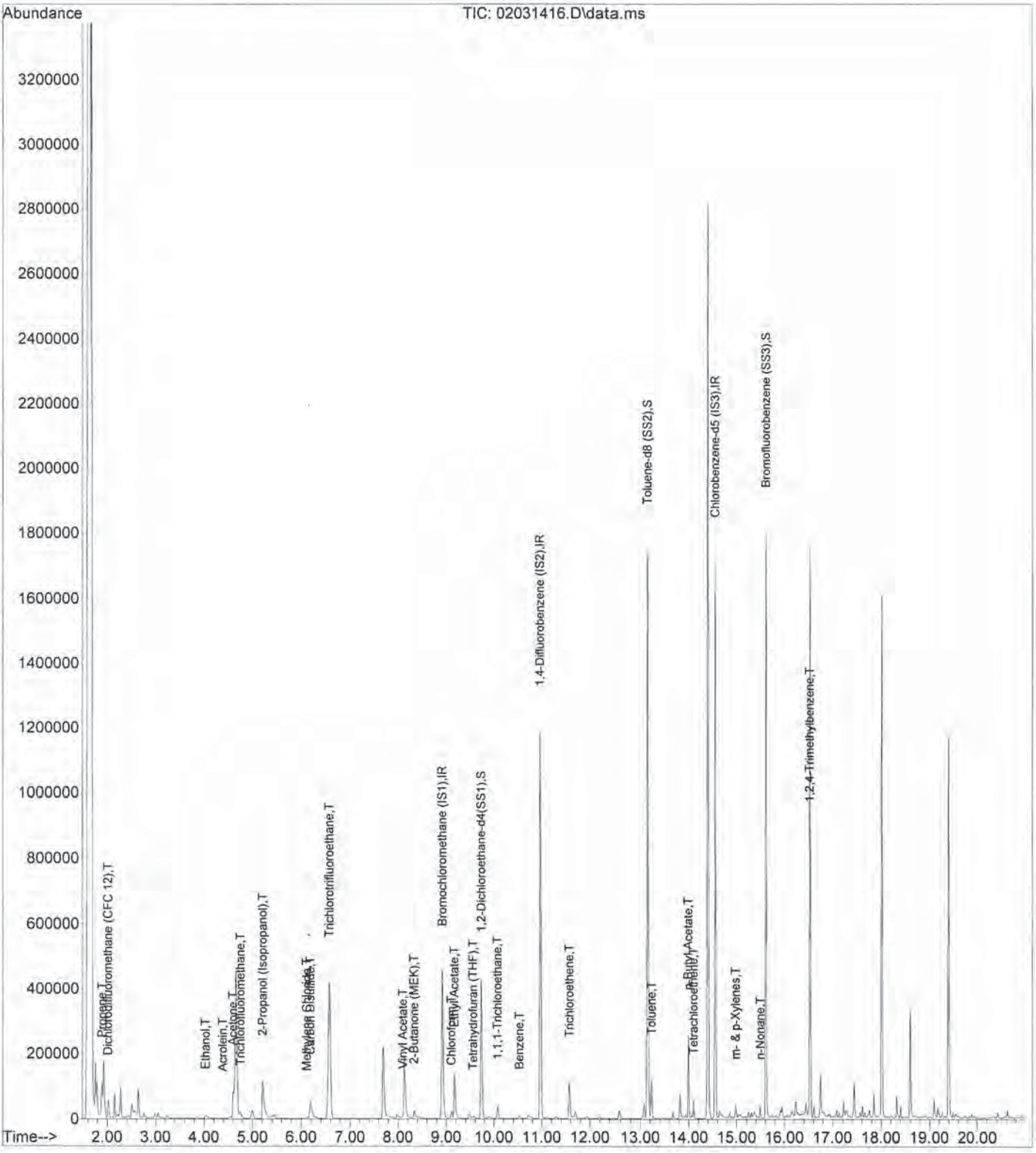
response 351349

Ion	Exp%	Act%
129.90	100	100
131.90	96.50	96.01
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031416.D
Acq On : 3 Feb 2014 18:30 Operator: WA
Sample : P1400358-008 (400mL)
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 05 15:06:52 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031416.D
Acq On : 3 Feb 2014 18:30 Operator: WA
Sample : P1400358-008 (400mL)
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 05 15:06:52 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	192946	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	981418	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	424199	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.73	65	321821	15.345	ng		0.00
Spiked Amount 12.500			Recovery = 122.80%				
57) Toluene-d8 (SS2)	13.15	98	1053345	11.656	ng		0.00
Spiked Amount 12.500			Recovery = 93.28%				
73) Bromofluorobenzene (SS3)	15.61	174	418958	11.552	ng		0.00
Spiked Amount 12.500			Recovery = 92.40%				
Target Compounds							Qvalue
2) Propene	1.90	42	11100	0.408	ng		93
3) Dichlorodifluoromethan...	2.01	85	27406	0.595	ng		99
4) Chloromethane	2.27	50	2690	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	2.49	135	602	N.D.			
6) Vinyl Chloride	2.63	62	139	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	3.21	94	1172	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.03	45	18485	0.987	ng		94
11) Acetonitrile	4.23	41	3522	N.D.			
12) Acrolein	4.39	56	3013	0.191	ng		88
13) Acetone	4.60	58	48468	2.582	ng	#	82
14) Trichlorofluoromethane	4.75	101	12006	0.282	ng		99
15) 2-Propanol (Isopropanol)	5.20	45	235173	3.446	ng		94
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.31	59	1734	N.D.			
19) Methylene Chloride	6.11	84	2844	0.112	ng		91
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	6.57	151	219048	9.763	ng		97
22) Carbon Disulfide	6.18	76	142082	1.586	ng		100
23) trans-1,2-Dichloroethene	7.47	61	1858	N.D.			
24) 1,1-Dichloroethane	7.71	63	3912	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.10	86	2056	0.294	ng	#	1
27) 2-Butanone (MEK)	8.34	72	9419	0.530	ng	#	74
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.17	87	388	N.D.			
30) Ethyl Acetate	9.17	61	24755	2.783	ng		98
31) n-Hexane	9.05	57	1217	N.D.			
32) Chloroform	9.10	83	16170	0.395	ng		98
34) Tetrahydrofuran (THF)	9.56	72	2529	0.157	ng	#	78
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.08	97	25472	0.674	ng		97
39) Isopropyl Acetate	10.84	61	159	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.53	78	8404	0.090	ng		98
42) Carbon Tetrachloride	10.67	117	483	N.D.			
43) Cyclohexane	10.79	84	1086	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.56	63	517	N.D.			

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Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031416.D
Acq On : 3 Feb 2014 18:30 Operator: WA
Sample : P1400358-008 (400mL)
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 05 15:06:52 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

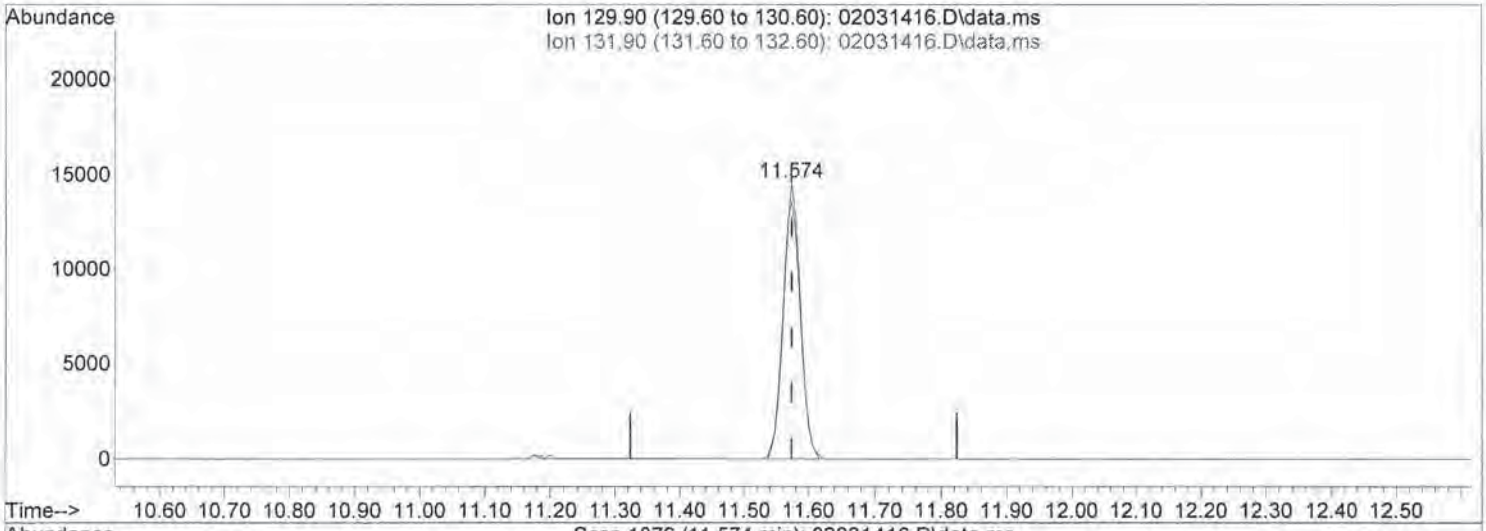
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	11.57	130	27313	0.898 ng	98
48) 1,4-Dioxane	11.66	88	351	N.D.	
49) 2,2,4-Trimethylpentane...	11.65	57	1726	N.D.	
50) Methyl Methacrylate	11.93	100	119	N.D.	
51) n-Heptane	11.93	71	814	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.49	58	64	N.D.	
54) trans-1,3-Dichloropropene	13.07	75	1817	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	77499	0.658 ng	97
59) 2-Hexanone	13.51	43	1406	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.99	43	156808	2.153 ng	95
63) n-Octane	14.05	57	1401	N.D.	
64) Tetrachloroethene	14.10	166	13813	0.361 ng	98
65) Chlorobenzene	14.59	112	364	N.D.	
66) Ethylbenzene	14.86	91	6415	N.D.	
67) m- & p-Xylenes	14.98	91	22979	0.222 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.24	104	1136	N.D.	
70) o-Xylene	15.30	91	6894	N.D.	
71) n-Nonane	15.49	43	10088	0.159 ng	97
72) 1,1,2,2-Tetrachloroethane	15.25	83	106	N.D.	
74) Cumene	15.72	105	747	N.D.	
75) alpha-Pinene	15.98	93	1065	N.D.	
76) n-Propylbenzene	16.07	91	2311	N.D.	
77) 3-Ethyltoluene	16.14	105	7005	N.D.	
78) 4-Ethyltoluene	16.17	105	3709	N.D.	
79) 1,3,5-Trimethylbenzene	16.22	105	2477	N.D.	
80) alpha-Methylstyrene	16.34	118	459	N.D.	
81) 2-Ethyltoluene	16.36	105	2600	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	17637	0.155 ng	85
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	16.60	91	127	N.D.	
85) 1,3-Dichlorobenzene	16.67	146	330	N.D.	
86) 1,4-Dichlorobenzene	16.67	146	330	N.D.	
87) sec-Butylbenzene	16.71	105	229	N.D.	
88) 4-Isopropyltoluene (p-...	16.83	119	847	N.D.	
89) 1,2,3-Trimethylbenzene	16.82	105	2617	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	16.94	68	2013	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.56	57	4305	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.35	128	3842	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.08	55	3235	N.D.	
99) tert-Butylbenzene	16.44	119	312	N.D.	
100) n-Butylbenzene	17.14	91	1925	N.D.	

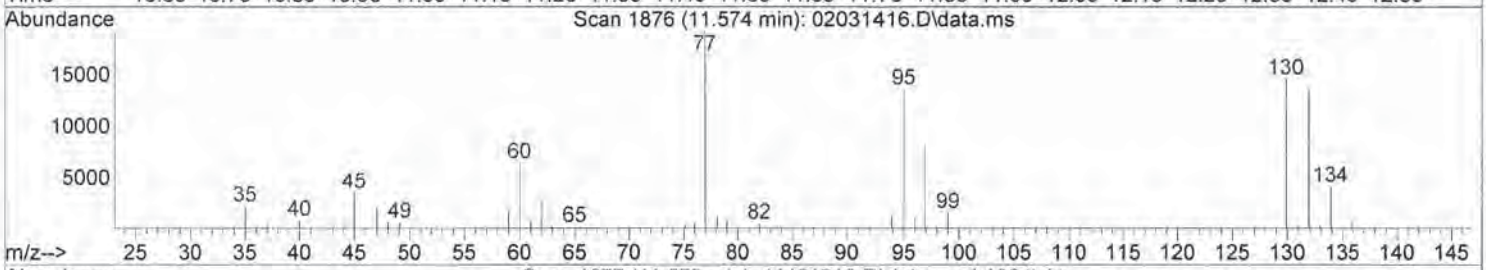
(#) = qualifier out of range (m) = manual integration (+) = signals summed

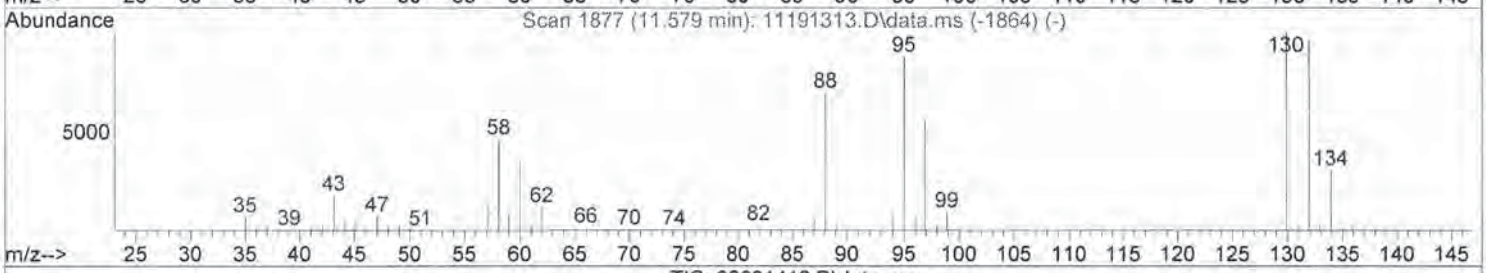
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031416.D
Acq On : 3 Feb 2014 18:30 Operator: WA
Sample : P1400358-008 (400mL)
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 04 07:29:57 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031416.D\data.ms

(47) Trichloroethene (T)

11.574min (+0.000) 0.90ng

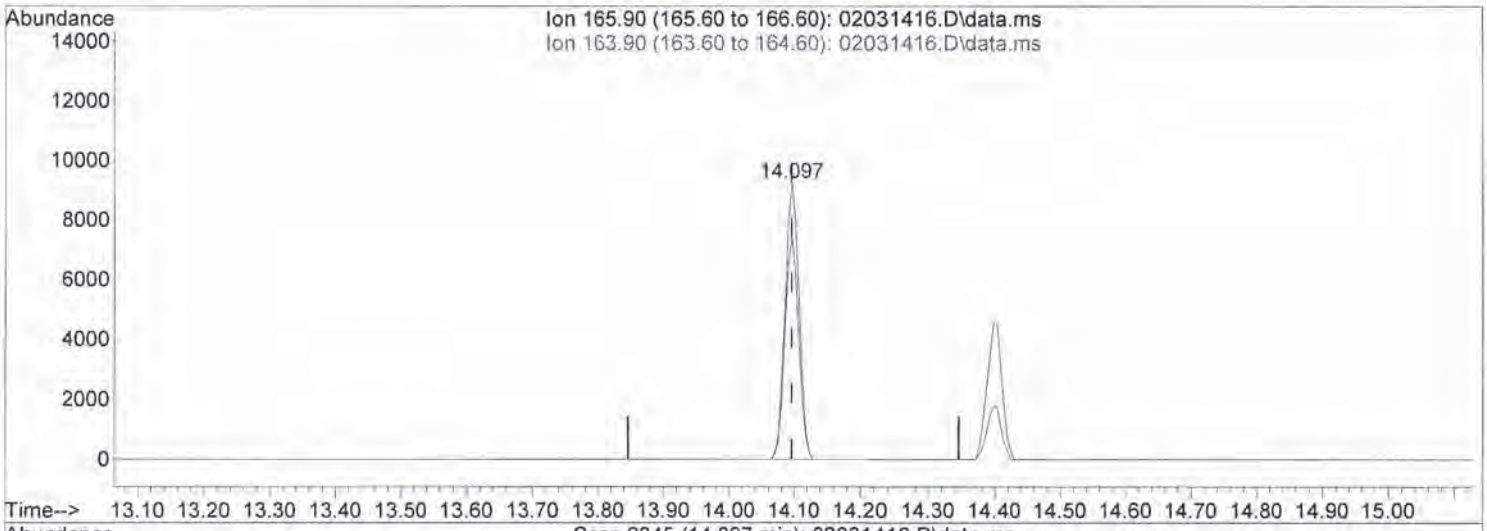
response 27313

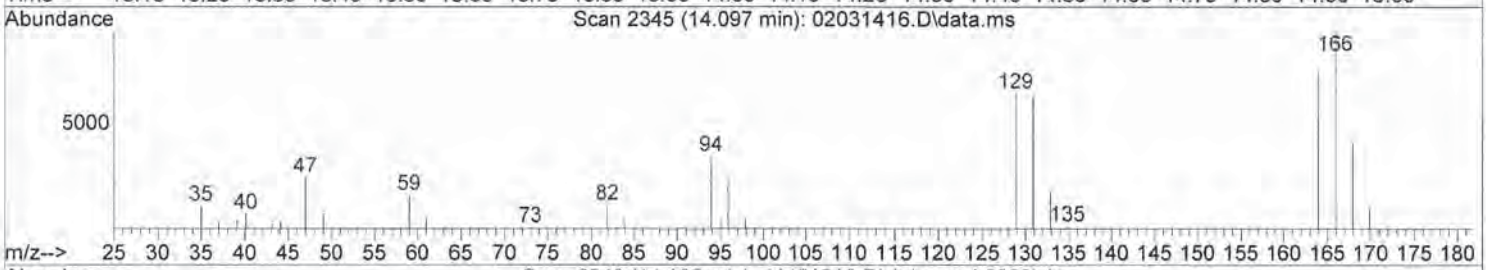
Ion	Exp%	Act%
129.90	100	100
131.90	96.50	94.40
0.00	0.00	0.00
0.00	0.00	0.00

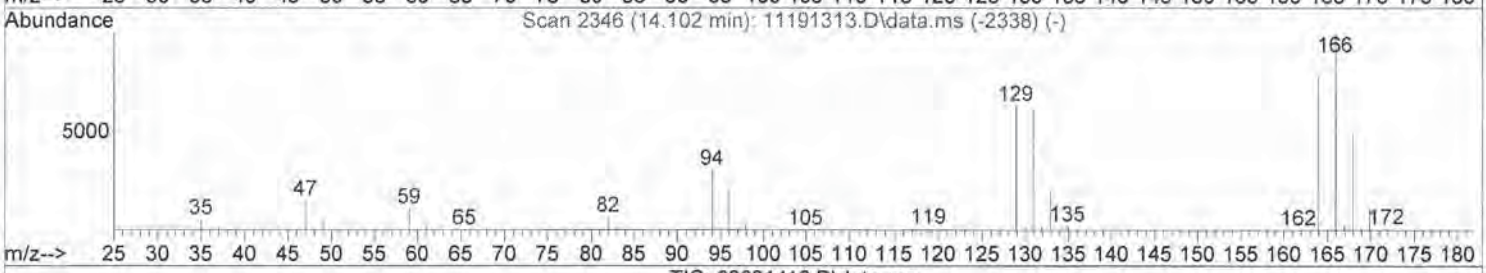
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031416.D
Acq On : 3 Feb 2014 18:30 Operator: WA
Sample : P1400358-008 (400mL)
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 05 15:06:52 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031416.D\data.ms

(64) Tetrachloroethene (T)

14.097min (+0.000) 0.36ng

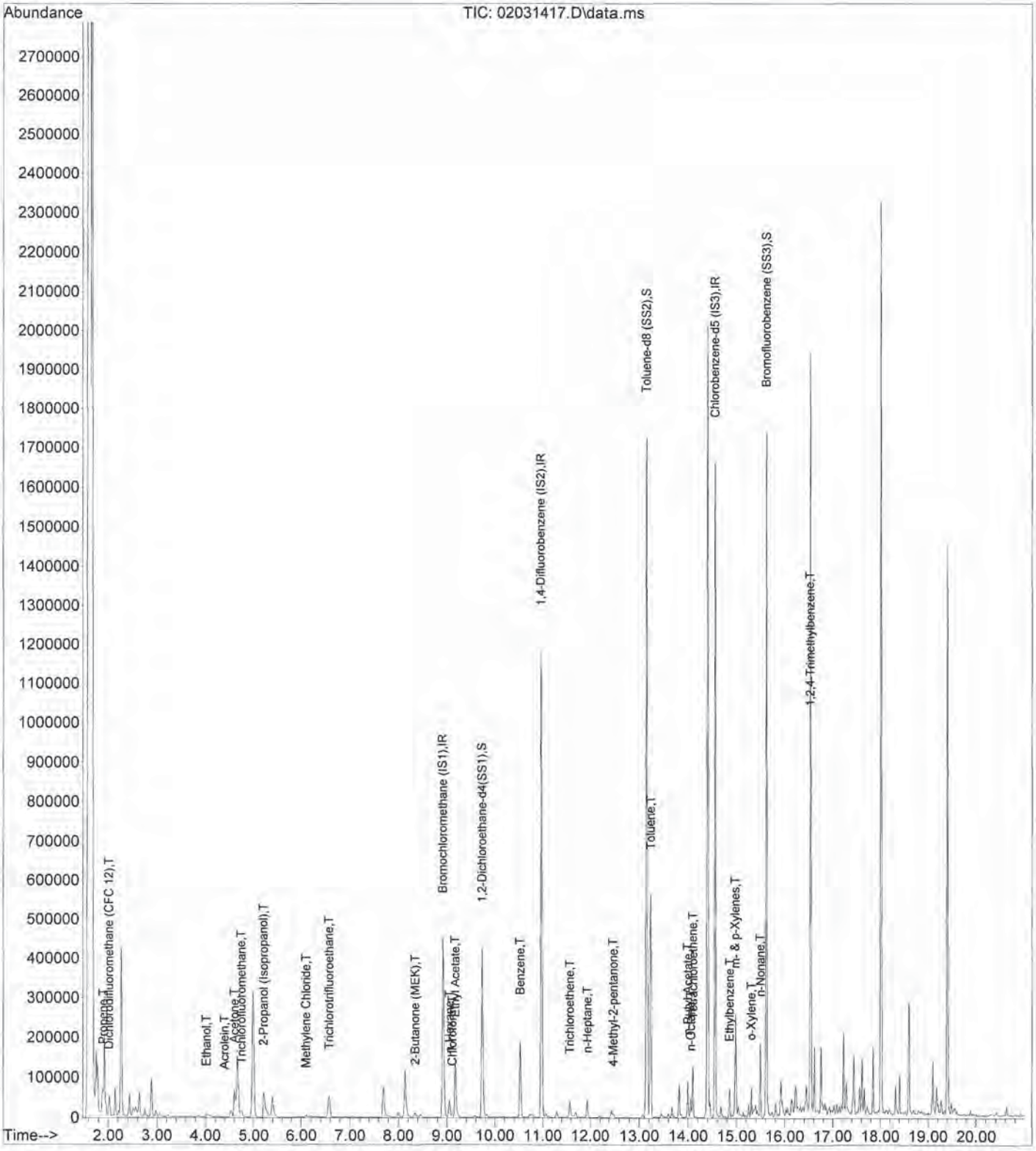
response 13813

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	80.16
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031417.D
Acq On : 3 Feb 2014 18:59 Operator: WA
Sample : P1400358-009 (400mL)
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 05 15:08:30 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031417.D
Acq On : 3 Feb 2014 18:59 Operator: WA
Sample : P1400358-009 (400mL)
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 05 15:08:30 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	185504	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	950582	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	409001	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	316473	15.696 ng		0.00
Spiked Amount 12.500			Recovery =	125.60%		
57) Toluene-d8 (SS2)	13.15	98	1011758	11.612 ng		0.00
Spiked Amount 12.500			Recovery =	92.88%		
73) Bromofluorobenzene (SS3)	15.61	174	401906	11.493 ng		0.00
Spiked Amount 12.500			Recovery =	91.92%		
Target Compounds						Qvalue
2) Propene	1.90	42	9215m	0.352 ng		
3) Dichlorodifluoromethan...	2.01	85	25744	0.582 ng		100
4) Chloromethane	0.00	50	0	N.D. d		
5) 1,2-Dichloro-1,1,2,2-t...	2.49	135	565	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.21	94	834	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.02	45	17816	0.989 ng		96
11) Acetonitrile	4.23	41	3115	N.D.		
12) Acrolein	4.40	56	1438	0.095 ng		87
13) Acetone	4.60	58	40095	2.221 ng		89
14) Trichlorofluoromethane	4.75	101	8455	0.206 ng		100
15) 2-Propanol (Isopropanol)	5.21	45	142161	2.166 ng		95
16) Acrylonitrile	5.39	53	497	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.30	59	3440	N.D.		
19) Methylene Chloride	6.10	84	3038	0.125 ng		94
20) 3-Chloro-1-propene (Al...	6.29	41	322	N.D.		
21) Trichlorotrifluoroethane	6.58	151	27063	1.255 ng		94
22) Carbon Disulfide	6.19	76	6413	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	7.72	63	1798	N.D.		
25) Methyl tert-Butyl Ether	7.99	73	188	N.D.		
26) Vinyl Acetate	8.09	86	227	N.D.		
27) 2-Butanone (MEK)	8.35	72	5193	0.304 ng	#	66
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	9.16	87	288	N.D.		
30) Ethyl Acetate	9.17	61	25131	2.938 ng		97
31) n-Hexane	9.05	57	20941	0.607 ng		99
32) Chloroform	9.11	83	8195	0.208 ng		97
34) Tetrahydrofuran (THF)	9.57	72	756	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	10.07	97	1663	N.D.		
39) Isopropyl Acetate	10.53	61	1161	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.53	78	169109	1.875 ng		100
42) Carbon Tetrachloride	10.67	117	85	N.D.		
43) Cyclohexane	10.78	84	3102	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		

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Data File: I:\MS08\Data\2014_02\03\02031417.D
Acq On : 3 Feb 2014 18:59 Operator: WA
Sample : P1400358-009 (400mL)
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 05 15:08:30 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

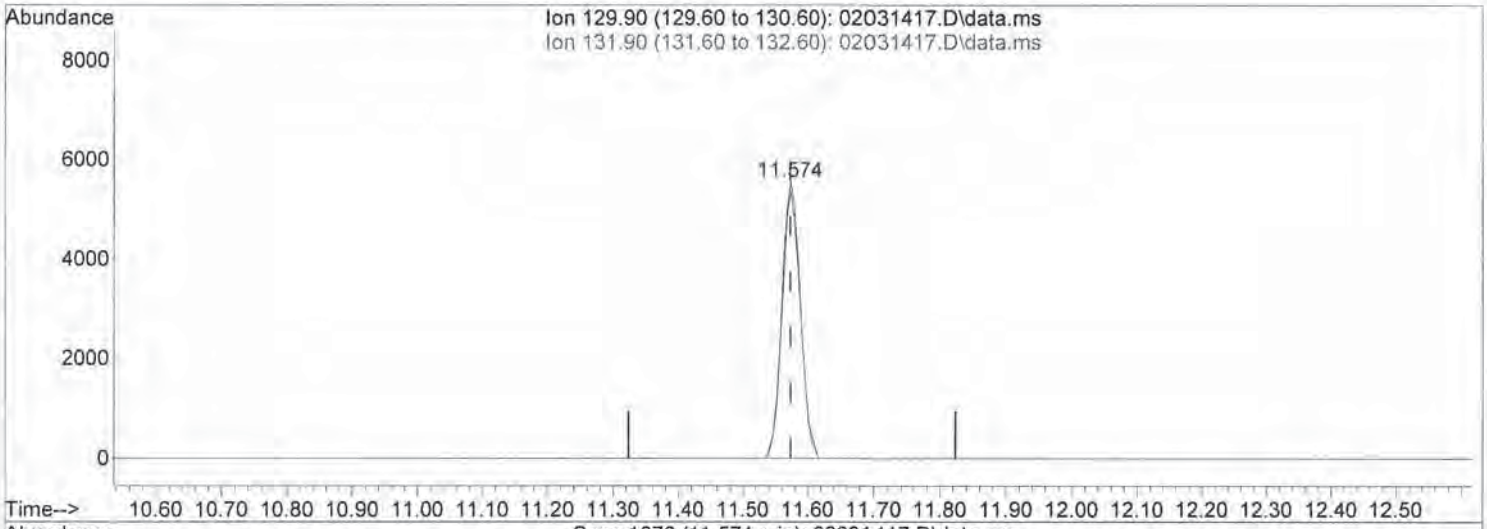
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
46) Bromodichloromethane	11.54	83	133	N.D.		
47) Trichloroethene	11.57	130	10744	0.365 ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.65	57	2117	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D. d		
51) n-Heptane	11.93	71	10258	0.388 ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.48	58	2763	0.110 ng	#	61
54) trans-1,3-Dichloropropene	13.08	75	198	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.23	91	377367	3.324 ng		98
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.99	43	54912	0.782 ng		97
63) n-Octane	14.05	57	6542	0.261 ng		97
64) Tetrachloroethene	14.10	166	33502	0.908 ng		99
65) Chlorobenzene	14.59	112	553	N.D.		
66) Ethylbenzene	14.86	91	38650	0.307 ng		96
67) m- & p-Xylenes	14.98	91	156887	1.572 ng		96
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.23	104	1314	N.D.		
70) o-Xylene	15.30	91	29565	0.284 ng		95
71) n-Nonane	15.49	43	49889	0.817 ng		98
72) 1,1,2,2-Tetrachloroethane	15.35	83	2547	N.D.		
74) Cumene	15.72	105	2322	N.D.		
75) alpha-Pinene	15.98	93	1308	N.D.		
76) n-Propylbenzene	16.07	91	8118	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	16.17	105	10191	N.D.		
79) 1,3,5-Trimethylbenzene	16.23	105	6770	N.D.		
80) alpha-Methylstyrene	16.33	118	820	N.D.		
81) 2-Ethyltoluene	16.36	105	6771	N.D.		
82) 1,2,4-Trimethylbenzene	16.52	105	32788	0.299 ng		85
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	16.60	91	206	N.D.		
85) 1,3-Dichlorobenzene	16.67	146	1441	N.D.		
86) 1,4-Dichlorobenzene	16.67	146	1441	N.D.		
87) sec-Butylbenzene	16.71	105	757	N.D.		
88) 4-Isopropyltoluene (p-...	16.83	119	1507	N.D.		
89) 1,2,3-Trimethylbenzene	16.82	105	5748	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	16.94	68	3613	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	18.35	128	5106	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	15.09	55	942	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	17.14	91	2911	N.D.		

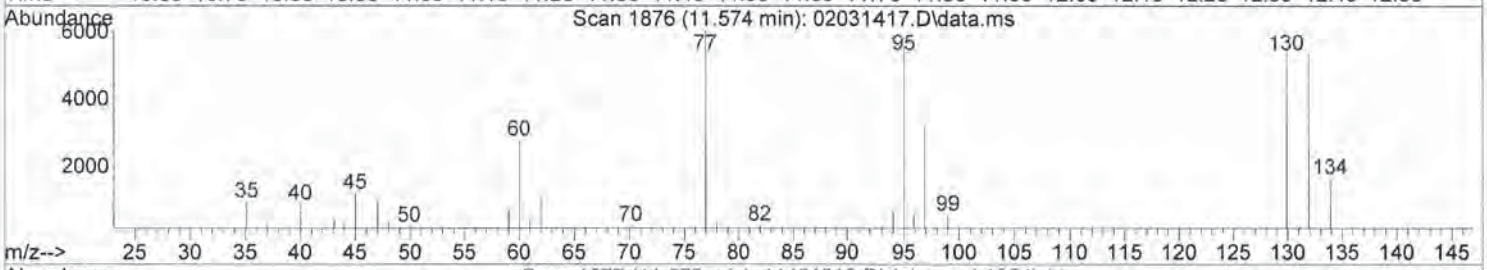
(#) = qualifier out of range (m) = manual integration (+) = signals summed

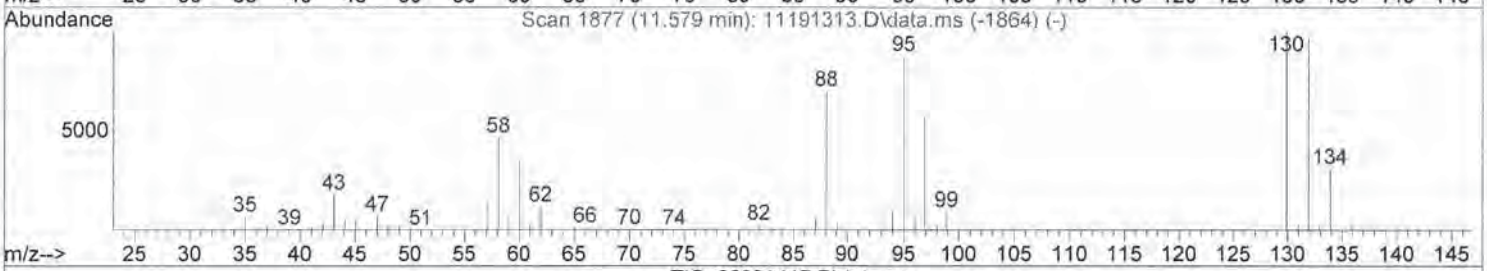
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031417.D
Acq On : 3 Feb 2014 18:59 Operator: WA
Sample : P1400358-009 (400mL)
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 05 07:29:14 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031417.D\data.ms

(47) Trichloroethene (T)

11.574min (+0.000) 0.36ng

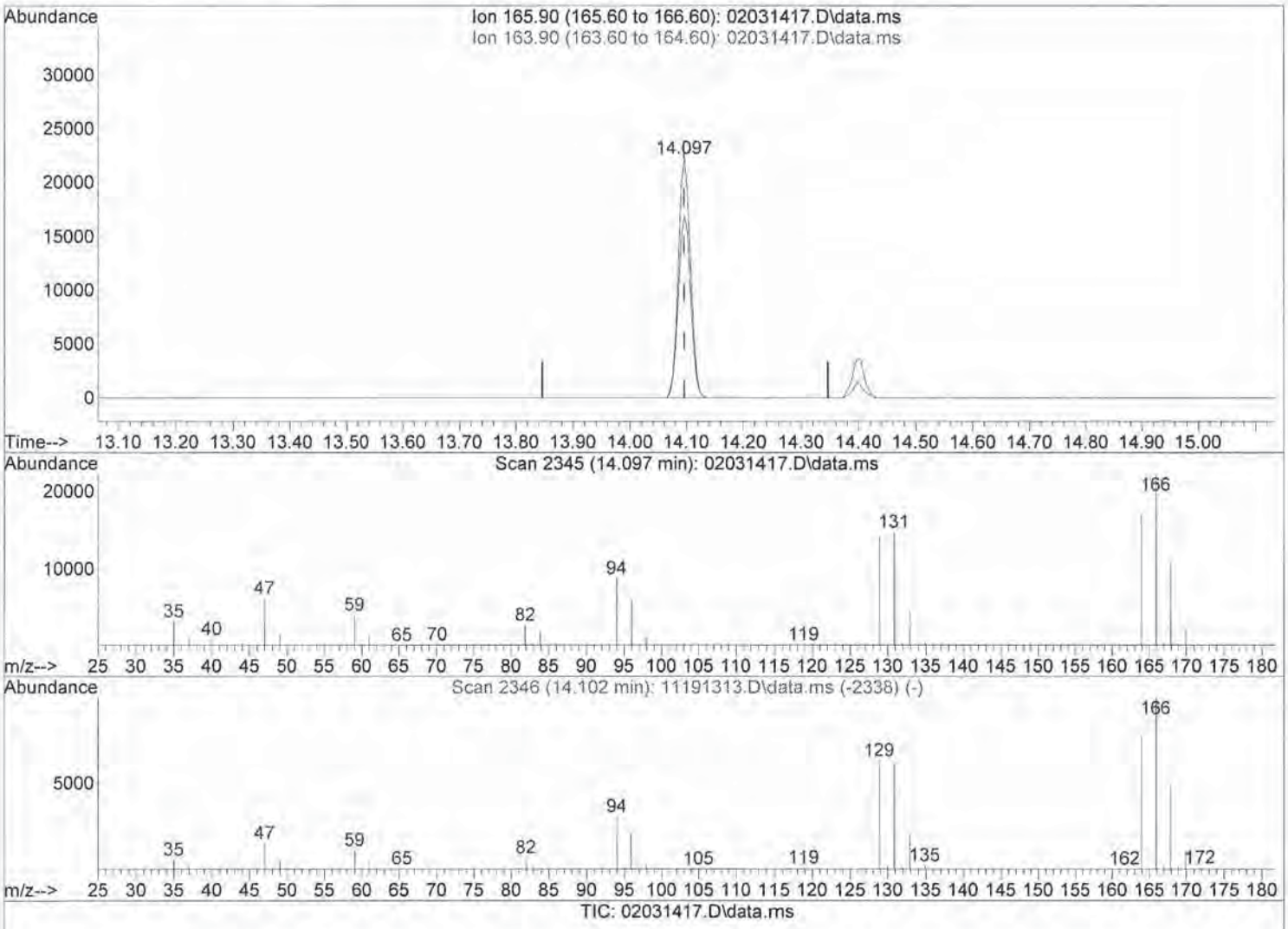
response 10744

Ion	Exp%	Act%
129.90	100	100
131.90	96.50	95.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031417.D
Acq On : 3 Feb 2014 18:59 Operator: WA
Sample : P1400358-009 (400mL)
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 04 07:30:00 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 02031417.D\data.ms

(64) Tetrachloroethene (T)

14.097min (+0.000) 0.91ng

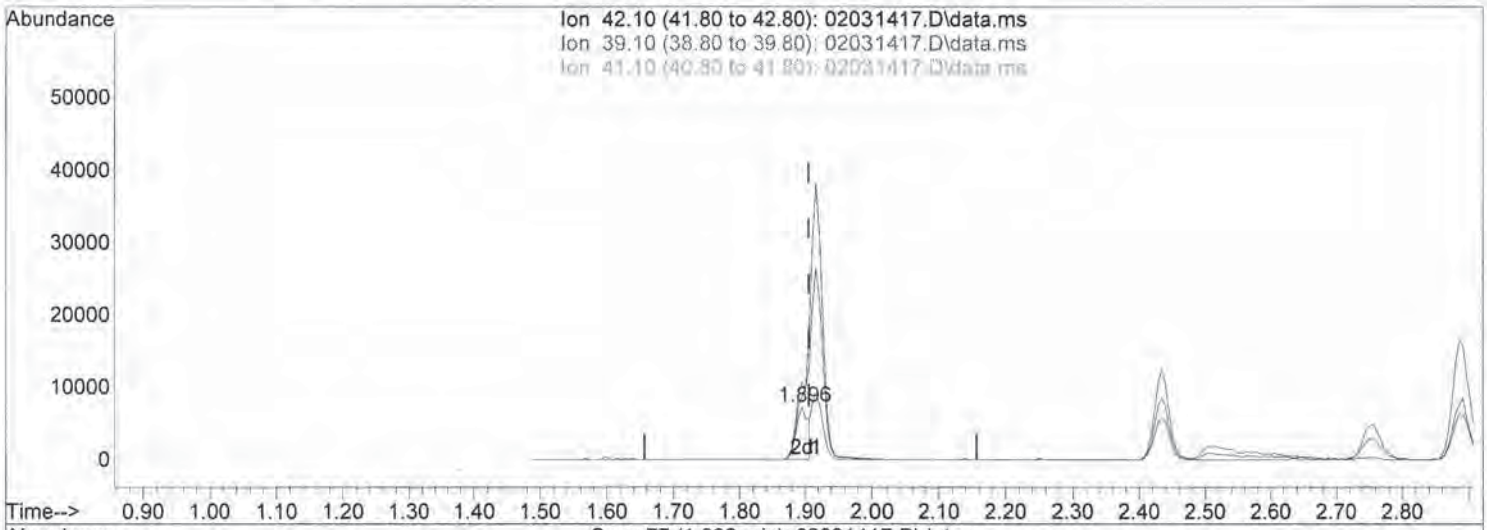
response 33502

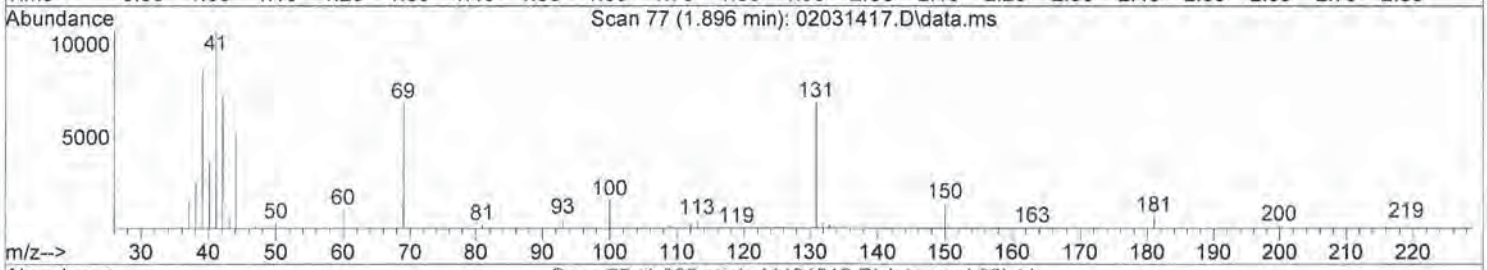
Ion	Exp%	Act%
165.90	100	100
163.90	78.50	77.73
0.00	0.00	0.00
0.00	0.00	0.00

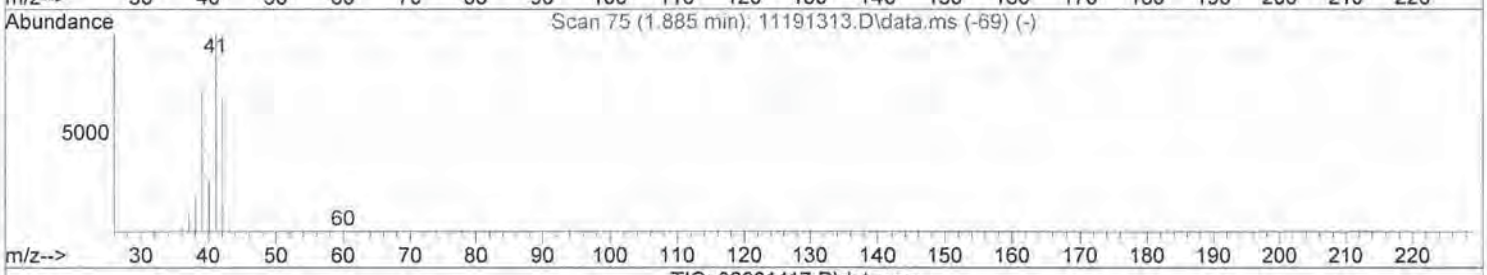
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031417.D
Acq On : 3 Feb 2014 18:59 Operator: WA
Sample : P1400358-009 (400mL)
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 05 07:29:14 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031417.D\data.ms

(2) Propene (T)

1.896min (-0.011) 0.35ng m

response 9215

Ion	Exp%	Act%
42.10	100	100
39.10	105.90	611.21#
41.10	149.10	356.38#
0.00	0.00	0.00

KP

2/6/14

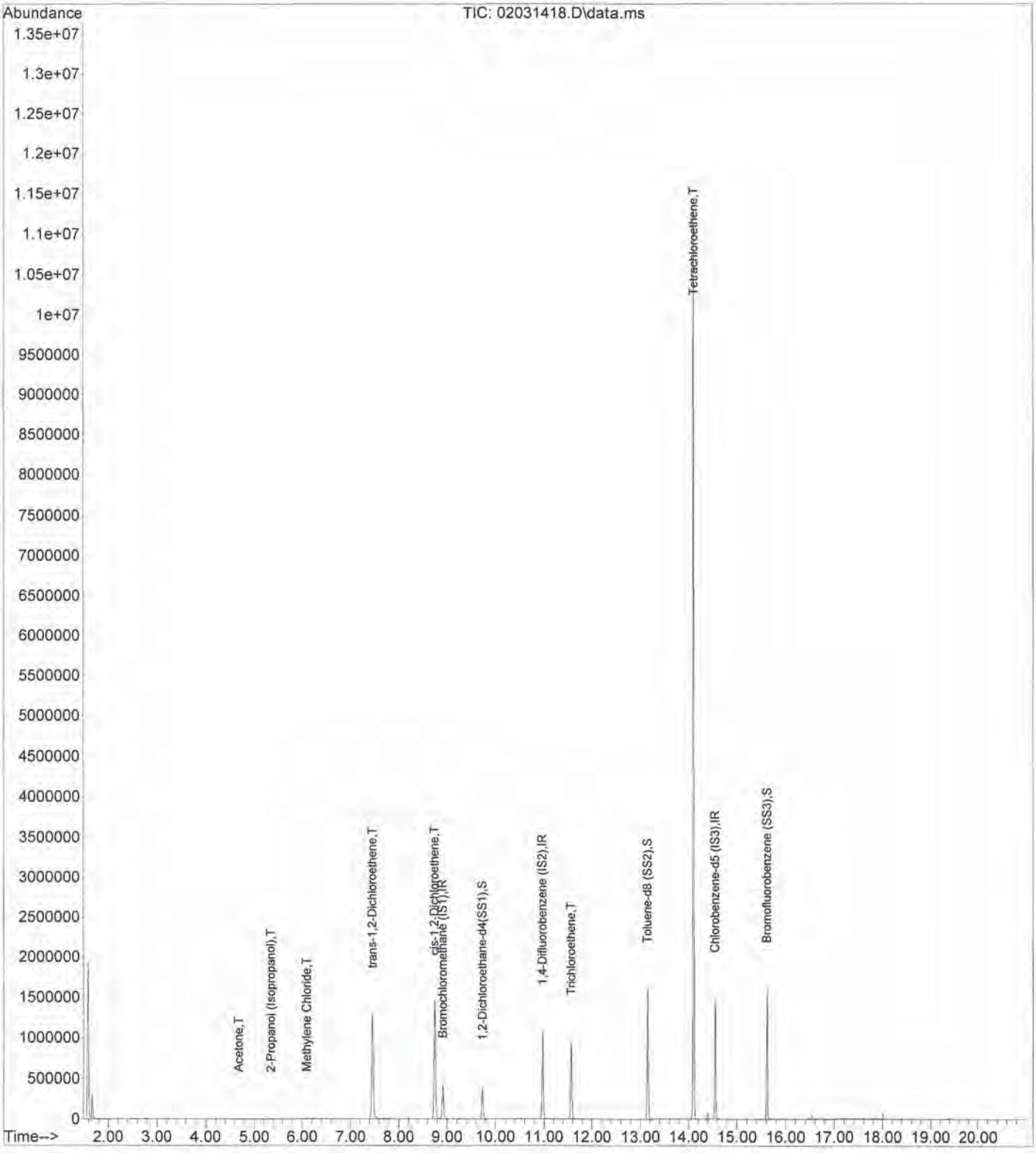
KP 2/5/14

(no prev)

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031418.D
Acq On : 3 Feb 2014 19:28 Operator: WA
Sample : P1400358-010 (15mL)
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 05 15:09:07 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031418.D
Acq On : 3 Feb 2014 19:28 Operator: WA
Sample : P1400358-010 (15mL)
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 05 15:09:07 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	170261	12.500 ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	866030	12.500 ng	0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	367961	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.73	65	285920	15.450 ng	0.00
Spiked Amount 12.500			Recovery =	123.60%	
57) Toluene-d8 (SS2)	13.15	98	928488	11.845 ng	0.00
Spiked Amount 12.500			Recovery =	94.72%	
73) Bromofluorobenzene (SS3)	15.61	174	362622	11.526 ng	0.00
Spiked Amount 12.500			Recovery =	92.24%	
Target Compounds					Qvalue
2) Propene	1.91	42	406	N.D.	
3) Dichlorodifluoromethan...	2.05	85	977	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	3.24	94	718	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	0.00	45	0	N.D.	
11) Acetonitrile	4.27	41	124	N.D.	
12) Acrolein	4.42	56	52	N.D.	
13) Acetone	4.68	58	1634	0.099 ng #	9
14) Trichlorofluoromethane	4.76	101	339	N.D.	
15) 2-Propanol (Isopropanol)	5.35	45	7765	0.129 ng	100
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	6.10	84	2368	0.106 ng	86
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	6.21	76	4219	N.D.	
23) trans-1,2-Dichloroethene	7.46	61	878161	28.812 ng	96
24) 1,1-Dichloroethane	7.64	63	361	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	
28) cis-1,2-Dichloroethene	8.75	61	910150	31.848 ng	94
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	9.19	61	227	N.D.	
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	9.10	83	1671	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D.	
41) Benzene	10.52	78	3827	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	10.97	84	522	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	

2/5/14

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031418.D
Acq On : 3 Feb 2014 19:28 Operator: WA
Sample : P1400358-010 (15mL)
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 05 15:09:07 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

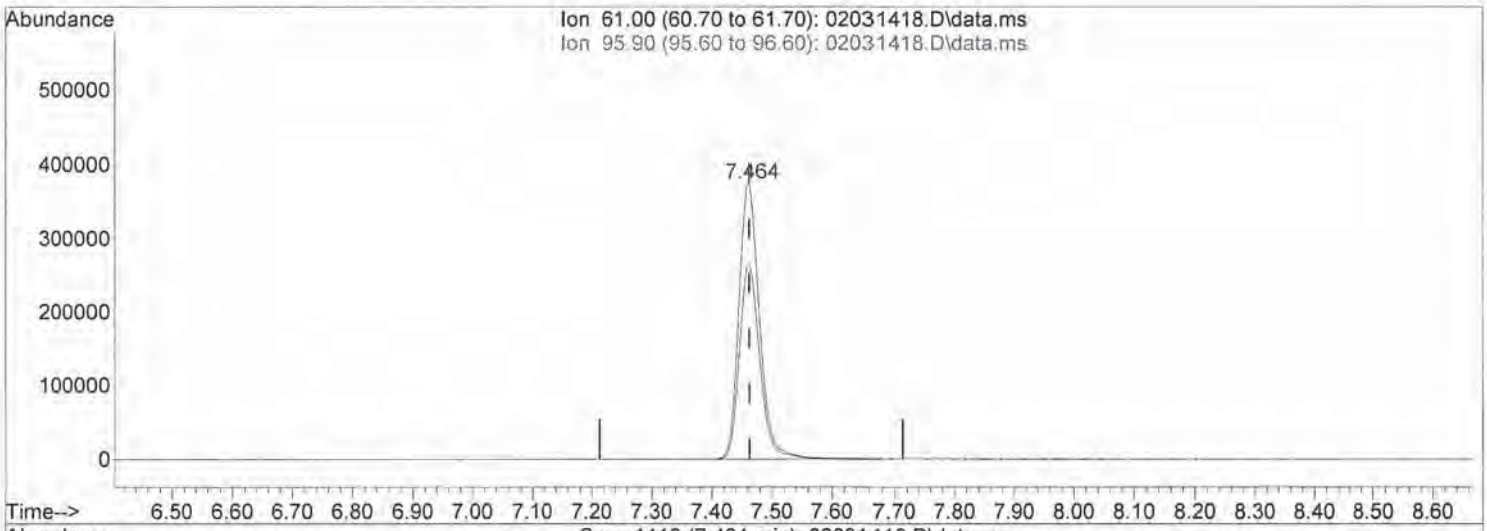
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	318489	11.866 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.65	57	322	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	1987	N.D.	
59) 2-Hexanone	13.68	43	59	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.10	43	174	N.D.	
63) n-Octane	14.09	57	116	N.D.	
64) Tetrachloroethene	14.10	166	2822359	84.980 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	14.87	91	431	N.D.	
67) m- & p-Xylenes	14.98	91	938	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	15.49	43	649	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	15.61	105	570	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	16.15	105	75	N.D.	
78) 4-Ethyltoluene	16.16	105	63	N.D.	
79) 1,3,5-Trimethylbenzene	16.16	105	63	N.D.	
80) alpha-Methylstyrene	16.53	118	686	N.D.	
81) 2-Ethyltoluene	16.52	105	454	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	454	N.D.	
83) n-Decane	16.61	57	749	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	16.83	105	109	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	16.83	105	109	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	16.94	68	111	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.56	57	311	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.36	128	200	N.D.	
96) n-Dodecane	18.40	57	592	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	16.52	119	981	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

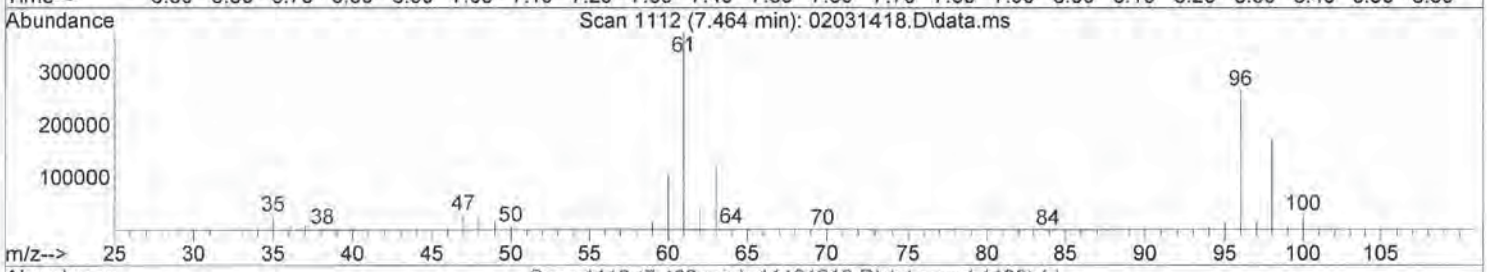
(#) = qualifier out of range (m) = manual integration (+) = signals summed

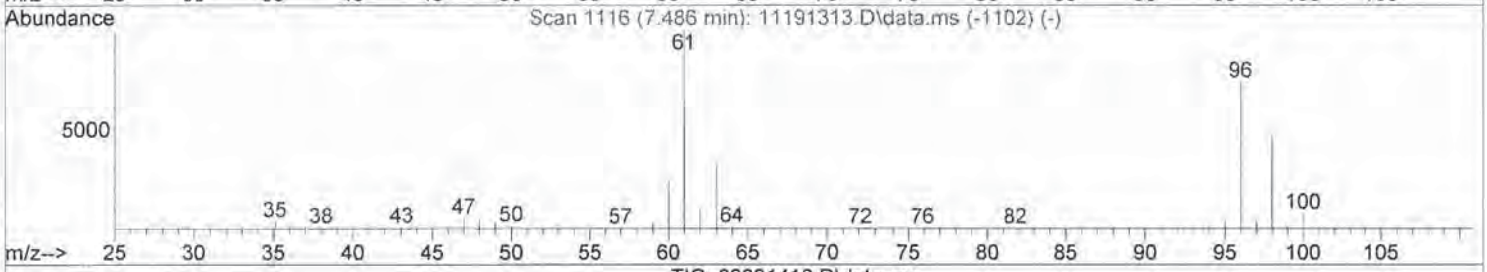
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031418.D
Acq On : 3 Feb 2014 19:28 Operator: WA
Sample : P1400358-010 (15mL)
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 04 07:30:03 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031418.D\data.ms

(23) trans-1,2-Dichloroethene (T)

7.464min (-0.000) 28.81ng

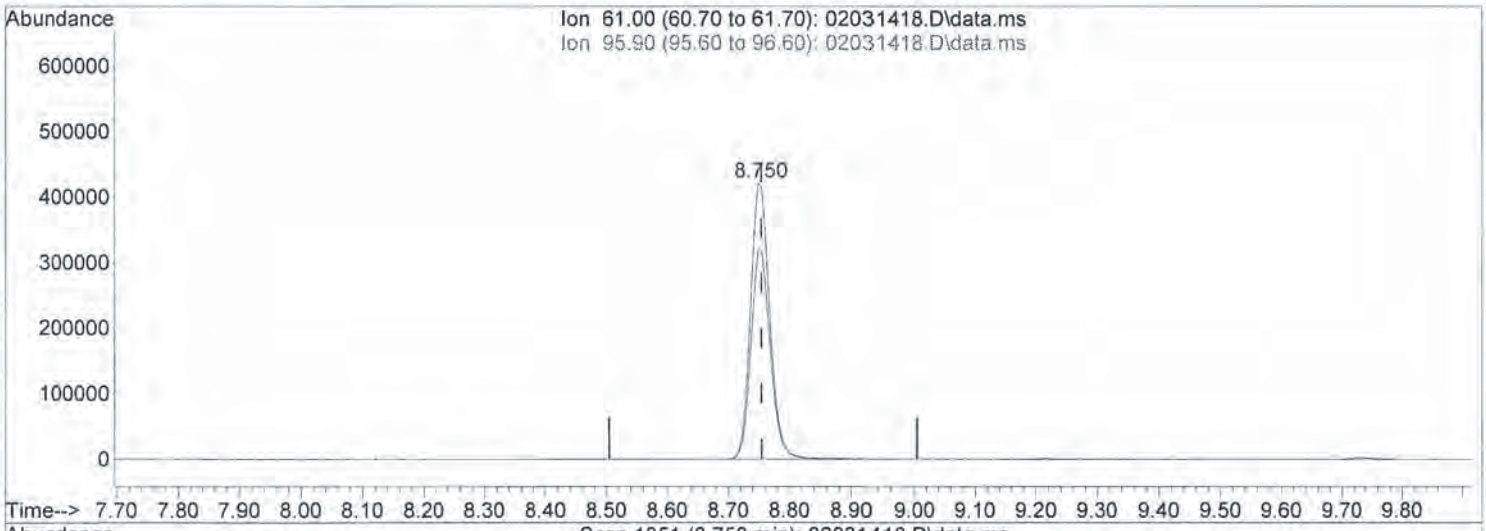
response 878161

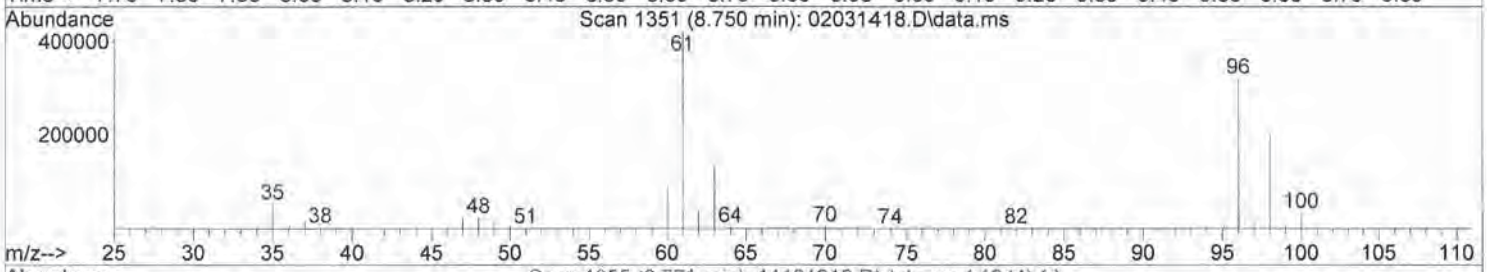
Ion	Exp%	Act%
61.00	100	100
95.90	73.80	70.46
0.00	0.00	0.00
0.00	0.00	0.00

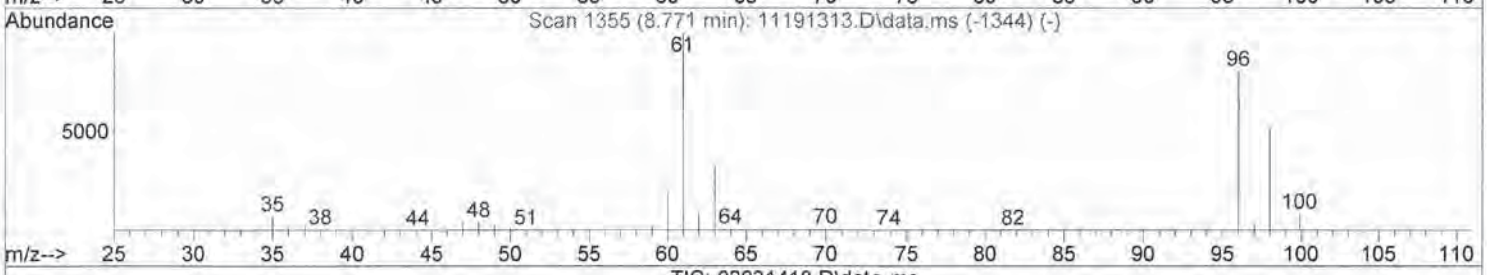
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031418.D
Acq On : 3 Feb 2014 19:28 Operator: WA
Sample : P1400358-010 (15mL)
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 04 07:30:03 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031418.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.750min (-0.005) 31.85ng

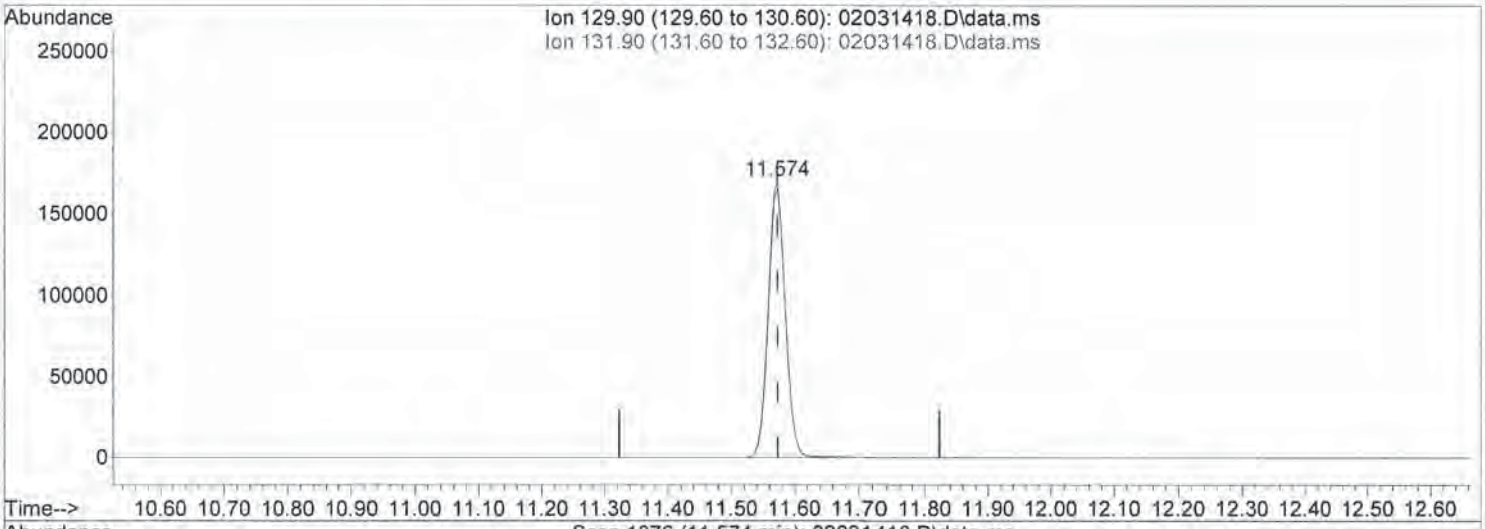
response 910150

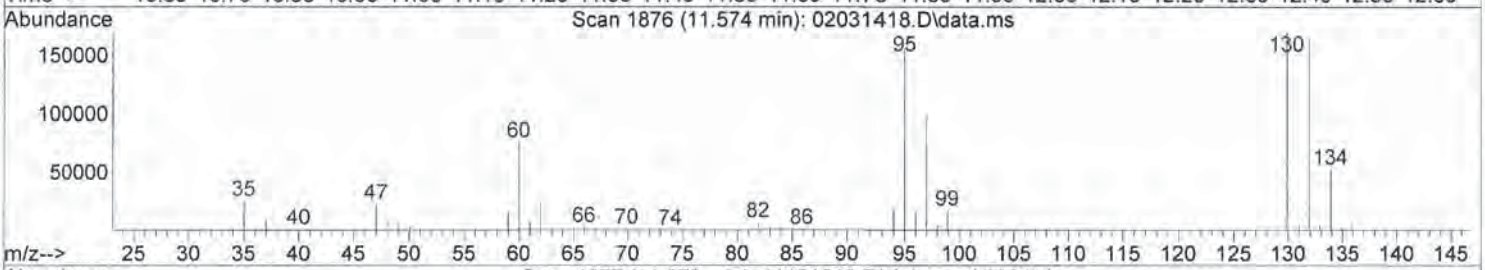
Ion	Exp%	Act%
61.00	100	100
95.90	81.40	76.04
0.00	0.00	0.00
0.00	0.00	0.00

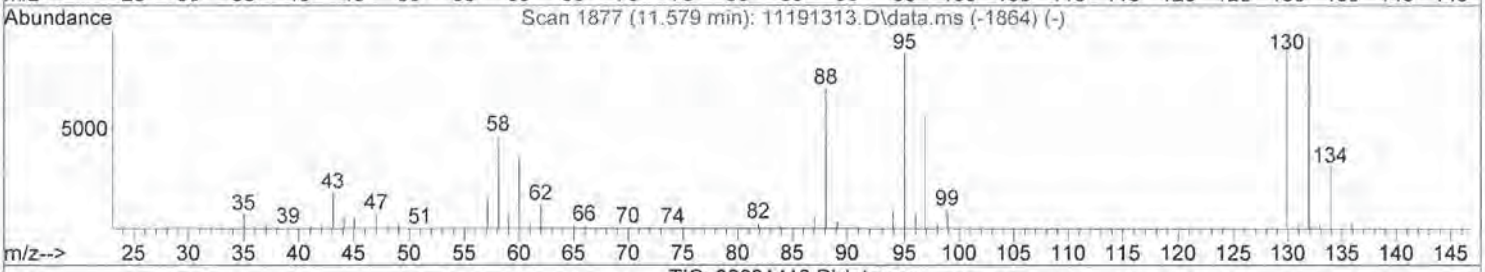
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031418.D
Acq On : 3 Feb 2014 19:28 Operator: WA
Sample : P1400358-010 (15mL)
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 04 07:30:03 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031418.D\data.ms

(47) Trichloroethene (T)

11.574min (-0.000) 11.87ng

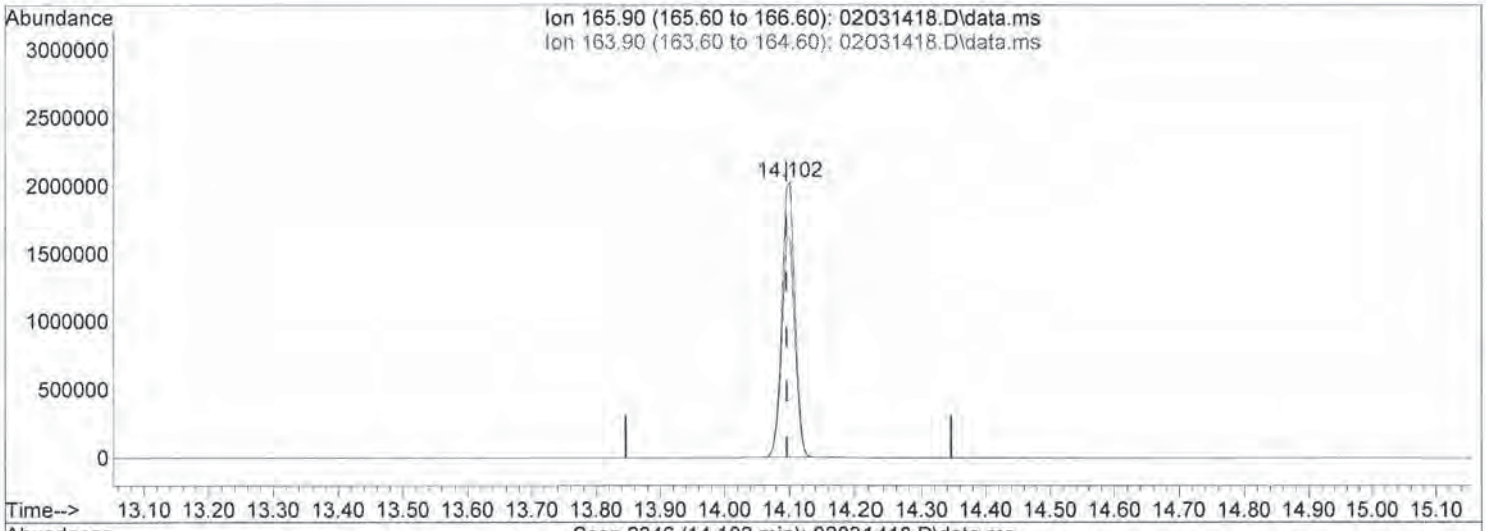
response 318489

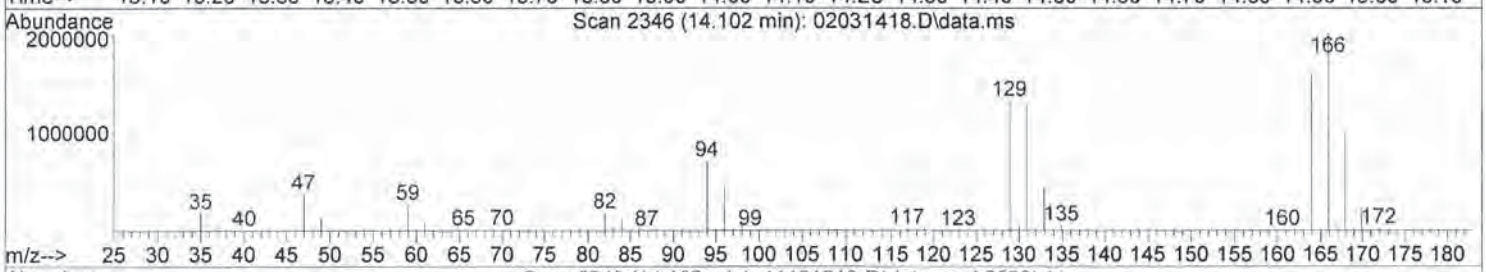
Ion	Exp%	Act%
129.90	100	100
131.90	96.50	97.01
0.00	0.00	0.00
0.00	0.00	0.00

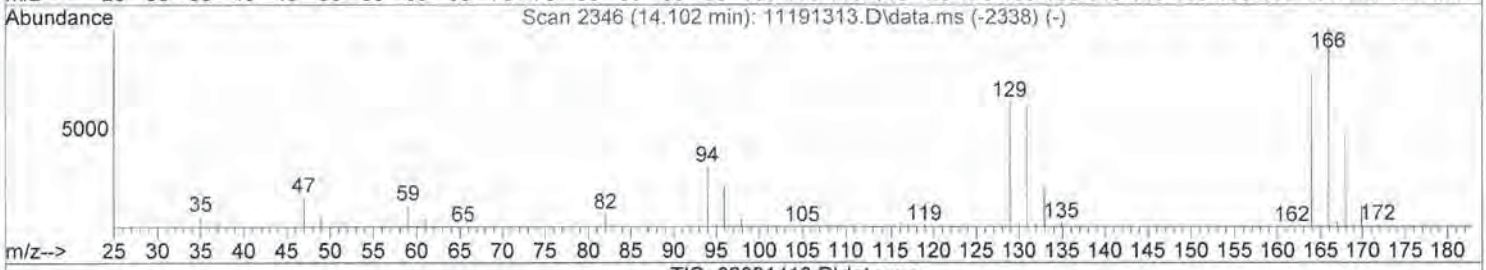
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031418.D
Acq On : 3 Feb 2014 19:28 Operator: WA
Sample : P1400358-010 (15mL)
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 04 07:30:03 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031418.D\data.ms

(64) Tetrachloroethene (T)

14.102min (+0.005) 84.98ng

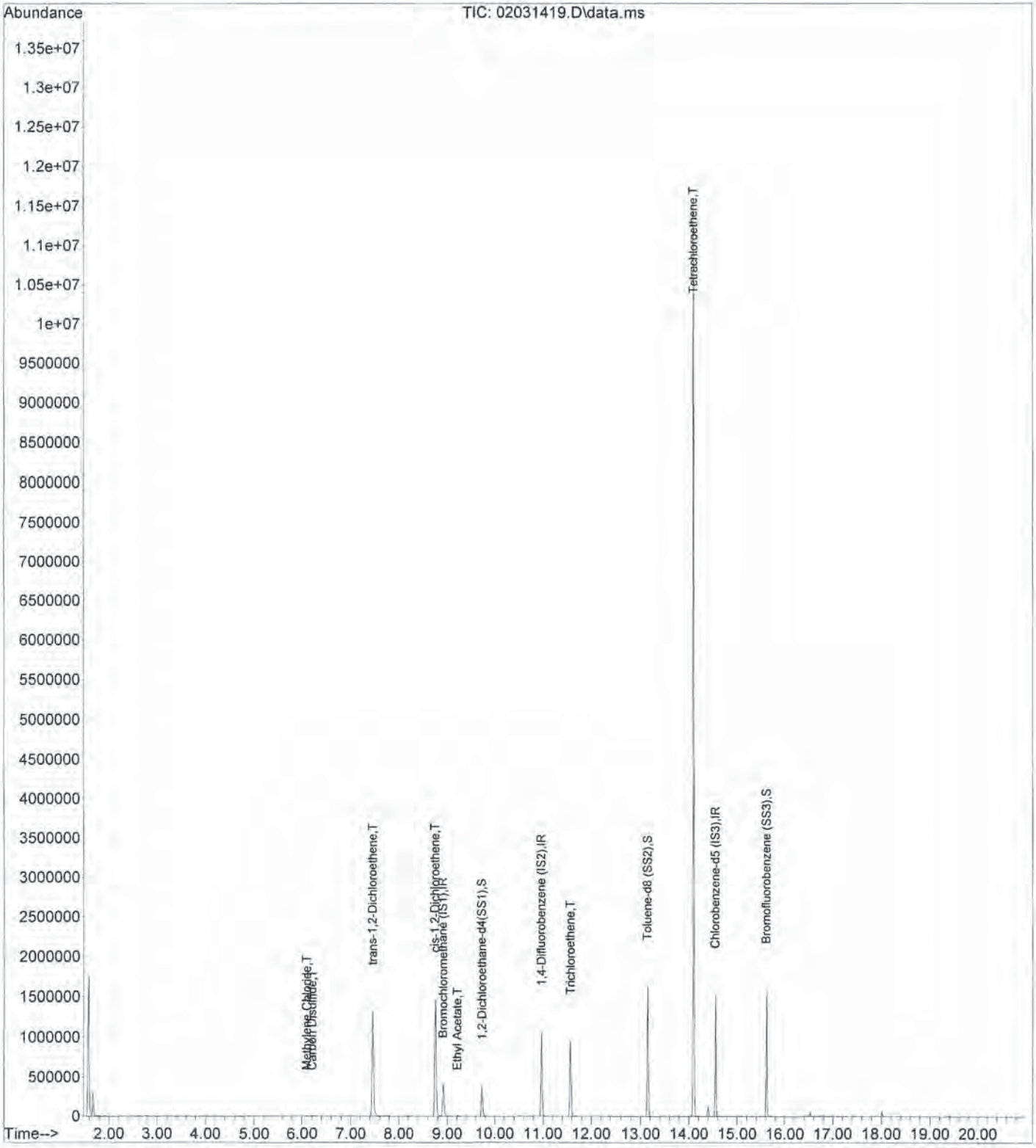
response 2822359

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	79.66
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031419.D
Acq On : 3 Feb 2014 19:57 Operator: WA
Sample : P1400358-011 (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 05 15:10:41 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031419.D
Acq On : 3 Feb 2014 19:57 Operator: WA
Sample : P1400358-011 (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 05 15:10:41 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	168722	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	861737	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	363835	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	282275	15.392 ng		0.00
Spiked Amount 12.500			Recovery = 123.12%			
57) Toluene-d8 (SS2)	13.15	98	924664	11.930 ng		0.00
Spiked Amount 12.500			Recovery = 95.44%			
73) Bromofluorobenzene (SS3)	15.61	174	359289	11.550 ng		0.00
Spiked Amount 12.500			Recovery = 92.40%			
Target Compounds						Qvalue
2) Propene	1.92	42	537	N.D.		
3) Dichlorodifluoromethan...	2.05	85	824	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.23	94	931	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	4.27	41	296	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.		
14) Trichlorofluoromethane	4.75	101	127	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.10	84	2275	0.103 ng		88
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	6.21	76	12054	0.154 ng		83
23) trans-1,2-Dichloroethene	7.46	61	890953	29.498 ng		96
24) 1,1-Dichloroethane	7.60	63	292	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	8.76	61	921754	32.548 ng		94
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	9.21	61	2327	0.299 ng	#	70
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	9.11	83	1685	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.75	62	122	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	10.79	56	1197	N.D.		
41) Benzene	10.53	78	5359	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.98	84	653	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	11.57	63	756	N.D.		

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Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031419.D
Acq On : 3 Feb 2014 19:57 Operator: WA
Sample : P1400358-011 (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 05 15:10:41 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

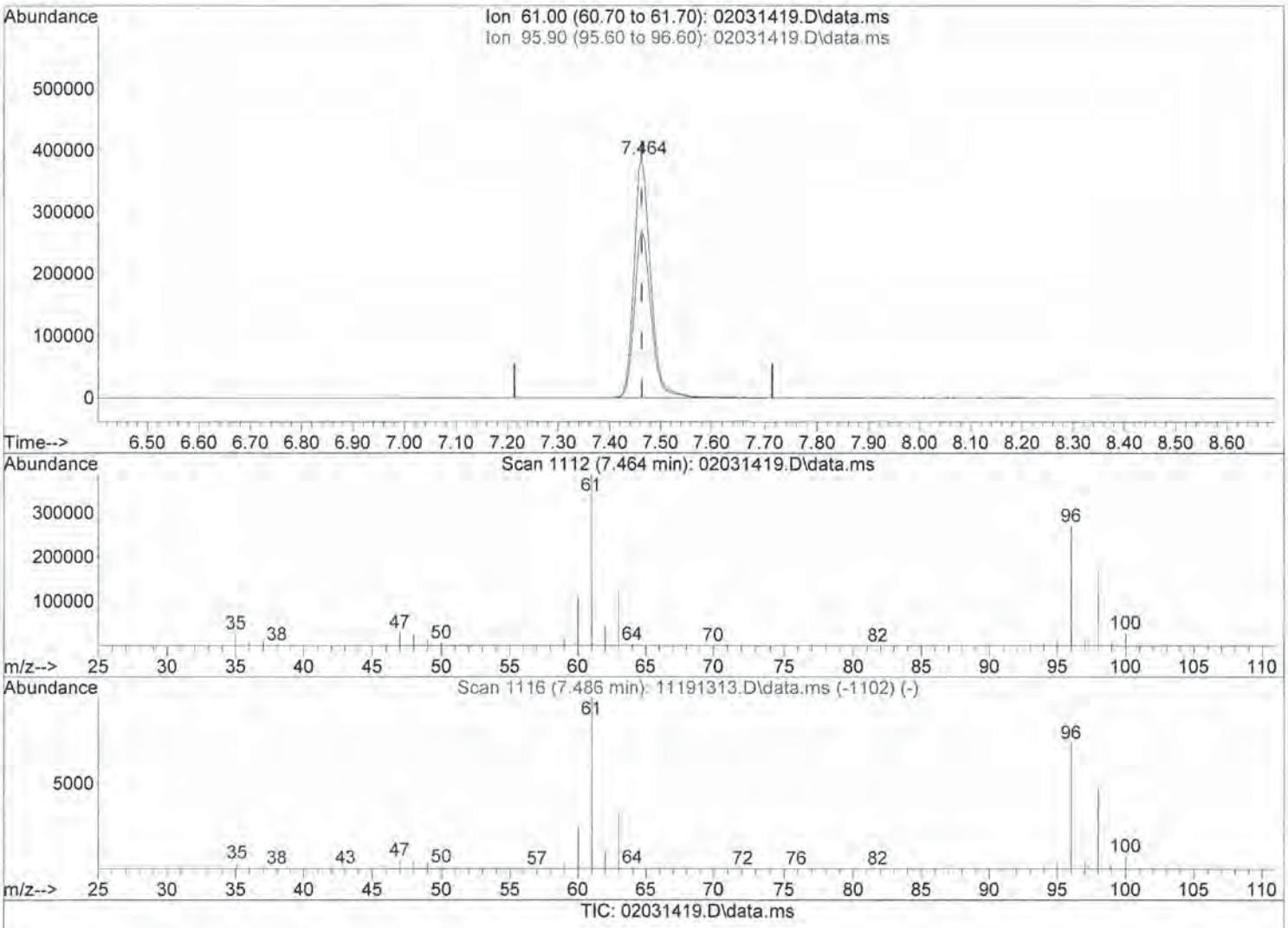
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	322732	12.084 ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.64	57	207	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	2948	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.01	43	118	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.10	166	2876889	87.604 ng	99
65) Chlorobenzene	14.59	112	265	N.D.	
66) Ethylbenzene	14.87	91	541	N.D.	
67) m- & p-Xylenes	14.98	91	939	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.24	104	121	N.D.	
70) o-Xylene	15.31	91	119	N.D.	
71) n-Nonane	15.49	43	590	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	15.61	105	475	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	15.96	105	1591	N.D.	
78) 4-Ethyltoluene	15.96	105	1591	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	16.50	118	99	N.D.	
81) 2-Ethyltoluene	16.52	105	449	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	449	N.D.	
83) n-Decane	16.61	57	733	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	16.67	146	263	N.D.	
86) 1,4-Dichlorobenzene	16.67	146	263	N.D.	
87) sec-Butylbenzene	16.52	105	449	N.D.	
88) 4-Isopropyltoluene (p-...	16.83	119	1666	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.56	57	346	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.36	128	509	N.D.	
96) n-Dodecane	18.40	57	797	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	16.52	119	996	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

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

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031419.D
Acq On : 3 Feb 2014 19:57 Operator: WA
Sample : P1400358-011 (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 04 07:30:06 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 02031419.D\data.ms

(23) trans-1,2-Dichloroethene (T)

7.464min (+0.000) 29.50ng

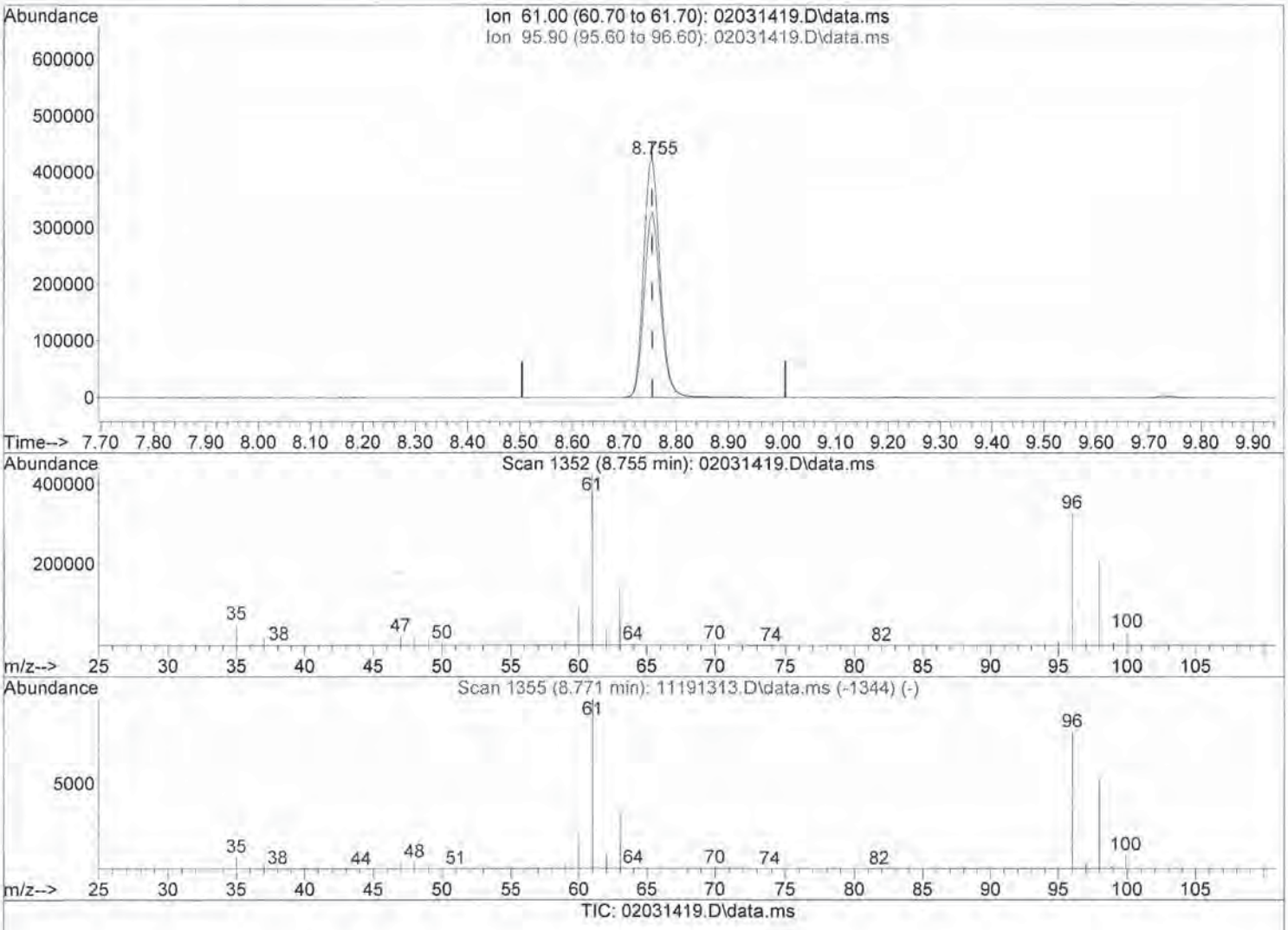
response 890953

Ion	Exp%	Act%
61.00	100	100
95.90	73.80	70.23
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031419.D
Acq On : 3 Feb 2014 19:57 Operator: WA
Sample : P1400358-011 (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 04 07:30:06 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



(28) cis-1,2-Dichloroethene (T)

8.755min (+0.000) 32.55ng

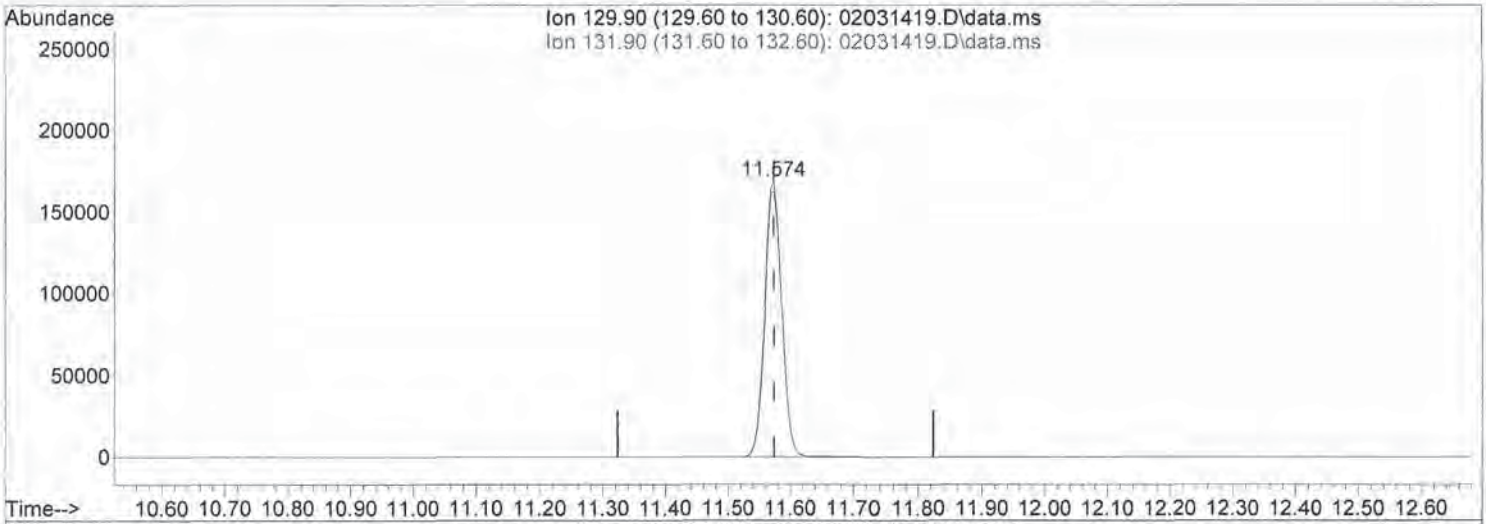
response 921754

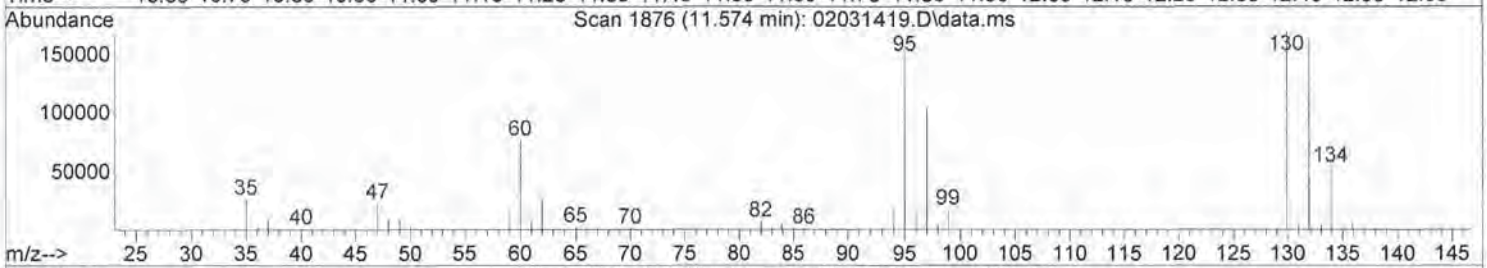
Ion	Exp%	Act%
61.00	100	100
95.90	81.40	76.27
0.00	0.00	0.00
0.00	0.00	0.00

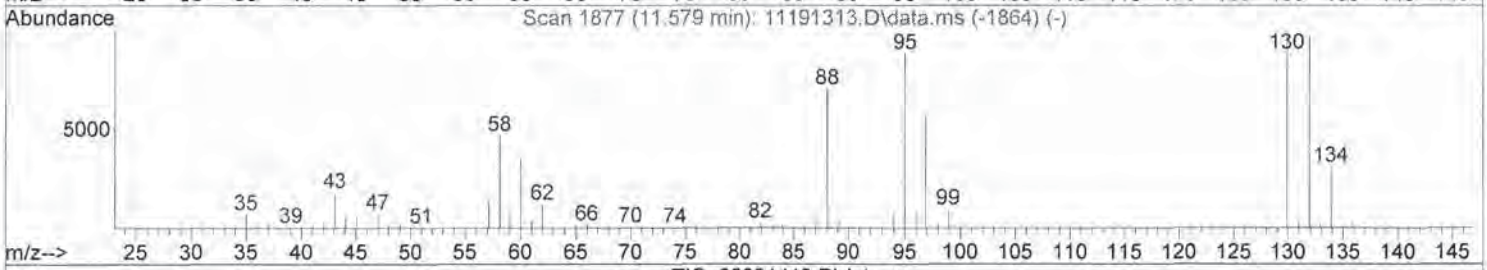
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031419.D
Acq On : 3 Feb 2014 19:57 Operator: WA
Sample : P1400358-011 (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 04 07:30:06 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031419.D\data.ms

(47) Trichloroethene (T)

11.574min (+0.000) 12.08ng

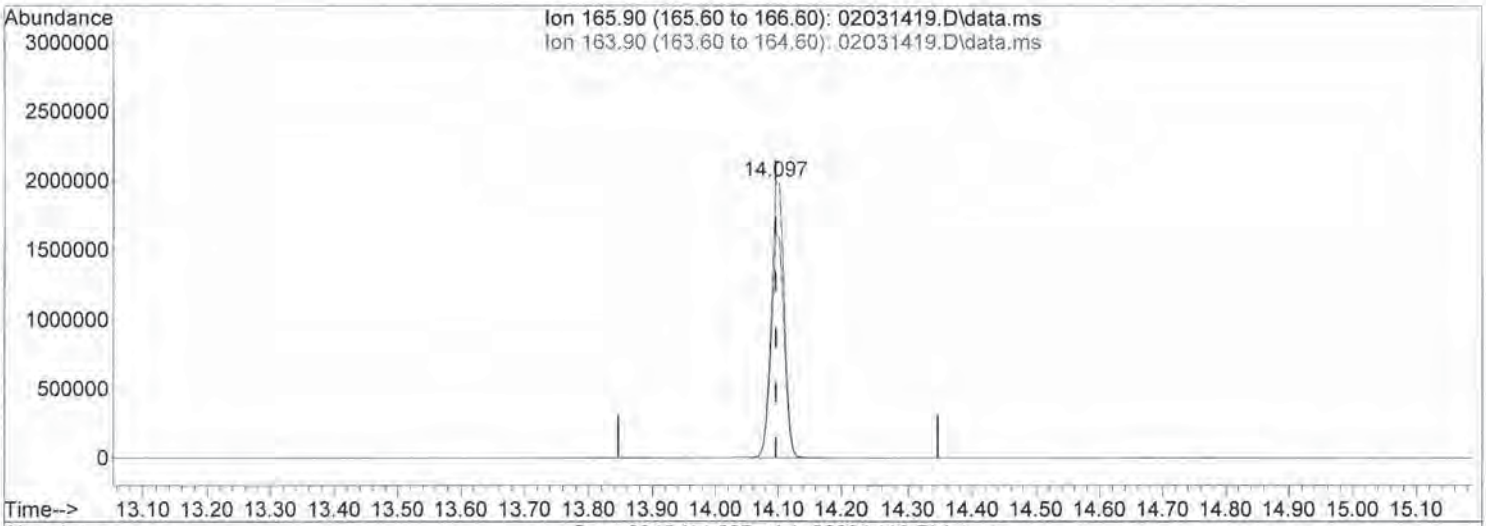
response 322732

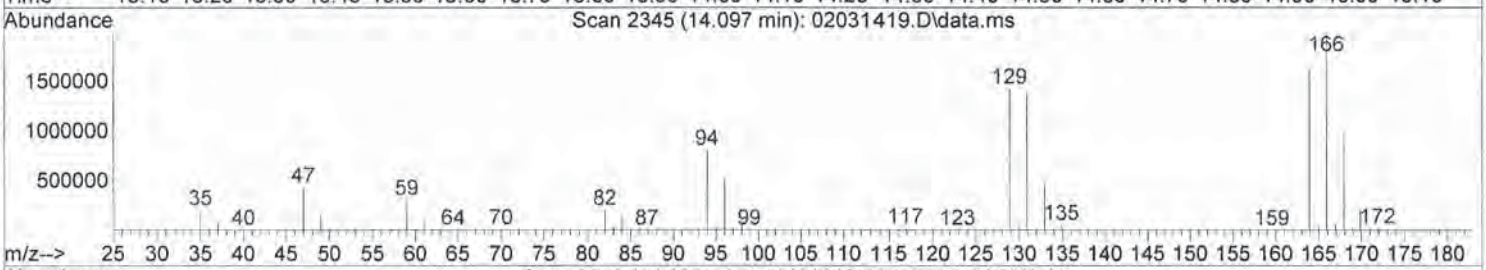
Ion	Exp%	Act%
129.90	100	100
131.90	96.50	96.68
0.00	0.00	0.00
0.00	0.00	0.00

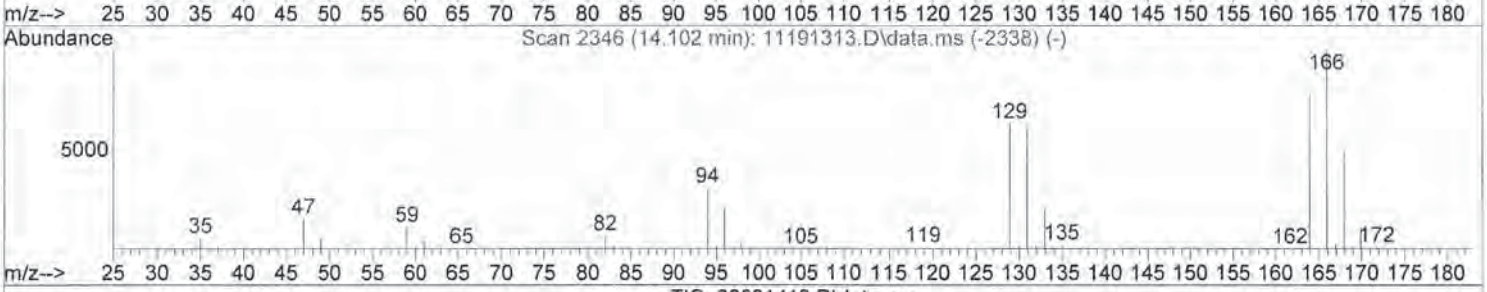
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031419.D
Acq On : 3 Feb 2014 19:57 Operator: WA
Sample : P1400358-011 (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 04 07:30:06 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031419.D\data.ms

(64) Tetrachloroethene (T)

14.097min (+0.000) 87.60ng

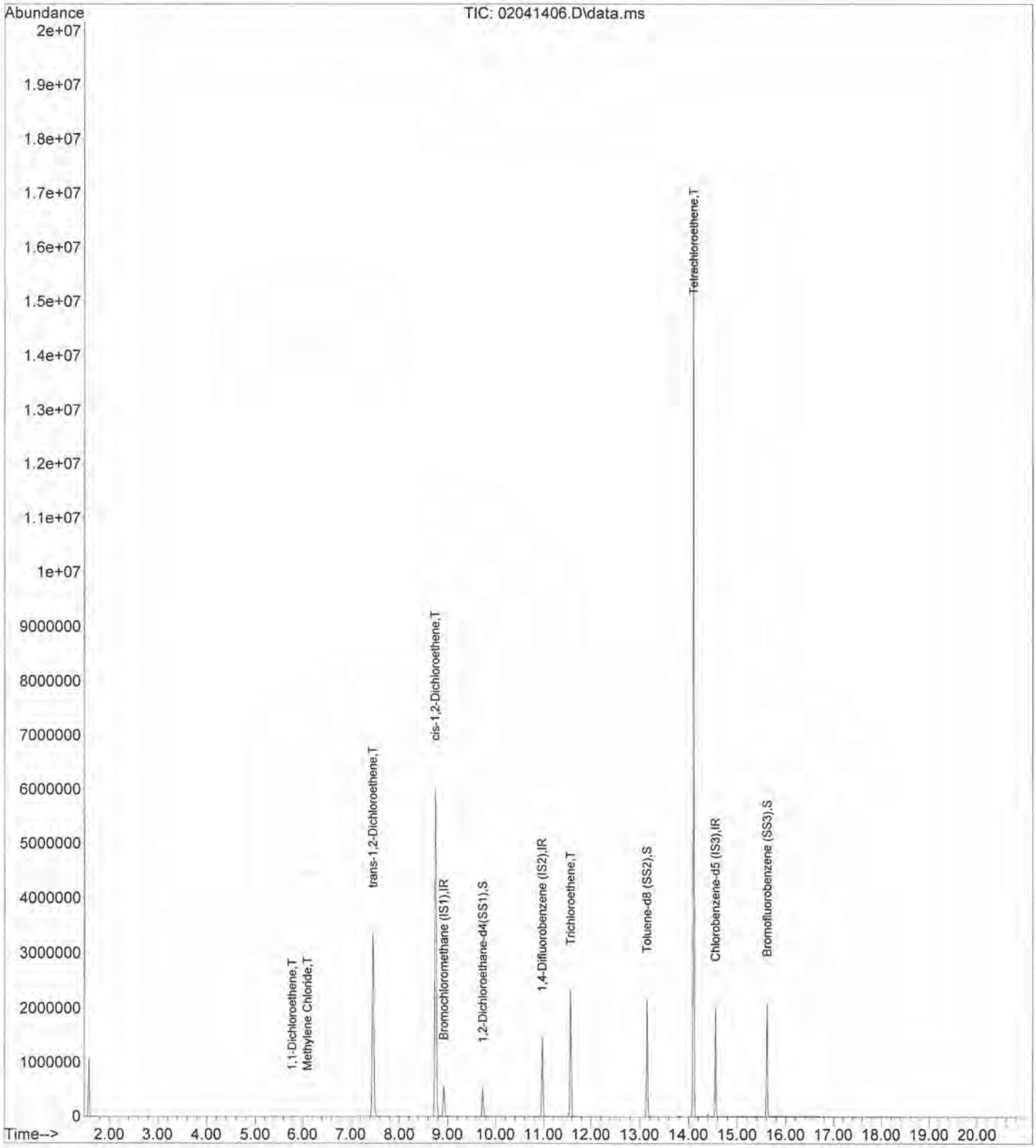
response 2876889

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	79.81
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041406.D
Acq On : 4 Feb 2014 10:40 Operator: WA
Sample : P1400358-012 (2.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 05 15:17:21 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041406.D
Acq On : 4 Feb 2014 10:40 Operator: WA
Sample : P1400358-012 (2.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 05 15:17:21 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	235043	12.500 ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	1187831	12.500 ng	0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	506549	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.73	65	385429	15.087 ng	0.00
Spiked Amount 12.500			Recovery =	120.72%	
57) Toluene-d8 (SS2)	13.15	98	1270646	11.775 ng	0.00
Spiked Amount 12.500			Recovery =	94.16%	
73) Bromofluorobenzene (SS3)	15.61	174	501280	11.575 ng	0.00
Spiked Amount 12.500			Recovery =	92.56%	
Target Compounds					Qvalue
2) Propene	1.93	42	1888	N.D.	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	2.64	62	656	N.D.	
7) 1,3-Butadiene	2.87	54	451	N.D.	
8) Bromomethane	3.24	94	1515	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	3.99	45	60	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	4.43	56	51	N.D.	
13) Acetone	0.00	58	0	N.D.	
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	5.78	96	2950	0.100 ng	90
18) 2-Methyl-2-Propanol (t...	6.23	59	72	N.D.	
19) Methylene Chloride	6.10	84	3395	0.110 ng	91
20) 3-Chloro-1-propene (Al...	6.25	41	294	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	6.21	76	6799	N.D.	
23) trans-1,2-Dichloroethene	7.46	61	2254786	53.588 ng	97
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	7.96	73	6507	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	
28) cis-1,2-Dichloroethene	8.75	61	3655946	92.670 ng	97
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	9.20	61	89	N.D.	
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	9.10	83	1420	N.D.	
34) Tetrahydrofuran (THF)	9.72	72	54	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	9.75	62	159	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	10.65	61	108	N.D.	
40) 1-Butanol	10.79	56	183	N.D.	
41) Benzene	10.52	78	4906	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	10.97	84	704	N.D.	
44) tert-Amyl Methyl Ether	11.24	73	131	N.D.	
45) 1,2-Dichloropropane	11.57	63	2059	N.D.	

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Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041406.D
Acq On : 4 Feb 2014 10:40 Operator: WA
Sample : P1400358-012 (2.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 05 15:17:21 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

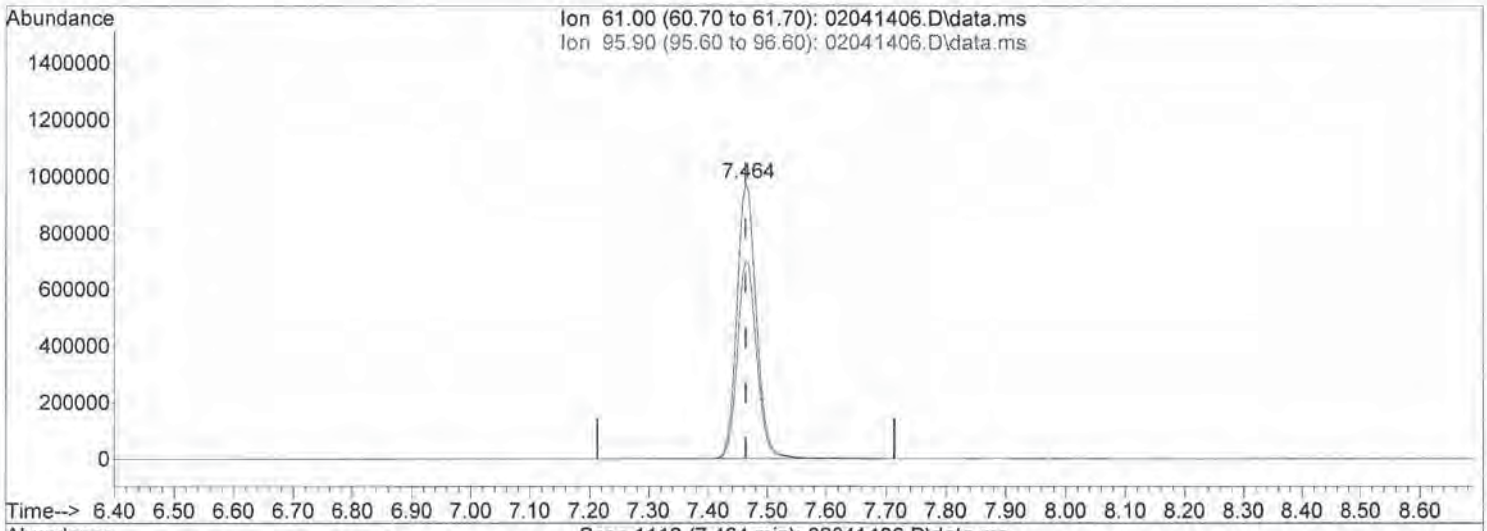
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	787017	21.379 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.65	57	3619	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	2818	N.D.	
59) 2-Hexanone	13.48	43	639	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.00	43	50	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.10	166	4445073	97.222 ng	99
65) Chlorobenzene	14.58	112	1196	N.D.	
66) Ethylbenzene	14.86	91	2317	N.D.	
67) m- & p-Xylenes	14.98	91	3659	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.24	104	336	N.D.	
70) o-Xylene	15.30	91	1622	N.D.	
71) n-Nonane	15.49	43	157	N.D.	
72) 1,1,2,2-Tetrachloroethane	15.19	83	716	N.D.	
74) Cumene	15.72	105	373	N.D.	
75) alpha-Pinene	15.98	93	124	N.D.	
76) n-Propylbenzene	16.08	91	879	N.D.	
77) 3-Ethyltoluene	16.12	105	1532	N.D.	
78) 4-Ethyltoluene	16.18	105	2652	N.D.	
79) 1,3,5-Trimethylbenzene	16.23	105	571	N.D.	
80) alpha-Methylstyrene	16.30	118	357	N.D.	
81) 2-Ethyltoluene	16.36	105	692	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	2272	N.D.	
83) n-Decane	16.64	57	211	N.D.	
84) Benzyl Chloride	16.61	91	388	N.D.	
85) 1,3-Dichlorobenzene	16.63	146	474	N.D.	
86) 1,4-Dichlorobenzene	16.67	146	676	N.D.	
87) sec-Butylbenzene	16.72	105	309	N.D.	
88) 4-Isopropyltoluene (p-...	16.81	119	2806	N.D.	
89) 1,2,3-Trimethylbenzene	16.83	105	509	N.D.	
90) 1,2-Dichlorobenzene	16.88	146	98	N.D.	
91) d-Limonene	16.91	68	794	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.55	57	1648	N.D.	
94) 1,2,4-Trichlorobenzene	18.27	180	73	N.D.	
95) Naphthalene	18.37	128	933	N.D.	
96) n-Dodecane	18.36	57	2336	N.D.	
97) Hexachlorobutadiene	18.65	225	632	N.D.	
98) Cyclohexanone	15.10	55	227	N.D.	
99) tert-Butylbenzene	16.50	119	84	N.D.	
100) n-Butylbenzene	17.12	91	1125	N.D.	

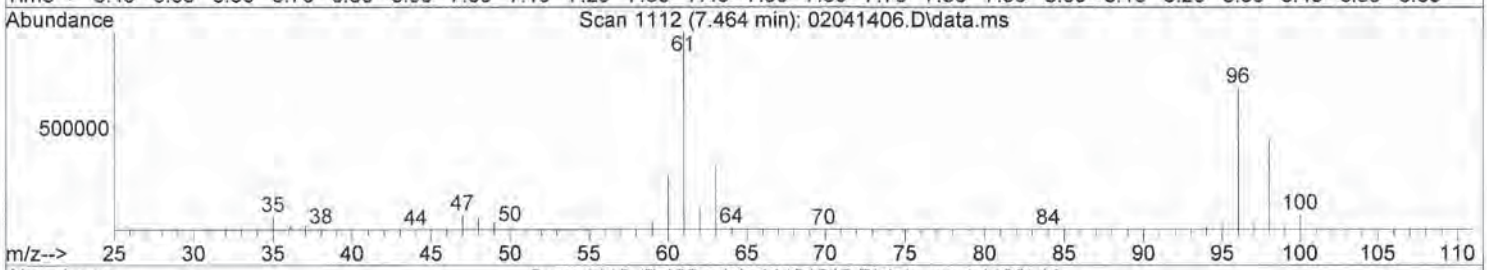
(#) = qualifier out of range (m) = manual integration (+) = signals summed

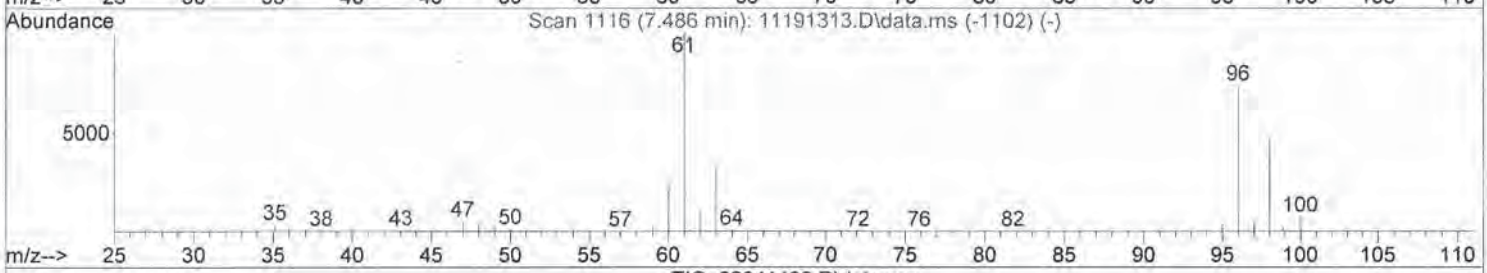
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041406.D
Acq On : 4 Feb 2014 10:40 Operator: WA
Sample : P1400358-012 (2.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 11:02:07 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041406.D\data.ms

(23) trans-1,2-Dichloroethene (T)

7.464min (-0.000) 53.59ng

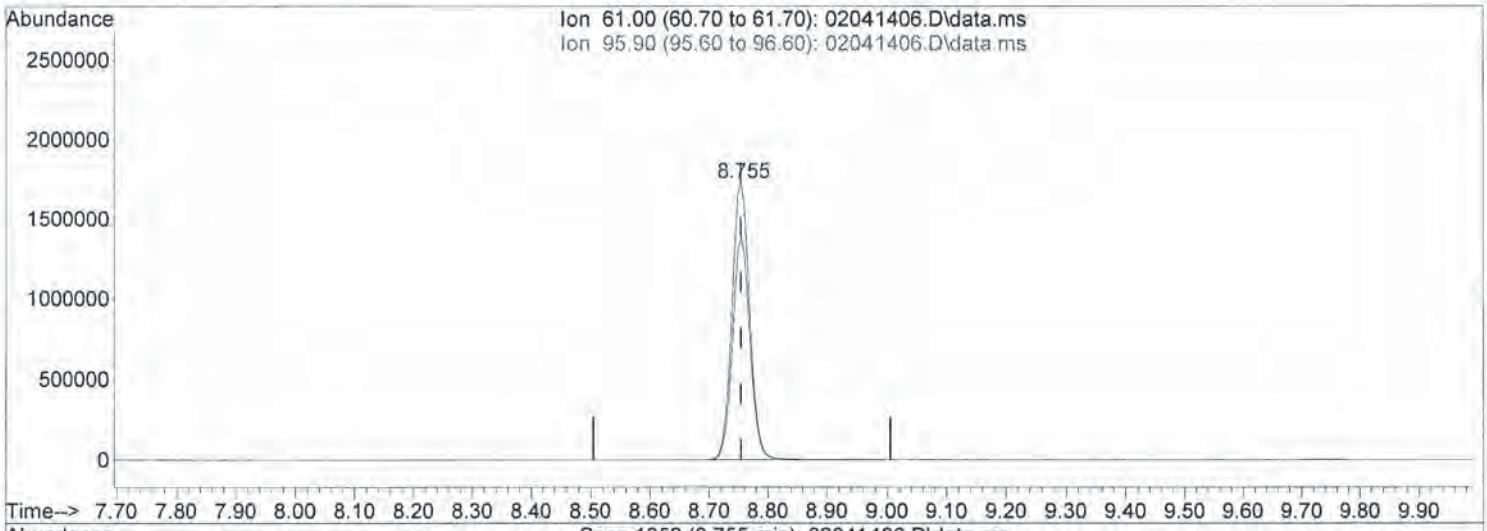
response 2254786

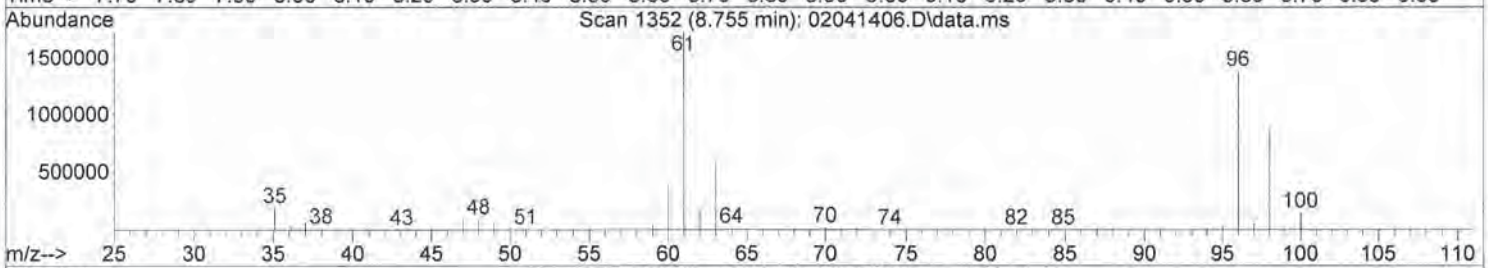
Ion	Exp%	Act%
61.00	100	100
95.90	73.80	71.61
0.00	0.00	0.00
0.00	0.00	0.00

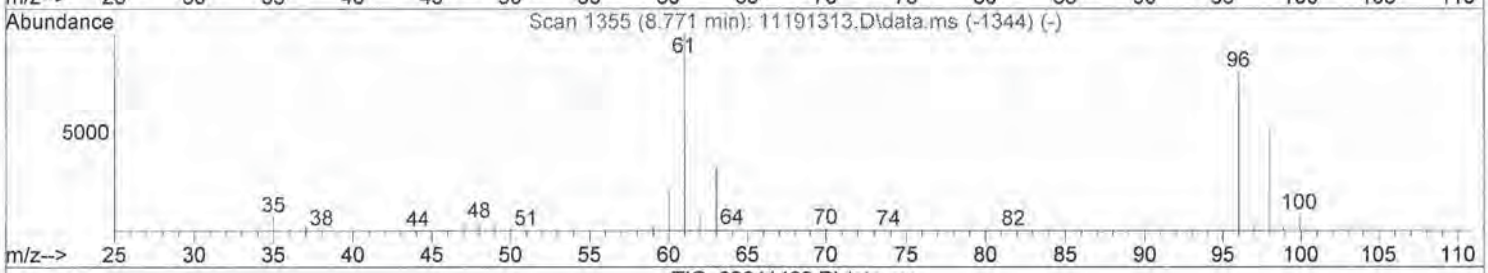
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041406.D
Acq On : 4 Feb 2014 10:40 Operator: WA
Sample : P1400358-012 (2.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 11:02:07 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041406.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.755min (-0.000) 92.67ng

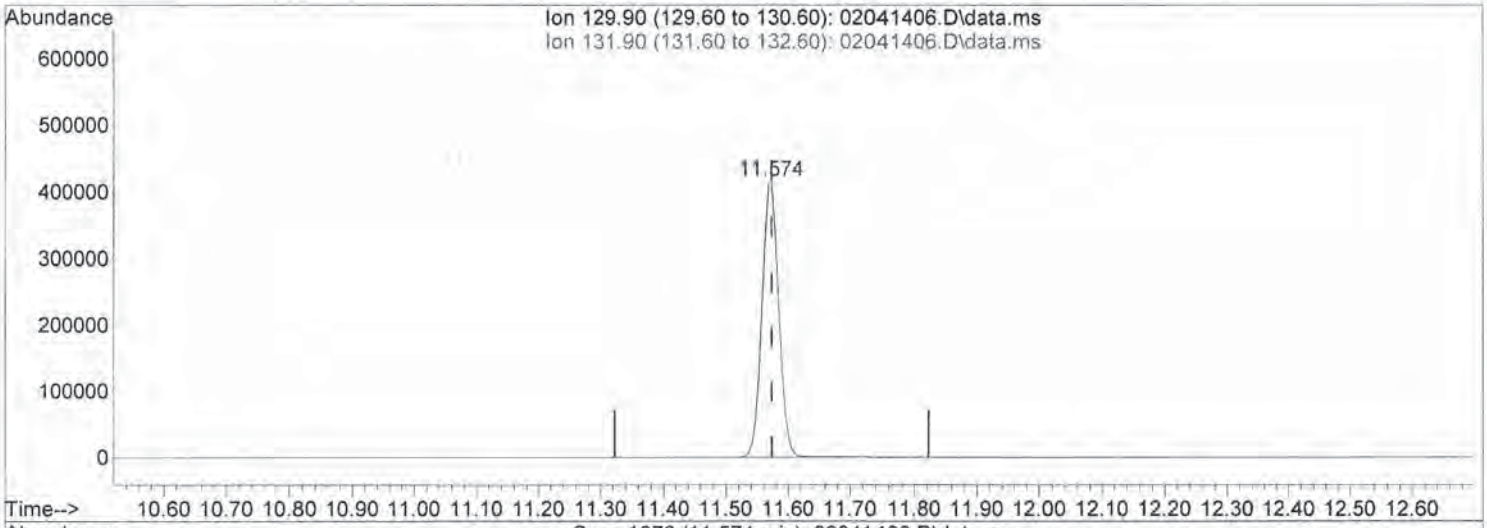
response 3655946

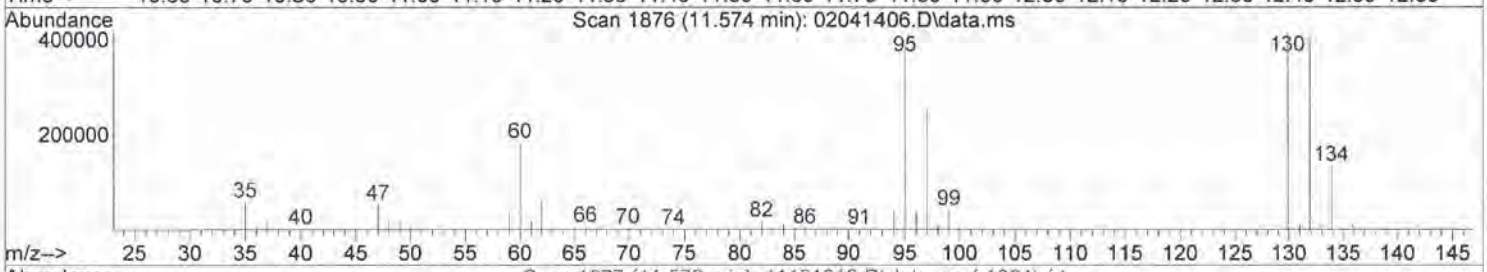
Ion	Exp%	Act%
61.00	100	100
95.90	81.40	78.81
0.00	0.00	0.00
0.00	0.00	0.00

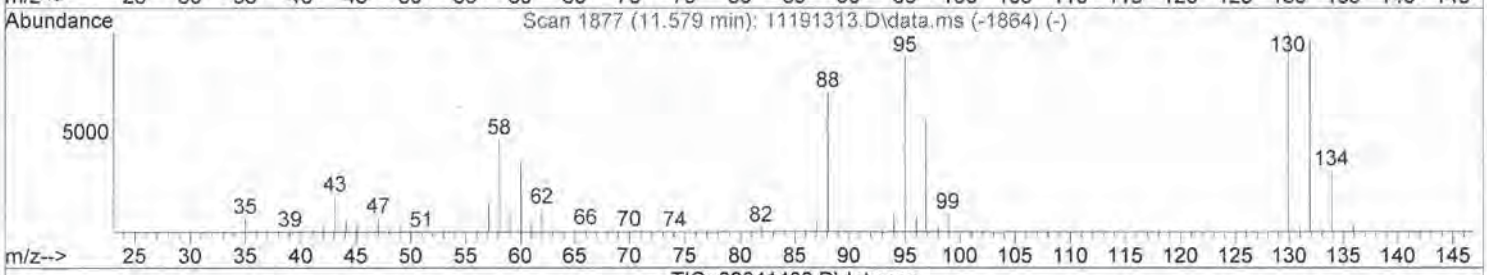
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041406.D
Acq On : 4 Feb 2014 10:40 Operator: WA
Sample : P1400358-012 (2.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 11:02:07 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041406.D\data.ms

(47) Trichloroethene (T)

11.574min (-0.000) 21.38ng

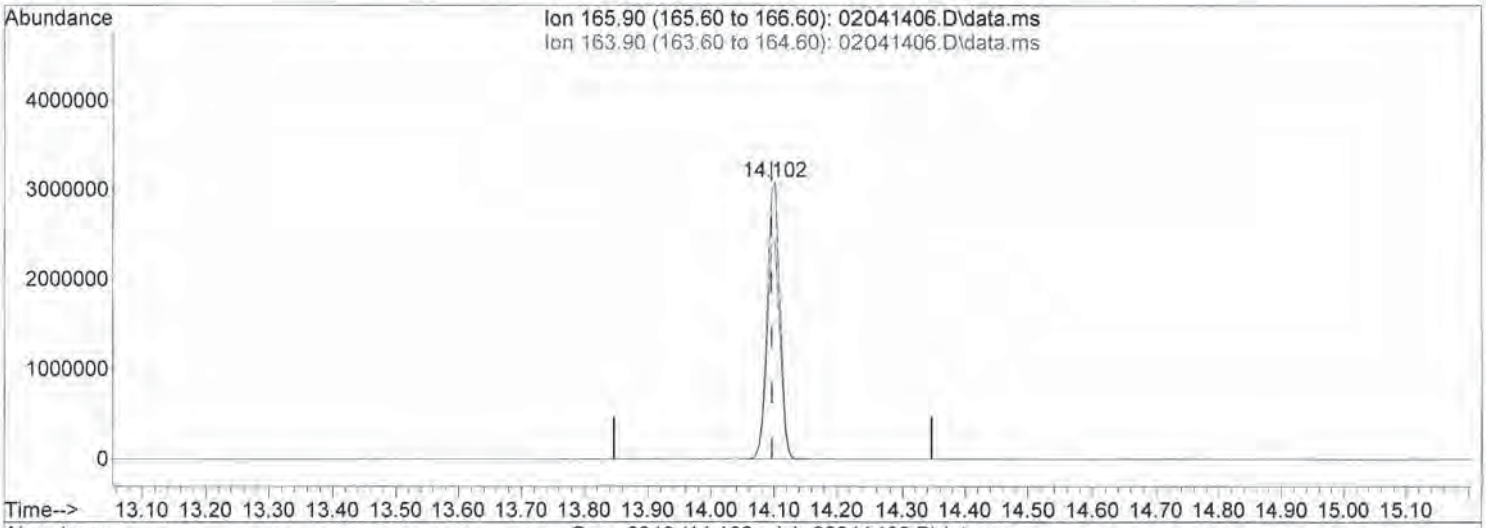
response 787017

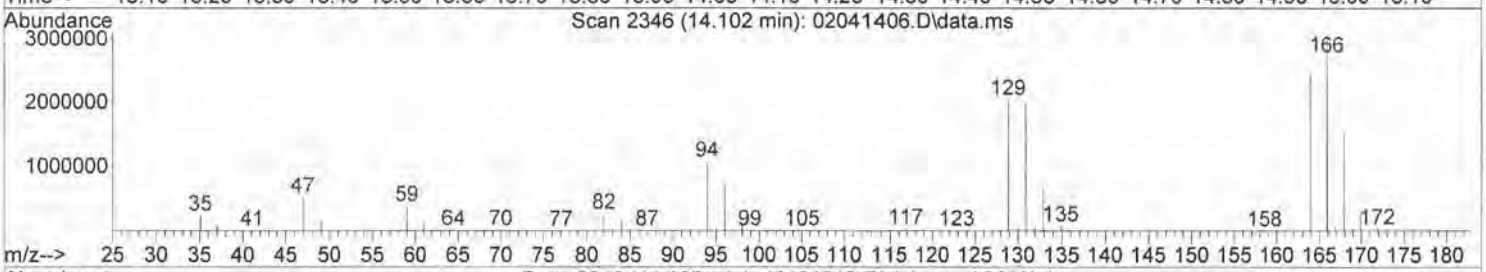
Ion	Exp%	Act%
129.90	100	100
131.90	96.50	97.62
0.00	0.00	0.00
0.00	0.00	0.00

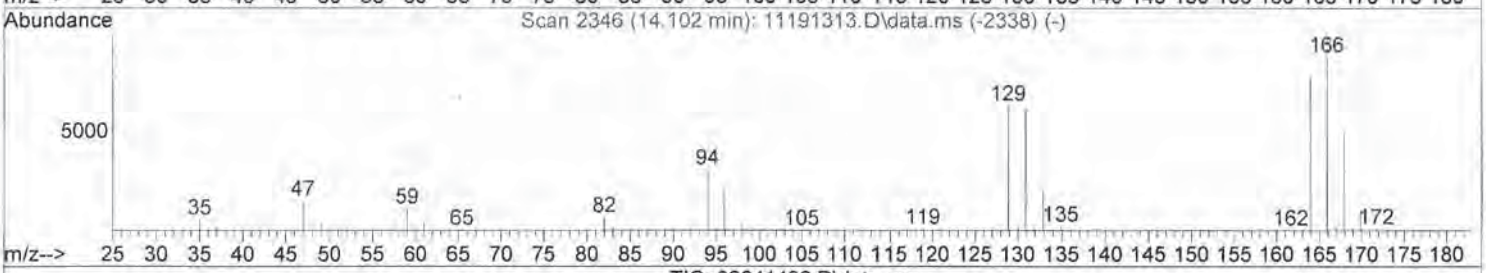
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041406.D
Acq On : 4 Feb 2014 10:40 Operator: WA
Sample : P1400358-012 (2.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 11:02:07 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041406.D\data.ms

(64) Tetrachloroethene (T)

14.102min (+0.005) 97.22ng

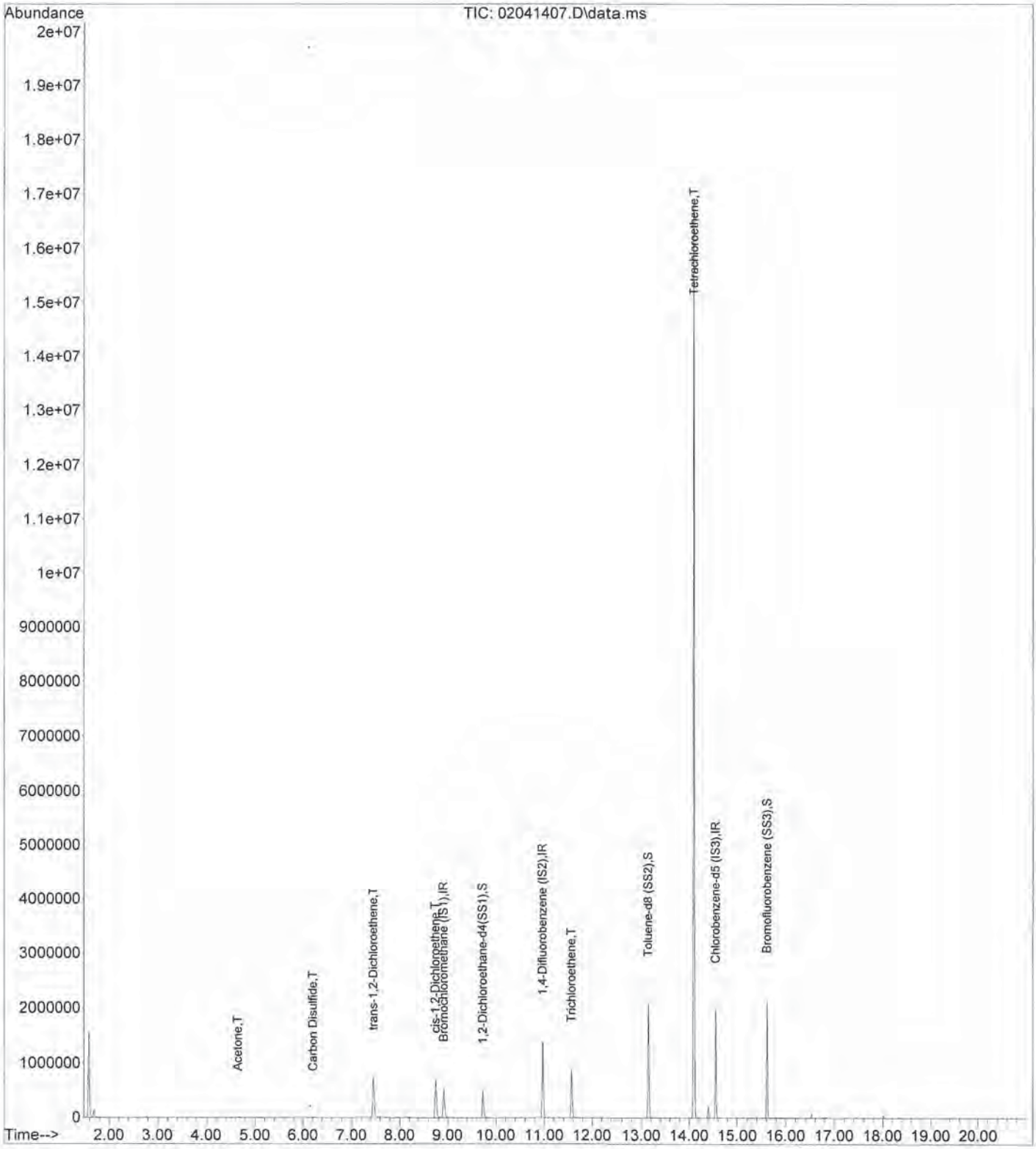
response 4445073

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	79.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041407.D
Acq On : 4 Feb 2014 11:13 Operator: WA
Sample : P1400358-013 (10mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 05 15:18:02 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041407.D
Acq On : 4 Feb 2014 11:13 Operator: WA
Sample : P1400358-013 (10mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 05 15:18:02 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	226278	12.500 ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	1158414	12.500 ng	0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	493330	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.73	65	376753	15.318 ng	0.00
Spiked Amount 12.500			Recovery =	122.56%	
57) Toluene-d8 (SS2)	13.14	98	1249116	11.886 ng	0.00
Spiked Amount 12.500			Recovery =	95.12%	
73) Bromofluorobenzene (SS3)	15.61	174	499592	11.845 ng	0.00
Spiked Amount 12.500			Recovery =	94.72%	
Target Compounds					Qvalue
2) Propene	1.92	42	814	N.D.	
3) Dichlorodifluoromethan...	2.05	85	829	N.D.	
4) Chloromethane	2.29	50	356	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	3.22	94	1029	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	0.00	45	0	N.D.	
11) Acetonitrile	4.27	41	653	N.D.	
12) Acrolein	4.41	56	49	N.D.	
13) Acetone	4.65	58	7957	0.361 ng #	71
14) Trichlorofluoromethane	4.76	101	130	N.D.	
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	6.09	84	1577	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	6.21	76	22619	0.215 ng	88
23) trans-1,2-Dichloroethene	7.46	61	525595	12.975 ng	97
24) 1,1-Dichloroethane	7.63	63	298	N.D.	
25) Methyl tert-Butyl Ether	7.95	73	7648	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	8.42	72	444	N.D.	
28) cis-1,2-Dichloroethene	8.75	61	438879	11.555 ng	95
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	9.23	61	442	N.D.	
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	9.11	83	3116	N.D.	
34) Tetrahydrofuran (THF)	9.72	72	181	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	9.73	62	65	N.D.	
38) 1,1,1-Trichloroethane	10.08	97	448	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.78	56	54	N.D.	
41) Benzene	10.52	78	2886	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	10.97	84	693	N.D.	
44) tert-Amyl Methyl Ether	11.25	73	748	N.D.	
45) 1,2-Dichloropropane	11.56	63	634	N.D.	

2/5/14

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041407.D
Acq On : 4 Feb 2014 11:13 Operator: WA
Sample : P1400358-013 (10mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 05 15:18:02 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

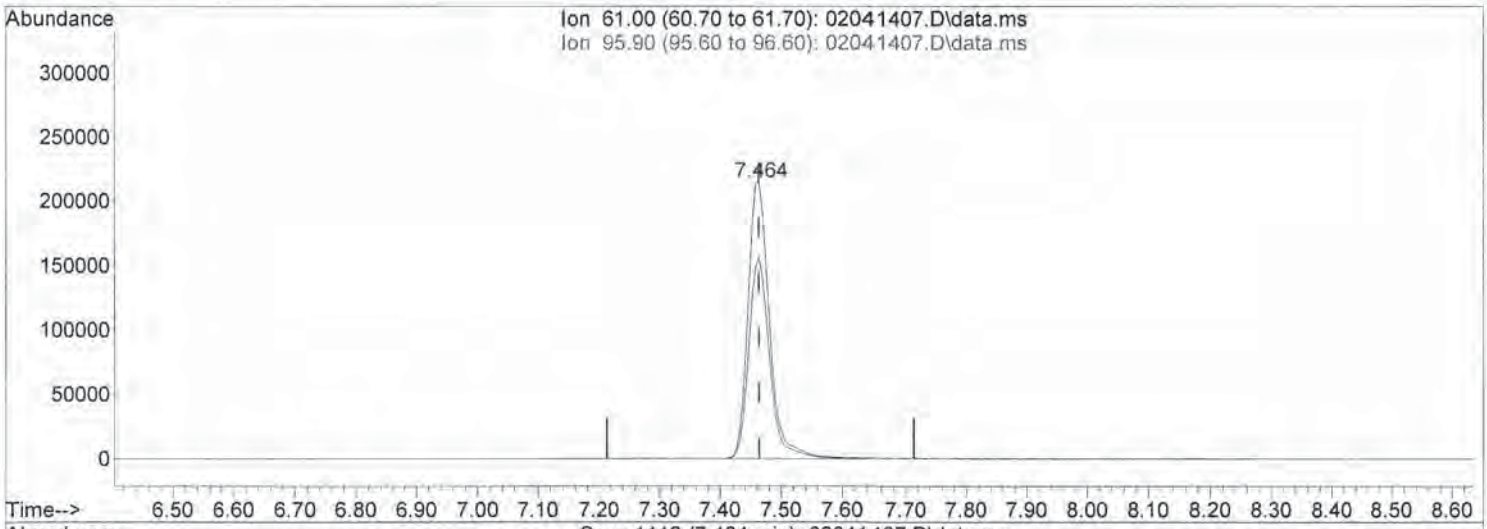
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	304545	8.483 ng	98
48) 1,4-Dioxane	11.67	88	795	N.D.	
49) 2,2,4-Trimethylpentane...	11.64	57	5196	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	11.93	71	128	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	5629	N.D.	
59) 2-Hexanone	13.48	43	337	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.01	43	1595	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.10	166	4382330	98.418 ng	98
65) Chlorobenzene	14.59	112	1181	N.D.	
66) Ethylbenzene	14.87	91	2124	N.D.	
67) m- & p-Xylenes	14.98	91	7070	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.24	104	316	N.D.	
70) o-Xylene	15.31	91	2411	N.D.	
71) n-Nonane	15.48	43	1245	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	15.72	105	629	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	16.07	91	1127	N.D.	
77) 3-Ethyltoluene	16.15	105	1052	N.D.	
78) 4-Ethyltoluene	16.16	105	659	N.D.	
79) 1,3,5-Trimethylbenzene	16.23	105	984	N.D.	
80) alpha-Methylstyrene	16.34	118	126	N.D.	
81) 2-Ethyltoluene	16.36	105	703	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	2289	N.D.	
83) n-Decane	16.61	57	882	N.D.	
84) Benzyl Chloride	16.61	91	625	N.D.	
85) 1,3-Dichlorobenzene	16.61	146	297	N.D.	
86) 1,4-Dichlorobenzene	16.66	146	569	N.D.	
87) sec-Butylbenzene	16.71	105	54	N.D.	
88) 4-Isopropyltoluene (p-...	16.83	119	8153	N.D.	
89) 1,2,3-Trimethylbenzene	16.82	105	850	N.D.	
90) 1,2-Dichlorobenzene	16.92	146	351	N.D.	
91) d-Limonene	16.94	68	166	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.56	57	861	N.D.	
94) 1,2,4-Trichlorobenzene	18.27	180	455	N.D.	
95) Naphthalene	18.36	128	2464	N.D.	
96) n-Dodecane	18.40	57	1096	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.10	55	364	N.D.	
99) tert-Butylbenzene	16.53	119	1987	N.D.	
100) n-Butylbenzene	17.15	91	432	N.D.	

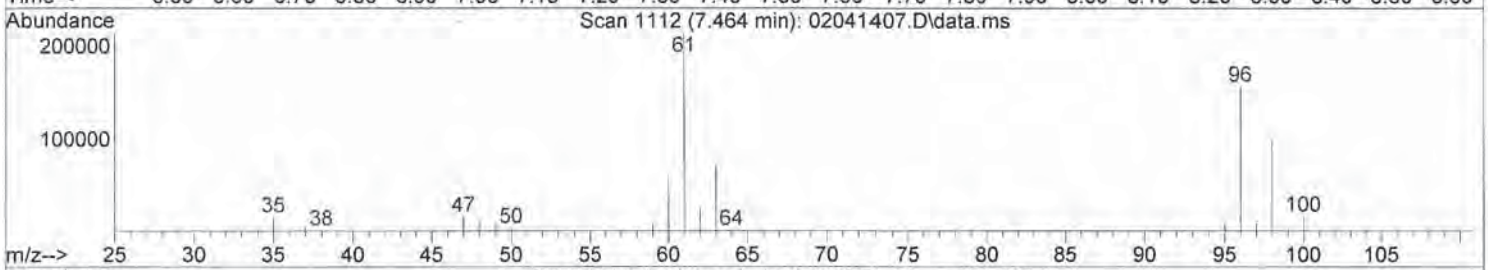
(#) = qualifier out of range (m) = manual integration (+) = signals summed

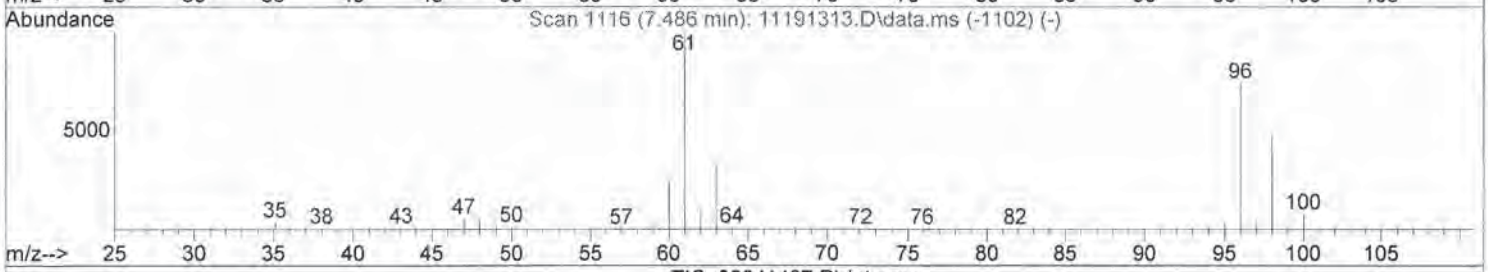
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041407.D
Acq On : 4 Feb 2014 11:13 Operator: WA
Sample : P1400358-013 (10mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 12:44:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041407.D\data.ms

(23) trans-1,2-Dichloroethene (T)

7.464min (+0.000) 12.98ng

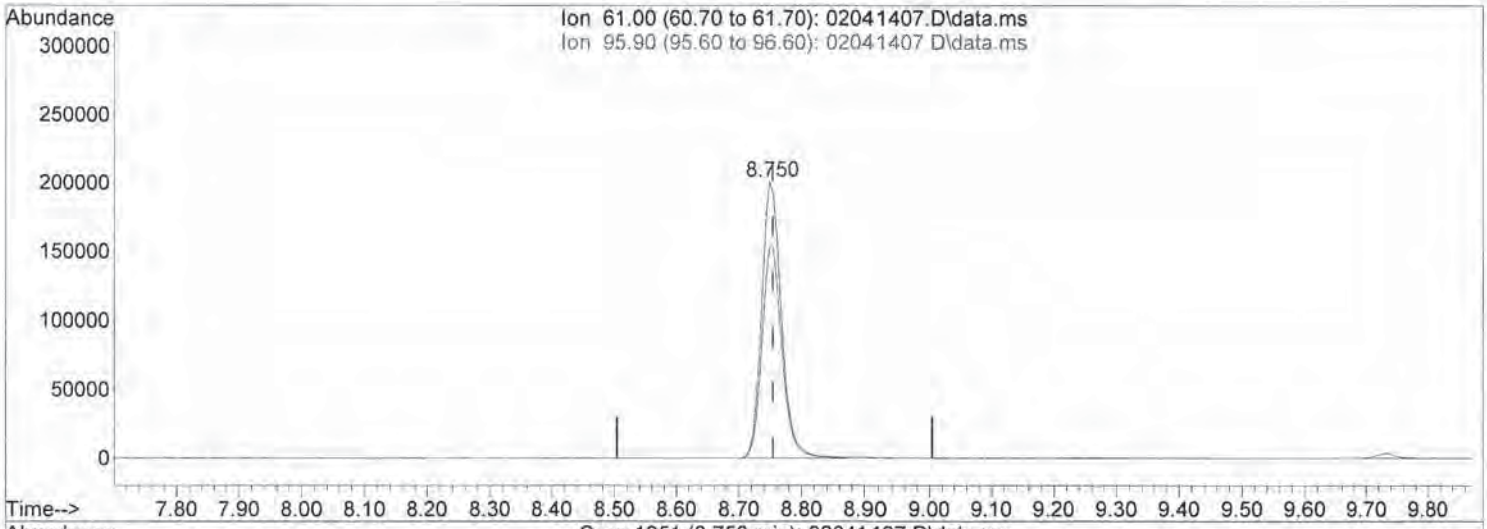
response 525595

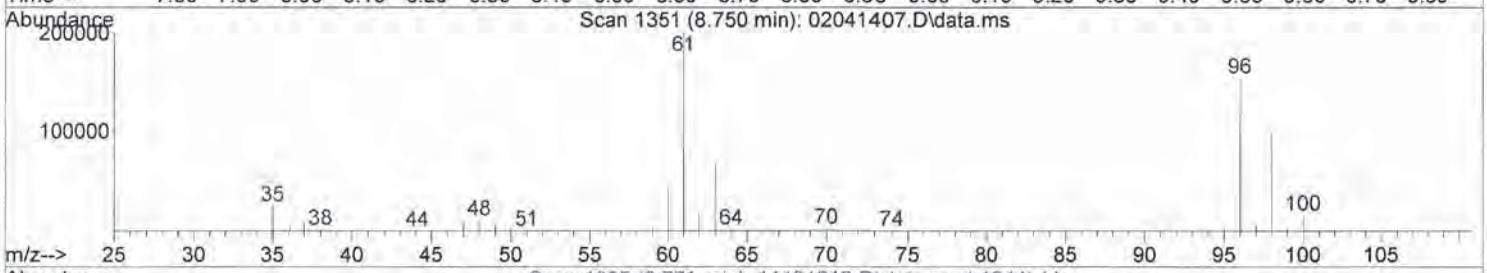
Ion	Exp%	Act%
61.00	100	100
95.90	73.80	71.04
0.00	0.00	0.00
0.00	0.00	0.00

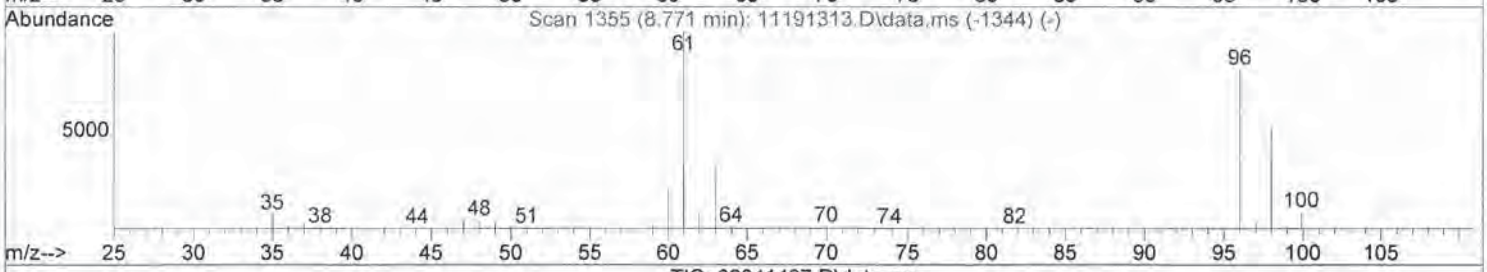
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041407.D
Acq On : 4 Feb 2014 11:13 Operator: WA
Sample : P1400358-013 (10mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 12:44:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041407.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.750min (-0.005) 11.56ng

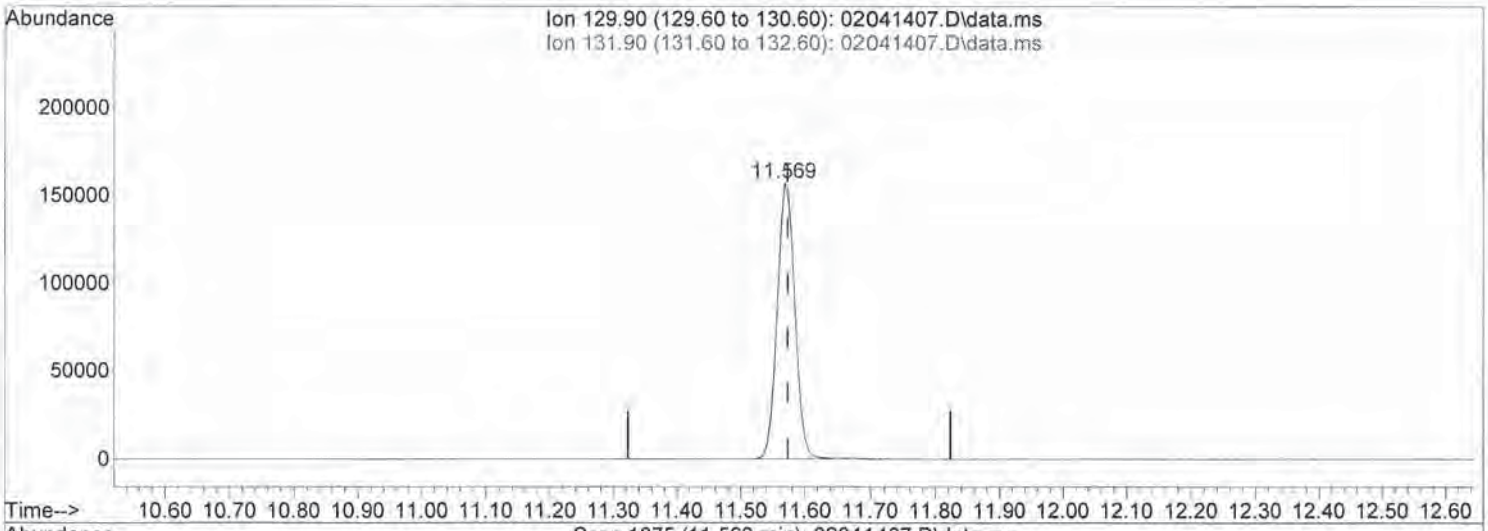
response 438879

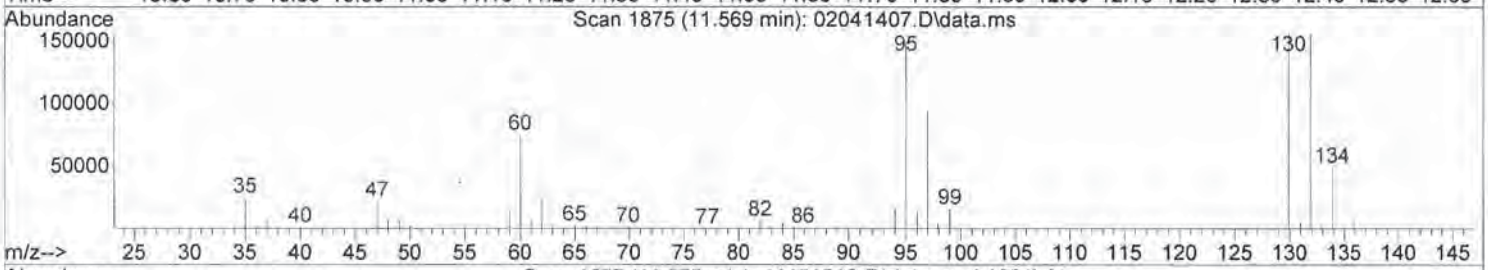
Ion	Exp%	Act%
61.00	100	100
95.90	81.40	77.34
0.00	0.00	0.00
0.00	0.00	0.00

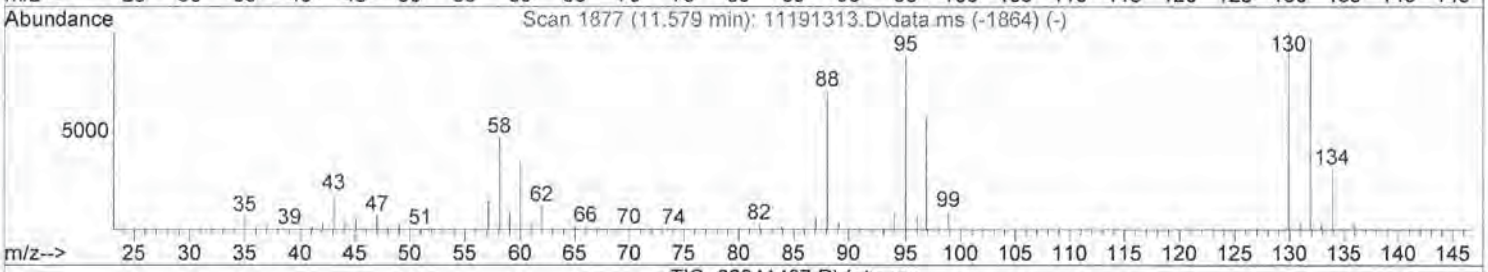
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041407.D
Acq On : 4 Feb 2014 11:13 Operator: WA
Sample : P1400358-013 (10mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 12:44:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041407.D\data.ms

(47) Trichloroethene (T)

11.569min (-0.005) 8.48ng

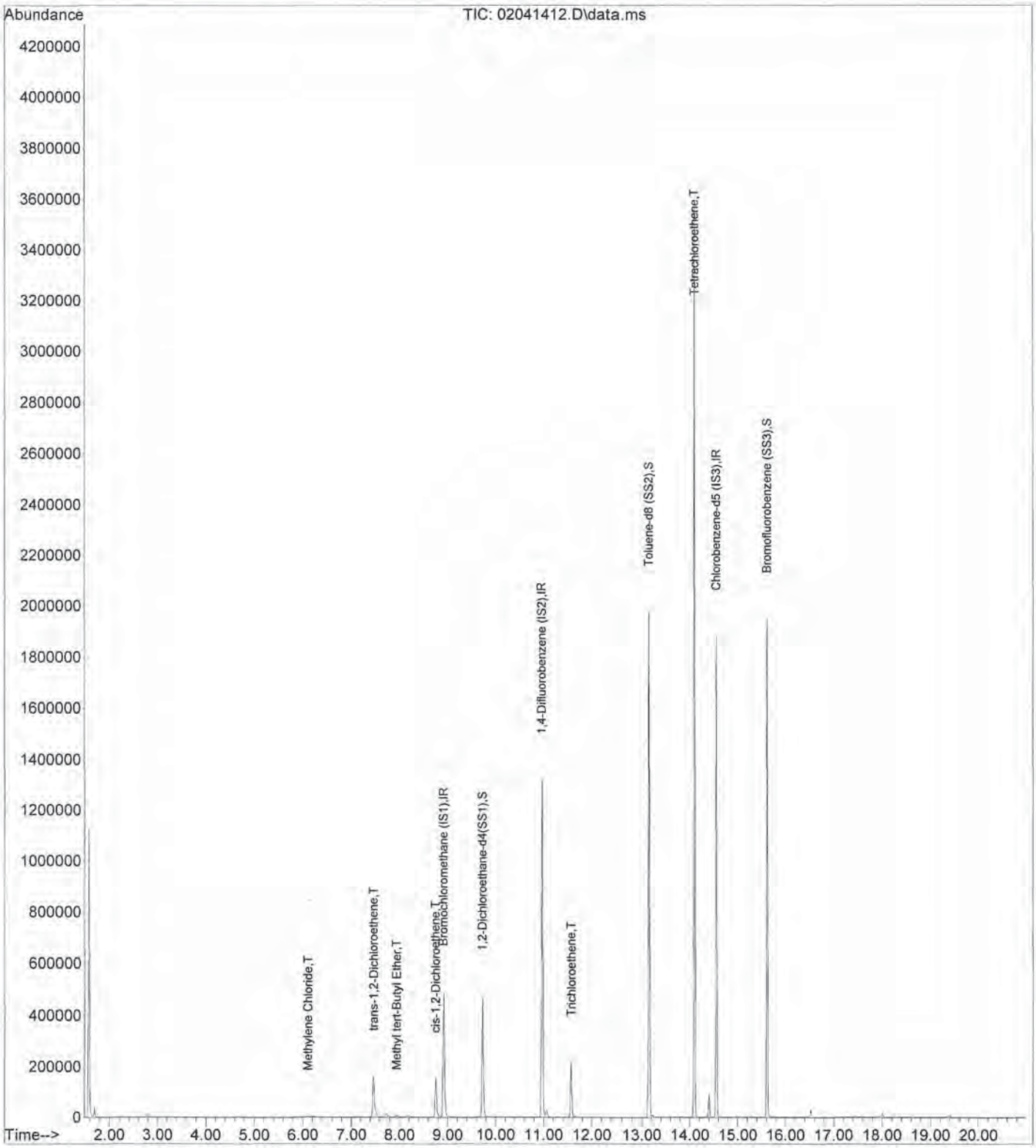
response 304545

Ion	Exp%	Act%
129.90	100	100
131.90	96.50	98.01
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041412.D
Acq On : 4 Feb 2014 13:40 Operator: WA
Sample : P1400358-013 dil (2.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 15:21:31 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041412.D
Acq On : 4 Feb 2014 13:40 Operator: WA
Sample : P1400358-013 dil (2.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 15:21:31 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	212329	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	1082348	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	461266	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	353480	15.316	ng	0.00
Spiked Amount 12.500			Recovery = 122.56%			
57) Toluene-d8 (SS2)	13.15	98	1175577	11.963	ng	0.00
Spiked Amount 12.500			Recovery = 95.68%			
73) Bromofluorobenzene (SS3)	15.61	174	463997	11.765	ng	0.00
Spiked Amount 12.500			Recovery = 94.16%			
Target Compounds						Qvalue
2) Propene	1.93	42	181	N.D.		
3) Dichlorodifluoromethan...	2.05	85	50	N.D.		
4) Chloromethane	2.29	50	115	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.24	94	962	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.68	58	1840	N.D.		
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.10	84	2929	0.105	ng	94
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	6.22	76	8072	N.D.		
23) trans-1,2-Dichloroethene	7.47	61	126446	3.327	ng	97
24) 1,1-Dichloroethane	7.60	63	129	N.D.		
25) Methyl tert-Butyl Ether	7.94	73	10930	0.134	ng	99
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	8.75	61	106471	2.987	ng	94
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.06	57	102	N.D.		
32) Chloroform	9.11	83	962	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.76	62	175	N.D.		
38) 1,1,1-Trichloroethane	10.08	97	261	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	10.52	78	1546	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.97	84	788	N.D.		
44) tert-Amyl Methyl Ether	11.25	73	823	N.D.		
45) 1,2-Dichloropropane	11.56	63	123	N.D.		

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Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041412.D
Acq On : 4 Feb 2014 13:40 Operator: WA
Sample : P1400358-013 dil (2.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 15:21:31 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

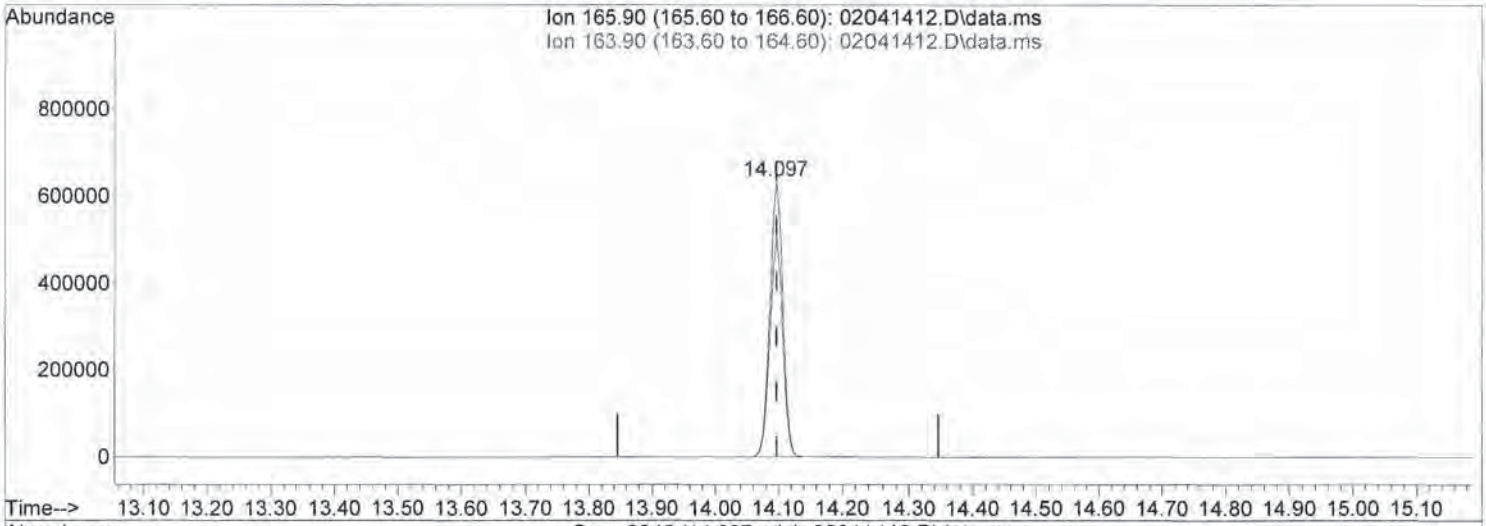
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	11.55	83	52	N.D.	
47) Trichloroethene	11.57	130	76010	2.266 ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.64	57	5050	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	4277	N.D.	
59) 2-Hexanone	13.49	43	57	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.01	43	258	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.10	166	913593	21.944 ng	100
65) Chlorobenzene	14.58	112	1094	N.D.	
66) Ethylbenzene	14.86	91	1347	N.D.	
67) m- & p-Xylenes	14.98	91	4251	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	15.30	91	1775	N.D.	
71) n-Nonane	15.49	43	630	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	15.71	105	103	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	16.07	91	293	N.D.	
77) 3-Ethyltoluene	16.14	105	1074	N.D.	
78) 4-Ethyltoluene	16.17	105	374	N.D.	
79) 1,3,5-Trimethylbenzene	16.23	105	586	N.D.	
80) alpha-Methylstyrene	16.52	118	403	N.D.	
81) 2-Ethyltoluene	16.35	105	450	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	1393	N.D.	
83) n-Decane	16.61	57	450	N.D.	
84) Benzyl Chloride	16.51	91	113	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	16.82	105	381	N.D.	
88) 4-Isopropyltoluene (p-...	16.84	119	1894	N.D.	
89) 1,2,3-Trimethylbenzene	16.82	105	381	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.56	57	383	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.36	128	167	N.D.	
96) n-Dodecane	18.41	57	421	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.12	55	107	N.D.	
99) tert-Butylbenzene	16.53	119	678	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

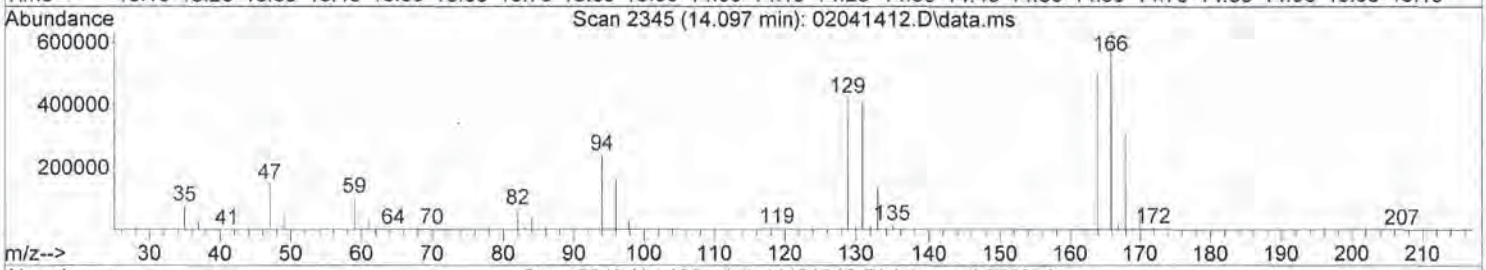
(#) = qualifier out of range (m) = manual integration (+) = signals summed

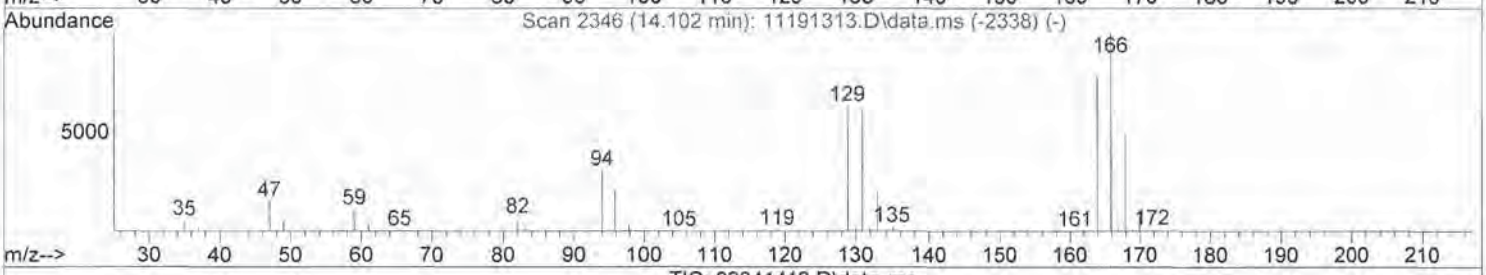
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041412.D
Acq On : 4 Feb 2014 13:40 Operator: WA
Sample : P1400358-013 dil (2.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 15:21:31 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041412.D\data.ms

(64) Tetrachloroethene (T)

14.097min (-0.000) 21.94ng

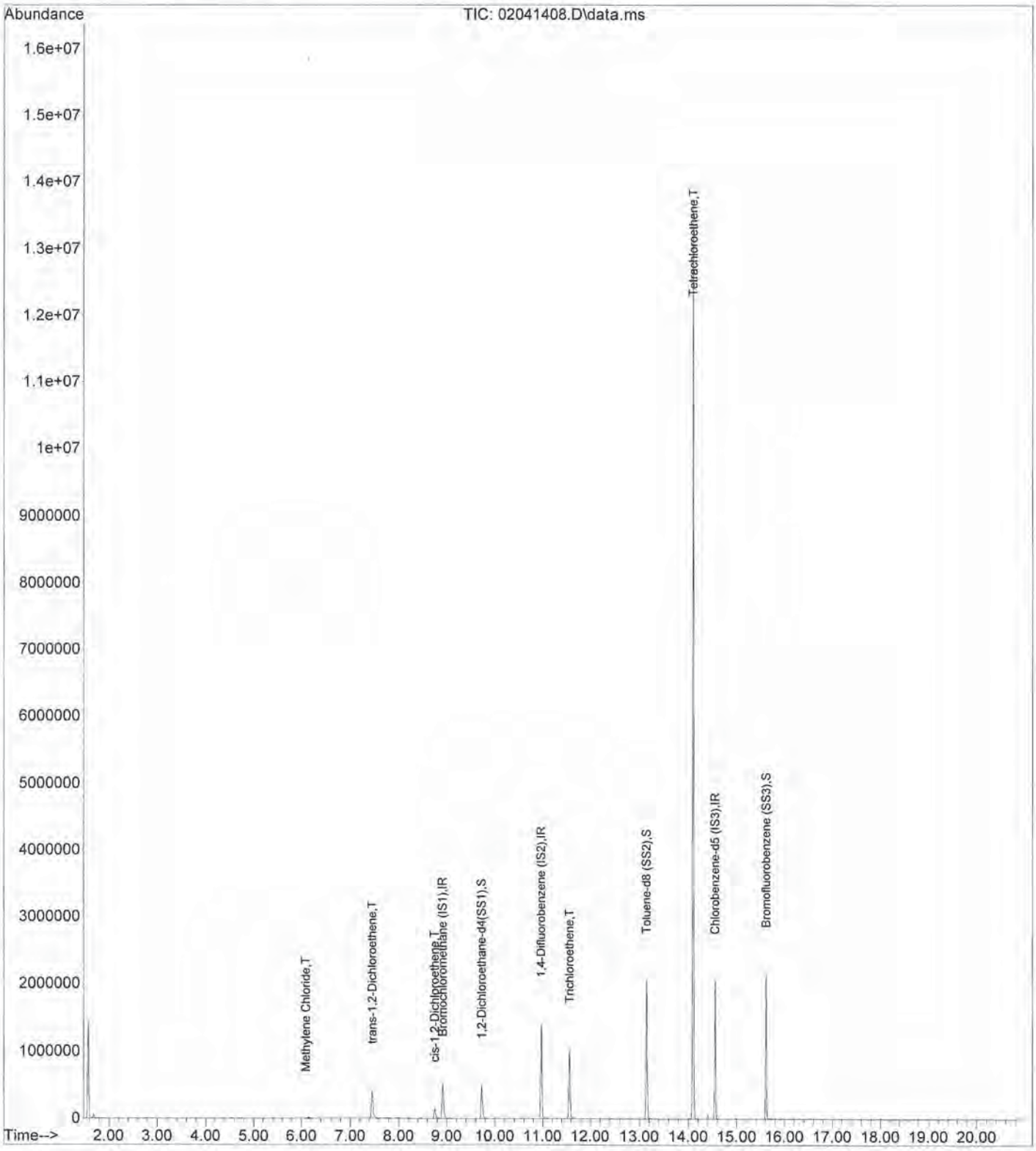
response 913593

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	78.74
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041408.D
Acq On : 4 Feb 2014 11:42 Operator: WA
Sample : P1400358-014 (5.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 12:44:58 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041408.D
Acq On : 4 Feb 2014 11:42 Operator: WA
Sample : P1400358-014 (5.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 12:44:58 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	226431	12.500 ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	1159897	12.500 ng	0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	493561	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.73	65	372164	15.122 ng	0.00
Spiked Amount 12.500			Recovery =	120.96%	
57) Toluene-d8 (SS2)	13.15	98	1246797	11.858 ng	0.00
Spiked Amount 12.500			Recovery =	94.88%	
73) Bromofluorobenzene (SS3)	15.61	174	500837	11.869 ng	0.00
Spiked Amount 12.500			Recovery =	94.96%	
Target Compounds					Qvalue
2) Propene	1.93	42	444	N.D.	
3) Dichlorodifluoromethan...	2.05	85	237	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	3.24	94	829	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	0.00	45	0	N.D.	
11) Acetonitrile	4.27	41	107	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) Acetone	0.00	58	0	N.D.	
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	6.09	84	3273	0.110 ng	100
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	6.21	76	4520	N.D.	
23) trans-1,2-Dichloroethene	7.46	61	305768	7.543 ng	96
24) 1,1-Dichloroethane	7.65	63	106	N.D.	
25) Methyl tert-Butyl Ether	7.96	73	5934	N.D.	
26) Vinyl Acetate	8.00	86	172	N.D.	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	
28) cis-1,2-Dichloroethene	8.76	61	98732	2.598 ng	95
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	9.05	57	3200	N.D.	
32) Chloroform	9.10	83	1905	N.D.	
34) Tetrahydrofuran (THF)	9.72	72	131	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.77	56	869	N.D.	
41) Benzene	10.53	78	2475	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	10.78	84	901	N.D.	
44) tert-Amyl Methyl Ether	11.25	73	500	N.D.	
45) 1,2-Dichloropropane	11.57	63	948	N.D.	

2/5/14

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041408.D
Acq On : 4 Feb 2014 11:42 Operator: WA
Sample : P1400358-014 (5.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 12:44:58 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

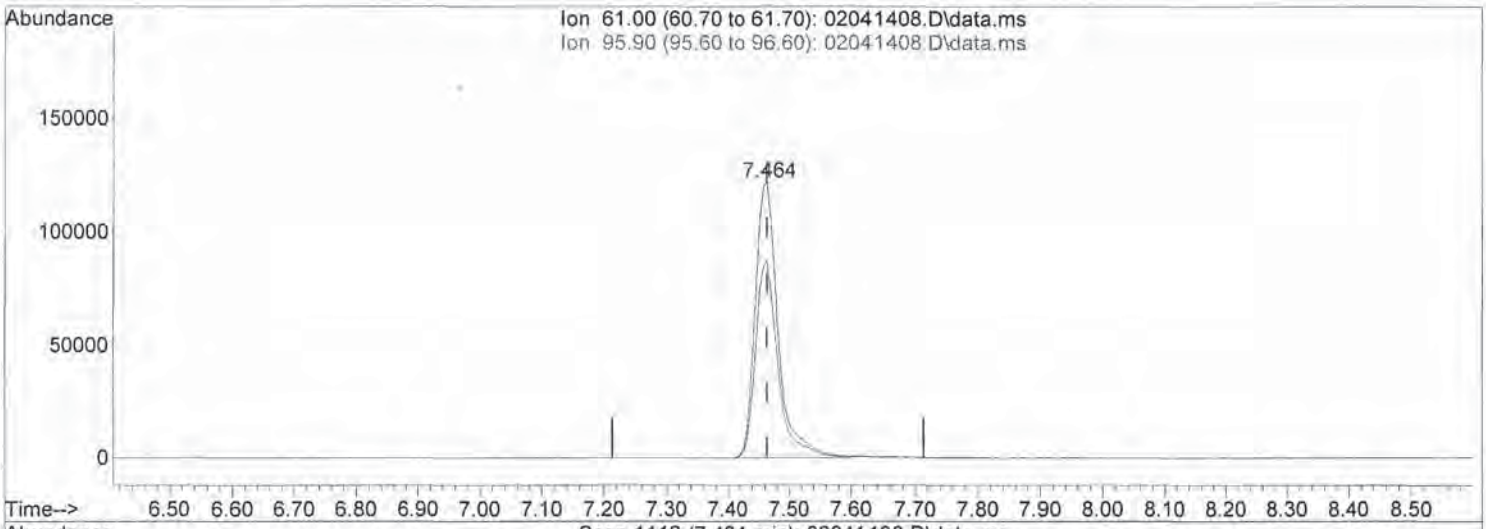
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	11.54	83	187	N.D.	
47) Trichloroethene	11.57	130	357554	9.947 ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.64	57	12131	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	11.93	71	666	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	4187	N.D.	
59) 2-Hexanone	13.53	43	111	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.01	43	826	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.10	166	3439035	77.197 ng	99
65) Chlorobenzene	14.59	112	996	N.D.	
66) Ethylbenzene	14.86	91	1606	N.D.	
67) m- & p-Xylenes	14.98	91	6616	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	15.30	91	2668	N.D.	
71) n-Nonane	15.49	43	506	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	15.72	105	357	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	16.07	91	588	N.D.	
77) 3-Ethyltoluene	16.14	105	1709	N.D.	
78) 4-Ethyltoluene	16.17	105	746	N.D.	
79) 1,3,5-Trimethylbenzene	16.23	105	934	N.D.	
80) alpha-Methylstyrene	16.53	118	189	N.D.	
81) 2-Ethyltoluene	16.36	105	649	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	1545	N.D.	
83) n-Decane	16.61	57	369	N.D.	
84) Benzyl Chloride	16.52	91	197	N.D.	
85) 1,3-Dichlorobenzene	16.67	146	114	N.D.	
86) 1,4-Dichlorobenzene	16.67	146	114	N.D.	
87) sec-Butylbenzene	16.82	105	593	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	16.82	105	593	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.56	57	105	N.D.	
94) 1,2,4-Trichlorobenzene	18.27	180	104	N.D.	
95) Naphthalene	18.38	128	1400	N.D.	
96) n-Dodecane	18.41	57	155	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.25	55	124	N.D.	
99) tert-Butylbenzene	16.52	119	687	N.D.	
100) n-Butylbenzene	17.15	91	105	N.D.	

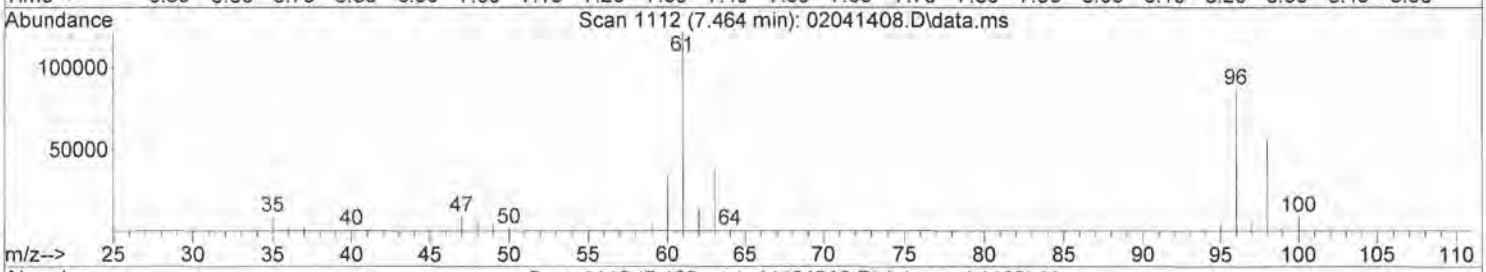
(#) = qualifier out of range (m) = manual integration (+) = signals summed

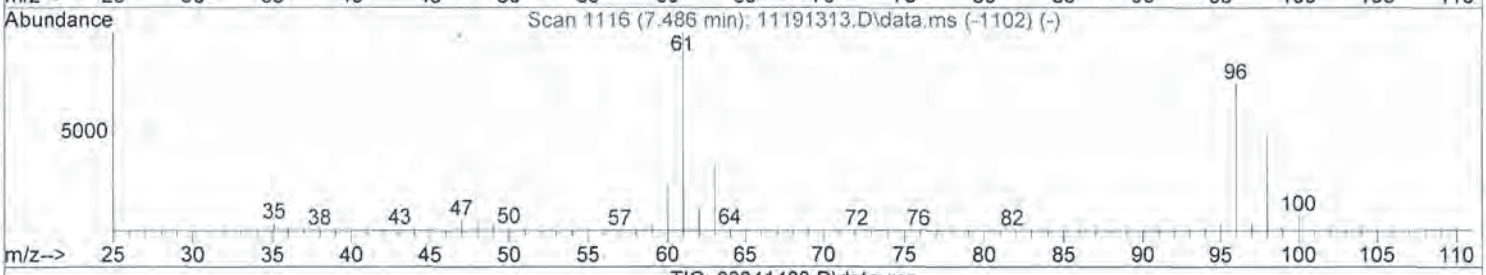
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041408.D
Acq On : 4 Feb 2014 11:42 Operator: WA
Sample : P1400358-014 (5.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 12:44:58 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041408.D\data.ms

(23) trans-1,2-Dichloroethene (T)

7.464min (+0.000) 7.54ng

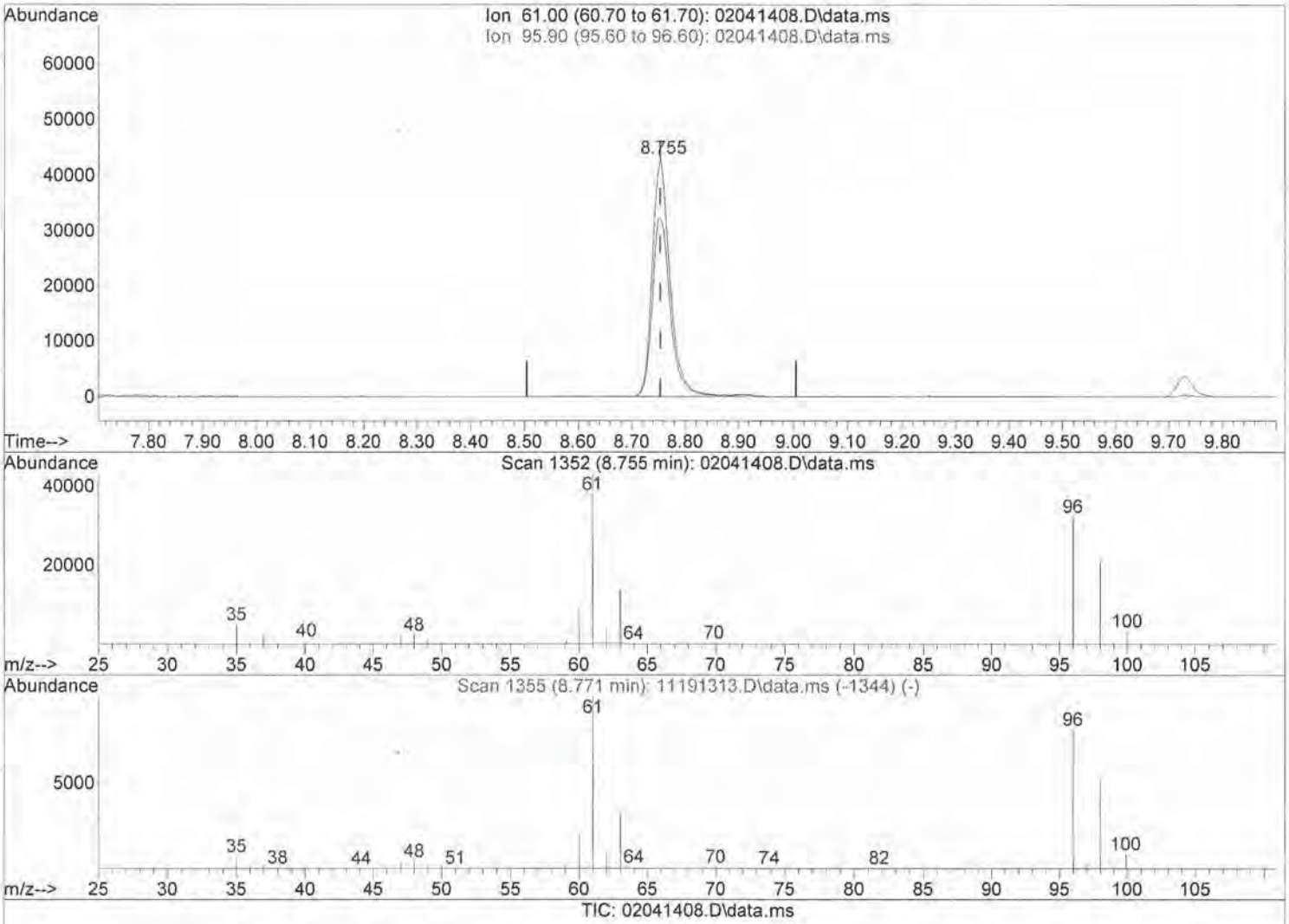
response 305768

Ion	Exp%	Act%
61.00	100	100
95.90	73.80	70.69
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041408.D
Acq On : 4 Feb 2014 11:42 Operator: WA
Sample : P1400358-014 (5.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 12:44:58 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 02041408.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.755min (+0.000) 2.60ng

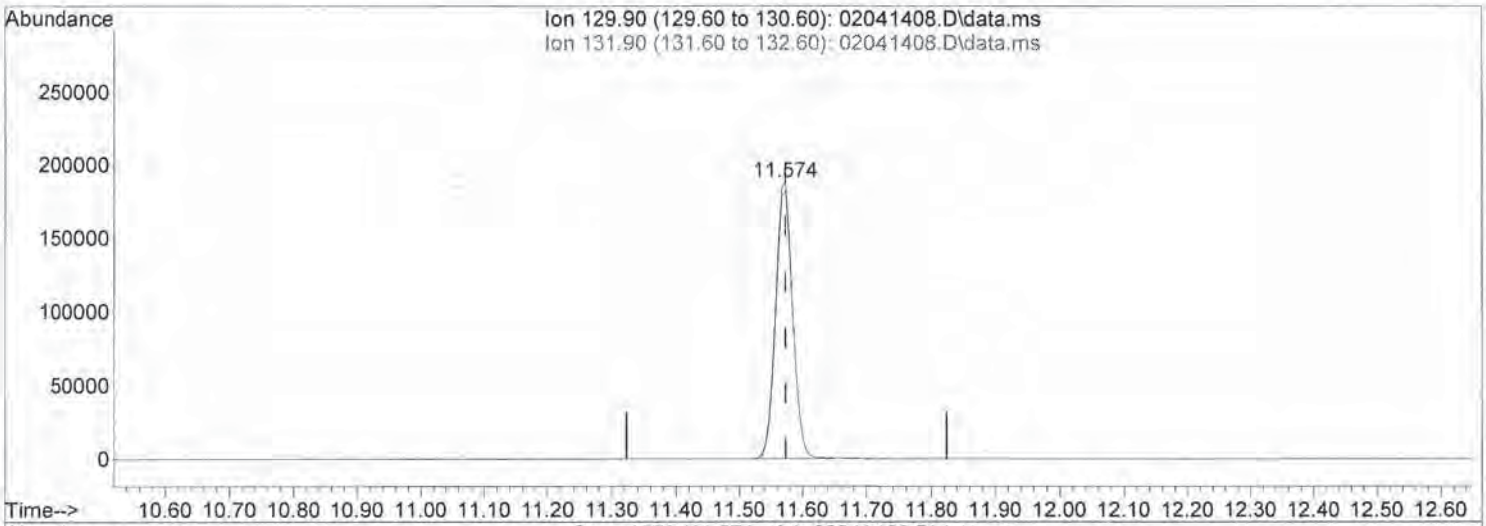
response 98732

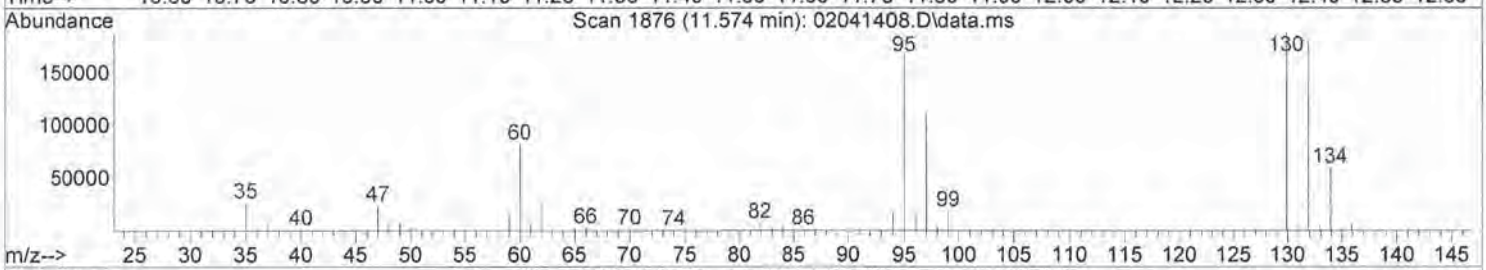
Ion	Exp%	Act%
61.00	100	100
95.90	81.40	76.56
0.00	0.00	0.00
0.00	0.00	0.00

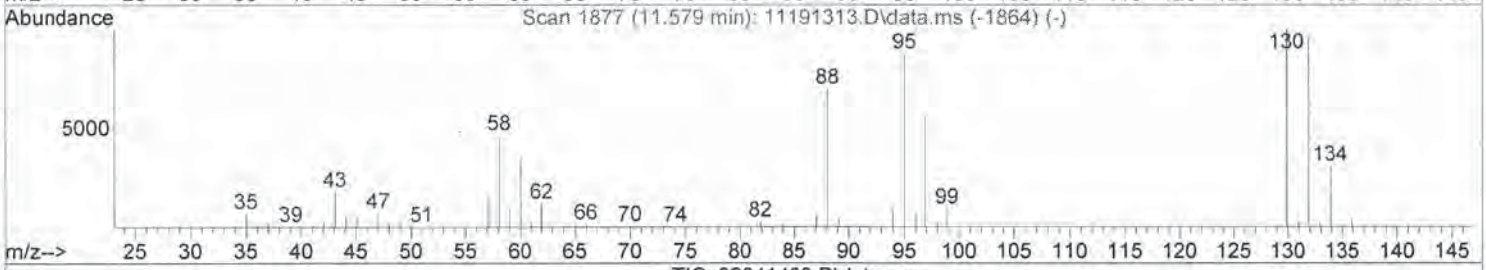
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041408.D
Acq On : 4 Feb 2014 11:42 Operator: WA
Sample : P1400358-014 (5.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 12:44:58 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041408.D\data.ms

(47) Trichloroethene (T)

11.574min (+0.000) 9.95ng

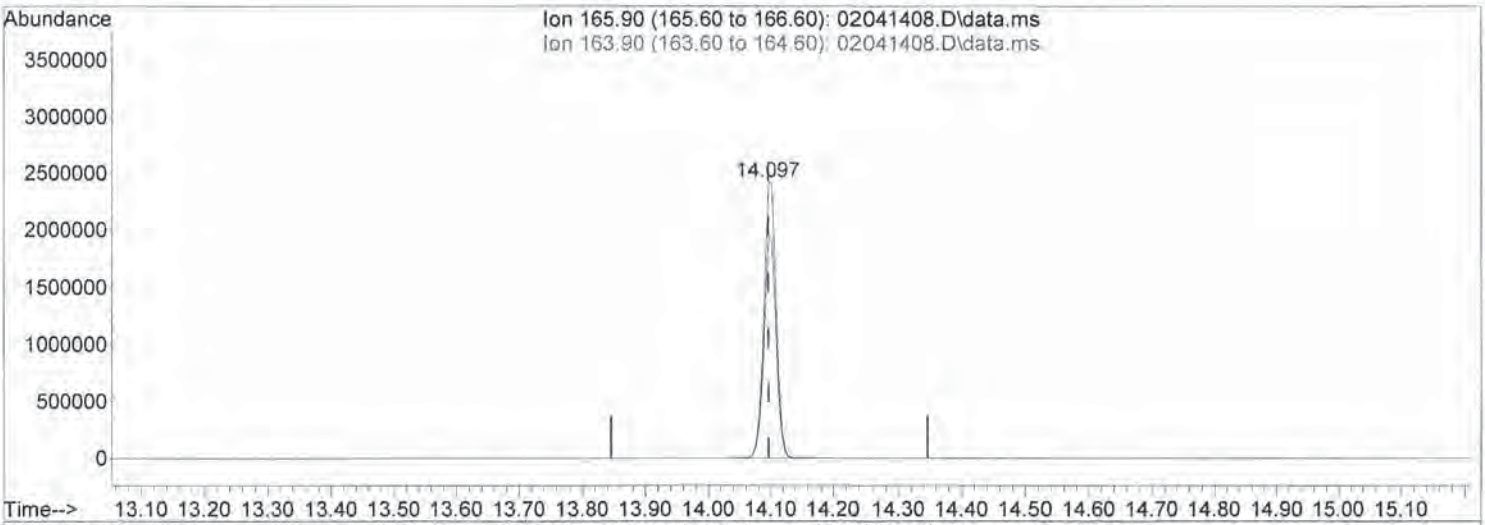
response 357554

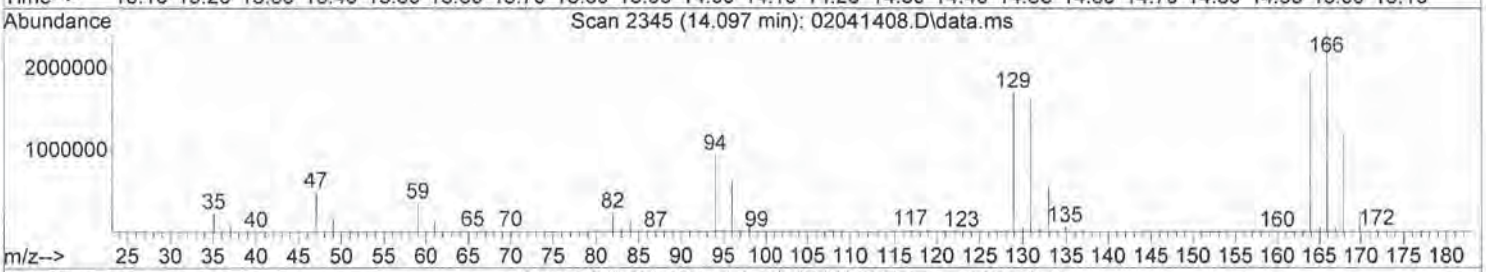
Ion	Exp%	Act%
129.90	100	100
131.90	96.50	96.28
0.00	0.00	0.00
0.00	0.00	0.00

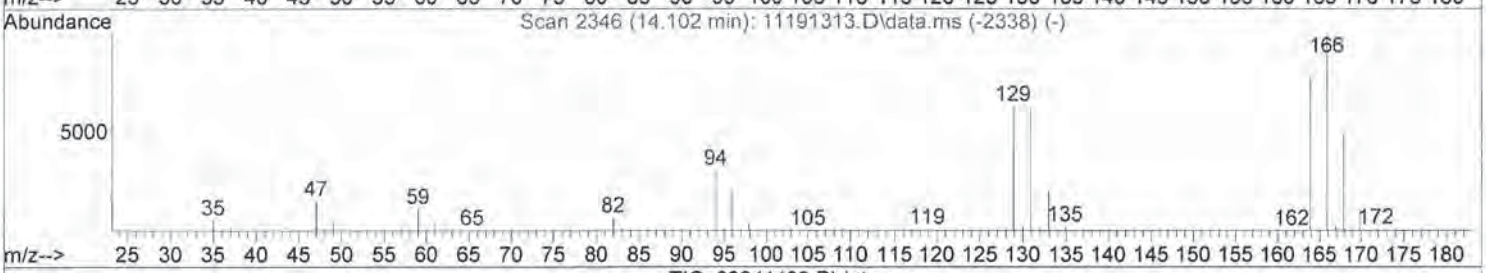
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041408.D
Acq On : 4 Feb 2014 11:42 Operator: WA
Sample : P1400358-014 (5.0mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 12:44:58 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041408.D\data.ms

(64) Tetrachloroethene (T)

14.097min (+0.000) 77.20ng

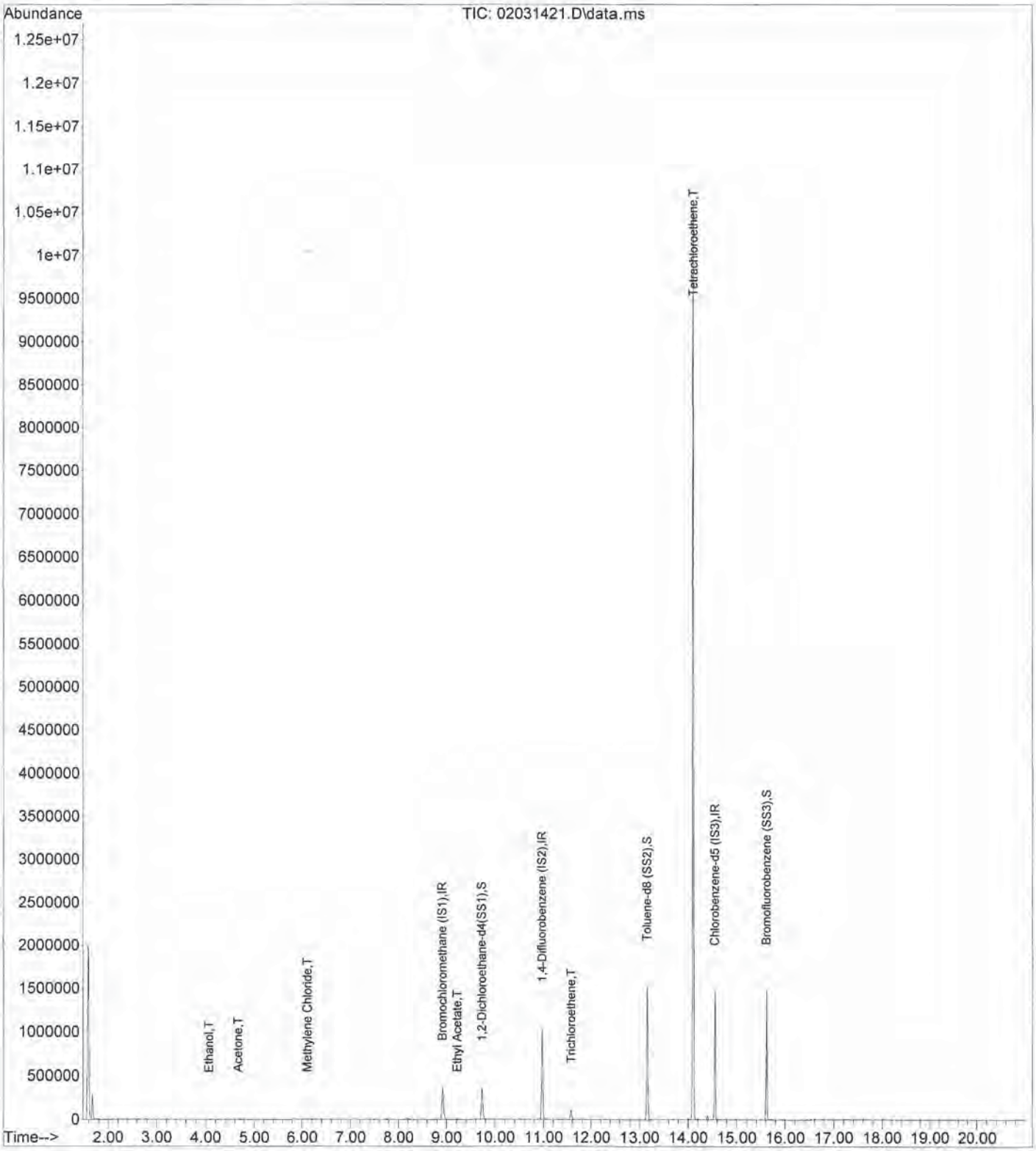
response 3439035

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	79.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031421.D
Acq On : 3 Feb 2014 20:55 Operator: WA
Sample : P1400358-015 (15mL)
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 04 07:30:12 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031421.D
Acq On : 3 Feb 2014 20:55 Operator: WA
Sample : P1400358-015 (15mL)
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 04 07:30:12 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	163757	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	837467	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	353495	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.73	65	275680	15.488	ng		0.00
Spiked Amount 12.500			Recovery = 123.92%				
57) Toluene-d8 (SS2)	13.15	98	905155	12.020	ng		0.00
Spiked Amount 12.500			Recovery = 96.16%				
73) Bromofluorobenzene (SS3)	15.61	174	348156	11.520	ng		0.00
Spiked Amount 12.500			Recovery = 92.16%				
Target Compounds							Qvalue
2) Propene	1.93	42	504	N.D.			
3) Dichlorodifluoromethan...	2.05	85	829	N.D.			
4) Chloromethane	2.29	50	56	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	3.23	94	832	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.07	45	2338	0.147	ng	#	56
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.67	58	4632	0.291	ng	#	67
14) Trichlorofluoromethane	4.77	101	75	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	6.11	84	2083	0.097	ng		98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	6.23	76	3940	N.D.			
23) trans-1,2-Dichloroethene	7.47	61	2216	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	8.44	72	109	N.D.			
28) cis-1,2-Dichloroethene	8.76	61	2164	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	9.22	61	1392	0.184	ng		89
31) n-Hexane	9.05	57	110	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	10.53	78	3360	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	10.95	84	52	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			

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Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031421.D
Acq On : 3 Feb 2014 20:55 Operator: WA
Sample : P1400358-015 (15mL)
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 04 07:30:12 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

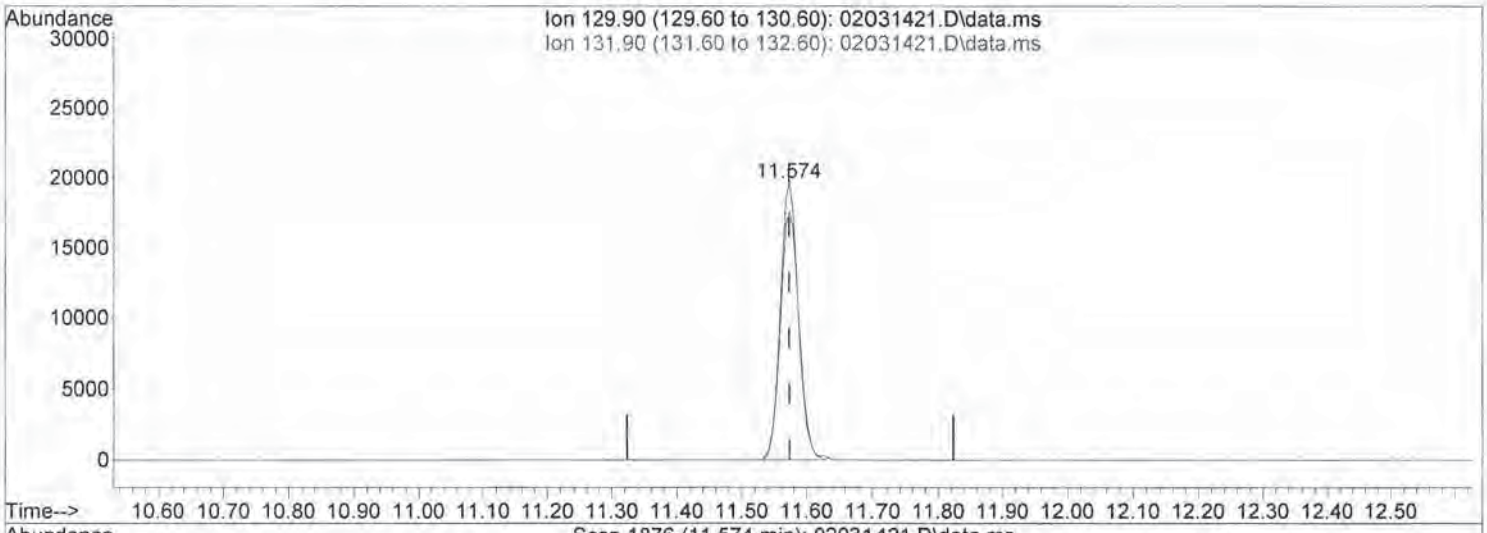
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	11.57	83	397	N.D.	
47) Trichloroethene	11.57	130	37603	1.449 ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.65	57	222	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	5114	N.D.	
59) 2-Hexanone	13.53	43	445	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.01	43	4919	N.D.	
63) n-Octane	14.01	57	151	N.D.	
64) Tetrachloroethene	14.10	166	2725598	85.425 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	14.86	91	785	N.D.	
67) m- & p-Xylenes	14.98	91	2051	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	15.31	91	405	N.D.	
71) n-Nonane	15.49	43	1172	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	15.61	105	488	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	16.14	105	260	N.D.	
78) 4-Ethyltoluene	16.17	105	64	N.D.	
79) 1,3,5-Trimethylbenzene	16.17	105	64	N.D.	
80) alpha-Methylstyrene	16.50	118	129	N.D.	
81) 2-Ethyltoluene	16.36	105	111	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	308	N.D.	
83) n-Decane	16.61	57	1317	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	16.52	105	308	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	16.94	68	433	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.57	57	889	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	18.41	57	1031	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.11	55	54	N.D.	
99) tert-Butylbenzene	16.53	119	231	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

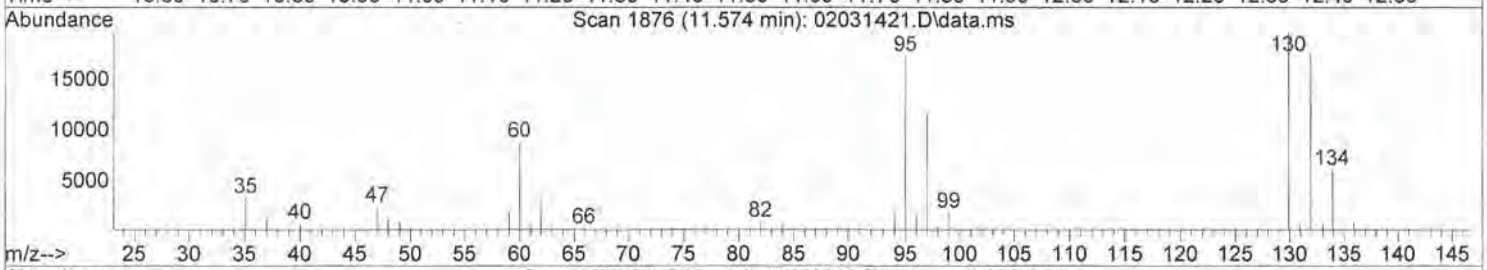
(#) = qualifier out of range (m) = manual integration (+) = signals summed

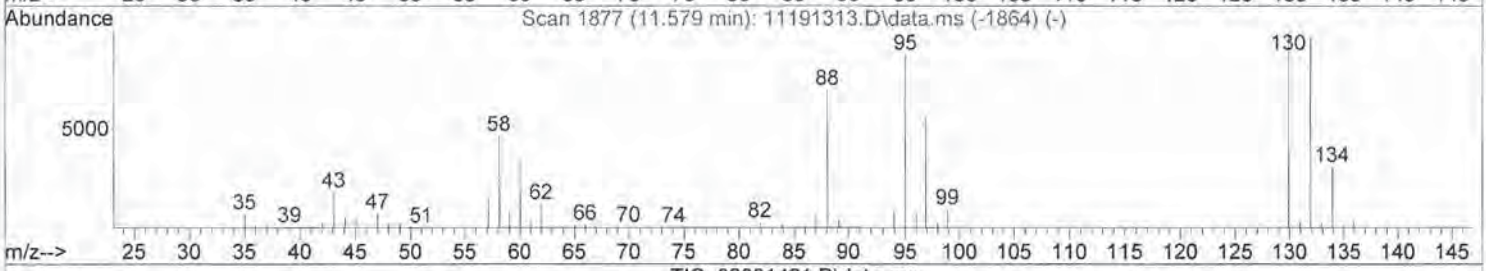
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031421.D
Acq On : 3 Feb 2014 20:55 Operator: WA
Sample : P1400358-015 (15mL)
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 04 07:30:12 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031421.D\data.ms

(47) Trichloroethene (T)

11.574min (-0.000) 1.45ng

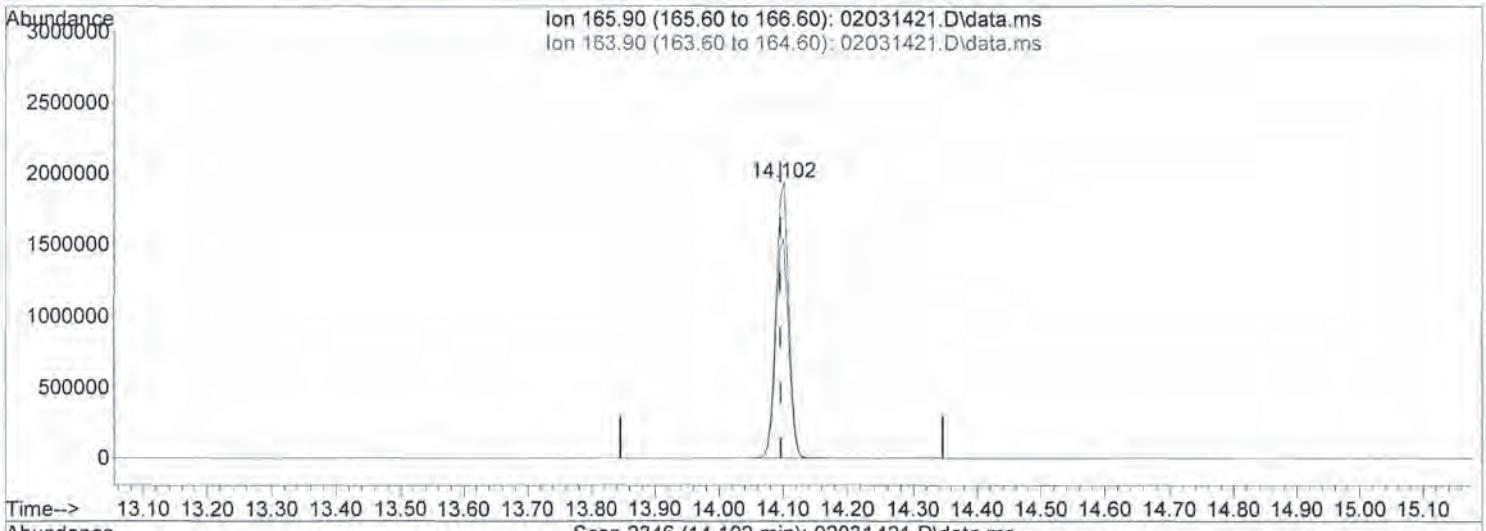
response 37603

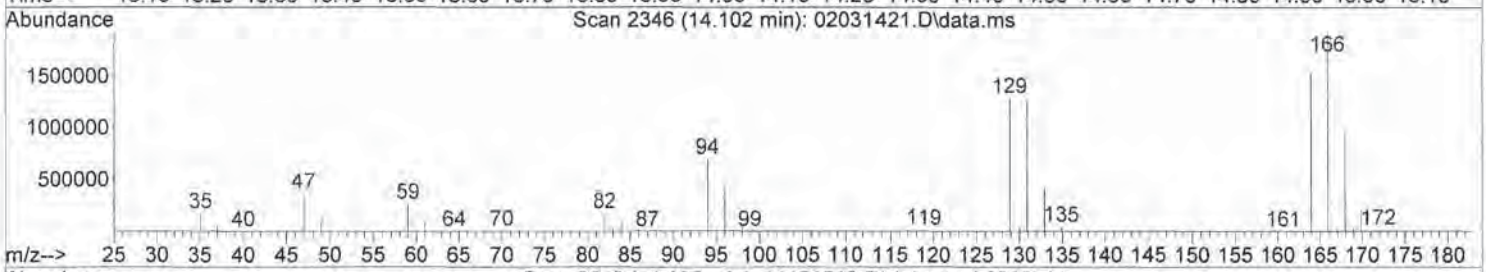
Ion	Exp%	Act%
129.90	100	100
131.90	96.50	94.15
0.00	0.00	0.00
0.00	0.00	0.00

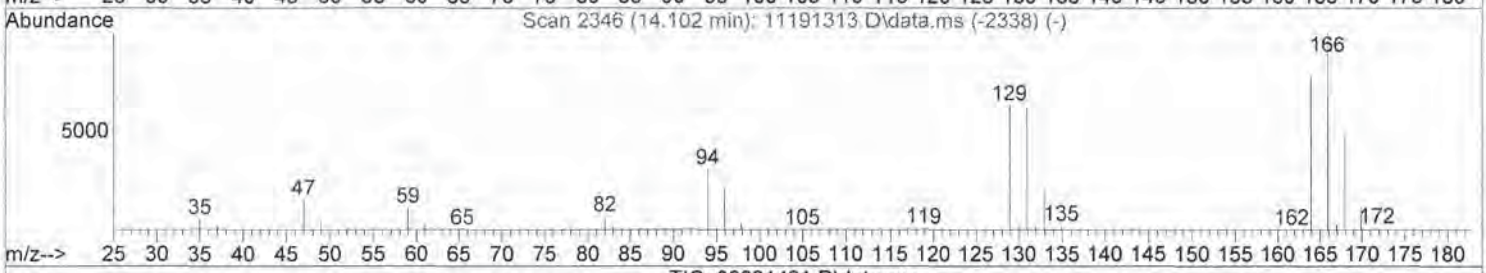
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031421.D
Acq On : 3 Feb 2014 20:55 Operator: WA
Sample : P1400358-015 (15mL)
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 04 07:30:12 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031421.D\data.ms

(64) Tetrachloroethene (T)

14.102min (+0.005) 85.43ng

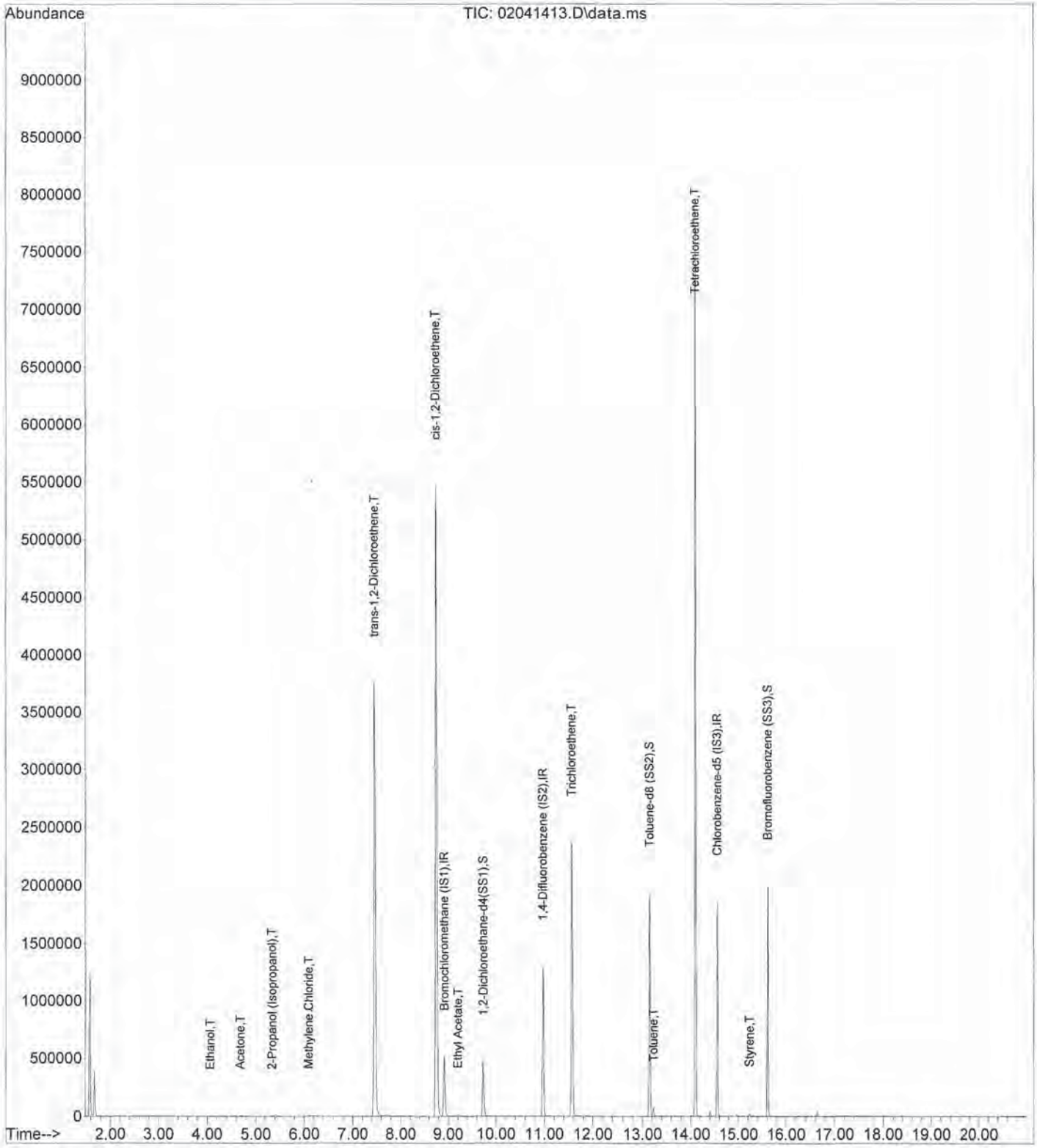
response 2725598

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	79.53
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041413.D
Acq On : 4 Feb 2014 14:09 Operator: WA
Sample : P1400358-016 (6.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 05 15:36:12 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041413.D
Acq On : 4 Feb 2014 14:09 Operator: WA
Sample : P1400358-016 (6.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 05 15:36:12 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	211955	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	1058023	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	457296	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	346176	15.026 ng		0.00
Spiked Amount 12.500			Recovery =	120.24%		
57) Toluene-d8 (SS2)	13.15	98	1141002	11.712 ng		0.00
Spiked Amount 12.500			Recovery =	93.68%		
73) Bromofluorobenzene (SS3)	15.61	174	463969	11.867 ng		0.00
Spiked Amount 12.500			Recovery =	94.96%		
Target Compounds						Qvalue
2) Propene	1.93	42	620	N.D.		
3) Dichlorodifluoromethan...	2.05	85	626	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.24	94	790	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.06	45	3734	0.181 ng		83
11) Acetonitrile	4.27	41	226	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.68	58	3348	0.162 ng	#	63
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	5.34	45	10055	0.134 ng		81
16) Acrylonitrile	5.40	53	98	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.09	84	4247	0.152 ng		98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	6.21	76	4419	N.D.		
23) trans-1,2-Dichloroethene	7.46	61	2511709	66.197 ng		97
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	7.96	73	6343	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	8.43	72	239	N.D.		
28) cis-1,2-Dichloroethene	8.76	61	3252725	91.430 ng		97
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	9.20	61	2472	0.253 ng		90
31) n-Hexane	9.05	57	628	N.D.		
32) Chloroform	9.10	83	2681	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.76	62	160	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	10.68	61	286	N.D.		
40) 1-Butanol	10.77	56	112	N.D.		
41) Benzene	10.52	78	2745	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.77	84	338	N.D.		
44) tert-Amyl Methyl Ether	11.25	73	465	N.D.		
45) 1,2-Dichloropropane	11.56	63	1989	N.D.		

2/5/14

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041413.D
Acq On : 4 Feb 2014 14:09 Operator: WA
Sample : P1400358-016 (6.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 05 15:36:12 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

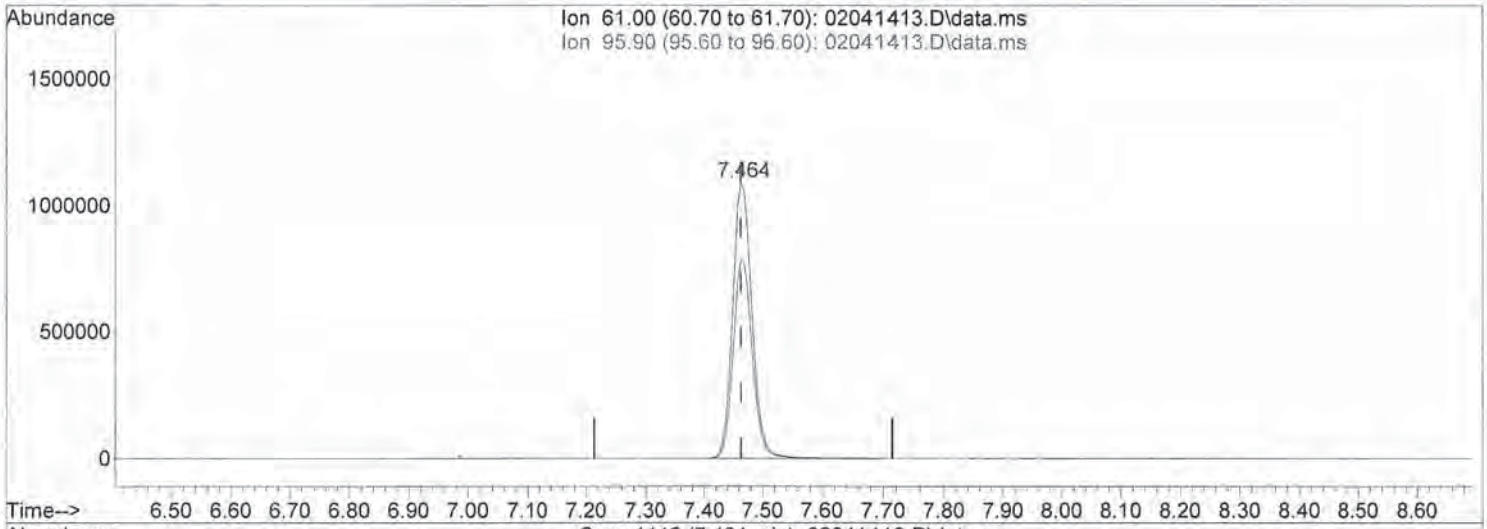
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	803009	24.489 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.64	57	3941	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	11.93	71	289	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	45552	0.359 ng	98
59) 2-Hexanone	13.48	43	241	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.01	43	2652	N.D.	
63) n-Octane	14.05	57	201	N.D.	
64) Tetrachloroethene	14.10	166	1999204	48.436 ng	100
65) Chlorobenzene	14.58	112	1373	N.D.	
66) Ethylbenzene	14.86	91	6164	N.D.	
67) m- & p-Xylenes	14.98	91	9128	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.23	104	10021	0.112 ng	98
70) o-Xylene	15.30	91	4036	N.D.	
71) n-Nonane	15.49	43	1530	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	15.72	105	603	N.D.	
75) alpha-Pinene	15.98	93	500	N.D.	
76) n-Propylbenzene	16.07	91	1143	N.D.	
77) 3-Ethyltoluene	16.14	105	2791	N.D.	
78) 4-Ethyltoluene	16.14	105	2791	N.D.	
79) 1,3,5-Trimethylbenzene	16.23	105	840	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	16.36	105	624	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	1964	N.D.	
83) n-Decane	16.61	57	1688	N.D.	
84) Benzyl Chloride	16.52	91	205	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	16.82	105	522	N.D.	
88) 4-Isopropyltoluene (p-...	16.83	119	263	N.D.	
89) 1,2,3-Trimethylbenzene	16.82	105	522	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	16.93	68	1178	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.57	57	932	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.38	128	113	N.D.	
96) n-Dodecane	18.41	57	405	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.10	55	1713	N.D.	
99) tert-Butylbenzene	16.52	119	555	N.D.	
100) n-Butylbenzene	17.15	91	108	N.D.	

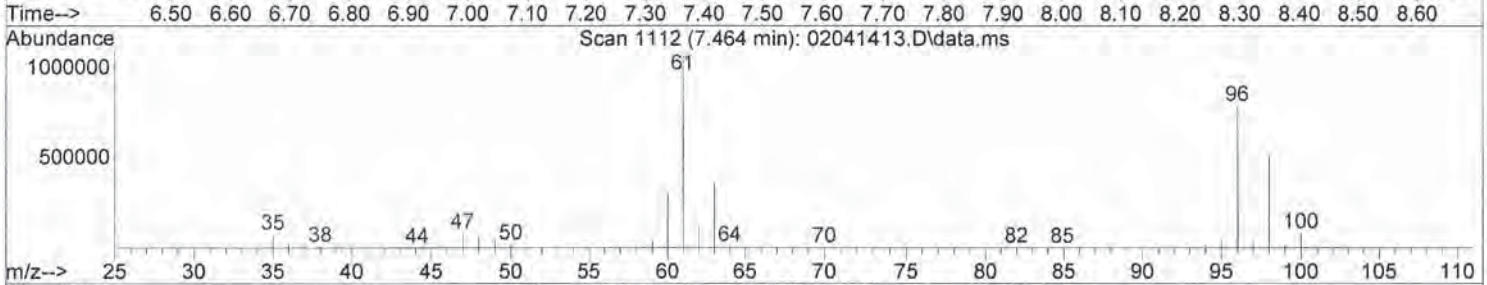
(#) = qualifier out of range (m) = manual integration (+) = signals summed

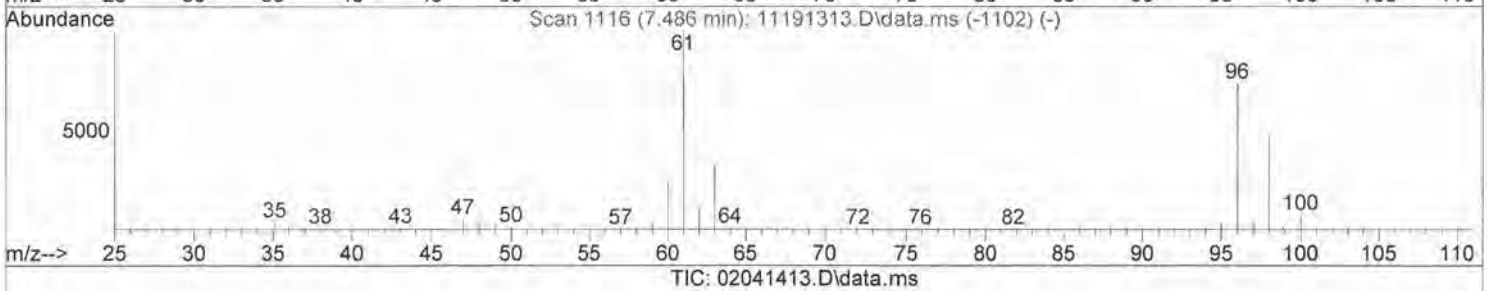
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041413.D
Acq On : 4 Feb 2014 14:09 Operator: WA
Sample : P1400358-016 (6.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 15:09:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041413.D\data.ms

(23) trans-1,2-Dichloroethene (T)

7.464min (+0.000) 66.20ng

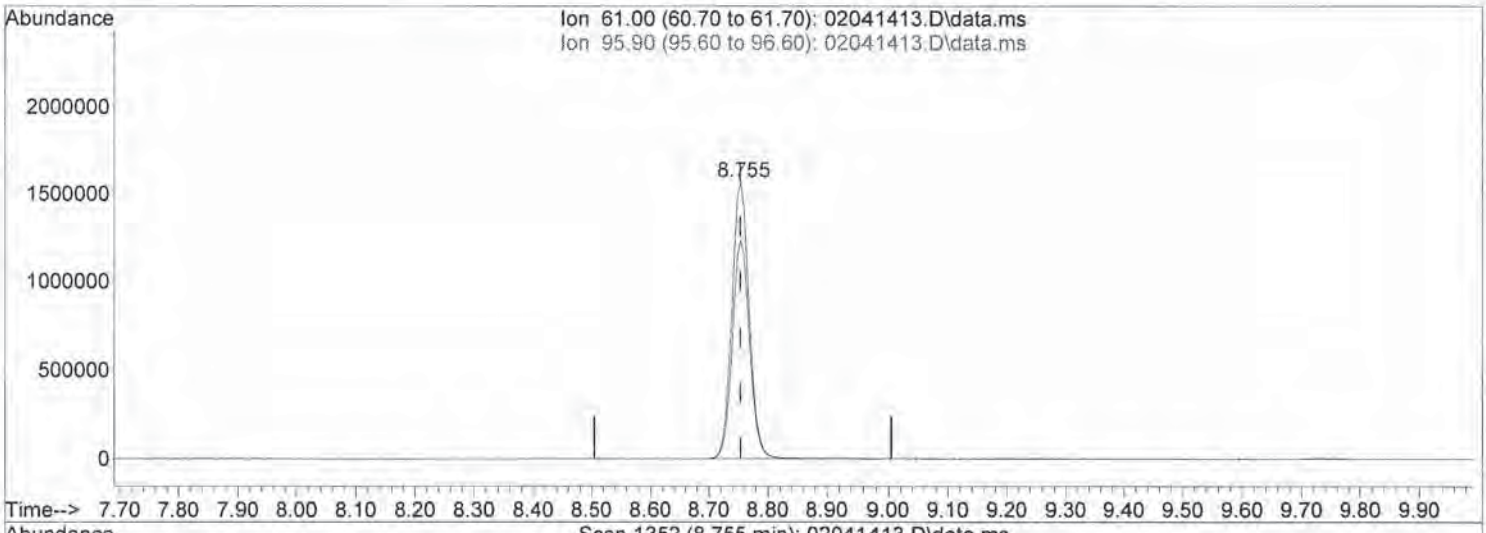
response 2511709

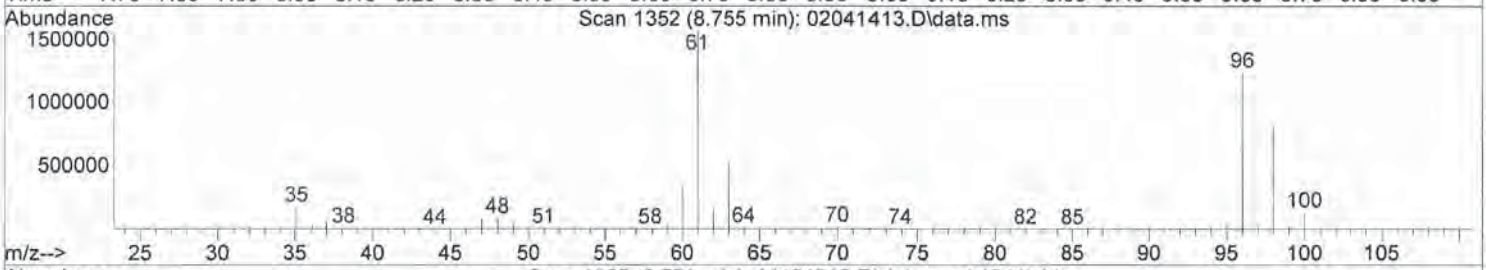
Ion	Exp%	Act%
61.00	100	100
95.90	73.80	71.48
0.00	0.00	0.00
0.00	0.00	0.00

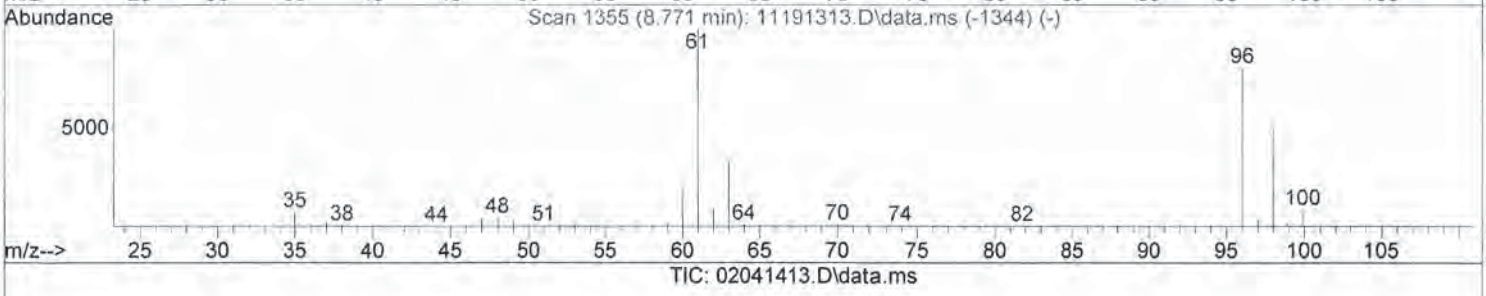
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041413.D
Acq On : 4 Feb 2014 14:09 Operator: WA
Sample : P1400358-016 (6.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 15:09:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041413.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.755min (+0.000) 91.43ng

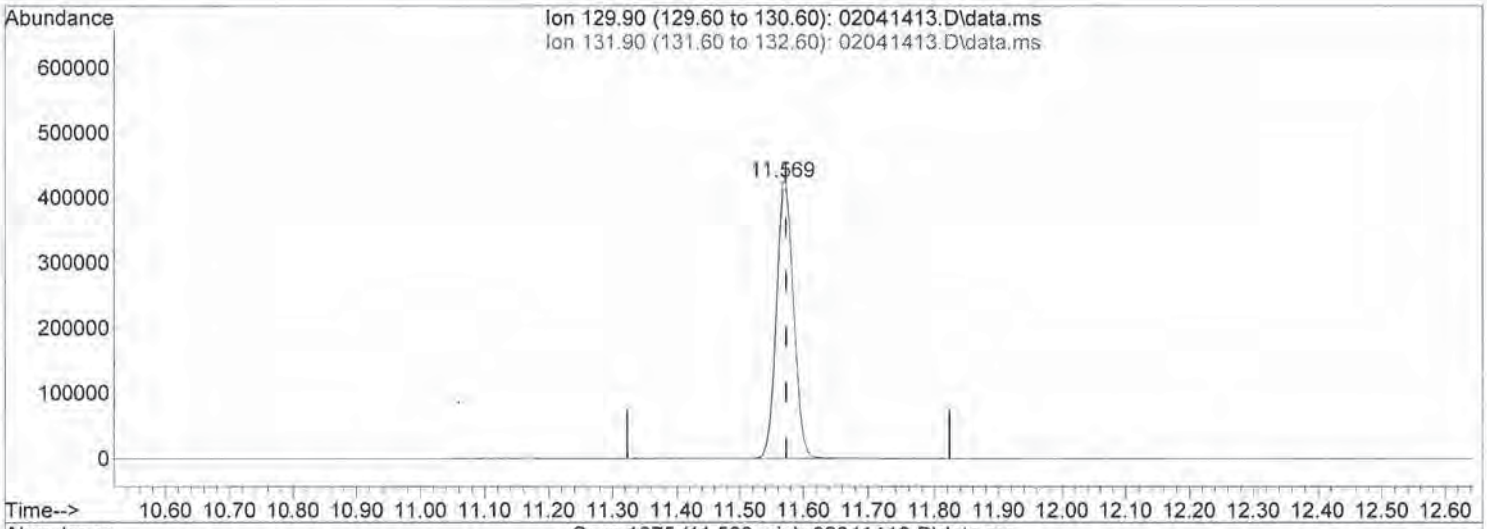
response 3252725

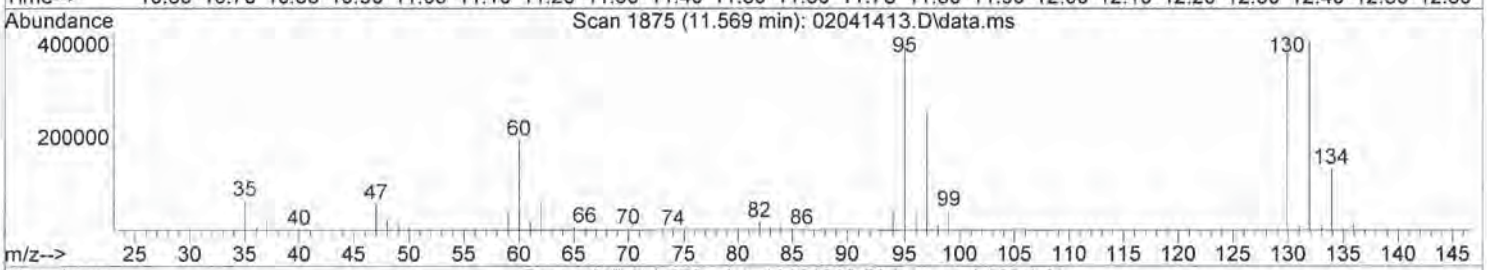
Ion	Exp%	Act%
61.00	100	100
95.90	81.40	78.42
0.00	0.00	0.00
0.00	0.00	0.00

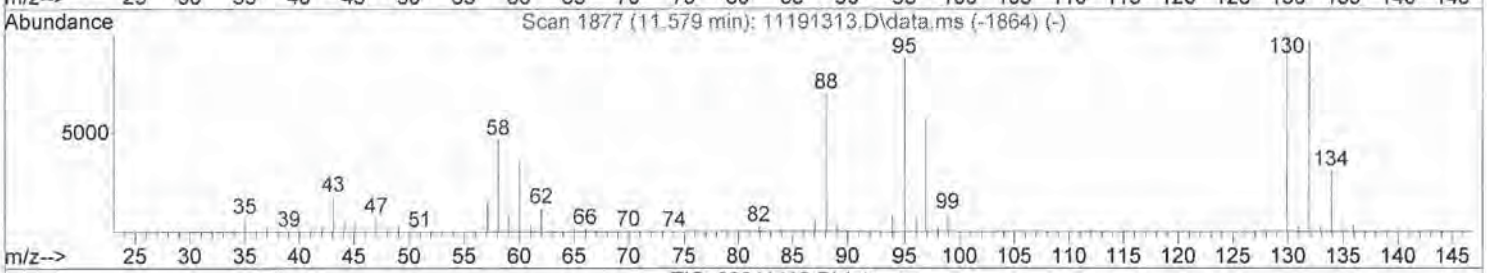
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041413.D
Acq On : 4 Feb 2014 14:09 Operator: WA
Sample : P1400358-016 (6.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 15:09:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041413.D\data.ms

(47) Trichloroethene (T)

11.569min (-0.005) 24.49ng

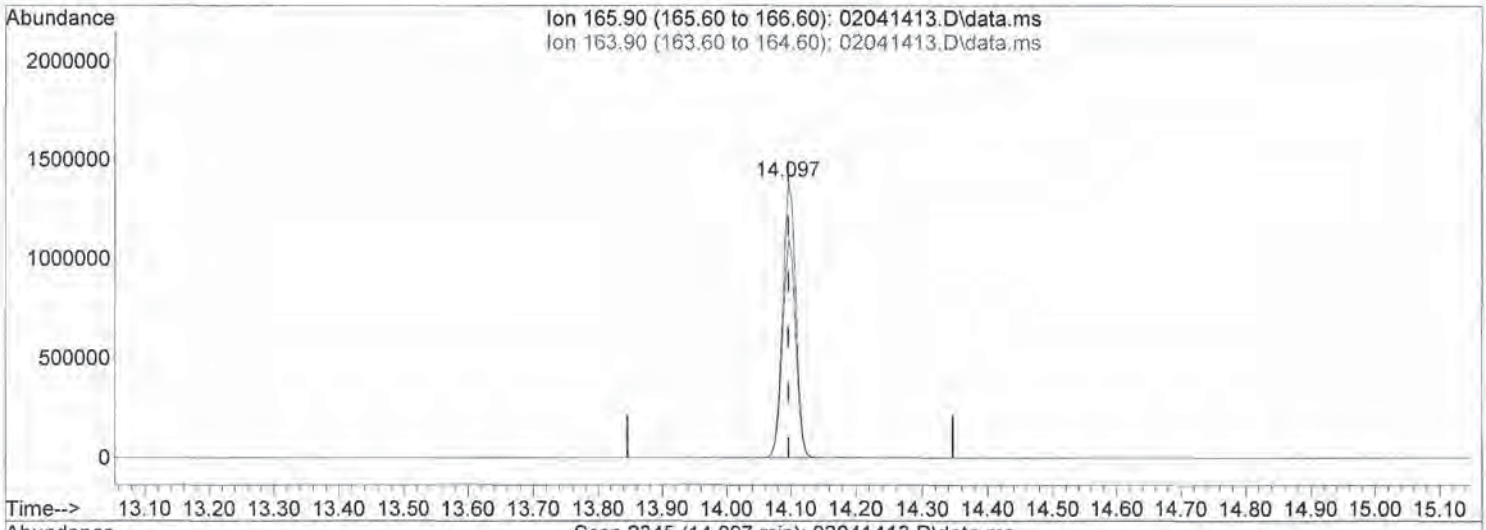
response 803009

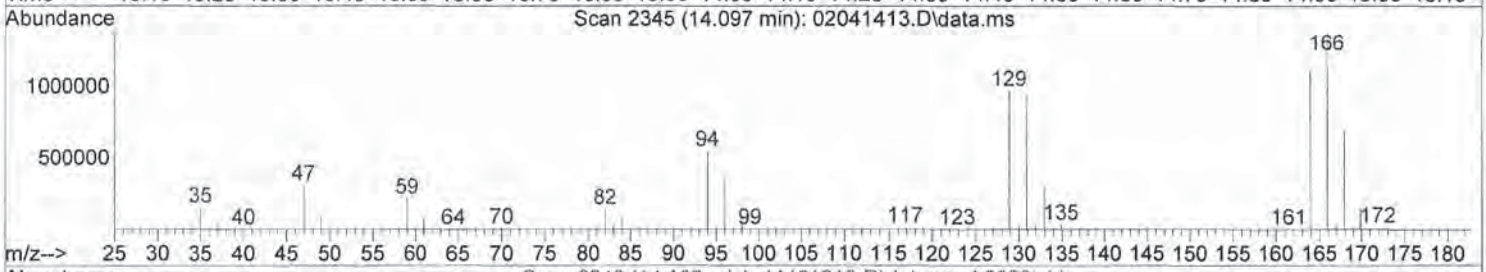
Ion	Exp%	Act%
129.90	100	100
131.90	96.50	97.07
0.00	0.00	0.00
0.00	0.00	0.00

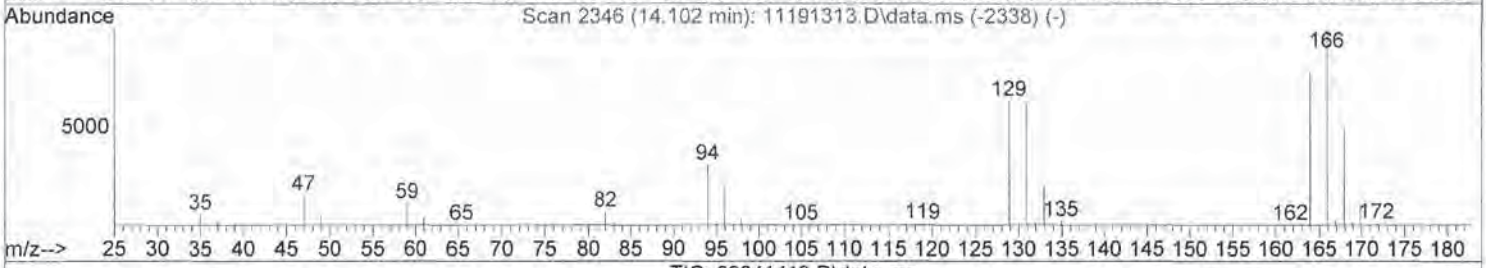
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041413.D
Acq On : 4 Feb 2014 14:09 Operator: WA
Sample : P1400358-016 (6.5mL)
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 04 15:09:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041413.D\data.ms

(64) Tetrachloroethene (T)

14.097min (0.000) 48.44ng

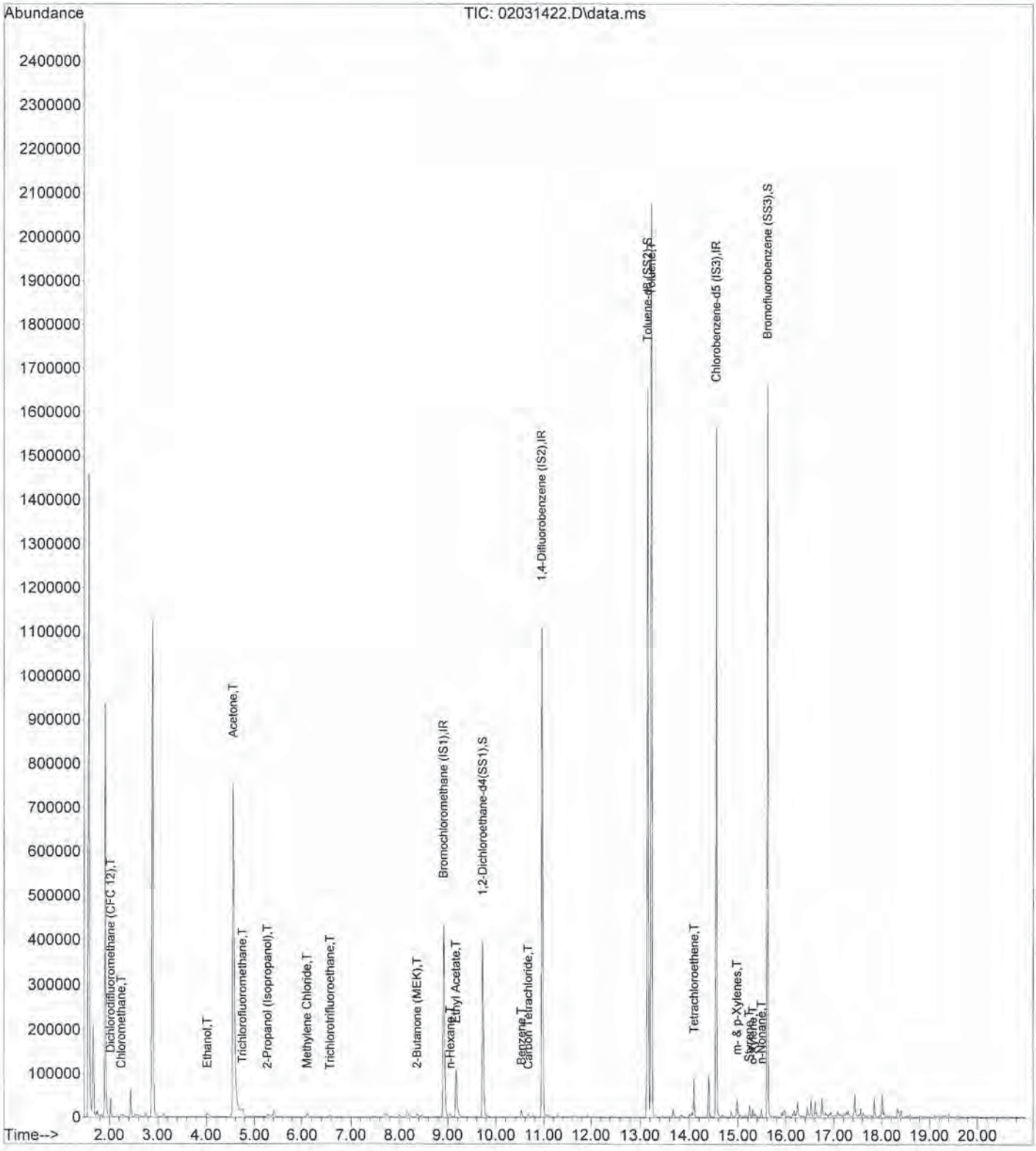
response 1999204

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	78.80
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031422.D
Acq On : 3 Feb 2014 21:24 Operator: WA
Sample : P1400358-017 (400mL)
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 05 15:37:21 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031422.D
Acq On : 3 Feb 2014 21:24 Operator: WA
Sample : P1400358-017 (400mL)
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 05 15:37:21 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	174319	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	898999	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	387987	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	294422	15.539 ng		0.00
Spiked Amount 12.500			Recovery = 124.32%			
57) Toluene-d8 (SS2)	13.15	98	964675	11.671 ng		0.00
Spiked Amount 12.500			Recovery = 93.36%			
73) Bromofluorobenzene (SS3)	15.61	174	379478	11.440 ng		0.00
Spiked Amount 12.500			Recovery = 91.52%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	2.03	85	28123	0.676 ng		98
4) Chloromethane	2.25	50	7595	0.222 ng		84
5) 1,2-Dichloro-1,1,2,2-t...	2.48	135	346	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.21	94	846	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.02	45	17365	1.026 ng		99
11) Acetonitrile	4.23	41	2062	N.D.		
12) Acrolein	4.39	56	830	N.D.		
13) Acetone	4.56	58	376798	22.216 ng	#	72
14) Trichlorofluoromethane	4.75	101	12778	0.332 ng		98
15) 2-Propanol (Isopropanol)	5.27	45	18137	0.294 ng		89
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.10	84	4899	0.214 ng		92
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	6.58	151	2422	0.119 ng		89
22) Carbon Disulfide	6.20	76	1465	N.D.		
23) trans-1,2-Dichloroethene	7.47	61	1194	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	8.36	72	3873	0.241 ng	#	54
28) cis-1,2-Dichloroethene	8.77	61	1415	N.D.		
29) Diisopropyl Ether	9.17	87	221	N.D.		
30) Ethyl Acetate	9.17	61	20880	2.598 ng		99
31) n-Hexane	9.05	57	3320	0.102 ng	#	95
32) Chloroform	9.11	83	901	N.D.		
34) Tetrahydrofuran (THF)	9.60	72	369	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.85	62	321	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.53	78	14137	0.166 ng		98
42) Carbon Tetrachloride	10.67	117	3563	0.121 ng		96
43) Cyclohexane	10.78	84	550	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		

2/5/14

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031422.D
Acq On : 3 Feb 2014 21:24 Operator: WA
Sample : P1400358-017 (400mL)
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 05 15:37:21 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

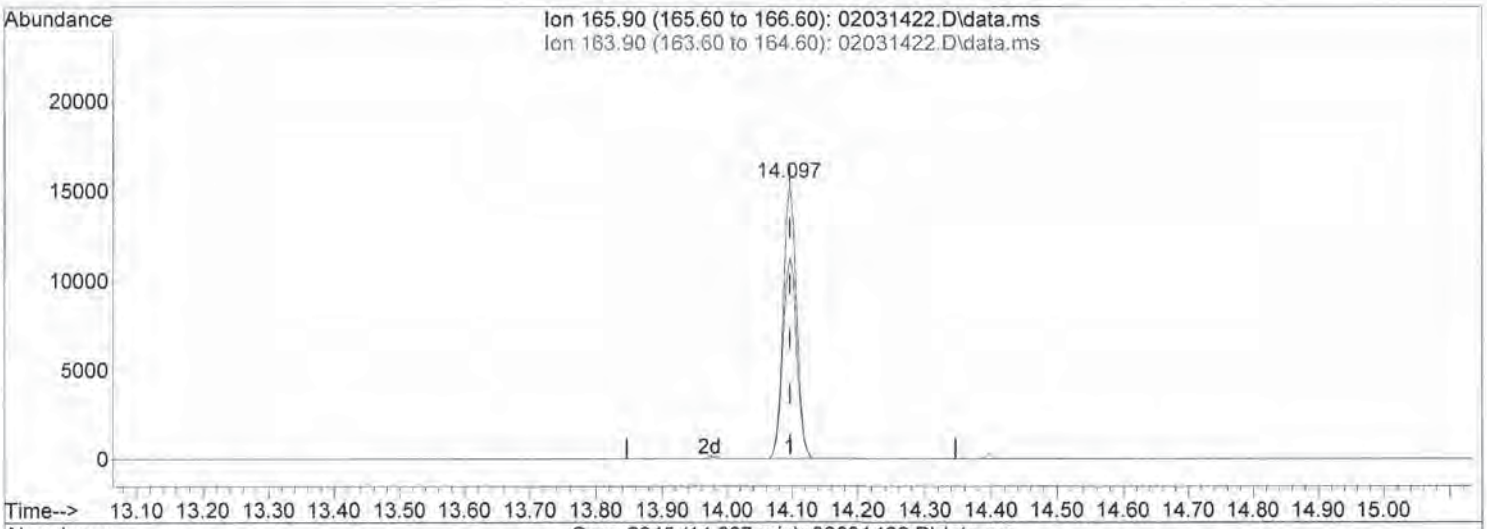
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	11.57	130	1092	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.64	57	4821	N.D.	
50) Methyl Methacrylate	11.93	100	341	N.D.	
51) n-Heptane	11.93	71	1032	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.52	58	234	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	1382057	12.831 ng	98
59) 2-Hexanone	13.48	43	569	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.00	43	5184	N.D.	
63) n-Octane	14.05	57	1623	N.D.	
64) Tetrachloroethene	14.10	166	22340	0.638 ng	97
65) Chlorobenzene	14.61	112	628	N.D.	
66) Ethylbenzene	14.86	91	8709	N.D.	
67) m- & p-Xylenes	14.98	91	25114	0.265 ng	95
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.23	104	8398	0.110 ng	96
70) o-Xylene	15.31	91	9068	0.092 ng	93
71) n-Nonane	15.49	43	5423	0.094 ng	97
72) 1,1,2,2-Tetrachloroethane	15.34	83	665	N.D.	
74) Cumene	15.71	105	835	N.D.	
75) alpha-Pinene	15.97	93	3818	N.D.	
76) n-Propylbenzene	16.07	91	2440	N.D.	
77) 3-Ethyltoluene	16.14	105	3952	N.D.	
78) 4-Ethyltoluene	16.17	105	2187	N.D.	
79) 1,3,5-Trimethylbenzene	16.23	105	1907	N.D.	
80) alpha-Methylstyrene	16.33	118	229	N.D.	
81) 2-Ethyltoluene	16.36	105	1849	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	6590	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	16.68	91	125	N.D.	
85) 1,3-Dichlorobenzene	16.66	146	276	N.D.	
86) 1,4-Dichlorobenzene	16.66	146	276	N.D.	
87) sec-Butylbenzene	16.71	105	551	N.D.	
88) 4-Isopropyltoluene (p-...	16.83	119	1194	N.D.	
89) 1,2,3-Trimethylbenzene	16.82	105	2509	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	16.94	68	2048	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.56	57	4552	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.35	128	7755	N.D.	
96) n-Dodecane	18.41	57	3405	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.10	55	697	N.D.	
99) tert-Butylbenzene	16.52	119	1333	N.D.	
100) n-Butylbenzene	17.14	91	1127	N.D.	

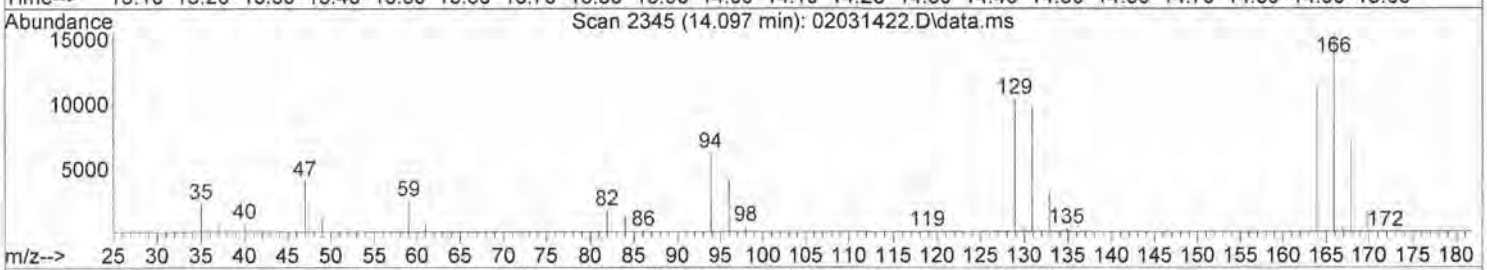
(#) = qualifier out of range (m) = manual integration (+) = signals summed

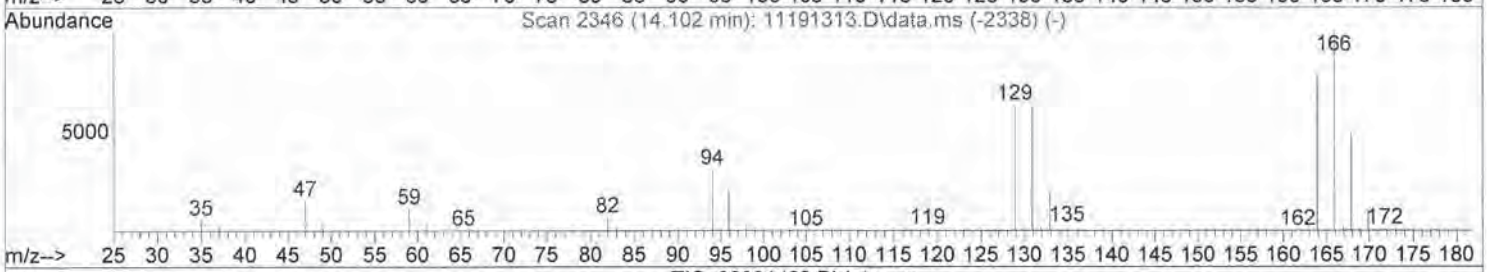
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031422.D
Acq On : 3 Feb 2014 21:24 Operator: WA
Sample : P1400358-017 (400mL)
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 04 07:30:15 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031422.D\data.ms

(64) Tetrachloroethene (T)

14.097min (-0.000) 0.64ng

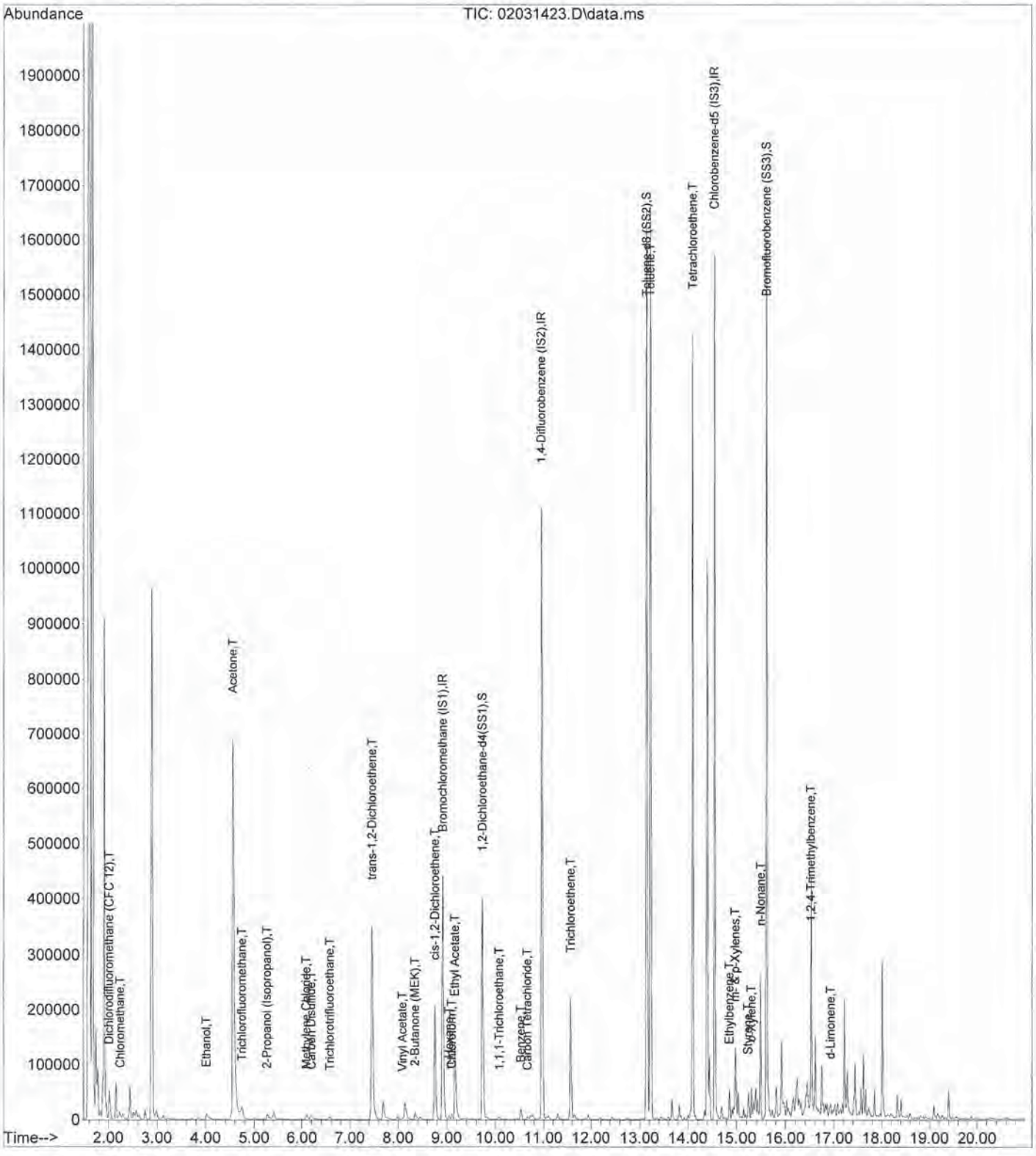
response 22340

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	76.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031423.D
Acq On : 3 Feb 2014 21:53 Operator: WA
Sample : P1400358-018 (400mL)
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 05 15:38:45 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031423.D
Acq On : 3 Feb 2014 21:53 Operator: WA
Sample : P1400358-018 (400mL)
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 05 15:38:45 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	176647	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	908469	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	388385	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	298668	15.555 ng		0.00
Spiked Amount 12.500			Recovery =	124.48%		
57) Toluene-d8 (SS2)	13.15	98	971737	11.745 ng		0.00
Spiked Amount 12.500			Recovery =	93.92%		
73) Bromofluorobenzene (SS3)	15.61	174	385828	11.619 ng		0.00
Spiked Amount 12.500			Recovery =	92.96%		
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	2.01	85	30393	0.721 ng		99
4) Chloromethane	2.24	50	6725	0.194 ng		85
5) 1,2-Dichloro-1,1,2,2-t...	2.50	135	51	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.21	94	763	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.02	45	19531	1.139 ng		97
11) Acetonitrile	4.23	41	2205	N.D.		
12) Acrolein	4.38	56	1125	N.D.		
13) Acetone	4.56	58	340182	19.793 ng	#	72
14) Trichlorofluoromethane	4.75	101	12912	0.331 ng		97
15) 2-Propanol (Isopropanol)	5.26	45	22717	0.364 ng		99
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.33	59	2727	N.D.		
19) Methylene Chloride	6.10	84	4774	0.206 ng		98
20) 3-Chloro-1-propene (Al...	6.31	41	240	N.D.		
21) Trichlorotrifluoroethane	6.58	151	2695	0.131 ng	#	81
22) Carbon Disulfide	6.19	76	19256	0.235 ng		88
23) trans-1,2-Dichloroethene	7.46	61	250679	7.927 ng		96
24) 1,1-Dichloroethane	7.70	63	488	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	8.09	86	710	0.111 ng	#	58
27) 2-Butanone (MEK)	8.35	72	5558	0.342 ng	#	75
28) cis-1,2-Dichloroethene	8.76	61	132422	4.466 ng		94
29) Diisopropyl Ether	9.18	87	386	N.D.		
30) Ethyl Acetate	9.17	61	25860	3.175 ng		99
31) n-Hexane	9.05	57	3615	0.110 ng	#	91
32) Chloroform	9.10	83	6936	0.185 ng		96
34) Tetrahydrofuran (THF)	9.73	72	119	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.86	62	671	N.D.		
38) 1,1,1-Trichloroethane	10.08	97	3165	0.090 ng		92
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.53	78	16845	0.195 ng		100
42) Carbon Tetrachloride	10.66	117	3185	0.107 ng		98
43) Cyclohexane	10.77	84	2714	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	11.56	63	103	N.D.		

2/5/14

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031423.D
Acq On : 3 Feb 2014 21:53 Operator: WA
Sample : P1400358-018 (400mL)
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 05 15:38:45 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

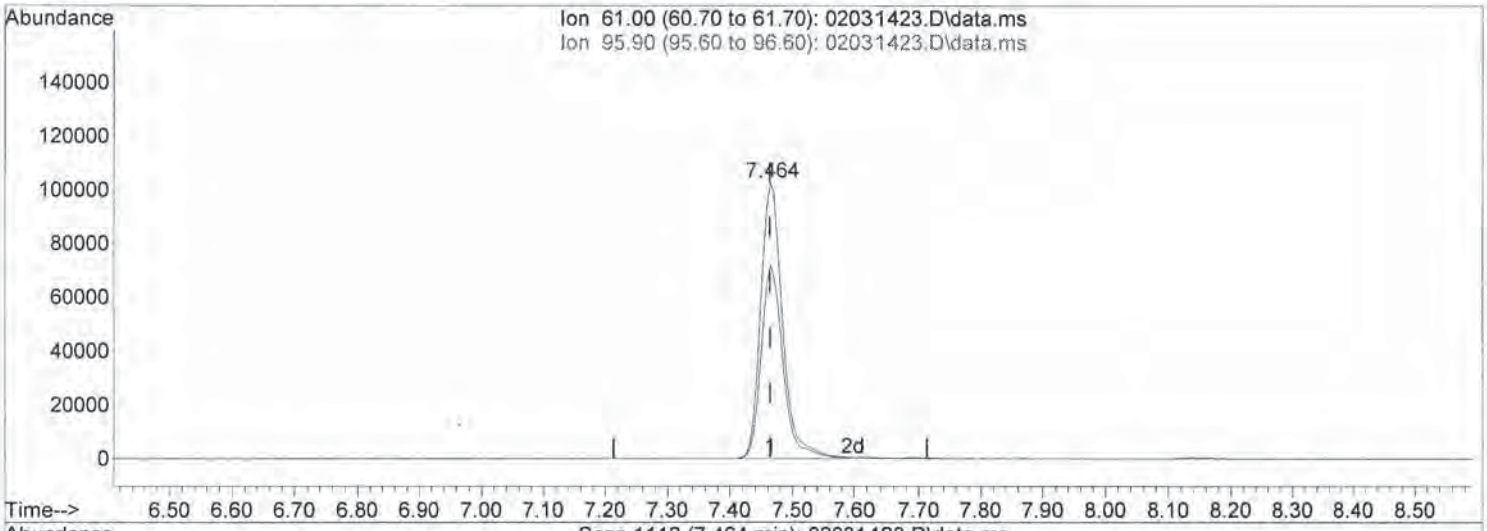
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	11.54	83	48	N.D.	
47) Trichloroethene	11.57	130	74433	2.644 ng	100
48) 1,4-Dioxane	11.64	88	1733	N.D.	
49) 2,2,4-Trimethylpentane...	11.64	57	6525	N.D.	
50) Methyl Methacrylate	11.93	100	567	N.D.	
51) n-Heptane	11.93	71	1967	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.50	58	529	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	1126620	10.449 ng	98
59) 2-Hexanone	13.51	43	1096	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.00	43	5594	N.D.	
63) n-Octane	14.05	57	2105	N.D.	
64) Tetrachloroethene	14.10	166	355856	10.151 ng	100
65) Chlorobenzene	14.61	112	1107	N.D.	
66) Ethylbenzene	14.86	91	30118	0.252 ng	94
67) m- & p-Xylenes	14.98	91	79188	0.836 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.23	104	8108	0.106 ng	98
70) o-Xylene	15.30	91	22240	0.225 ng	96
71) n-Nonane	15.49	43	72953	1.257 ng	96
72) 1,1,2,2-Tetrachloroethane	15.30	83	195	N.D.	
74) Cumene	15.72	105	2309	N.D.	
75) alpha-Pinene	15.97	93	4952	N.D.	
76) n-Propylbenzene	16.07	91	4150	N.D.	
77) 3-Ethyltoluene	16.14	105	8649	N.D.	
78) 4-Ethyltoluene	16.17	105	3964	N.D.	
79) 1,3,5-Trimethylbenzene	16.23	105	3193	N.D.	
80) alpha-Methylstyrene	16.33	118	497	N.D.	
81) 2-Ethyltoluene	16.36	105	3656	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	13504	0.130 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	16.68	91	396	N.D.	
85) 1,3-Dichlorobenzene	16.67	146	697	N.D.	
86) 1,4-Dichlorobenzene	16.67	146	697	N.D.	
87) sec-Butylbenzene	16.71	105	837	N.D.	
88) 4-Isopropyltoluene (p-...	16.83	119	1617	N.D.	
89) 1,2,3-Trimethylbenzene	16.82	105	3410	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	16.94	68	4048	0.101 ng	87
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.35	128	6284	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.09	55	1451	N.D.	
99) tert-Butylbenzene	16.52	119	8442	N.D.	
100) n-Butylbenzene	17.14	91	2092	N.D.	

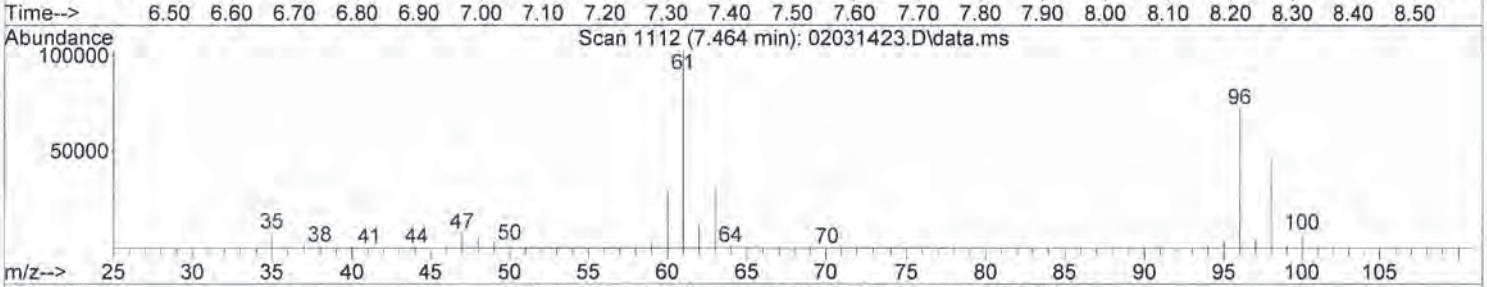
(#) = qualifier out of range (m) = manual integration (+) = signals summed

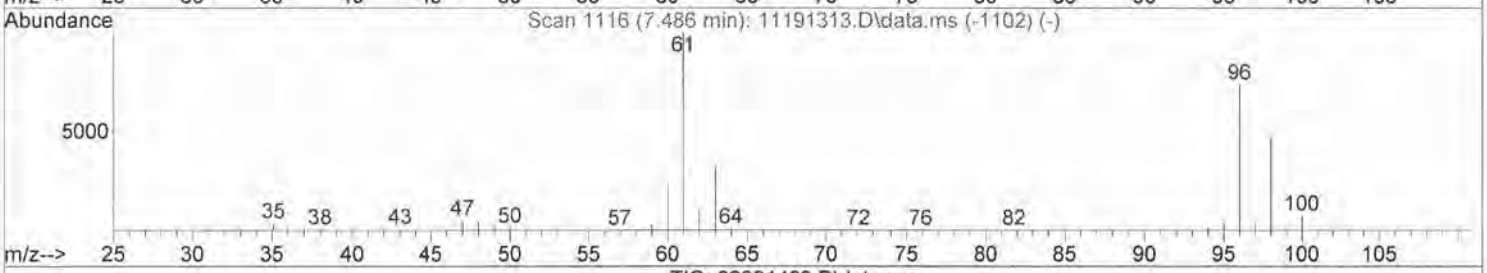
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031423.D
Acq On : 3 Feb 2014 21:53 Operator: WA
Sample : P1400358-018 (400mL)
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 04 07:30:18 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031423.D\data.ms

(23) trans-1,2-Dichloroethene (T)

7.464min (+0.000) 7.93ng

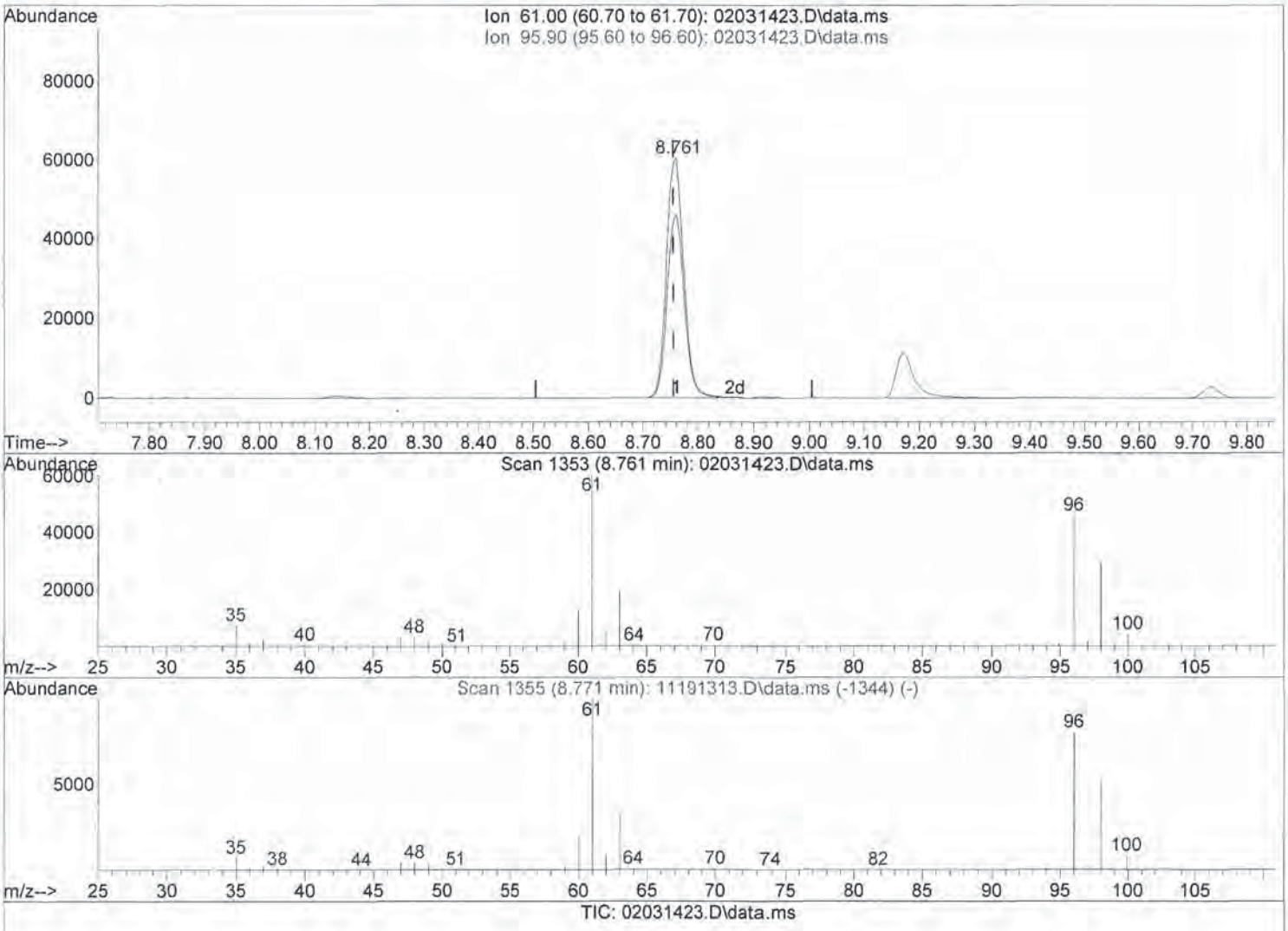
response 250679

Ion	Exp%	Act%
61.00	100	100
95.90	73.80	70.10
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031423.D
Acq On : 3 Feb 2014 21:53 Operator: WA
Sample : P1400358-018 (400mL)
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 04 07:30:18 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 02031423.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.761min (+0.006) 4.47ng

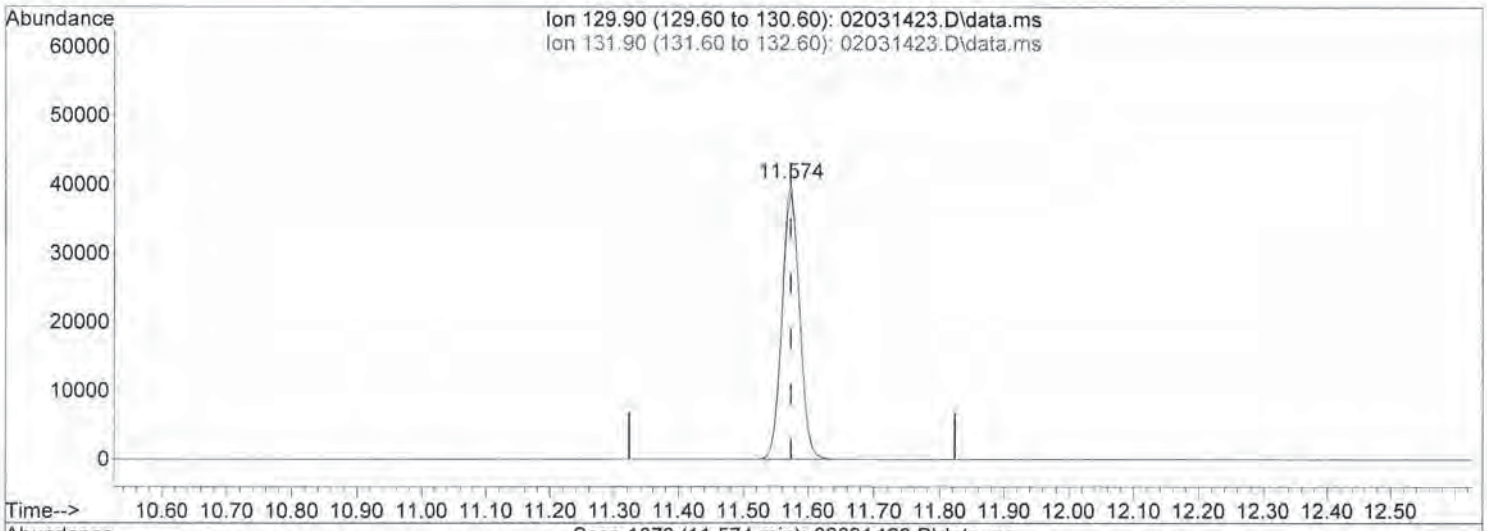
response 132422

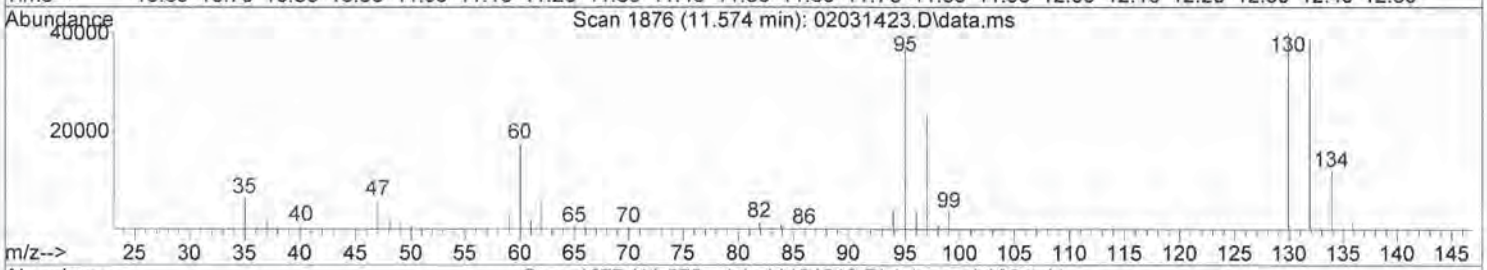
Ion	Exp%	Act%
61.00	100	100
95.90	81.40	75.80
0.00	0.00	0.00
0.00	0.00	0.00

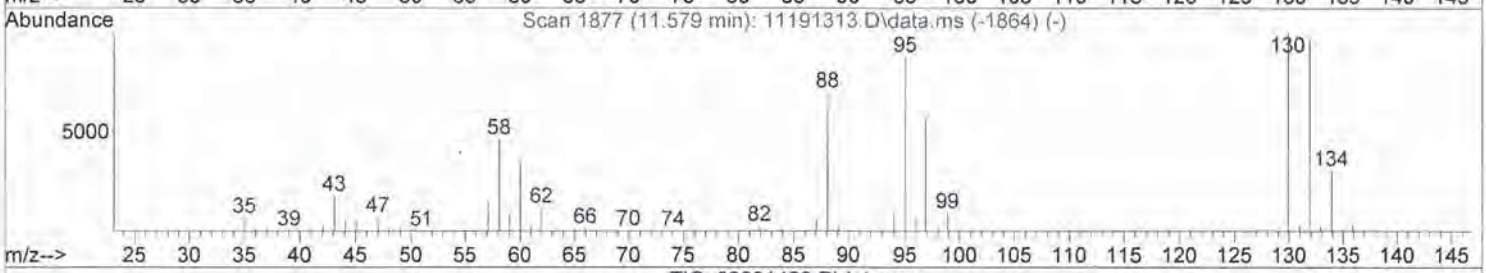
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031423.D
Acq On : 3 Feb 2014 21:53 Operator: WA
Sample : P1400358-018 (400mL)
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 04 07:30:18 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031423.D\data.ms

(47) Trichloroethene (T)

11.574min (+0.000) 2.64ng

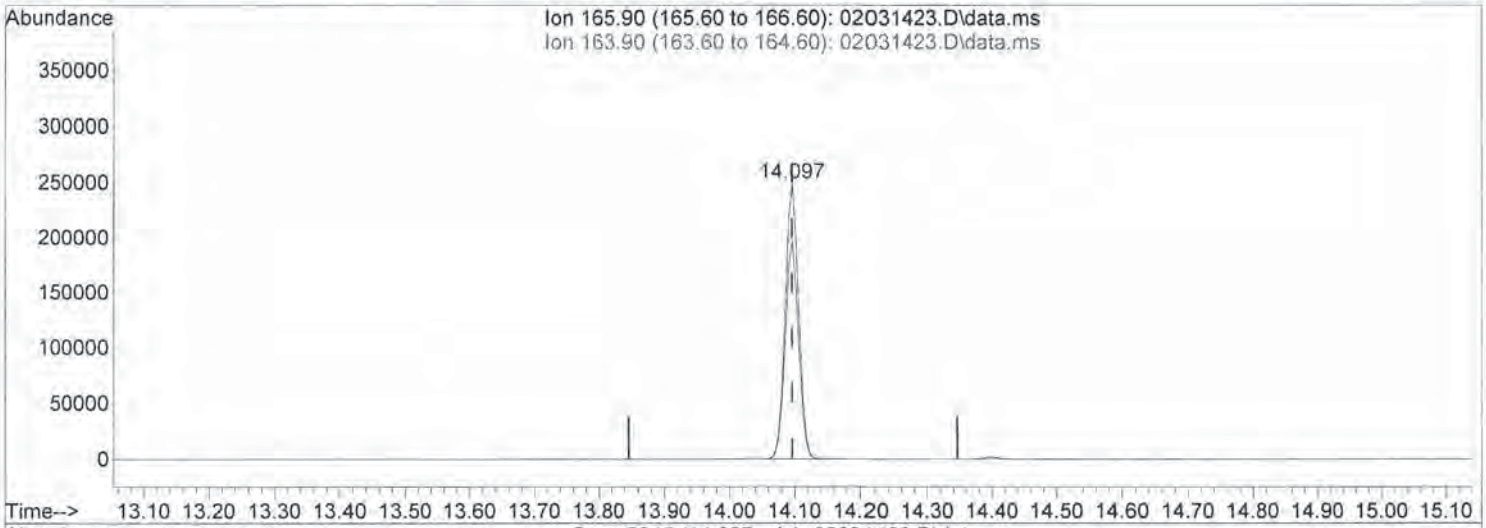
response 74433

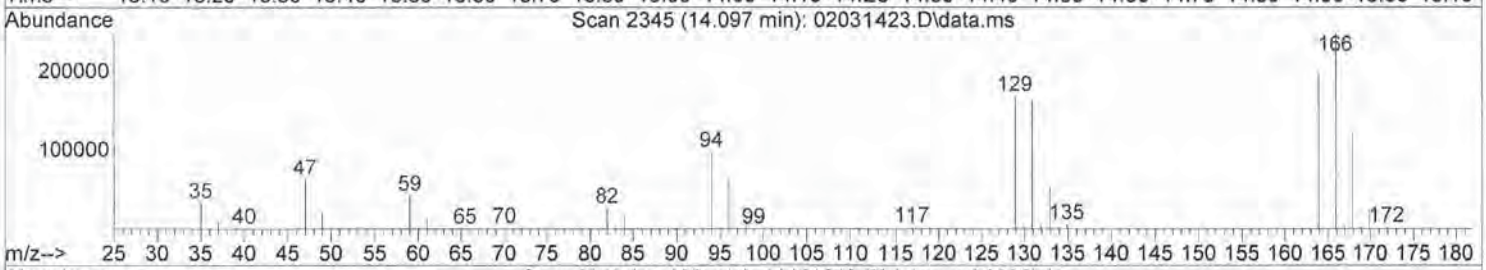
Ion	Exp%	Act%
129.90	100	100
131.90	96.50	96.98
0.00	0.00	0.00
0.00	0.00	0.00

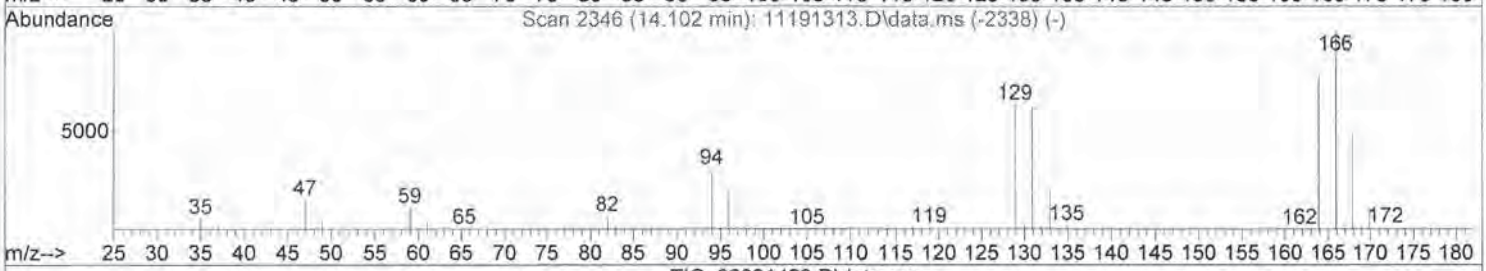
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031423.D
Acq On : 3 Feb 2014 21:53 Operator: WA
Sample : P1400358-018 (400mL)
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 04 07:30:18 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031423.D\data.ms

(64) Tetrachloroethene (T)

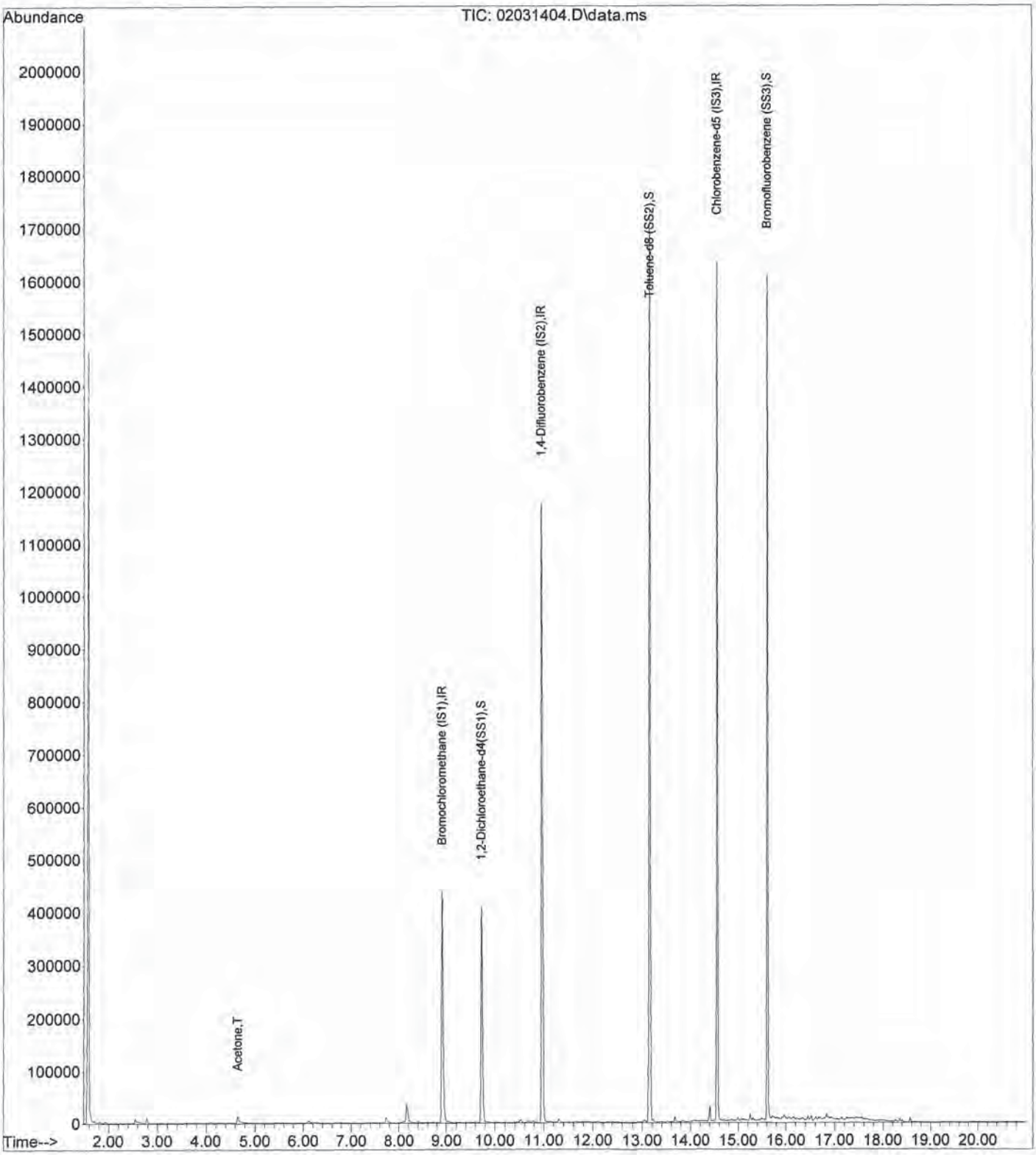
14.097min (+0.000) 10.15ng

response 355856

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	78.44
0.00	0.00	0.00
0.00	0.00	0.00

Data File: I:\MS08\Data\2014_02\03\02031404.D
Acq On : 3 Feb 2014 9:51 Operator: WA
Sample : TO-15 Method Blank (1000mL)
Misc : S29-01271401
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 03 10:13:32 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2014_02\03\02031404.D
Acq On : 3 Feb 2014 9:51 Operator: WA
Sample : TO-15 Method Blank (1000mL)
Misc : S29-01271401
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 03 10:13:32 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	192391	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	976766	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	407321	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	316488	15.135	ng	0.00
Spiked Amount 12.500			Recovery =	121.04%		
57) Toluene-d8 (SS2)	13.15	98	1038797	11.972	ng	0.00
Spiked Amount 12.500			Recovery =	95.76%		
73) Bromofluorobenzene (SS3)	15.61	174	385628	11.073	ng	0.00
Spiked Amount 12.500			Recovery =	88.56%		
Target Compounds						Qvalue
2) Propene	1.93	42	1070	N.D.		
3) Dichlorodifluoromethan...	2.06	85	564	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	2.50	135	185	N.D.		
6) Vinyl Chloride	2.63	62	52	N.D.		
7) 1,3-Butadiene	2.86	54	400	N.D.		
8) Bromomethane	3.23	94	1249	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	4.26	41	1342	N.D.		
12) Acrolein	4.41	56	925	N.D.		
13) Acetone	4.65	58	11701	0.625	ng	# 65
14) Trichlorofluoromethane	4.76	101	295	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.07	84	107	N.D.		
20) 3-Chloro-1-propene (Al...	6.28	41	150	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	6.21	76	1692	N.D.		
23) trans-1,2-Dichloroethene	7.47	61	124	N.D.		
24) 1,1-Dichloroethane	7.72	63	467	N.D.		
25) Methyl tert-Butyl Ether	8.01	73	134	N.D.		
26) Vinyl Acetate	8.09	86	200	N.D.		
27) 2-Butanone (MEK)	8.41	72	823	N.D.		
28) cis-1,2-Dichloroethene	8.76	61	56	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.05	57	775	N.D.		
32) Chloroform	9.10	83	545	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.84	62	215	N.D.		
38) 1,1,1-Trichloroethane	10.08	97	272	N.D.		
39) Isopropyl Acetate	10.68	61	260	N.D.		
40) 1-Butanol	10.78	56	2129	N.D.		
41) Benzene	10.52	78	3464	N.D.		
42) Carbon Tetrachloride	10.68	117	86	N.D.		
43) Cyclohexane	10.78	84	818	N.D.		
44) tert-Amyl Methyl Ether	11.25	73	276	N.D.		
45) 1,2-Dichloropropane	11.33	63	204	N.D.		

 DH 2/3/14

Data File: I:\MS08\Data\2014_02\03\02031404.D
Acq On : 3 Feb 2014 9:51 Operator: WA
Sample : TO-15 Method Blank (1000mL)
Misc : S29-01271401
ALS Vial : 1 Sample Multiplier: 1

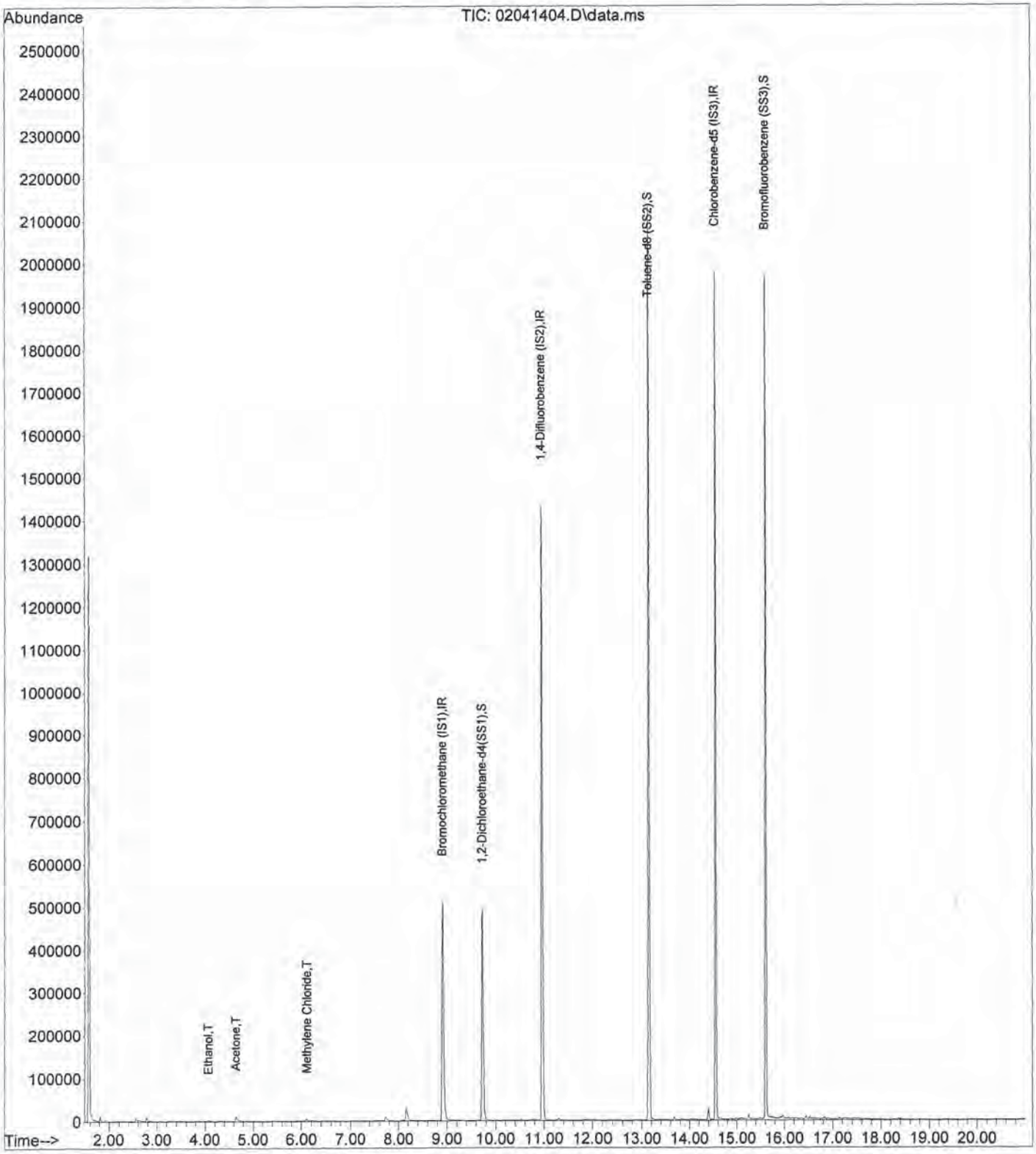
Quant Time: Feb 03 10:13:32 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
46) Bromodichloromethane	11.53	83	175	N.D.
47) Trichloroethene	11.57	130	220	N.D.
48) 1,4-Dioxane	0.00	88	0	N.D.
49) 2,2,4-Trimethylpentane...	11.64	57	1591	N.D.
50) Methyl Methacrylate	0.00	100	0	N.D.
51) n-Heptane	11.93	71	105	N.D.
52) cis-1,3-Dichloropropene	12.41	75	454	N.D.
53) 4-Methyl-2-pentanone	12.52	58	166	N.D.
54) trans-1,3-Dichloropropene	12.90	75	316	N.D.
55) 1,1,2-Trichloroethane	13.01	97	170	N.D.
58) Toluene	13.23	91	2778	N.D.
59) 2-Hexanone	13.51	43	2151	N.D.
60) Dibromochloromethane	0.00	129	0	N.D.
61) 1,2-Dibromoethane	13.75	107	185	N.D.
62) n-Butyl Acetate	14.01	43	860	N.D.
63) n-Octane	14.06	57	305	N.D.
64) Tetrachloroethene	14.10	166	347	N.D.
65) Chlorobenzene	14.59	112	1024	N.D.
66) Ethylbenzene	14.87	91	2078	N.D.
67) m- & p-Xylenes	14.98	91	3674	N.D.
68) Bromoform	0.00	173	0	N.D.
69) Styrene	15.23	104	839	N.D.
70) o-Xylene	15.30	91	2387	N.D.
71) n-Nonane	15.49	43	1145	N.D.
72) 1,1,2,2-Tetrachloroethane	15.30	83	374	N.D.
74) Cumene	15.72	105	1883	N.D.
75) alpha-Pinene	15.98	93	333	N.D.
76) n-Propylbenzene	16.07	91	2962	N.D.
77) 3-Ethyltoluene	16.14	105	1678	N.D.
78) 4-Ethyltoluene	16.17	105	1302	N.D.
79) 1,3,5-Trimethylbenzene	16.23	105	1268	N.D.
80) alpha-Methylstyrene	16.33	118	774	N.D.
81) 2-Ethyltoluene	16.36	105	1607	N.D.
82) 1,2,4-Trimethylbenzene	16.52	105	1914	N.D.
83) n-Decane	16.61	57	3693	N.D.
84) Benzyl Chloride	16.61	91	705	N.D.
85) 1,3-Dichlorobenzene	16.62	146	1165	N.D.
86) 1,4-Dichlorobenzene	16.67	146	1260	N.D.
87) sec-Butylbenzene	16.71	105	2309	N.D.
88) 4-Isopropyltoluene (p-...	16.84	119	4680	N.D.
89) 1,2,3-Trimethylbenzene	16.82	105	1761	N.D.
90) 1,2-Dichlorobenzene	16.92	146	739	N.D.
91) d-Limonene	16.94	68	316	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	17.56	57	1116	N.D.
94) 1,2,4-Trichlorobenzene	18.27	180	1222	N.D.
95) Naphthalene	18.36	128	5208	N.D.
96) n-Dodecane	18.41	57	1285	N.D.
97) Hexachlorobutadiene	18.66	225	429	N.D.
98) Cyclohexanone	15.09	55	416	N.D.
99) tert-Butylbenzene	16.52	119	1794	N.D.
100) n-Butylbenzene	17.14	91	1846	N.D.

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

Data File: I:\MS08\Data\2014_02\04\02041404.D
Acq On : 4 Feb 2014 9:32 Operator: WA
Sample : TO-15 Method Blank (1000mL)
Misc : S29-01271401
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 04 10:02:39 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2014_02\04\02041404.D
Acq On : 4 Feb 2014 9:32 Operator: WA
Sample : TO-15 Method Blank (1000mL)
Misc : S29-01271401
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 04 10:02:39 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	225317	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	1171530	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	490941	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	375225	15.321	ng	0.00
Spiked Amount 12.500			Recovery =	122.56%		
57) Toluene-d8 (SS2)	13.14	98	1258613	12.034	ng	0.00
Spiked Amount 12.500			Recovery =	96.24%		
73) Bromofluorobenzene (SS3)	15.61	174	483900	11.528	ng	0.00
Spiked Amount 12.500			Recovery =	92.24%		
Target Compounds						Qvalue
2) Propene	1.93	42	1010	N.D.		
3) Dichlorodifluoromethan...	2.05	85	368	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	2.85	54	50	N.D.		
8) Bromomethane	3.24	94	1121	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.07	45	2535	0.116	ng	73
11) Acetonitrile	4.24	41	212	N.D.		
12) Acrolein	4.40	56	899	N.D.		
13) Acetone	4.65	58	8023	0.366	ng	92
14) Trichlorofluoromethane	4.77	101	178	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.11	84	3160	0.107	ng	81
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	6.21	76	6142	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	7.72	63	326	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	8.10	86	188	N.D.		
27) 2-Butanone (MEK)	8.41	72	283	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.05	57	429	N.D.		
32) Chloroform	9.10	83	402	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.75	62	182	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	10.79	56	750	N.D.		
41) Benzene	10.52	78	3177	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.77	84	338	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		

2/4/14

Data File: I:\MS08\Data\2014_02\04\02041404.D
Acq On : 4 Feb 2014 9:32 Operator: WA
Sample : TO-15 Method Blank (1000mL)
Misc : S29-01271401
ALS Vial : 1 Sample Multiplier: 1

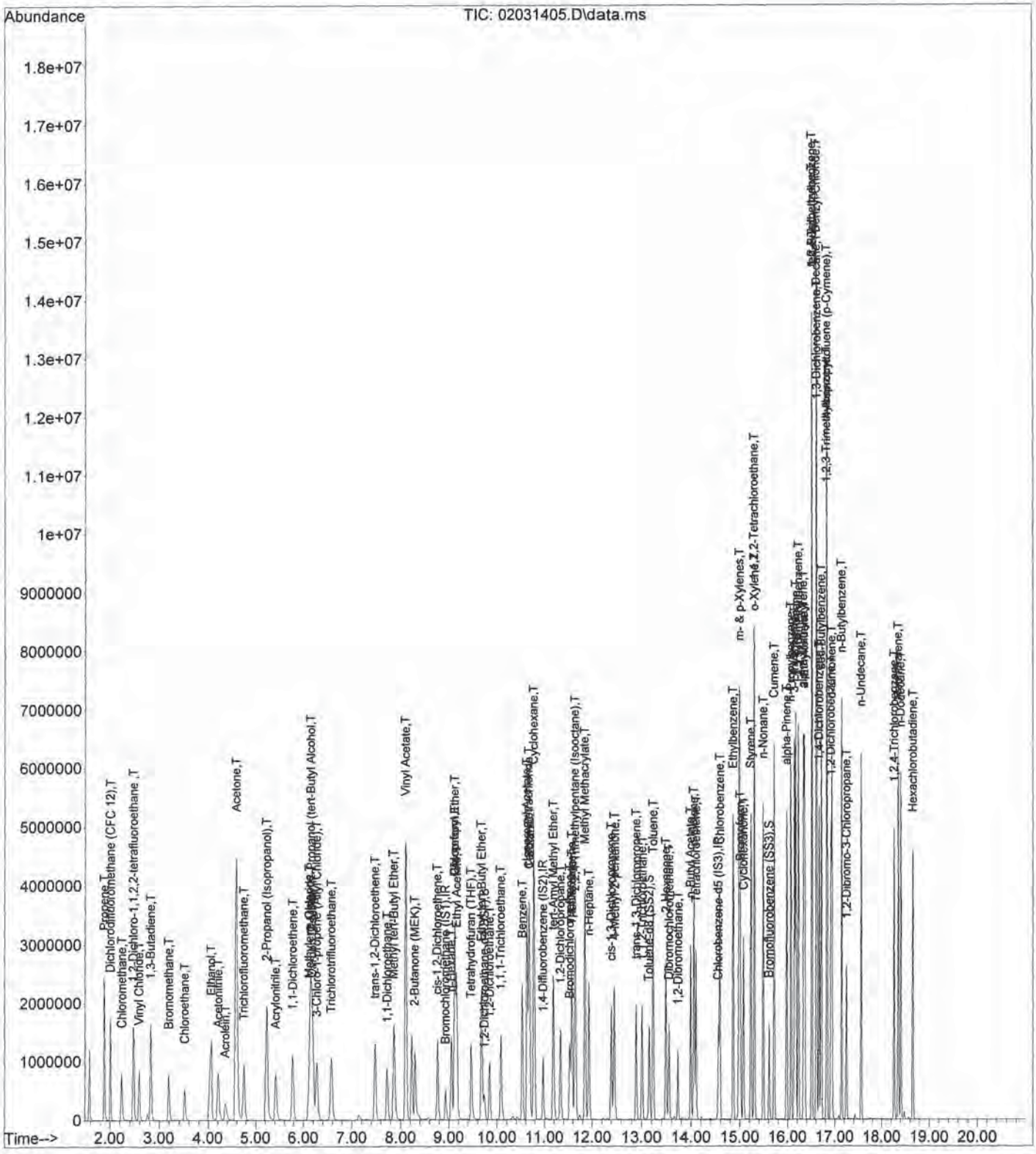
Quant Time: Feb 04 10:02:39 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.64	57	987	N.D.		
50) Methyl Methacrylate	11.71	100	224	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	12.90	75	116	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.23	91	2747	N.D.		
59) 2-Hexanone	13.47	43	105	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.99	43	109	N.D.		
63) n-Octane	14.05	57	113	N.D.		
64) Tetrachloroethene	14.10	166	223	N.D.		
65) Chlorobenzene	14.58	112	525	N.D.		
66) Ethylbenzene	14.87	91	1515	N.D.		
67) m- & p-Xylenes	14.98	91	2632	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	15.24	104	384	N.D.		
70) o-Xylene	15.30	91	1269	N.D.		
71) n-Nonane	15.48	43	803	N.D.		
72) 1,1,2,2-Tetrachloroethane	15.30	83	194	N.D.		
74) Cumene	15.72	105	1136	N.D.		
75) alpha-Pinene	15.85	93	477	N.D.		
76) n-Propylbenzene	16.07	91	1358	N.D.		
77) 3-Ethyltoluene	16.14	105	1448	N.D.		
78) 4-Ethyltoluene	16.17	105	837	N.D.		
79) 1,3,5-Trimethylbenzene	16.23	105	973	N.D.		
80) alpha-Methylstyrene	16.33	118	487	N.D.		
81) 2-Ethyltoluene	16.35	105	1125	N.D.		
82) 1,2,4-Trimethylbenzene	16.52	105	1171	N.D.		
83) n-Decane	16.61	57	1286	N.D.		
84) Benzyl Chloride	16.61	91	283	N.D.		
85) 1,3-Dichlorobenzene	16.61	146	457	N.D.		
86) 1,4-Dichlorobenzene	16.67	146	582	N.D.		
87) sec-Butylbenzene	16.71	105	1006	N.D.		
88) 4-Isopropyltoluene (p-...	16.84	119	2344	N.D.		
89) 1,2,3-Trimethylbenzene	16.82	105	980	N.D.		
90) 1,2-Dichlorobenzene	16.92	146	346	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.56	57	1009	N.D.		
94) 1,2,4-Trichlorobenzene	18.27	180	943	N.D.		
95) Naphthalene	18.35	128	3289	N.D.		
96) n-Dodecane	18.41	57	712	N.D.		
97) Hexachlorobutadiene	18.66	225	453	N.D.		
98) Cyclohexanone	15.10	55	356	N.D.		
99) tert-Butylbenzene	16.51	119	1845	N.D.		
100) n-Butylbenzene	17.14	91	1323	N.D.		

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

Data File: I:\MS08\Data\2014_02\03\02031405.D
Acq On : 3 Feb 2014 10:31 Operator: WA
Sample : 25ng TO-15 LCS STD (125mL)
Misc : S29-01271401/S29-01141405 (2/12)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 03 11:05:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2014_02\03\02031405.D
Acq On : 3 Feb 2014 10:31 Operator: WA
Sample : 25ng TO-15 LCS STD (125mL)
Misc : S29-01271401/S29-01141405 (2/12)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 03 11:05:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.93	130	194551	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	10.98	114	844001	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	385858	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.74	65	297943	14.090	ng		0.01
Spiked Amount 12.500			Recovery = 112.72%				
57) Toluene-d8 (SS2)	13.15	98	933403	11.355	ng		0.00
Spiked Amount 12.500			Recovery = 90.88%				
73) Bromofluorobenzene (SS3)	15.61	174	378771	11.481	ng		0.00
Spiked Amount 12.500			Recovery = 91.84%				
Target Compounds							Qvalue
2) Propene	1.88	42	657901	23.972	ng		94
3) Dichlorodifluoromethan...	2.01	85	1300021	28.008	ng		100
4) Chloromethane	2.24	50	914304	23.934	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	2.47	135	665768	23.638	ng		99
6) Vinyl Chloride	2.59	62	929805	24.440	ng		100
7) 1,3-Butadiene	2.82	54	809543	27.172	ng		96
8) Bromomethane	3.19	94	605062	25.756	ng		100
9) Chloroethane	3.52	64	525661	24.795	ng		100
10) Ethanol	4.06	45	2574190	136.269	ng		100
11) Acetonitrile	4.21	41	1246430	23.989	ng		98
12) Acrolein	4.36	56	437447	27.557	ng		100
13) Acetone	4.60	58	2720988	143.744	ng	#	80
14) Trichlorofluoromethane	4.75	101	1088316	25.325	ng		99
15) 2-Propanol (Isopropanol)	5.23	45	3756723	54.585	ng		95
16) Acrylonitrile	5.41	53	880488	27.086	ng		98
17) 1,1-Dichloroethene	5.78	96	633100	25.934	ng		90
18) 2-Methyl-2-Propanol (t...	6.16	59	3726940	55.254	ng		96
19) Methylene Chloride	6.12	84	656819	25.677	ng		96
20) 3-Chloro-1-propene (Al...	6.28	41	1040433	24.527	ng		92
21) Trichlorotrifluoroethane	6.58	151	575235	25.427	ng		95
22) Carbon Disulfide	6.19	76	2287822	25.320	ng		100
23) trans-1,2-Dichloroethene	7.48	61	941157	27.023	ng		96
24) 1,1-Dichloroethane	7.73	63	1030786	23.360	ng		100
25) Methyl tert-Butyl Ether	7.87	73	2063452	27.601	ng		99
26) Vinyl Acetate	8.11	86	842706	119.363	ng	#	87
27) 2-Butanone (MEK)	8.30	72	404742	22.597	ng		93
28) cis-1,2-Dichloroethene	8.77	61	850857	26.056	ng		94
29) Diisopropyl Ether	9.13	87	634464	27.689	ng	#	98
30) Ethyl Acetate	9.16	61	403708	45.005	ng		97
31) n-Hexane	9.05	57	716835	19.797	ng		99
32) Chloroform	9.12	83	1058213	25.643	ng		99
34) Tetrahydrofuran (THF)	9.47	72	377484	23.223	ng		100
35) Ethyl tert-Butyl Ether	9.69	87	861503	26.524	ng		96
36) 1,2-Dichloroethane	9.85	62	809844	26.791	ng		100
38) 1,1,1-Trichloroethane	10.08	97	987106	30.374	ng		97
39) Isopropyl Acetate	10.63	61	748447	54.975	ng	#	87
40) 1-Butanol	10.69	56	1473300	64.872	ng		95
41) Benzene	10.53	78	2074053	25.895	ng		99
42) Carbon Tetrachloride	10.68	117	894944	32.363	ng		100
43) Cyclohexane	10.78	84	2104780	58.022	ng		99
44) tert-Amyl Methyl Ether	11.19	73	2014957	30.031	ng		97
45) 1,2-Dichloropropane	11.34	63	555344	25.145	ng		100

2/3/14

Data File: I:\MS08\Data\2014_02\03\02031405.D
Acq On : 3 Feb 2014 10:31 Operator: WA
Sample : 25ng TO-15 LCS STD (125mL)
Misc : S29-01271401/S29-01141405 (2/12)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 03 11:05:47 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

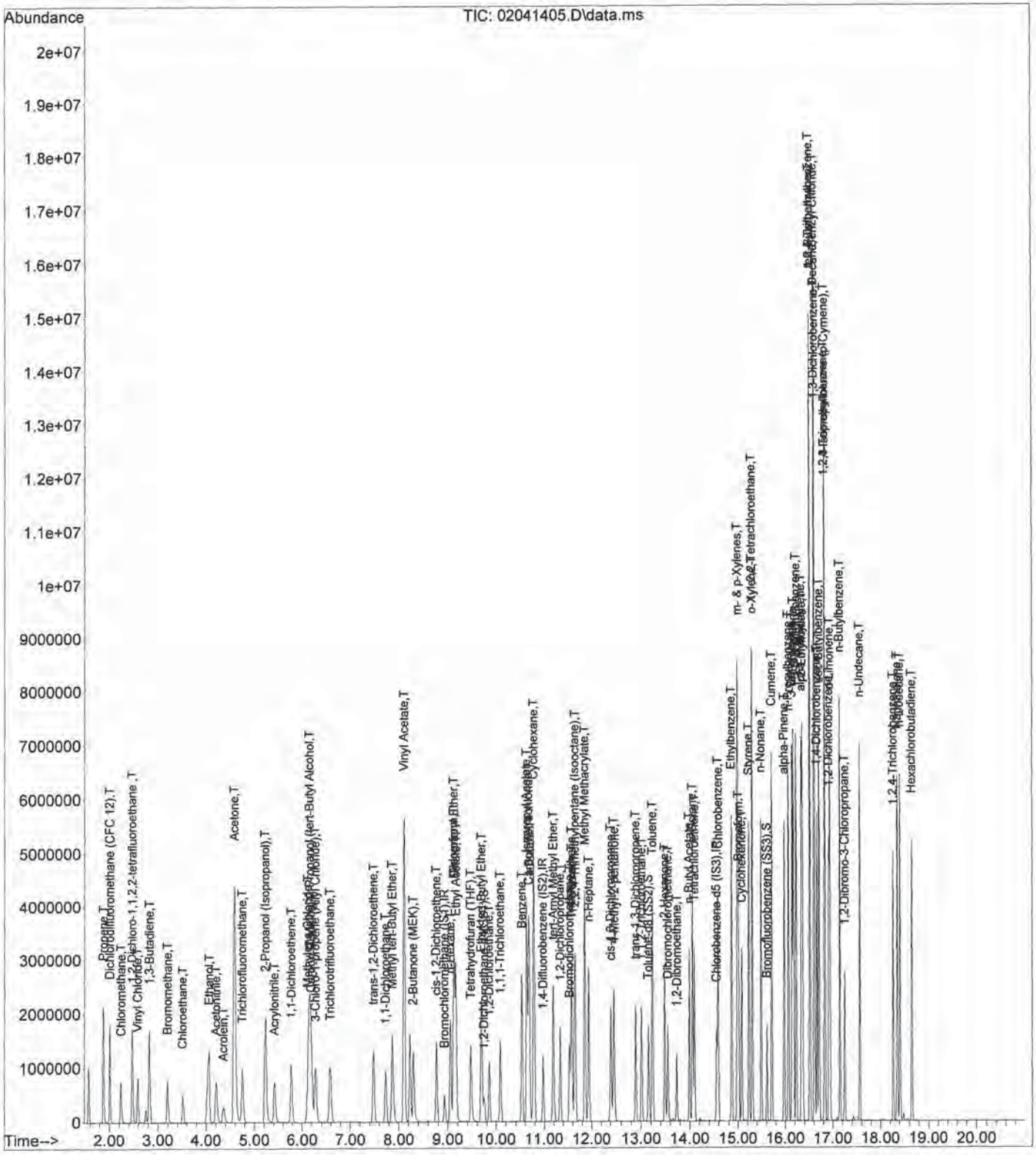
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Bromodichloromethane	11.54	83	842246	30.500	ng	100
47) Trichloroethene	11.58	130	629160	24.053	ng	99
48) 1,4-Dioxane	11.58	88	527960	28.883	ng	100
49) 2,2,4-Trimethylpentane...	11.65	57	2843941	27.314	ng	90
50) Methyl Methacrylate	11.85	100	556801	52.985	ng	90
51) n-Heptane	11.93	71	557907	23.796	ng	100
52) cis-1,3-Dichloropropene	12.40	75	1031415	30.353	ng	100
53) 4-Methyl-2-pentanone	12.46	58	599452	26.901	ng	93
54) trans-1,3-Dichloropropene	12.89	75	956819	31.341	ng	100
55) 1,1,2-Trichloroethane	13.01	97	587706	27.867	ng	99
58) Toluene	13.23	91	2448547	22.858	ng	98
59) 2-Hexanone	13.48	43	1604421	26.989	ng	95
60) Dibromochloromethane	13.55	129	749662	27.262	ng	99
61) 1,2-Dibromoethane	13.73	107	681288	24.650	ng	100
62) n-Butyl Acetate	13.99	43	1758964	26.554	ng	97
63) n-Octane	14.05	57	534700	22.584	ng	99
64) Tetrachloroethene	14.10	166	732780	21.040	ng	100
65) Chlorobenzene	14.59	112	1720253	24.301	ng	100
66) Ethylbenzene	14.86	91	3048231	25.642	ng	97
67) m- & p-Xylenes	15.00	91	5163955	54.843	ng	95
68) Bromoform	15.01	173	745715	29.400	ng	100
69) Styrene	15.23	104	1996673	26.351	ng	97
70) o-Xylene	15.31	91	2643305	26.872	ng	96
71) n-Nonane	15.49	43	1388276	24.086	ng	99
72) 1,1,2,2-Tetrachloroethane	15.30	83	1225119	27.936	ng	100
74) Cumene	15.72	105	3221133	24.919	ng	99
75) alpha-Pinene	15.98	93	1636304	25.061	ng	94
76) n-Propylbenzene	16.07	91	3822712	25.747	ng	97
77) 3-Ethyltoluene	16.15	105	3302194	26.181	ng	98
78) 4-Ethyltoluene	16.17	105	3176460	28.075	ng	98
79) 1,3,5-Trimethylbenzene	16.23	105	2792846	27.691	ng	96
80) alpha-Methylstyrene	16.33	118	1548819	27.056	ng	97
81) 2-Ethyltoluene	16.36	105	3254975	27.404	ng	98
82) 1,2,4-Trimethylbenzene	16.52	105	3047309	29.476	ng	96
83) n-Decane	16.61	57	1621025	28.813	ng	99
84) Benzyl Chloride	16.61	91	2900649	36.747	ng	96
85) 1,3-Dichlorobenzene	16.62	146	1815971	29.577	ng	100
86) 1,4-Dichlorobenzene	16.67	146	1645452	25.932	ng	100
87) sec-Butylbenzene	16.71	105	3677205	27.826	ng	98
88) 4-Isopropyltoluene (p-...	16.84	119	3648955	27.582	ng	97
89) 1,2,3-Trimethylbenzene	16.82	105	3144427	30.167	ng	96
90) 1,2-Dichlorobenzene	16.92	146	1589692	26.993	ng	99
91) d-Limonene	16.94	68	1122493	28.055	ng	99
92) 1,2-Dibromo-3-Chloropr...	17.25	157	614979	28.458	ng	81
93) n-Undecane	17.56	57	1472914	25.057	ng	100
94) 1,2,4-Trichlorobenzene	18.27	180	1214708	25.828	ng	99
95) Naphthalene	18.35	128	3845988	27.687	ng	100
96) n-Dodecane	18.41	57	1386683	23.909	ng	100
97) Hexachlorobutadiene	18.66	225	761903	25.551	ng	98
98) Cyclohexanone	15.08	55	979046	26.271	ng	94
99) tert-Butylbenzene	16.52	119	2995054	28.933	ng	99
100) n-Butylbenzene	17.15	91	2944822	28.975	ng	97

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041405.D
Acq On : 4 Feb 2014 10:01 Operator: WA
Sample : 25ng TO-15 LCS STD (125mL)
Misc : S29-01271401/S29-01141405 (2/12)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 04 10:24:39 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2014_02\04\02041405.D
Acq On : 4 Feb 2014 10:01 Operator: WA
Sample : 25ng TO-15 LCS STD (125mL)
Misc : S29-01271401/S29-01141405 (2/12)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 04 10:24:39 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.93	130	195009	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	10.98	114	970038	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	415503	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.74	65	324482	15.309	ng		0.00
Spiked Amount 12.500			Recovery = 122.48%				
57) Toluene-d8 (SS2)	13.15	98	1025105	11.581	ng		0.00
Spiked Amount 12.500			Recovery = 92.64%				
73) Bromofluorobenzene (SS3)	15.61	174	420616	11.840	ng		0.00
Spiked Amount 12.500			Recovery = 94.72%				
Target Compounds							Qvalue
2) Propene	1.88	42	639668	23.253	ng		94
3) Dichlorodifluoromethan...	2.01	85	1316131	28.288	ng		100
4) Chloromethane	2.24	50	862818	22.533	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	2.47	135	713940	25.289	ng		99
6) Vinyl Chloride	2.58	62	918238	24.079	ng		100
7) 1,3-Butadiene	2.82	54	820252	27.466	ng		94
8) Bromomethane	3.19	94	588317	24.984	ng		100
9) Chloroethane	3.51	64	517227	24.340	ng		100
10) Ethanol	4.06	45	2467719	130.326	ng		100
11) Acetonitrile	4.21	41	1204262	23.123	ng		97
12) Acrolein	4.36	56	419439	26.361	ng		99
13) Acetone	4.59	58	2640520	139.166	ng	#	77
14) Trichlorofluoromethane	4.75	101	1123306	26.078	ng		99
15) 2-Propanol (Isopropanol)	5.23	45	3609184	52.318	ng		94
16) Acrylonitrile	5.41	53	850555	26.104	ng		98
17) 1,1-Dichloroethene	5.78	96	609419	24.905	ng		89
18) 2-Methyl-2-Propanol (t...	6.16	59	3530726	52.222	ng		96
19) Methylene Chloride	6.12	84	635443	24.783	ng		95
20) 3-Chloro-1-propene (Al...	6.28	41	1021422	24.022	ng		93
21) Trichlorotrifluoroethane	6.58	151	566619	24.987	ng		96
22) Carbon Disulfide	6.19	76	2202205	24.315	ng		100
23) trans-1,2-Dichloroethene	7.48	61	938947	26.897	ng		97
24) 1,1-Dichloroethane	7.73	63	1107401	25.038	ng		100
25) Methyl tert-Butyl Ether	7.87	73	2045023	27.291	ng		99
26) Vinyl Acetate	8.11	86	1024250	144.737	ng	#	91
27) 2-Butanone (MEK)	8.30	72	452238	25.189	ng		95
28) cis-1,2-Dichloroethene	8.77	61	899468	27.480	ng		96
29) Diisopropyl Ether	9.13	87	687269	29.923	ng	#	98
30) Ethyl Acetate	9.16	61	468803	52.138	ng		100
31) n-Hexane	9.05	57	948752	26.140	ng		99
32) Chloroform	9.12	83	1153156	27.878	ng		99
34) Tetrahydrofuran (THF)	9.47	72	413725	25.393	ng		99
35) Ethyl tert-Butyl Ether	9.69	87	875113	26.880	ng		97
36) 1,2-Dichloroethane	9.85	62	912048	30.101	ng		99
38) 1,1,1-Trichloroethane	10.08	97	1018385	27.265	ng		97
39) Isopropyl Acetate	10.63	61	827950	52.913	ng	#	87
40) 1-Butanol	10.69	56	1514246	58.012	ng		94
41) Benzene	10.53	78	2388514	25.946	ng		99
42) Carbon Tetrachloride	10.68	117	949678	29.881	ng		100
43) Cyclohexane	10.78	84	2188979	52.503	ng		100
44) tert-Amyl Methyl Ether	11.19	73	2026703	26.282	ng		96
45) 1,2-Dichloropropane	11.34	63	609714	24.020	ng		100

2/4/14

Data File: I:\MS08\Data\2014_02\04\02041405.D
Acq On : 4 Feb 2014 10:01 Operator: WA
Sample : 25ng TO-15 LCS STD (125mL)
Misc : S29-01271401/S29-01141405 (2/12)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 04 10:24:39 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

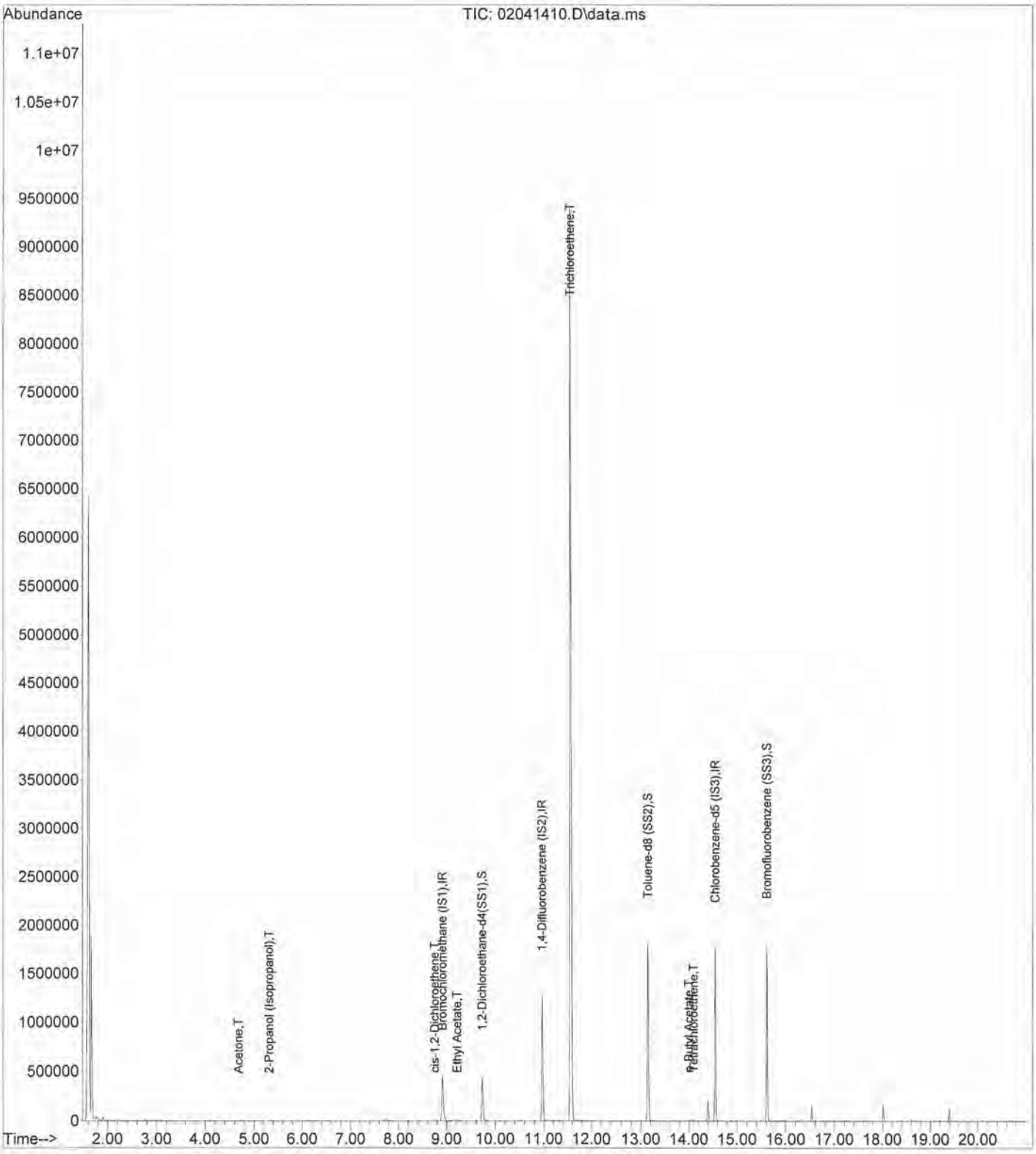
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) Bromodichloromethane	11.54	83	919785	28.980	ng		100
47) Trichloroethene	11.57	130	723830	24.077	ng		100
48) 1,4-Dioxane	11.58	88	566925	26.985	ng		99
49) 2,2,4-Trimethylpentane...	11.65	57	2836046	23.699	ng		89
50) Methyl Methacrylate	11.85	100	610432	50.541	ng		90
51) n-Heptane	11.93	71	667274	24.763	ng		99
52) cis-1,3-Dichloropropene	12.40	75	1115928	28.573	ng		100
53) 4-Methyl-2-pentanone	12.46	58	638246	24.920	ng		93
54) trans-1,3-Dichloropropene	12.89	75	1024031	29.184	ng		100
55) 1,1,2-Trichloroethane	13.01	97	619905	25.575	ng		98
58) Toluene	13.23	91	2655530	23.022	ng		98
59) 2-Hexanone	13.48	43	1676876	26.195	ng		95
60) Dibromochloromethane	13.55	129	791068	26.715	ng		100
61) 1,2-Dibromoethane	13.73	107	725290	24.370	ng		100
62) n-Butyl Acetate	13.99	43	1835835	25.737	ng		97
63) n-Octane	14.05	57	594645	23.324	ng		100
64) Tetrachloroethene	14.10	166	809865	21.595	ng		100
65) Chlorobenzene	14.59	112	1825840	23.952	ng		99
66) Ethylbenzene	14.86	91	3212403	25.095	ng		98
67) m- & p-Xylenes	15.00	91	5551886	54.756	ng		96
68) Bromoform	15.01	173	797572	29.201	ng		100
69) Styrene	15.23	104	2108560	25.842	ng		97
70) o-Xylene	15.31	91	2826615	26.685	ng		96
71) n-Nonane	15.49	43	1485150	23.928	ng		99
72) 1,1,2,2-Tetrachloroethane	15.30	83	1296011	27.444	ng		100
74) Cumene	15.72	105	3425538	24.610	ng		99
75) alpha-Pinene	15.98	93	1747751	24.858	ng		94
76) n-Propylbenzene	16.07	91	4036683	25.248	ng		97
77) 3-Ethyltoluene	16.15	105	3534296	26.022	ng		99
78) 4-Ethyltoluene	16.17	105	3352826	27.520	ng		98
79) 1,3,5-Trimethylbenzene	16.23	105	2954653	27.205	ng		96
80) alpha-Methylstyrene	16.33	118	1663360	26.984	ng		98
81) 2-Ethyltoluene	16.36	105	3433827	26.847	ng		98
82) 1,2,4-Trimethylbenzene	16.52	105	3265736	29.335	ng		96
83) n-Decane	16.61	57	1767106	29.169	ng		99
84) Benzyl Chloride	16.61	91	3087699	36.326	ng		96
85) 1,3-Dichlorobenzene	16.62	146	1969977	29.796	ng		99
86) 1,4-Dichlorobenzene	16.67	146	1758600	25.738	ng		99
87) sec-Butylbenzene	16.71	105	3895268	27.373	ng		98
88) 4-Isopropyltoluene (p-...	16.84	119	3881025	27.244	ng		97
89) 1,2,3-Trimethylbenzene	16.82	105	3319498	29.575	ng		96
90) 1,2-Dichlorobenzene	16.92	146	1686342	26.592	ng		99
91) d-Limonene	16.94	68	1191828	27.662	ng		100
92) 1,2-Dibromo-3-Chloropr...	17.25	157	622304	26.742	ng	#	78
93) n-Undecane	17.56	57	1597077	25.231	ng		100
94) 1,2,4-Trichlorobenzene	18.27	180	1254049	24.762	ng		100
95) Naphthalene	18.35	128	3927788	26.258	ng		99
96) n-Dodecane	18.41	57	1494114	23.923	ng		100
97) Hexachlorobutadiene	18.65	225	799702	24.905	ng		99
98) Cyclohexanone	15.08	55	1006081	25.070	ng		94
99) tert-Butylbenzene	16.52	119	3212206	28.817	ng		99
100) n-Butylbenzene	17.15	91	3138515	28.678	ng		98

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041410.D
Acq On : 4 Feb 2014 12:41 Operator: WA
Sample : P1400358-006 dup (25mL)
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 05 07:40:13 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041410.D
Acq On : 4 Feb 2014 12:41 Operator: WA
Sample : P1400358-006 dup (25mL)
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 05 07:40:13 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	196930	12.500 ng	0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	1011211	12.500 ng	0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	427564	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.73	65	327981	15.323 ng	0.00
Spiked Amount 12.500			Recovery =	122.56%	
57) Toluene-d8 (SS2)	13.15	98	1078005	11.835 ng	0.00
Spiked Amount 12.500			Recovery =	94.72%	
73) Bromofluorobenzene (SS3)	15.61	174	426092	11.656 ng	0.00
Spiked Amount 12.500			Recovery =	93.28%	
Target Compounds					Qvalue
2) Propene	1.90	42	1242	N.D.	
3) Dichlorodifluoromethan...	2.03	85	1679	N.D.	
4) Chloromethane	2.29	50	163	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	2.85	54	490	N.D.	
8) Bromomethane	3.22	94	501	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	0.00	45	0	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) Acetone	4.68	58	2059	0.107 ng #	6
14) Trichlorofluoromethane	4.76	101	2144	N.D.	
15) 2-Propanol (Isopropanol)	5.32	45	11849	0.170 ng	70
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	6.11	84	2252	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	6.22	76	3855	N.D.	
23) trans-1,2-Dichloroethene	7.48	61	57	N.D.	
24) 1,1-Dichloroethane	7.72	63	164	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	8.43	72	438	N.D.	
28) cis-1,2-Dichloroethene	8.76	61	8064	0.244 ng	91
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	9.22	61	1546	0.170 ng	96
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	9.11	83	1849	N.D.	
34) Tetrahydrofuran (THF)	9.61	72	225	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	9.75	62	127	N.D.	
38) 1,1,1-Trichloroethane	10.08	97	1262	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.79	56	516	N.D.	
41) Benzene	10.53	78	7121	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	10.97	84	572	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	

2/5/14

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\04\02041410.D
Acq On : 4 Feb 2014 12:41 Operator: WA
Sample : P1400358-006 dup (25mL)
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 05 07:40:13 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

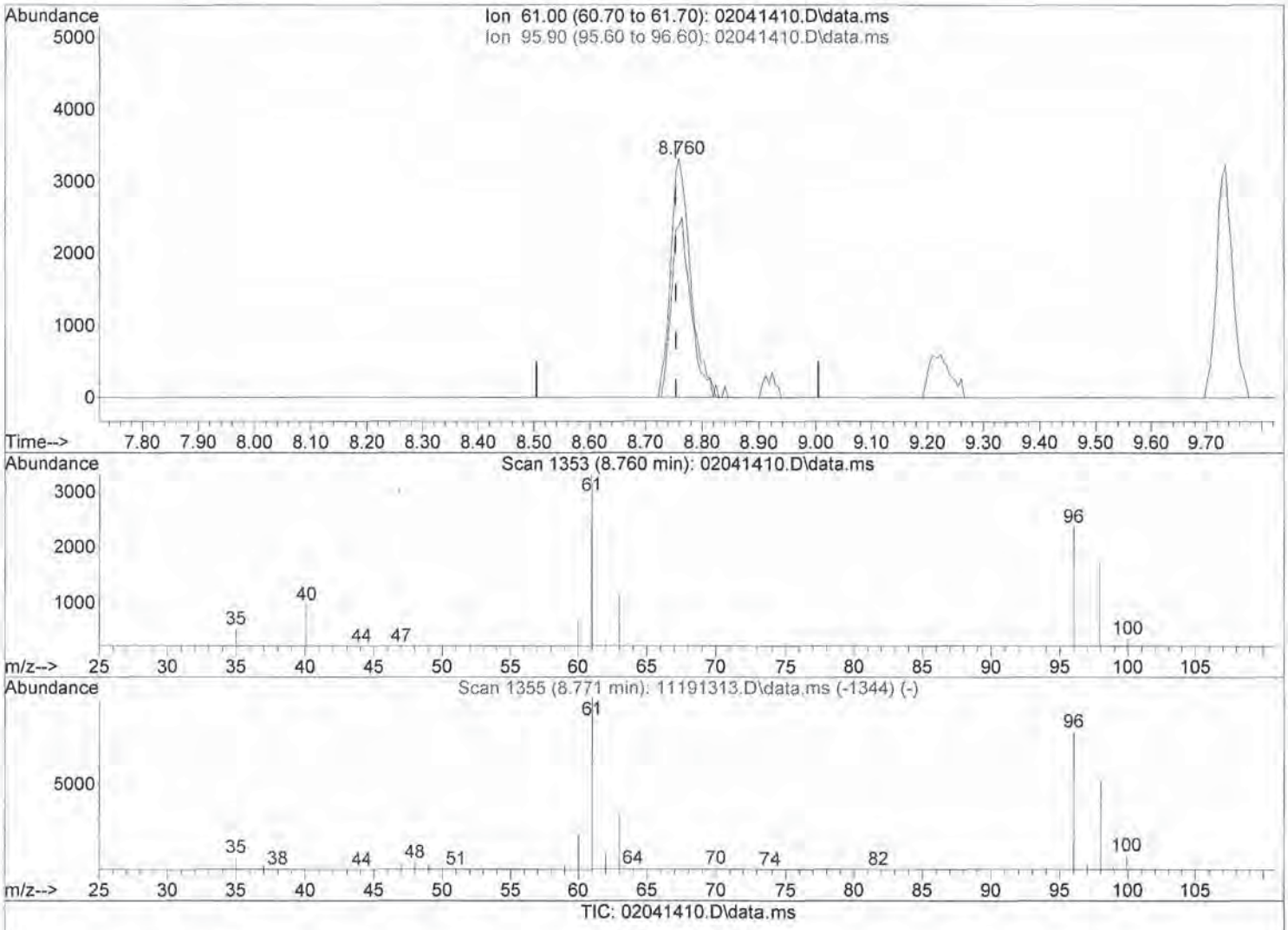
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	3094522	98.742 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.58	57	68	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	5800	N.D.	
59) 2-Hexanone	13.68	43	178	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.00	43	9556	0.130 ng	93
63) n-Octane	14.00	57	293	N.D.	
64) Tetrachloroethene	14.10	166	4060	0.105 ng	98
65) Chlorobenzene	14.59	112	685	N.D.	
66) Ethylbenzene	14.87	91	875	N.D.	
67) m- & p-Xylenes	14.98	91	1987	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	15.24	104	195	N.D.	
70) o-Xylene	15.31	91	610	N.D.	
71) n-Nonane	15.49	43	1795	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	15.61	105	699	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	16.07	91	118	N.D.	
77) 3-Ethyltoluene	16.15	105	608	N.D.	
78) 4-Ethyltoluene	16.17	105	65	N.D.	
79) 1,3,5-Trimethylbenzene	16.23	105	138	N.D.	
80) alpha-Methylstyrene	16.53	118	1891	N.D.	
81) 2-Ethyltoluene	16.23	105	138	N.D.	
82) 1,2,4-Trimethylbenzene	16.53	105	1209	N.D.	
83) n-Decane	16.61	57	1571	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	16.82	105	130	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	16.82	105	130	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.56	57	654	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.36	128	673	N.D.	
96) n-Dodecane	18.41	57	1103	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	16.53	119	2760	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

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

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041410.D
Acq On : 4 Feb 2014 12:41 Operator: WA
Sample : P1400358-006 dup (25mL)
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 05 07:40:13 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 02041410.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.760min (+0.005) 0.24ng

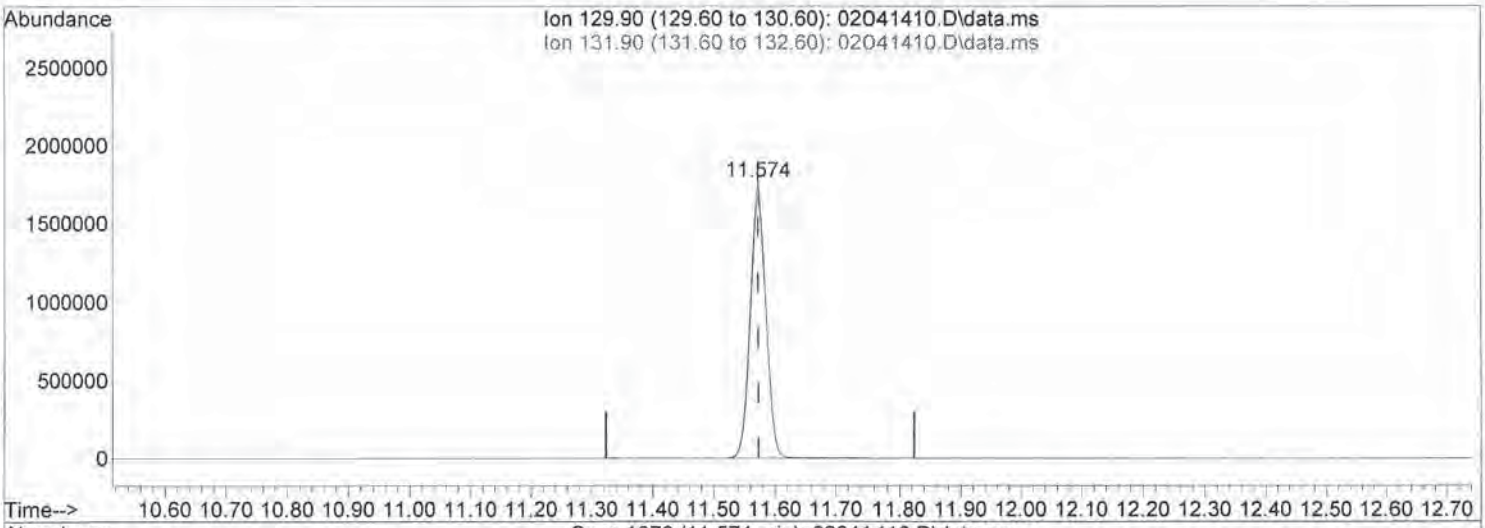
response 8064

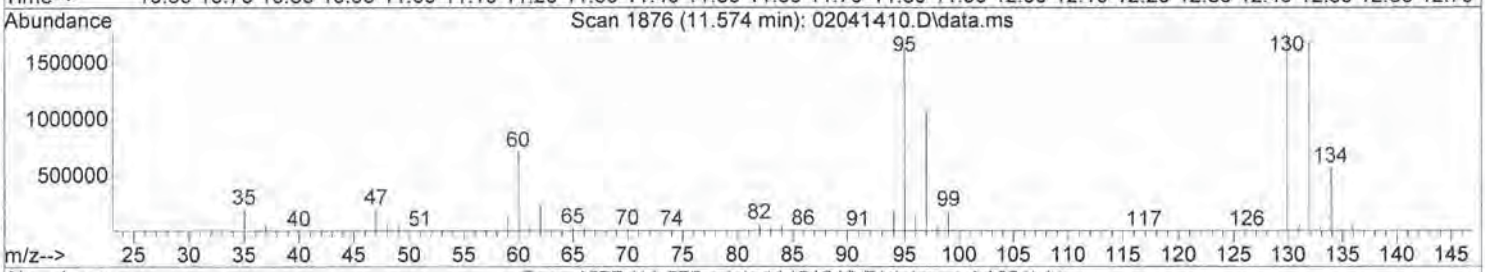
Ion	Exp%	Act%
61.00	100	100
95.90	81.40	73.07
0.00	0.00	0.00
0.00	0.00	0.00

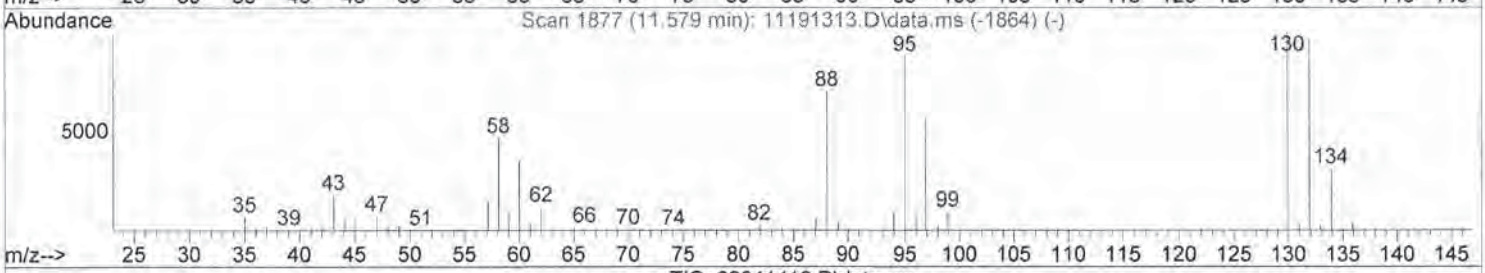
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\04\02041410.D
Acq On : 4 Feb 2014 12:41 Operator: WA
Sample : P1400358-006 dup (25mL)
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 04 13:05:02 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02041410.D\data.ms

(47) Trichloroethene (T)

11.574min (-0.000) 98.74ng

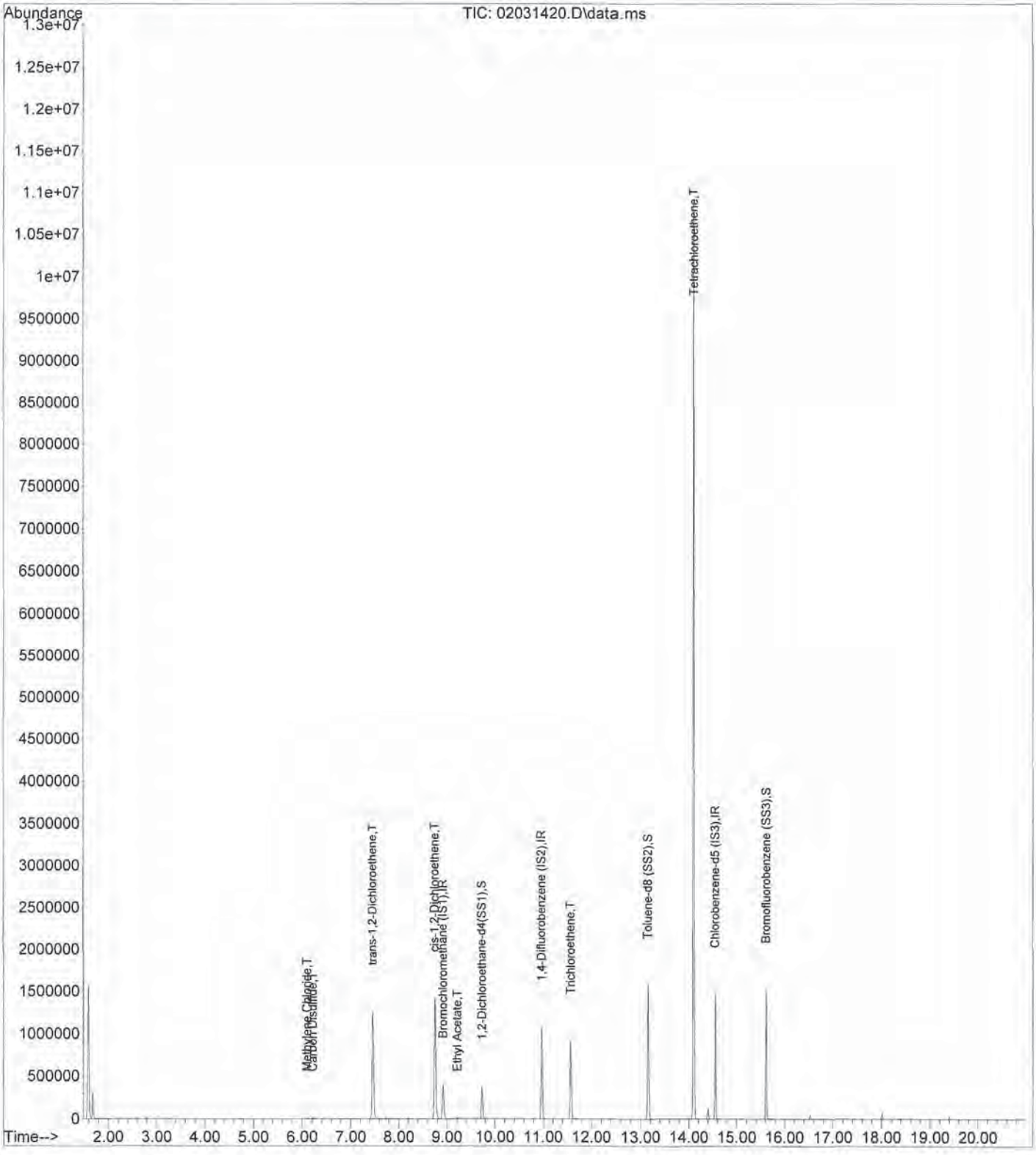
response 3094522

Ion	Exp%	Act%
129.90	100	100
131.90	96.50	95.90
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031420.D
Acq On : 3 Feb 2014 20:26 Operator: WA
Sample : P1400358-011 dup (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 05 15:11:39 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031420.D
Acq On : 3 Feb 2014 20:26 Operator: WA
Sample : P1400358-011 dup (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 05 15:11:39 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	166637	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.97	114	848530	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	359857	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.73	65	278972	15.402 ng		0.00
Spiked Amount 12.500			Recovery = 123.20%			
57) Toluene-d8 (SS2)	13.15	98	917328	11.966 ng		0.00
Spiked Amount 12.500			Recovery = 95.76%			
73) Bromofluorobenzene (SS3)	15.61	174	355472	11.554 ng		0.00
Spiked Amount 12.500			Recovery = 92.40%			
Target Compounds						Qvalue
2) Propene	1.92	42	832	N.D.		
3) Dichlorodifluoromethan...	2.05	85	758	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	3.23	94	797	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	4.27	41	68	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.		
14) Trichlorofluoromethane	4.75	101	56	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.10	84	2071	0.095 ng	#	73
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	6.21	76	11630	0.150 ng		94
23) trans-1,2-Dichloroethene	7.46	61	857264	28.738 ng		96
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	8.75	61	881362	31.511 ng		95
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	9.21	61	2238	0.291 ng	#	59
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	9.10	83	1781	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	10.77	56	951	N.D.		
41) Benzene	10.53	78	5208	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	10.97	84	546	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	11.56	63	576	N.D.		

2/5/14

Data File: I:\MS08\Data\2014_02\03\02031420.D
Acq On : 3 Feb 2014 20:26 Operator: WA
Sample : P1400358-011 dup (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 05 15:11:39 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

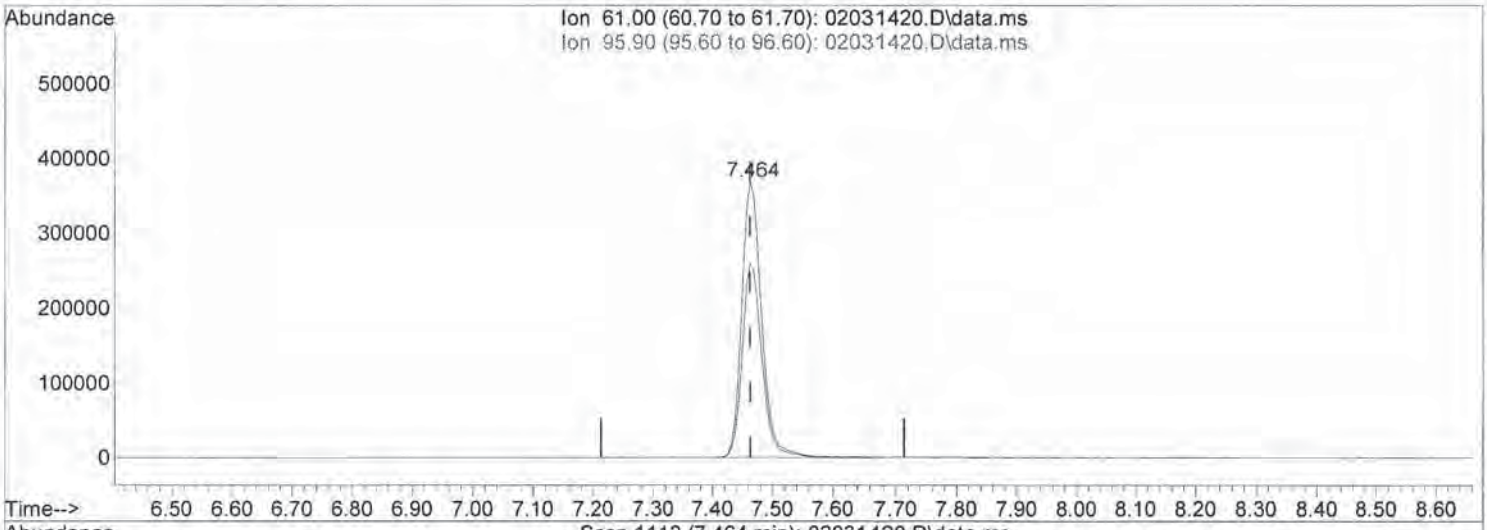
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.57	130	311898	11.860 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.65	57	196	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.23	91	2504	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.01	43	210	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.10	166	2775962	85.465 ng	98
65) Chlorobenzene	14.59	112	319	N.D.	
66) Ethylbenzene	14.86	91	655	N.D.	
67) m- & p-Xylenes	14.98	91	954	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	15.31	91	140	N.D.	
71) n-Nonane	15.49	43	472	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	15.72	105	115	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	16.01	105	137	N.D.	
78) 4-Ethyltoluene	16.01	105	137	N.D.	
79) 1,3,5-Trimethylbenzene	16.01	105	137	N.D.	
80) alpha-Methylstyrene	16.51	118	52	N.D.	
81) 2-Ethyltoluene	16.52	105	341	N.D.	
82) 1,2,4-Trimethylbenzene	16.52	105	341	N.D.	
83) n-Decane	16.62	57	697	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	16.67	146	264	N.D.	
86) 1,4-Dichlorobenzene	16.67	146	264	N.D.	
87) sec-Butylbenzene	16.52	105	341	N.D.	
88) 4-Isopropyltoluene (p-...	16.84	119	1639	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.57	57	260	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	18.36	128	374	N.D.	
96) n-Dodecane	18.40	57	658	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	16.53	119	986	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

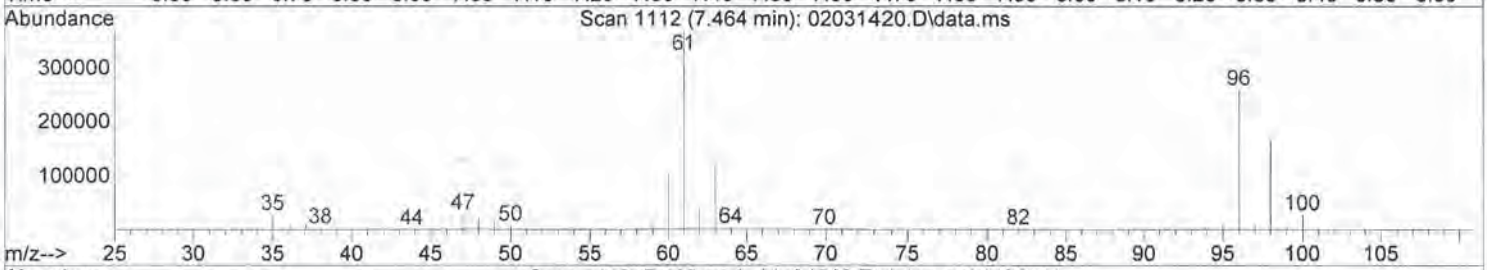
(#) = qualifier out of range (m) = manual integration (+) = signals summed

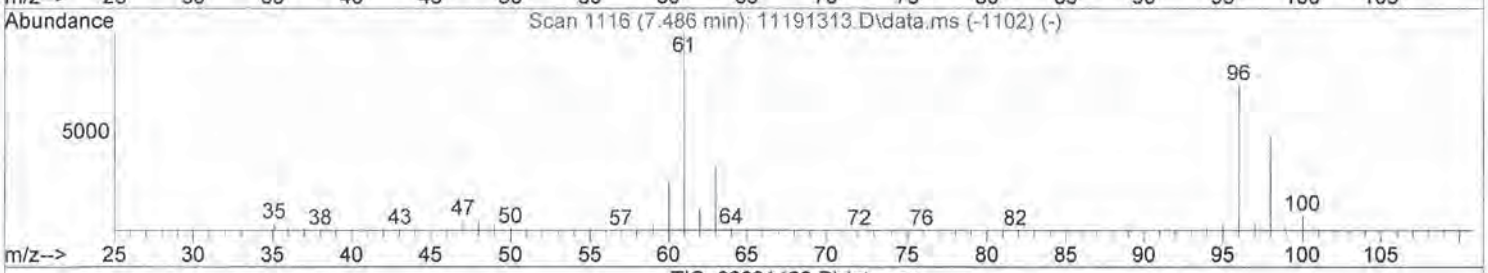
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031420.D
Acq On : 3 Feb 2014 20:26 Operator: WA
Sample : P1400358-011 dup (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 04 07:30:09 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031420.D\data.ms

(23) trans-1,2-Dichloroethene (T)

7.464min (-0.000) 28.74ng

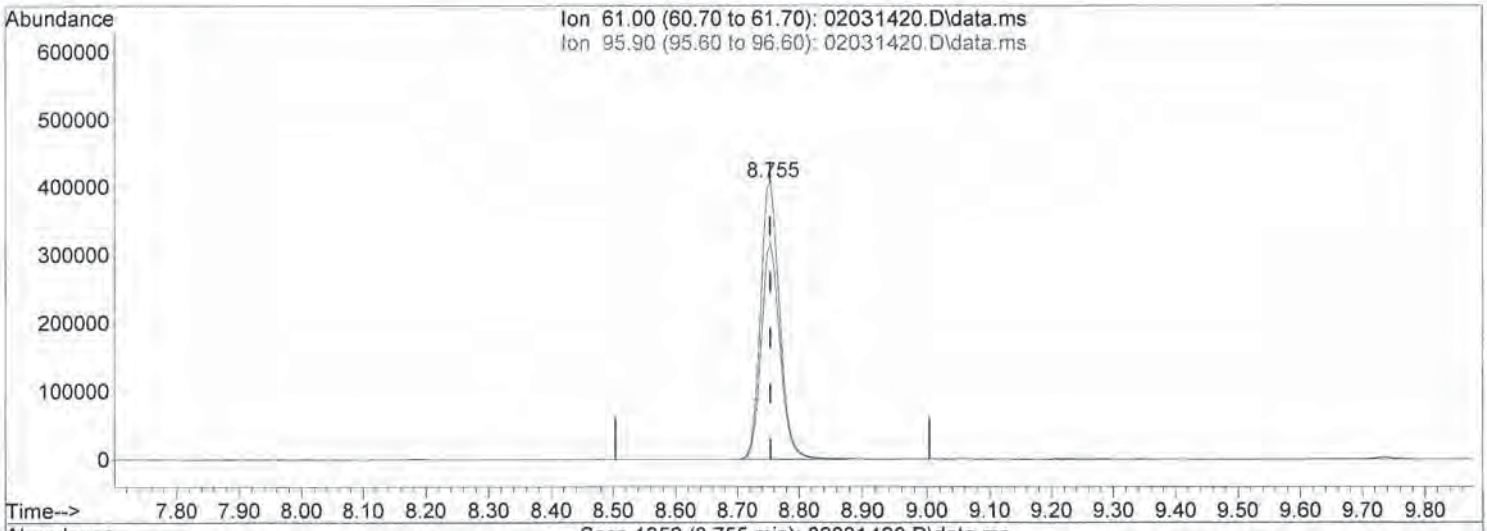
response 857264

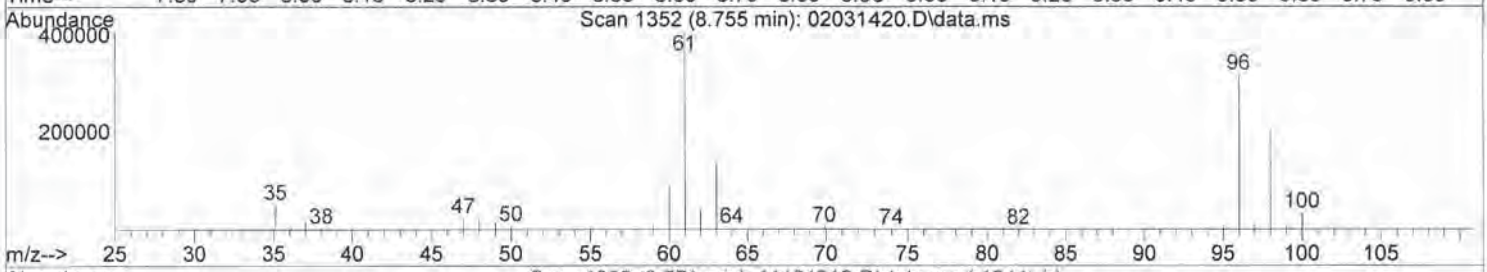
Ion	Exp%	Act%
61.00	100	100
95.90	73.80	70.11
0.00	0.00	0.00
0.00	0.00	0.00

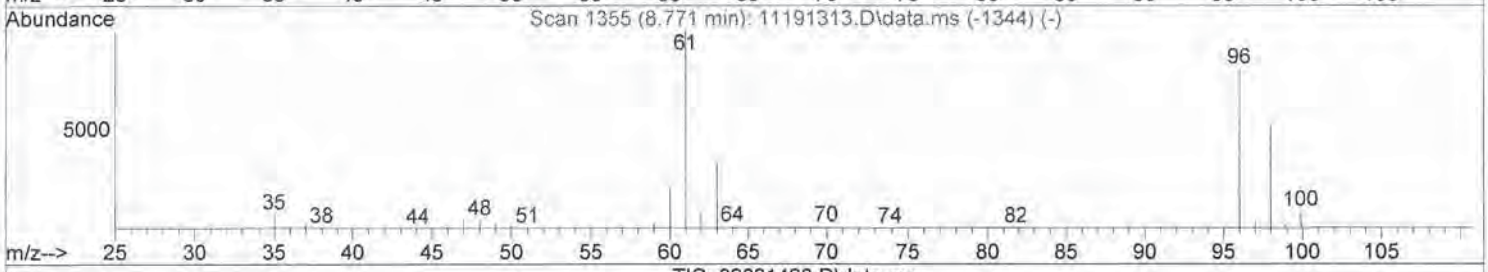
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031420.D
Acq On : 3 Feb 2014 20:26 Operator: WA
Sample : P1400358-011 dup (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 04 07:30:09 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031420.D\data.ms

(28) cis-1,2-Dichloroethene (T)

8.755min (-0.000) 31.51ng

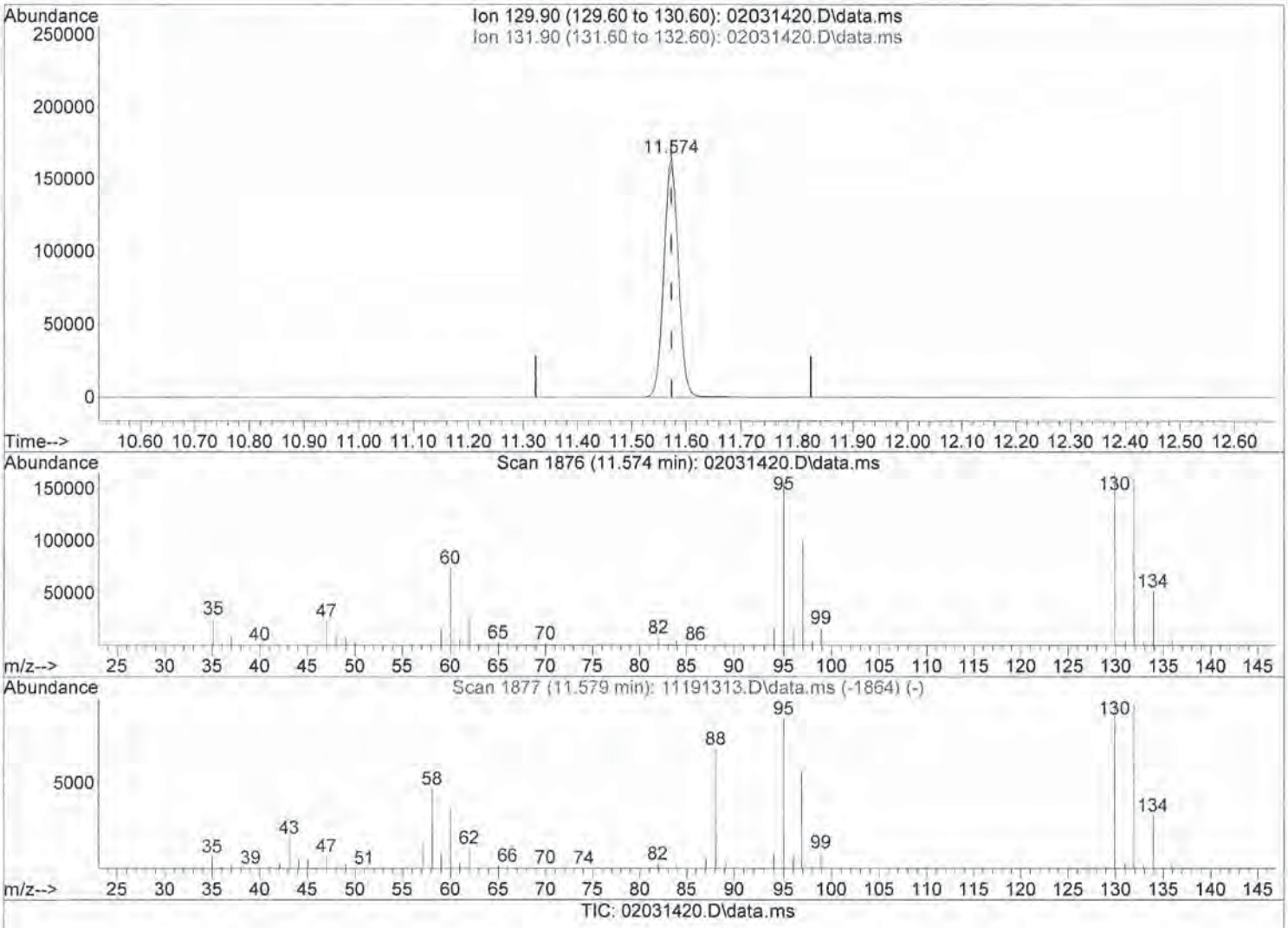
response 881362

Ion	Exp%	Act%
61.00	100	100
95.90	81.40	76.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031420.D
Acq On : 3 Feb 2014 20:26 Operator: WA
Sample : P1400358-011 dup (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 04 07:30:09 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 02031420.D\data.ms

(47) Trichloroethene (T)

11.574min (-0.000) 11.86ng

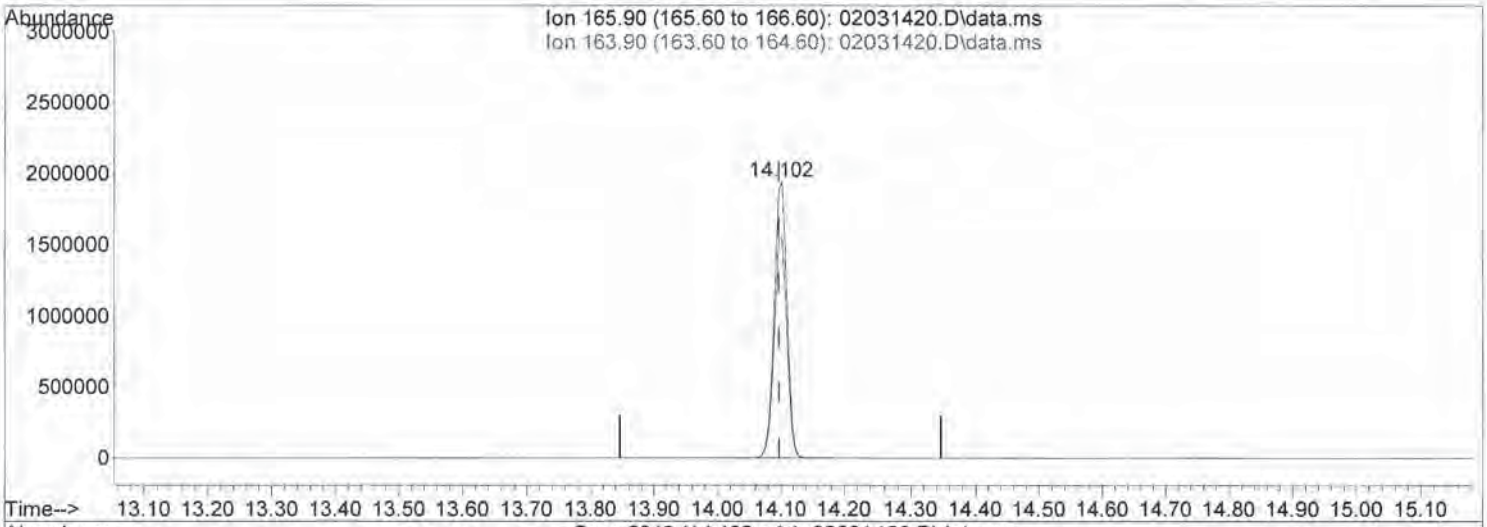
response 311898

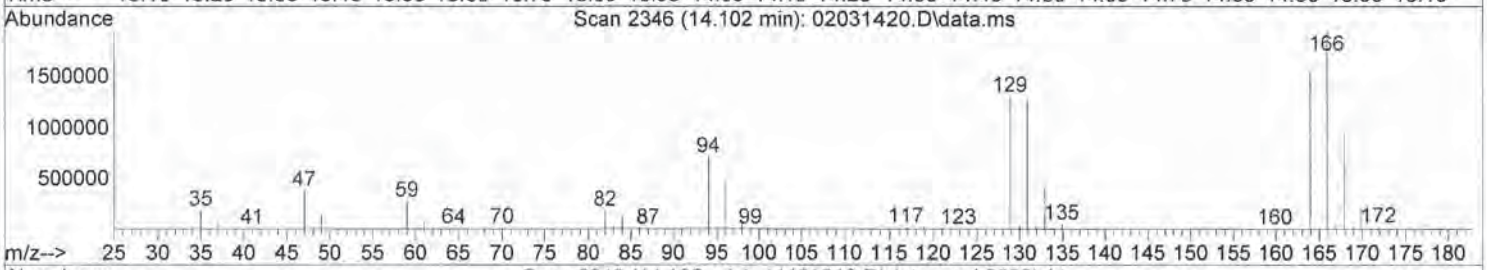
Ion	Exp%	Act%
129.90	100	100
131.90	96.50	97.09
0.00	0.00	0.00
0.00	0.00	0.00

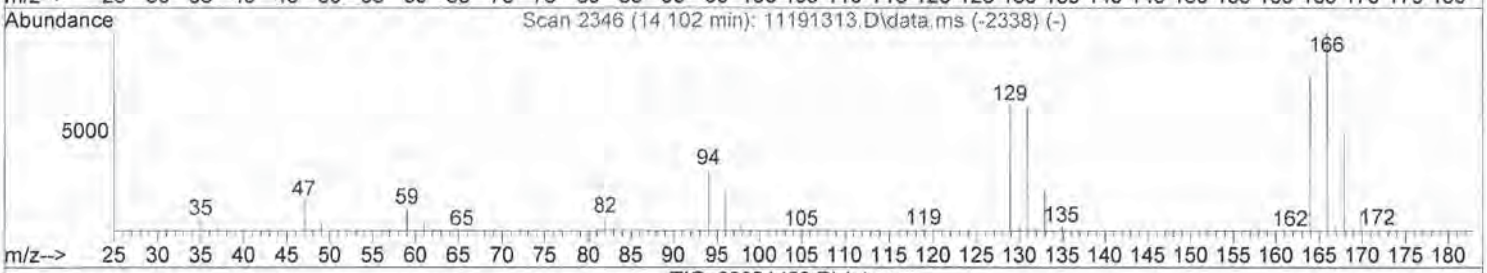
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2014_02\03\02031420.D
Acq On : 3 Feb 2014 20:26 Operator: WA
Sample : P1400358-011 dup (15mL)
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 04 07:30:09 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 02031420.D\data.ms

(64) Tetrachloroethene (T)

14.102min (+0.005) 85.47ng

response 2775962

Ion	Exp%	Act%
165.90	100	100
163.90	78.50	79.95
0.00	0.00	0.00
0.00	0.00	0.00

Response Factor Report Instrument #MS08

Method Path : I:\MS08\Methods\
Method File : R8111913.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Nov 21 09:17:24 2013
Response Via : Initial Calibration

Calibration Files
0.08=11191307.D 0.10=11191308.D 0.20=11191309.D 0.40=11191310.D 1.0 =11191311.D 5.0 =11191312.D
25 =11191313.D 50 =11191314.D 100 =11191315.D

		Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------			ISTD	----------						
2)	T	Propene			2.154	1.758	1.926	1.607	1.649	1.538	1.712	1.763	12.03
3)	T	Dichlorodifluo...	3.407	3.724	3.252	2.763	3.161	2.752	2.745	2.583	2.455	2.982	14.18
4)	T	Chloromethane	3.052	2.983	2.701	2.094	2.660	2.247	2.321	2.171	1.861	2.454	16.82
5)	T	1,2-Dichloro-1...	2.209	2.165	1.995	1.664	1.884	1.663	1.648	1.555	1.503	1.810	14.53
6)	T	Vinyl Chloride	2.688	2.989	2.704	2.268	2.584	2.265	2.289	2.159	2.053	2.444	12.65
7)	T	1,3-Butadiene	2.247	2.357	1.975	1.706	2.014	1.739	1.820	1.722	1.649	1.914	13.19
8)	T	Bromomethane			2.051	1.532	1.669	1.355	1.407	1.304	1.248	1.509	18.42
9)	T	Chloroethane	1.498	1.738	1.472	1.242	1.457	1.258	1.281	1.181	1.133	1.362	14.19
10)	T	Ethanol	1.472	1.415	1.377	1.132	1.165	1.001	1.203	1.107	1.052	1.214	13.84
11)	T	Acetonitrile	4.381	4.157	3.495	2.978	3.244	2.792	3.111	2.931	2.956	3.338	17.02
12)	T	Acrolein			1.286	1.069	1.101	0.951	0.962	0.904	0.865	1.020	14.17
13)	T	Acetone				1.617	1.298	1.161	1.150	1.074	0.997	1.216	18.14
14)	T	Trichlorofluor...	3.419	3.401	3.055	2.591	2.774	2.505	2.467	2.339	2.299	2.761	15.69
15)	T	2-Propanol (Is...	5.244	5.099	5.022	4.234	4.454	4.109	4.233	4.081	3.321	4.422	13.83
16)	T	Acrylonitrile	2.222	2.242	2.253	1.919	2.140	2.015	2.065	2.012	1.930	2.089	6.26
17)	T	1,1-Dichloroet...	1.791	1.960	1.690	1.425	1.600	1.430	1.464	1.405	1.352	1.568	13.20
18)	T	2-Methyl-2-Pro...	4.820	5.085	4.621	4.067	4.482	3.990	4.181	4.016	3.742	4.334	10.22
19)	T	Methylene Chlo...				1.934	1.876	1.554	1.552	1.504	1.441	1.644	12.62
20)	T	3-Chloro-1-pro...				2.834	2.809	2.368	2.439	2.271	3.633	2.725	18.41
21)	T	Trichlorotrifl...	1.710	1.760	1.599	1.354	1.480	1.321	1.332	1.281	1.245	1.454	13.25
22)	T	Carbon Disulfide				6.885	6.361	5.350	5.664	5.413	5.159	5.805	11.61
23)	T	trans-1,2-Dich...	2.486	2.679	2.378	2.048	2.318	2.085	2.143	2.056	1.946	2.238	10.82
24)	T	1,1-Dichloroet...	3.179	3.545	3.154	2.674	2.924	2.586	2.572	2.488	2.394	2.835	13.68
25)	T	Methyl tert-Bu...	5.070	5.919	5.379	4.603	5.118	4.444	4.423	4.224	4.048	4.803	12.68
26)	T	Vinyl Acetate	0.464	0.535	0.476	0.432	0.455	0.427	0.440	0.427	0.427	0.454	7.80
27)	T	2-Butanone (MEK)	1.347	1.463	1.199	1.185	1.114	1.009	1.043	1.008	0.990	1.151	14.37
28)	T	cis-1,2-Dichlo...	2.318	2.596	2.282	1.895	2.164	1.950	1.972	1.896	1.810	2.098	12.35
29)	T	Diisopropyl Ether	1.413	1.663	1.615	1.254	1.697	1.452	1.440	1.376	1.340	1.472	10.38
30)	T	Ethyl Acetate	0.655	0.700	0.637	0.529	0.594	0.517	0.533	0.514	0.508	0.576	12.49
31)	T	n-Hexane				2.785	2.797	2.313	2.052	1.968	2.044	2.326	16.26
32)	T	Chloroform	3.192	3.351	2.850	2.468	2.691	2.367	2.406	2.311	2.227	2.651	15.17
33)	S	1,2-Dichloroet...	1.363	1.385	1.368	1.367	1.359	1.350	1.333	1.346	1.358	1.359	1.10
34)	T	Tetrahydrofura...	1.275	1.247	1.124	1.011	1.135	0.988	1.026	0.987	0.964	1.084	10.77
35)	T	Ethyl tert-But...	2.288	2.548	2.237	2.018	2.199	1.920	1.930	1.851	1.791	2.087	11.84
36)	T	1,2-Dichloroet...	2.201	2.364	2.119	1.819	2.030	1.784	1.800	1.721	1.642	1.942	12.66
37)	IR	1,4-Difluorobenzen...	----------			ISTD	----------						
38)	T	1,1,1-Trichlor...	0.565	0.578	0.530	0.440	0.487	0.437	0.450	0.432	0.413	0.481	12.82

DH 11/21/13

CD 11/21/13

Method Path : I:\MS08\Methods\
Method File : R8111913.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

39)	T	Isopropyl Acetate	0.230	0.246	0.214	0.186	0.211	0.182	0.193	0.182	0.172	0.202	12.42
40)	T	1-Butanol	0.335	0.319	0.323	0.283	0.295	0.286	0.397	0.383	0.407	0.336	14.27
41)	T	Benzene			1.454	1.197	1.315	1.124	1.131	1.073	1.010	1.186	12.83
42)	T	Carbon Tetrach...	0.436	0.463	0.438	0.373	0.426	0.379	0.403	0.389	0.378	0.410	7.90
43)	T	Cyclohexane	0.626	0.643	0.574	0.506	0.558	0.488	0.502	0.483	0.456	0.537	12.33
44)	T	tert-Amyl Meth...	1.115	1.177	1.056	0.922	1.035	0.911	0.961	0.915	0.851	0.994	10.87
45)	T	1,2-Dichloropr...	0.380	0.394	0.355	0.304	0.336	0.294	0.308	0.294	0.279	0.327	12.57
46)	T	Bromodichlorom...	0.467	0.479	0.418	0.360	0.426	0.377	0.403	0.386	0.365	0.409	10.42
47)	T	Trichloroethene	0.454	0.468	0.432	0.356	0.387	0.342	0.361	0.347	0.339	0.387	13.07
48)	T	1,4-Dioxane	0.253	0.330	0.302	0.252	0.268	0.238	0.277	0.264	0.253	0.271	10.66
49)	T	2,2,4-Trimethy...	1.773	1.864	1.726	1.476	1.629	1.381	1.440	1.360	1.231	1.542	13.94
50)	T	Methyl Methacr...	0.177	0.181	0.163	0.141	0.157	0.143	0.152	0.146	0.140	0.156	9.87
51)	T	n-Heptane	0.413	0.418	0.391	0.335	0.368	0.312	0.308	0.293	0.285	0.347	14.91
52)	T	cis-1,3-Dichlo...	0.544	0.571	0.529	0.457	0.517	0.470	0.506	0.481	0.455	0.503	8.04
53)	T	4-Methyl-2-pen...	0.422	0.383	0.356	0.294	0.321	0.286	0.321	0.303	0.286	0.330	14.43
54)	T	trans-1,3-Dich...	0.485	0.518	0.454	0.392	0.465	0.426	0.466	0.445	0.419	0.452	8.28
55)	T	1,1,2-Trichlor...	0.361	0.353	0.332	0.289	0.322	0.285	0.305	0.289	0.275	0.312	9.93
56)	IR	Chlorobenzene-d5 (...	----------	----------	----------	ISTD	----------	----------	----------	----------	----------	----------	
57)	S	Toluene-d8 (SS2)	2.682	2.664	2.669	2.659	2.647	2.618	2.712	2.659	2.656	2.663	0.96
58)	T	Toluene	4.165	4.391	3.840	3.214	3.477	3.081	3.281	3.019	2.765	3.470	15.85
59)	T	2-Hexanone	2.153	2.164	2.053	1.820	1.899	1.720	2.005	1.840	1.678	1.926	9.25
60)	T	Dibromochlorom...	0.896	1.019	0.934	0.799	0.898	0.829	0.922	0.877	0.843	0.891	7.32
61)	T	1,2-Dibromoethane	1.037	1.018	0.980	0.788	0.886	0.803	0.893	0.845	0.809	0.895	10.64
62)	T	n-Butyl Acetate	2.369	2.484	2.261	1.921	2.140	1.921	2.275	2.083	1.858	2.146	10.19
63)	T	n-Octane	0.857	0.938	0.825	0.738	0.796	0.694	0.738	0.680	0.637	0.767	12.44
64)	T	Tetrachloroethene	1.255	1.321	1.253	1.038	1.134	0.998	1.095	1.042	1.018	1.128	10.60
65)	T	Chlorobenzene	2.617	2.804	2.526	2.108	2.294	2.029	2.246	2.084	1.932	2.293	12.91
66)	T	Ethylbenzene	4.701	4.607	4.255	3.511	3.924	3.474	3.757	3.447	2.983	3.851	14.93
67)	T	m- & p-Xylenes	3.684	3.644	3.365	2.801	3.107	2.767	3.020	2.762	2.303	3.050	14.84
68)	T	Bromoform	0.881	0.894	0.826	0.708	0.785	0.731	0.881	0.849	0.841	0.822	8.15
69)	T	Styrene	2.710	2.891	2.579	2.209	2.469	2.215	2.514	2.350	2.155	2.455	10.12
70)	T	o-Xylene	3.600	3.930	3.504	2.947	3.195	2.856	3.153	2.903	2.592	3.187	13.25
71)	T	n-Nonane	2.258	2.254	2.041	1.749	1.908	1.700	1.813	1.641	1.442	1.867	14.80
72)	T	1,1,2,2-Tetrac...	1.459	1.664	1.514	1.328	1.393	1.290	1.498	1.394	1.246	1.421	9.09
73)	S	Bromofluoroben...	1.089	1.080	1.078	1.085	1.078	1.060	1.043	1.053	1.052	1.069	1.56
74)	T	Cumene	4.956	5.108	4.575	3.879	4.304	3.779	4.143	3.790	3.153	4.188	14.86
75)	T	alpha-Pinene	2.376	2.516	2.216	1.949	2.159	1.921	2.108	1.976	1.815	2.115	10.78
76)	T	n-Propylbenzene	5.572	5.850	5.344	4.476	5.021	4.458	4.869	4.353	3.344	4.810	15.75
77)	T	3-Ethyltoluene	4.722	4.922	4.367	3.758	4.139	3.659	4.321	3.702	3.185	4.086	13.65
78)	T	4-Ethyltoluene	4.218	4.366	4.004	3.444	3.806	3.401	3.516	3.460	2.773	3.665	13.33
79)	T	1,3,5-Trimethy...	3.685	3.862	3.535	2.989	3.324	2.951	3.320	3.051	2.689	3.267	11.68
80)	T	alpha-Methylst...	1.889	2.060	1.949	1.636	1.833	1.682	2.012	1.885	1.744	1.854	7.83
81)	T	2-Ethyltoluene	4.363	4.676	4.118	3.570	3.904	3.452	3.905	3.582	3.061	3.848	12.84
82)	T	1,2,4-Trimethy...	3.794	4.010	3.611	3.047	3.347	2.989	3.432	3.166	2.746	3.349	12.17
83)	T	n-Decane	2.166	2.175	2.054	1.792	1.931	1.732	1.831	1.566	1.156	1.823	17.64
84)	T	Benzyl Chloride	2.581	2.781	2.546	2.321	2.430	2.369	2.973	2.740	2.274	2.557	9.22
85)	T	1,3-Dichlorobe...	2.233	2.210	2.146	1.771	1.921	1.712	2.087	1.968	1.853	1.989	9.58
86)	T	1,4-Dichlorobe...	2.337	2.446	2.247	1.894	1.936	1.750	2.084	1.976	1.829	2.056	11.67

SDT 11/21/13

CD 11/21/13

Method Path : I:\MS08\Methods\
Method File : R8111913.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

87)	T	sec-Butylbenzene	4.923	5.070	4.675	4.045	4.406	3.924	4.371	3.987	3.129	4.281	13.84
88)	T	4-Isopropyltol...	4.940	5.142	4.745	3.957	4.336	3.873	4.422	4.026	3.130	4.286	14.47
89)	T	1,2,3-Trimethy...	3.988	3.978	3.570	3.084	3.343	2.988	3.484	3.194	2.761	3.377	12.54
90)	T	1,2-Dichlorobe...	2.172	2.298	2.048	1.702	1.800	1.615	1.965	1.840	1.730	1.908	12.02
91)	T	d-Limonene	1.379	1.469	1.376	1.153	1.319	1.183	1.381	1.280	1.125	1.296	9.20
92)	T	1,2-Dibromo-3-...	0.664	0.778	0.725	0.640	0.622	0.578	0.800	0.766	0.727	0.700	11.01
93)	T	n-Undecane	2.082	2.227	2.050	1.800	1.946	1.746	1.967	1.783	1.537	1.904	10.95
94)	T	1,2,4-Trichlor...	1.847	1.864	1.690	1.368	1.226	1.119	1.626	1.529	1.444	1.524	17.08
95)	T	Naphthalene	5.452	5.457	4.932	4.281	3.647	3.345	5.221	4.738	3.428	4.500	18.99
96)	T	n-Dodecane	2.150	2.188	2.105	1.798	1.748	1.590	1.980	1.802	1.548	1.879	12.67
97)	T	Hexachlorobuta...	1.102	1.138	1.075	0.914	0.850	0.755	0.986	0.946	0.929	0.966	12.85
98)	T	Cyclohexanone	1.344	1.367	1.240	1.105	1.118	0.996	1.327	1.233	1.135	1.207	10.51
99)	T	tert-Butylbenzene	3.889	3.981	3.590	3.058	3.347	2.982	3.377	3.155	2.801	3.353	12.05
100)	T	n-Butylbenzene	3.875	3.945	3.626	3.028	3.269	2.917	3.353	3.037	2.582	3.292	13.84

(#) = Out of Range

11/21/13

CO 11/21/13

Primary Source Standards Concentrations
(Working & Initial Calibration)

0.2ng/L Std. ID:
1ng/L Std. ID: S25-11191301
4ng/L Std. ID:
20ng/L Std. ID: S25-11181302
200ng/L Std. ID: S25-11181303

Dilution Factors:		5	50	250	1000	5000
	Source Std.	Primary Working Standards				
Compounds	mg/m³	200ng/L	20ng/L	4ng/L	1ng/L	0.2ng/L
Propene	0.98	196	19.6	3.92	0.98	0.196
Dichlorodifluoromethane	1.00	200	20.0	4.00	1.00	0.200
Chloromethane	0.96	192	19.2	3.84	0.96	0.192
Freon-114	1.00	200	20.0	4.00	1.00	0.200
Vinyl Chloride	0.97	194	19.4	3.88	0.97	0.194
1,3-Butadiene	1.18	236	23.6	4.72	1.18	0.236
Bromomethane	0.97	194	19.4	3.88	0.97	0.194
Chloroethane	0.97	194	19.4	3.88	0.97	0.194
Ethanol	5.05	1010	101.0	20.20	5.05	1.010
Acetonitrile	0.99	198	19.8	3.96	0.99	0.198
Acrolein	1.05	210	21.0	4.20	1.05	0.210
Acetone	5.29	1058	105.8	21.16	5.29	1.058
Trichlorofluoromethane	0.99	198	19.8	3.96	0.99	0.198
Isopropanol	2.09	418	41.8	8.36	2.09	0.418
Acrylonitrile	1.04	208	20.8	4.16	1.04	0.208
1,1-Dichloroethene	1.06	212	21.2	4.24	1.06	0.212
tert-Butanol	2.08	416	41.6	8.32	2.08	0.416
Methylene Chloride	1.01	202	20.2	4.04	1.01	0.202
Allyl Chloride	1.08	216	21.6	4.32	1.08	0.216
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08	0.216
Carbon Disulfide	0.98	196	19.6	3.92	0.98	0.196
trans-1,2-Dichloroethene	1.04	208	20.8	4.16	1.04	0.208
1,1-Dichloroethane	1.04	208	20.8	4.16	1.04	0.208
Methyl tert-Butyl Ether	1.05	210	21.0	4.20	1.05	0.210
Vinyl Acetate	5.10	1020	102.0	20.40	5.10	1.020
2-Butanone	1.07	214	21.4	4.28	1.07	0.214
cis-1,2-Dichloroethene	1.08	216	21.6	4.32	1.08	0.216
Diisopropyl Ether	1.07	214	21.4	4.28	1.07	0.214
Ethyl Acetate	2.09	418	41.8	8.36	2.09	0.418
n-Hexane	1.03	206	20.6	4.12	1.03	0.206
Chloroform	1.06	212	21.2	4.24	1.06	0.212
Tetrahydrofuran	1.07	214	21.4	4.28	1.07	0.214
Ethyl tert-Butyl Ether	1.05	210	21.0	4.20	1.05	0.210
1,2-Dichloroethane	1.05	210	21.0	4.20	1.05	0.210
1,1,1-Trichloroethane	1.03	206	20.6	4.12	1.03	0.206
Isopropyl Acetate	2.18	436	43.6	8.72	2.18	0.436
1-Butanol	2.19	438	43.8	8.76	2.19	0.438
Benzene	1.10	220	22.0	4.40	1.10	0.220
Carbon Tetrachloride	1.04	208	20.8	4.16	1.04	0.208
Cyclohexane	2.06	412	41.2	8.24	2.06	0.412
tert-Amyl Methyl Ether	1.04	208	20.8	4.16	1.04	0.208
1,2-Dichloropropane	1.06	212	21.2	4.24	1.06	0.212
Bromodichloromethane	1.07	214	21.4	4.28	1.07	0.214
Trichloroethene	1.04	208	20.8	4.16	1.04	0.208
1,4-Dioxane	1.09	218	21.8	4.36	1.09	0.218
Isooctane	1.03	206	20.6	4.12	1.03	0.206
Methyl Methacrylate	2.08	416	41.6	8.32	2.08	0.416

	ICAL Concentrations (Primary Source)												
Working STD Conc.(ng/L):	NA	NA	NA	NA	1	1	1	1	20	20	200	200	200
Injection (L):	NA	NA	NA	NA	0.080	0.100	0.200	0.400	0.050	0.25	0.125	0.25	0.50
ICAL Points:	0.005ng	0.01ng	0.02ng	0.05ng	0.08ng	0.1ng	0.2ng	0.4ng	1ng	5ng	25ng	50ng	100ng
Propene	NA	NA	NA	NA	0.0784	0.098	0.196	0.392	0.98	4.90	24.50	49.0	98
Dichlorodifluoromethane	NA	NA	NA	NA	0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
Chloromethane	NA	NA	NA	NA	0.0768	0.096	0.192	0.384	0.96	4.80	24.00	48.0	96
Freon-114	NA	NA	NA	NA	0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
Vinyl Chloride	NA	NA	NA	NA	0.0776	0.097	0.194	0.388	0.97	4.85	24.25	48.5	97
1,3-Butadiene	NA	NA	NA	NA	0.0944	0.118	0.236	0.472	1.18	5.90	29.50	59.0	118
Bromomethane	NA	NA	NA	NA	0.0776	0.097	0.194	0.388	0.97	4.85	24.25	48.5	97
Chloroethane	NA	NA	NA	NA	0.0776	0.097	0.194	0.388	0.97	4.85	24.25	48.5	97
Ethanol	NA	NA	NA	NA	0.4040	0.505	1.010	2.020	5.05	25.25	126.25	252.5	505
Acetonitrile	NA	NA	NA	NA	0.0792	0.099	0.198	0.396	0.99	4.95	24.75	49.5	99
Acrolein	NA	NA	NA	NA	0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
Acetone	NA	NA	NA	NA	0.4232	0.529	1.058	2.116	5.29	26.45	132.25	264.5	529
Trichlorofluoromethane	NA	NA	NA	NA	0.0792	0.099	0.198	0.396	0.99	4.95	24.75	49.5	99
Isopropanol	NA	NA	NA	NA	0.1672	0.209	0.418	0.836	2.09	10.45	52.25	104.5	209
Acrylonitrile	NA	NA	NA	NA	0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,1-Dichloroethene	NA	NA	NA	NA	0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
tert-Butanol	NA	NA	NA	NA	0.1664	0.208	0.416	0.832	2.08	10.40	52.00	104.0	208
Methylene Chloride	NA	NA	NA	NA	0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
Allyl Chloride	NA	NA	NA	NA	0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Trichlorotrifluoroethane	NA	NA	NA	NA	0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Carbon Disulfide	NA	NA	NA	NA	0.0784	0.098	0.196	0.392	0.98	4.90	24.50	49.0	98
trans-1,2-Dichloroethene	NA	NA	NA	NA	0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,1-Dichloroethane	NA	NA	NA	NA	0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
Methyl tert-Butyl Ether	NA	NA	NA	NA	0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
Vinyl Acetate	NA	NA	NA	NA	0.4080	0.510	1.020	2.040	5.10	25.50	127.50	255.0	510
2-Butanone	NA	NA	NA	NA	0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
cis-1,2-Dichloroethene	NA	NA	NA	NA	0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
Diisopropyl Ether	NA	NA	NA	NA	0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Ethyl Acetate	NA	NA	NA	NA	0.1672	0.209	0.418	0.836	2.09	10.45	52.25	104.5	209
n-Hexane	NA	NA	NA	NA	0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Chloroform	NA	NA	NA	NA	0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	NA	NA	NA	NA	0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Ethyl tert-Butyl Ether	NA	NA	NA	NA	0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
1,2-Dichloroethane	NA	NA	NA	NA	0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
1,1,1-Trichloroethane	NA	NA	NA	NA	0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Isopropyl Acetate	NA	NA	NA	NA	0.1744	0.218	0.436	0.872	2.18	10.90	54.50	109.0	218
1-Butanol	NA	NA	NA	NA	0.1752	0.219	0.438	0.876	2.19	10.95	54.75	109.5	219
Benzene	NA	NA	NA	NA	0.0880	0.110	0.220	0.440	1.10	5.50	27.50	55.0	110
Carbon Tetrachloride	NA	NA	NA	NA	0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
Cyclohexane	NA	NA	NA	NA	0.1648	0.206	0.412	0.824	2.06	10.30	51.50	103.0	206
tert-Amyl Methyl Ether	NA	NA	NA	NA	0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,2-Dichloropropane	NA	NA	NA	NA	0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
Bromodichloromethane	NA	NA	NA	NA	0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
Trichloroethene	NA	NA	NA	NA	0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
1,4-Dioxane	NA	NA	NA	NA	0.0872	0.109	0.218	0.436	1.09	5.45	27.25	54.5	109
Isooctane	NA	NA	NA	NA	0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
Methyl Methacrylate	NA	NA	NA	NA	0.1664	0.208	0.416	0.832	2.08	10.40	52.00	104.0	208

CD 11/21/13

11/21/13

Primary Source Standards Concentrations
(Working & Initial Calibration)

0.2ng/L Std. ID:
1ng/L Std. ID: S25-11191301
4ng/L Std. ID:
20ng/L Std. ID: S25-11181302
200ng/L Std. ID: S25-11181303

Dilution Factors:		5	50	250	1000	5000
	Source Std.	Primary Working Standards				
Compounds	mg/m³	200ng/L	20ng/L	4ng/L	1ng/L	0.2ng/L
n-Heptane	1.05	210	21.0	4.20	1.05	0.210
cis-1,3-Dichloropropene	1.02	204	20.4	4.08	1.02	0.204
4-Methyl-2-pentanone	1.07	214	21.4	4.28	1.07	0.214
trans-1,3-Dichloropropene	1.03	206	20.6	4.12	1.03	0.206
1,1,2-Trichloroethane	1.06	212	21.2	4.24	1.06	0.212
Toluene	1.06	212	21.2	4.24	1.06	0.212
2-Hexanone	1.11	222	22.2	4.44	1.11	0.222
Dibromochloromethane	1.08	216	21.6	4.32	1.08	0.216
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07	0.214
n-Butyl Acetate	1.12	224	22.4	4.48	1.12	0.224
n-Octane	1.03	206	20.6	4.12	1.03	0.206
Tetrachloroethene	0.98	196	19.6	3.92	0.98	0.196
Chlorobenzene	1.08	216	21.6	4.32	1.08	0.216
Ethylbenzene	1.07	214	21.4	4.28	1.07	0.214
m-&p-Xylene	2.10	420	42.0	8.40	2.10	0.420
Bromoform	1.08	216	21.6	4.32	1.08	0.216
Styrene	1.09	218	21.8	4.36	1.09	0.218
o-Xylene	1.03	206	20.6	4.12	1.03	0.206
n-Nonane	1.02	204	20.4	4.08	1.02	0.204
1,1,2,2-Tetrachloroethane	1.01	202	20.2	4.04	1.01	0.202
Cumene	1.01	202	20.2	4.04	1.01	0.202
alpha-Pinene	1.04	208	20.8	4.16	1.04	0.208
n-Propylbenzene	1.00	200	20.0	4.00	1.00	0.200
3-Ethyltoluene	1.05	210	21.0	4.20	1.05	0.210
4-Ethyltoluene	1.05	210	21.0	4.20	1.05	0.210
1,3,5-Trimethylbenzene	1.06	212	21.2	4.24	1.06	0.212
alpha-Methylstyrene	1.04	208	20.8	4.16	1.04	0.208
2-Ethyltoluene	1.05	210	21.0	4.20	1.05	0.210
1,2,4-Trimethylbenzene	1.05	210	21.0	4.20	1.05	0.210
n-Decane	1.02	204	20.4	4.08	1.02	0.204
Benzyl Chloride	1.10	220	22.0	4.40	1.10	0.220
1,3-Dichlorobenzene	1.10	220	22.0	4.40	1.10	0.220
1,4-Dichlorobenzene	1.06	212	21.2	4.24	1.06	0.212
sec-Butylbenzene	1.07	214	21.4	4.28	1.07	0.214
p-Isopropyltoluene	1.02	204	20.4	4.08	1.02	0.204
1,2,3-Trimethylbenzene	1.07	214	21.4	4.28	1.07	0.214
1,2-Dichlorobenzene	1.08	216	21.6	4.32	1.08	0.216
d-Limonene	1.05	210	21.0	4.20	1.05	0.210
1,2-Dibromo-3-chloropropane	1.06	212	21.2	4.24	1.06	0.212
n-Undecane	1.01	202	20.2	4.04	1.01	0.202
1,2,4-Trichlorobenzene	1.09	218	21.8	4.36	1.09	0.218
Naphthalene	1.02	204	20.4	4.08	1.02	0.204
n-Dodecane	1.04	208	20.8	4.16	1.04	0.208
Hexachloro-1,3-butadiene	1.09	218	21.8	4.36	1.09	0.218
Methacrylonitrile	1.01	202	20.2	4.04	1.01	0.202
Cyclohexanone	1.12	224	22.4	4.48	1.12	0.224
tert-Butylbenzene	1.07	214	21.4	4.28	1.07	0.214
n-Butylbenzene	1.10	220	22.0	4.40	1.10	0.220

Working STD Conc.(ng/L):	ICAL Concentrations (Primary Source)												
	NA	NA	NA	NA	1	1	1	1	20	20	200	200	200
Injection (L):	NA	NA	NA	NA	0.080	0.100	0.200	0.400	0.050	0.25	0.125	0.25	0.50
ICAL Points:	0.005ng	0.01ng	0.02ng	0.05ng	0.08ng	0.1ng	0.2ng	0.4ng	1ng	5ng	25ng	50ng	100ng
	NA	NA	NA	NA	0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
	NA	NA	NA	NA	0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
	NA	NA	NA	NA	0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
	NA	NA	NA	NA	0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
	NA	NA	NA	NA	0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
	NA	NA	NA	NA	0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
	NA	NA	NA	NA	0.0888	0.111	0.222	0.444	1.11	5.55	27.75	55.5	111
	NA	NA	NA	NA	0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
	NA	NA	NA	NA	0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
	NA	NA	NA	NA	0.0896	0.112	0.224	0.448	1.12	5.60	28.00	56.0	112
	NA	NA	NA	NA	0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
	NA	NA	NA	NA	0.0784	0.098	0.196	0.392	0.98	4.90	24.50	49.0	98
	NA	NA	NA	NA	0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
	NA	NA	NA	NA	0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
	NA	NA	NA	NA	0.1680	0.210	0.420	0.840	2.10	10.50	52.50	105.0	210
	NA	NA	NA	NA	0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
	NA	NA	NA	NA	0.0872	0.109	0.218	0.436	1.09	5.45	27.25	54.5	109
	NA	NA	NA	NA	0.0824	0.103	0.206	0.412	1.03	5.15	25.75	51.5	103
	NA	NA	NA	NA	0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
	NA	NA	NA	NA	0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
	NA	NA	NA	NA	0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
	NA	NA	NA	NA	0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
	NA	NA	NA	NA	0.0800	0.100	0.200	0.400	1.00	5.00	25.00	50.0	100
	NA	NA	NA	NA	0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
	NA	NA	NA	NA	0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
	NA	NA	NA	NA	0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
	NA	NA	NA	NA	0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
	NA	NA	NA	NA	0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
	NA	NA	NA	NA	0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
	NA	NA	NA	NA	0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
	NA	NA	NA	NA	0.0880	0.110	0.220	0.440	1.10	5.50	27.50	55.0	110
	NA	NA	NA	NA	0.0880	0.110	0.220	0.440	1.10	5.50	27.50	55.0	110
	NA	NA	NA	NA	0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
	NA	NA	NA	NA	0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
	NA	NA	NA	NA	0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
	NA	NA	NA	NA	0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
	NA	NA	NA	NA	0.0864	0.108	0.216	0.432	1.08	5.40	27.00	54.0	108
	NA	NA	NA	NA	0.0840	0.105	0.210	0.420	1.05	5.25	26.25	52.5	105
	NA	NA	NA	NA	0.0848	0.106	0.212	0.424	1.06	5.30	26.50	53.0	106
	NA	NA	NA	NA	0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
	NA	NA	NA	NA	0.0872	0.109	0.218	0.436	1.09	5.45	27.25	54.5	109
	NA	NA	NA	NA	0.0816	0.102	0.204	0.408	1.02	5.10	25.50	51.0	102
	NA	NA	NA	NA	0.0832	0.104	0.208	0.416	1.04	5.20	26.00	52.0	104
	NA	NA	NA	NA	0.0872	0.109	0.218	0.436	1.09	5.45	27.25	54.5	109
	NA	NA	NA	NA	0.0808	0.101	0.202	0.404	1.01	5.05	25.25	50.5	101
	NA	NA	NA	NA	0.0896	0.112	0.224	0.448	1.12	5.60	28.00	56.0	112
	NA	NA	NA	NA	0.0856	0.107	0.214	0.428	1.07	5.35	26.75	53.5	107
	NA	NA	NA	NA	0.0880	0.110	0.220	0.440	1.10	5.50	27.50	55.0	110

CO 11/21/13 SH 11/21/13

Calibration Status Report Instrument #MS08

Method : I:\MS08\Methods\R8111913.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.08	0	13	I:\MS08\Data\2013_11\19\11191307.D
2	0.10	0	13	I:\MS08\Data\2013_11\19\11191308.D
3	0.20	0	13	I:\MS08\Data\2013_11\19\11191309.D
4	0.40	0	13	I:\MS08\Data\2013_11\19\11191310.D
5	1.0	1	13	I:\MS08\Data\2013_11\19\11191311.D
6	5.0	5	13	I:\MS08\Data\2013_11\19\11191312.D
7	25	25	13	I:\MS08\Data\2013_11\19\11191313.D
8	50	49	13	I:\MS08\Data\2013_11\19\11191314.D
9	100	98	13	I:\MS08\Data\2013_11\19\11191315.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.08	Nov 20 07:42 2013	Nov 20 07:19 2013	19 Nov 2013 14:07
2	0.10	Nov 20 07:43 2013	Nov 20 07:32 2013	19 Nov 2013 14:36
3	0.20	Nov 20 08:04 2013	Nov 20 08:03 2013	19 Nov 2013 15:06
4	0.40	Nov 20 08:04 2013	Nov 20 08:04 2013	19 Nov 2013 15:35
5	1.0	Nov 20 07:44 2013	Nov 20 07:16 2013	19 Nov 2013 16:04
6	5.0	Nov 20 07:44 2013	Nov 20 07:16 2013	19 Nov 2013 16:34
7	25	Nov 20 07:44 2013	Nov 20 07:13 2013	19 Nov 2013 17:03
8	50	Nov 20 07:45 2013	Nov 20 07:16 2013	19 Nov 2013 17:32
9	100	Nov 20 07:45 2013	Nov 20 07:37 2013	19 Nov 2013 18:01

R8111913.M Wed Nov 20 10:25:59 2013

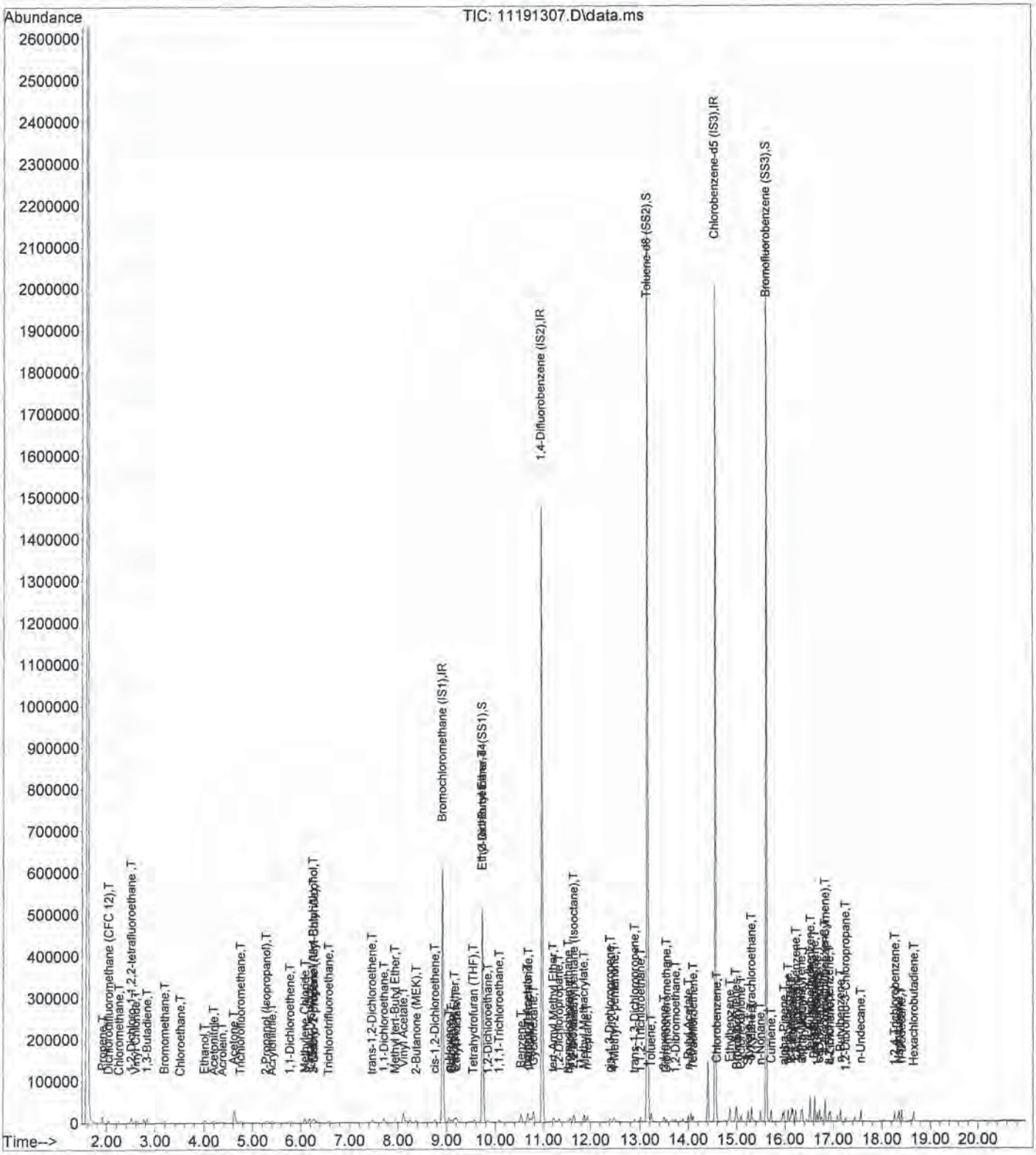
11/21/13

CD 11/20/13

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191307.D
Acq On : 19 Nov 2013 14:07 Operator: EM/CD
Sample : 0.08ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:19:39 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191307.D
Acq On : 19 Nov 2013 14:07 Operator: EM/CD
Sample : 0.08ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:19:39 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	259217	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	10.97	114	1285427	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.55	82	504936	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.73	65	353210	11.494	ng		-0.01
Spiked Amount 12.500			Recovery =	91.92%			
57) Toluene-d8 (SS2)	13.15	98	1354454	12.662	ng		0.00
Spiked Amount 12.500			Recovery =	101.28%			
73) Bromofluorobenzene (SS3)	15.61	174	549800	12.846	ng		0.00
Spiked Amount 12.500			Recovery =	102.80%			
Target Compounds							Qvalue
2) Propene	1.92	42	4346m	0.125	ng		
3) Dichlorodifluoromethan...	2.04	85	5653	0.113	ng		96
4) Chloromethane	2.25	50	4861	0.163	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	2.50	135	3665	0.133	ng		92
6) Vinyl Chloride	2.60	62	4325	0.116	ng		96
7) 1,3-Butadiene	2.83	54	4399	0.163	ng		94
8) Bromomethane	3.19	94	4484	0.194	ng		96
9) Chloroethane	3.52	64	2411	0.115	ng		80
10) Ethanol	4.01	45	12329	0.701	ng		94
11) Acetonitrile	4.20	41	7196	0.118	ng		100
12) Acrolein	4.38	56	2887	0.183	ng		97
13) Acetone	4.61	58	19352	0.936	ng		94
14) Trichlorofluoromethane	4.76	101	5615	0.121	ng		94
15) 2-Propanol (Isopropanol)	5.28	45	18182	0.301	ng		89
16) Acrylonitrile	5.40	53	3833	0.105	ng		95
17) 1,1-Dichloroethene	5.78	96	3149	0.126	ng		98
18) 2-Methyl-2-Propanol (t...	6.25	59	16633	0.233	ng	#	65
19) Methylene Chloride	6.09	84	6728	0.245	ng		96
20) 3-Chloro-1-propene (Al...	6.26	41	6586	0.118	ng		77
21) Trichlorotrifluoroethane	6.57	151	3064	0.126	ng		91
22) Carbon Disulfide	6.18	76	19067	0.196	ng		97
23) trans-1,2-Dichloroethene	7.46	61	4289	0.111	ng		96
24) 1,1-Dichloroethane	7.71	63	5485	0.112	ng		91
25) Methyl tert-Butyl Ether	7.94	73	8832	0.103	ng		100
26) Vinyl Acetate	8.12	86	3926	0.485	ng	#	77
27) 2-Butanone (MEK)	8.38	72	2391	0.115	ng	#	70
28) cis-1,2-Dichloroethene	8.76	61	4153	0.115	ng		99
29) Diisopropyl Ether	9.17	87	2509m	0.096	ng		
30) Ethyl Acetate	9.20	61	2271	0.231	ng		99
31) n-Hexane	9.06	57	6019	0.119	ng		98
32) Chloroform	9.10	83	5614	0.124	ng		94
34) Tetrahydrofuran (THF)	9.55	72	2264	0.124	ng	#	1
35) Ethyl tert-Butyl Ether	9.73	87	3985	0.111	ng	#	89
36) 1,2-Dichloroethane	9.85	62	3834	0.110	ng		88
38) 1,1,1-Trichloroethane	10.08	97	4786	0.116	ng		94
39) Isopropyl Acetate	10.66	61	4122	0.245	ng		98
40) 1-Butanol	10.72	56	6041	0.212	ng		96
41) Benzene	10.53	78	18408	0.164	ng		97
42) Carbon Tetrachloride	10.68	117	3734	0.108	ng		99
43) Cyclohexane	10.78	84	10612	0.243	ng		93
44) tert-Amyl Methyl Ether	11.21	73	9536	0.116	ng		97
45) 1,2-Dichloropropane	11.34	63	3316	0.124	ng		90

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191307.D
Acq On : 19 Nov 2013 14:07 Operator: EM/CD
Sample : 0.08ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:19:39 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

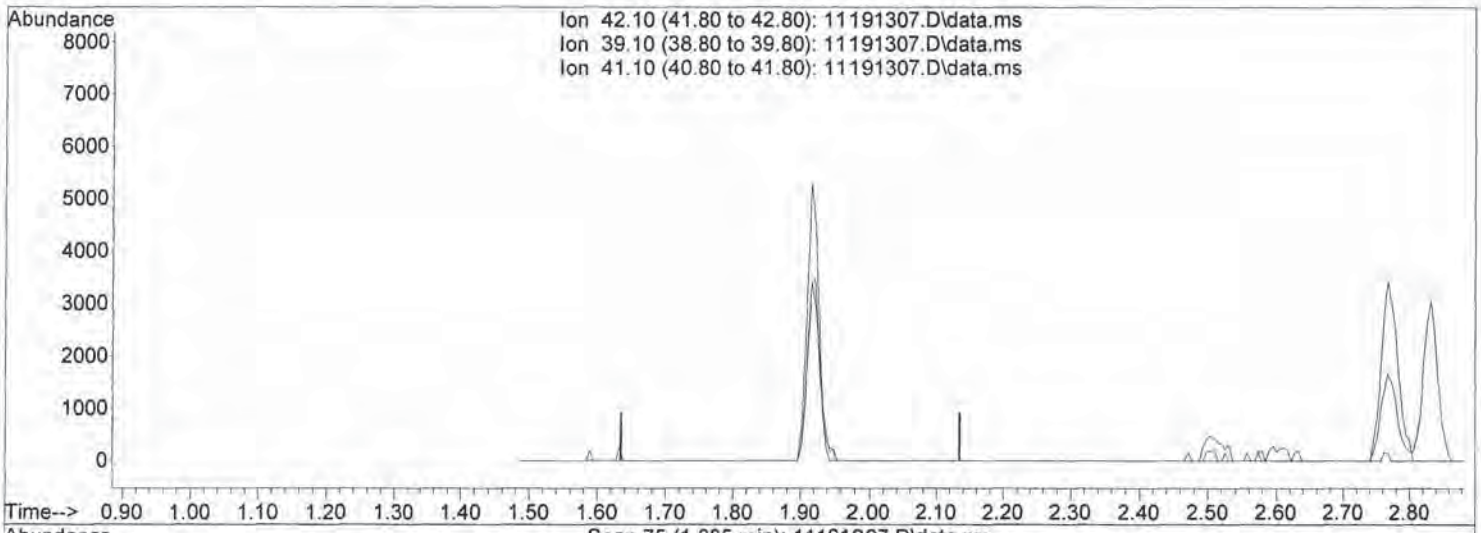
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) Bromodichloromethane	11.53	83	4107	0.120	ng		93
47) Trichloroethene	11.57	130	3885	0.127	ng		96
48) 1,4-Dioxane	11.64	88	2268	0.112	ng	#	50
49) 2,2,4-Trimethylpentane...	11.65	57	15023	0.119	ng		99
50) Methyl Methacrylate	11.86	100	3034	0.236	ng		95
51) n-Heptane	11.93	71	3571	0.120	ng		98
52) cis-1,3-Dichloropropene	12.41	75	4561	0.108	ng		98
53) 4-Methyl-2-pentanone	12.48	58	3716	0.139	ng	#	83
54) trans-1,3-Dichloropropene	12.89	75	4110	0.106	ng		97
55) 1,1,2-Trichloroethane	13.02	97	3147	0.126	ng		98
58) Toluene	13.23	91	14266	0.128	ng		99
59) 2-Hexanone	13.50	43	7722	0.118	ng		97
60) Dibromochloromethane	13.55	129	3128	0.108	ng		99
61) 1,2-Dibromoethane	13.74	107	3585	0.126	ng		85
62) n-Butyl Acetate	14.00	43	8576	0.122	ng		99
63) n-Octane	14.05	57	2851	0.110	ng		97
64) Tetrachloroethene	14.10	166	3975	0.110	ng		98
65) Chlorobenzene	14.59	112	9133	0.126	ng		96
66) Ethylbenzene	14.86	91	16255	0.131	ng		96
67) m- & p-Xylenes	14.98	91	24998	0.253	ng		96
68) Bromoform	15.01	173	3076	0.115	ng		86
69) Styrene	15.23	104	9545	0.127	ng		99
70) o-Xylene	15.30	91	11982	0.117	ng		99
71) n-Nonane	15.49	43	7442	0.115	ng		93
72) 1,1,2,2-Tetrachloroethane	15.30	83	4763	0.103	ng		95
74) Cumene	15.72	105	16177	0.121	ng		98
75) alpha-Pinene	15.98	93	7987	0.127	ng	#	47
76) n-Propylbenzene	16.07	91	18007	0.115	ng		97
77) 3-Ethyltoluene	16.14	105	16023	0.118	ng		97
78) 4-Ethyltoluene	16.17	105	14311	0.125	ng		100
79) 1,3,5-Trimethylbenzene	16.23	105	12622	0.120	ng		96
80) alpha-Methylstyrene	16.34	118	6347	0.125	ng		93
81) 2-Ethyltoluene	16.36	105	14805	0.120	ng		98
82) 1,2,4-Trimethylbenzene	16.52	105	12872	0.121	ng		95
83) n-Decane	16.61	57	7139	0.116	ng		96
84) Benzyl Chloride	16.60	91	9175	0.103	ng		96
85) 1,3-Dichlorobenzene	16.61	146	7938	0.125	ng		99
86) 1,4-Dichlorobenzene	16.67	146	8007	0.124	ng		98
87) sec-Butylbenzene	16.71	105	17022	0.123	ng		98
88) 4-Isopropyltoluene (p-...	16.83	119	16283	0.118	ng		94
89) 1,2,3-Trimethylbenzene	16.82	105	13789	0.127	ng		92
90) 1,2-Dichlorobenzene	16.92	146	7580	0.127	ng		97
91) d-Limonene	16.94	68	4679	0.127	ng		93
92) 1,2-Dibromo-3-Chloropr...	17.25	157	2276	0.100	ng		81
93) n-Undecane	17.56	57	6795	0.105	ng		97
94) 1,2,4-Trichlorobenzene	18.27	180	6505	0.141	ng		96
95) Naphthalene	18.35	128	17970	0.132	ng		98
96) n-Dodecane	18.41	57	7227	0.125	ng		99
97) Hexachlorobutadiene	18.66	225	3882	0.124	ng		96
98) Cyclohexanone	15.09	55	4866	0.135	ng		97
99) tert-Butylbenzene	16.52	119	13449	0.126	ng		99
100) n-Butylbenzene	17.15	91	13773	0.132	ng		95

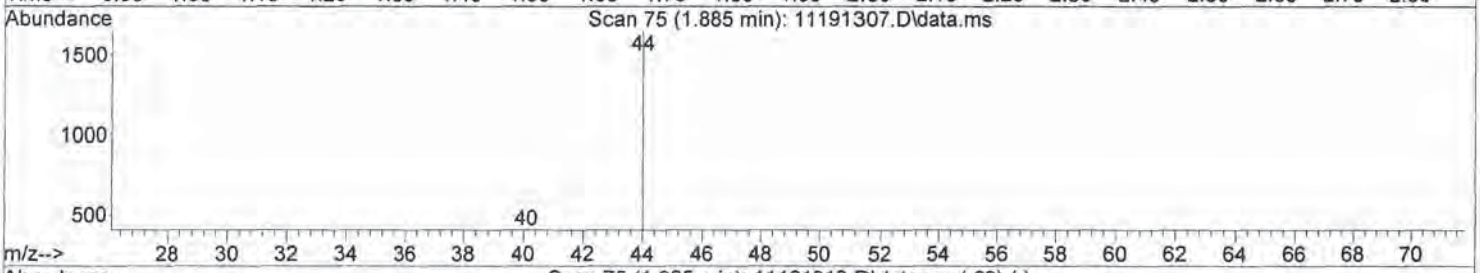
(#) = qualifier out of range (m) = manual integration (+) = signals summed

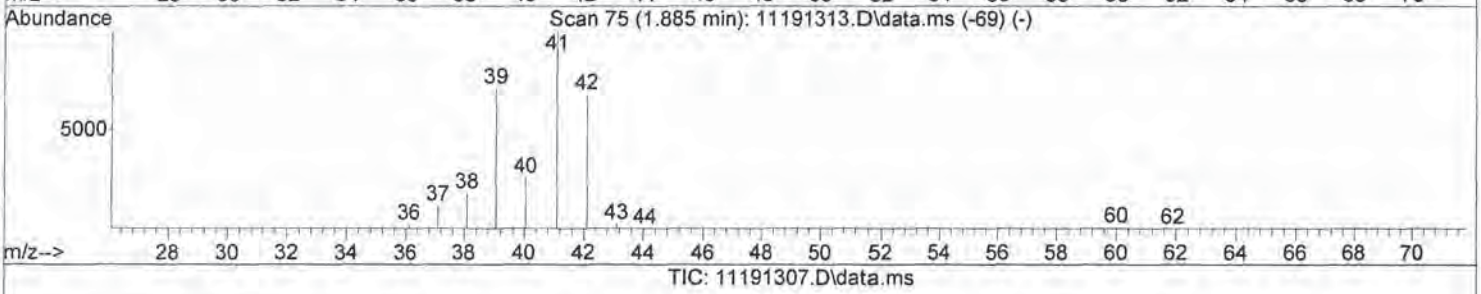
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191307.D
Acq On : 19 Nov 2013 14:07 Operator: EM/CD
Sample : 0.08ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:16:05 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191307.D\data.ms

(2) Propene (T)

1.885min (-1.885) 0.00ng

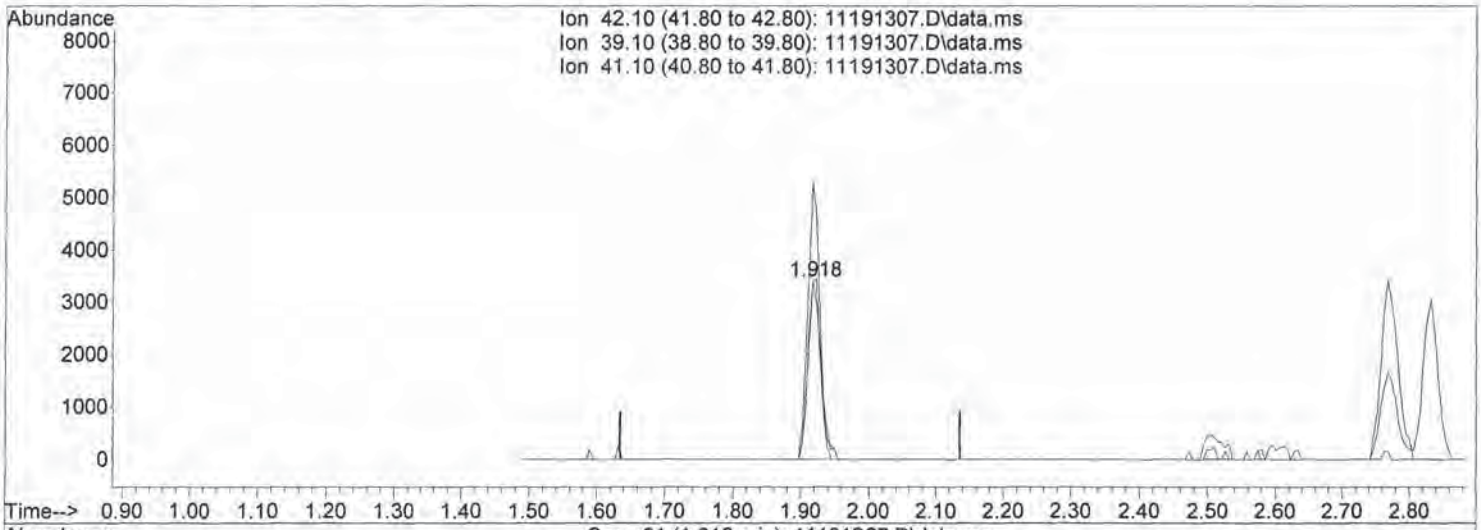
response 0

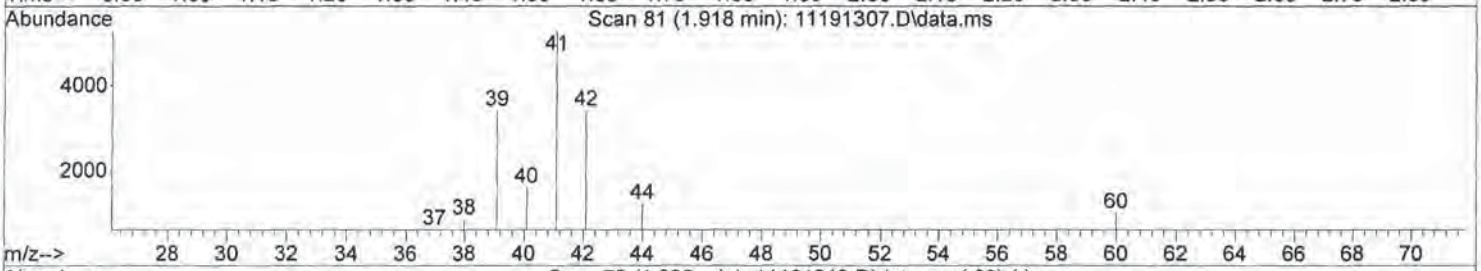
Ion	Exp%	Act%
42.10	100	0.00
39.10	105.90	0.00#
41.10	149.10	0.00#
0.00	0.00	0.00

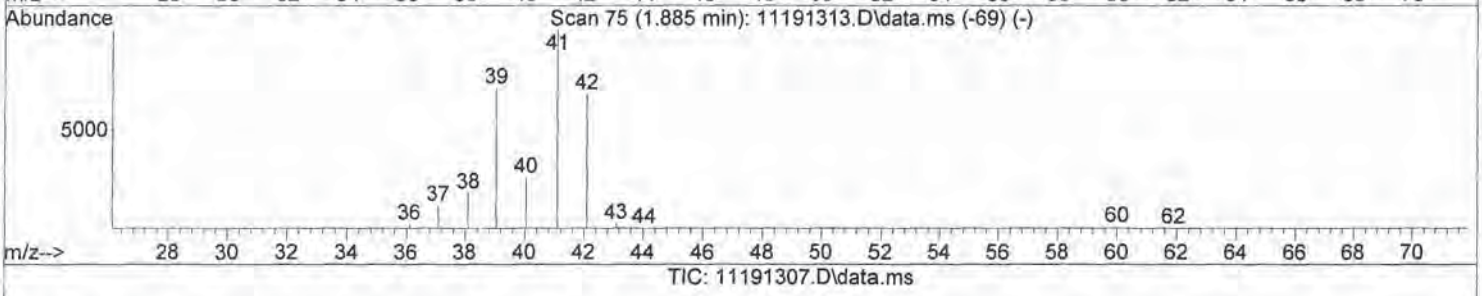
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191307.D
Acq On : 19 Nov 2013 14:07 Operator: EM/CD
Sample : 0.08ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:16:05 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191307.D\data.ms

(2) Propene (T)

1.918min (+0.032) 0.13ng m

response 4346

Ion	Exp%	Act%
42.10	100	100
39.10	105.90	0.00#
41.10	149.10	0.00#
0.00	0.00	0.00

HP
CD 11/20/13

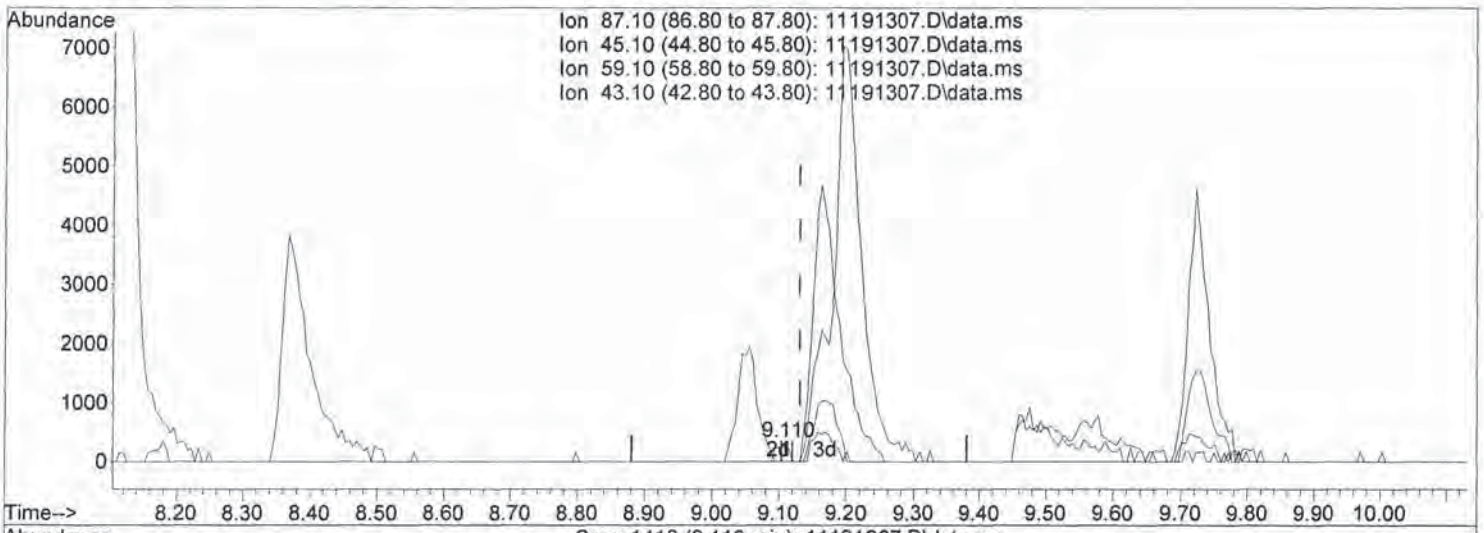
DM 11/21/13

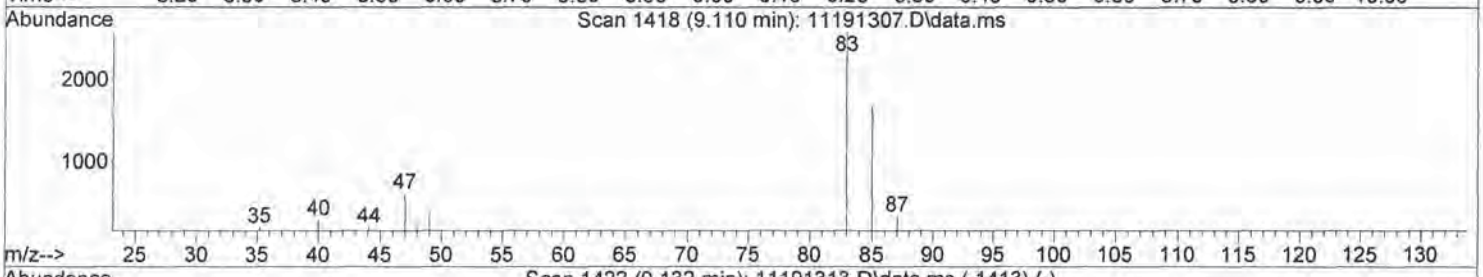
EM 11/22/13

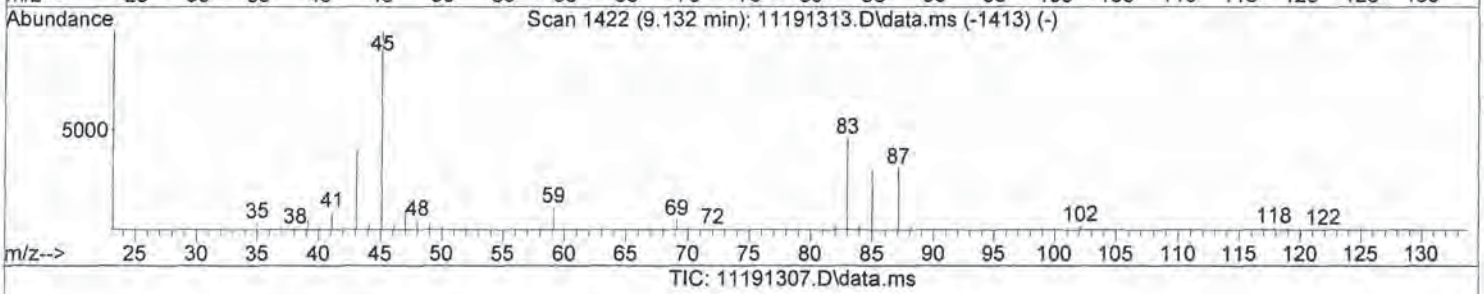
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191307.D
Acq On : 19 Nov 2013 14:07 Operator: EM/CD
Sample : 0.08ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:16:05 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191307.D\data.ms

(29) Diisopropyl Ether (T)

9.110min (-0.021) 0.01ng

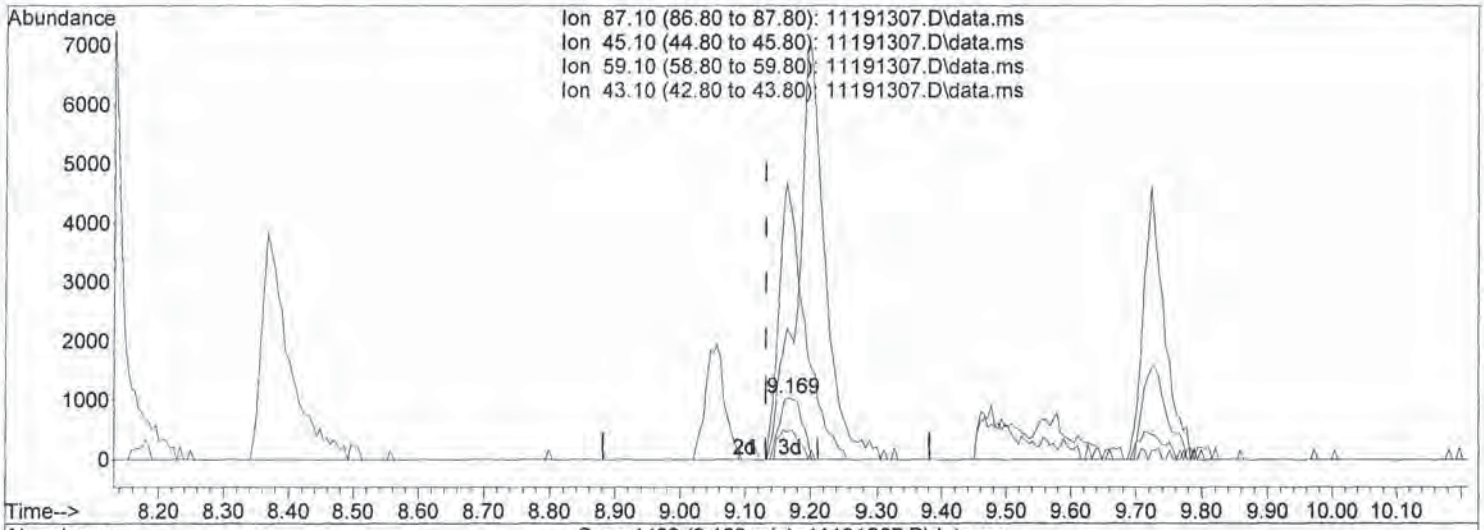
response 176

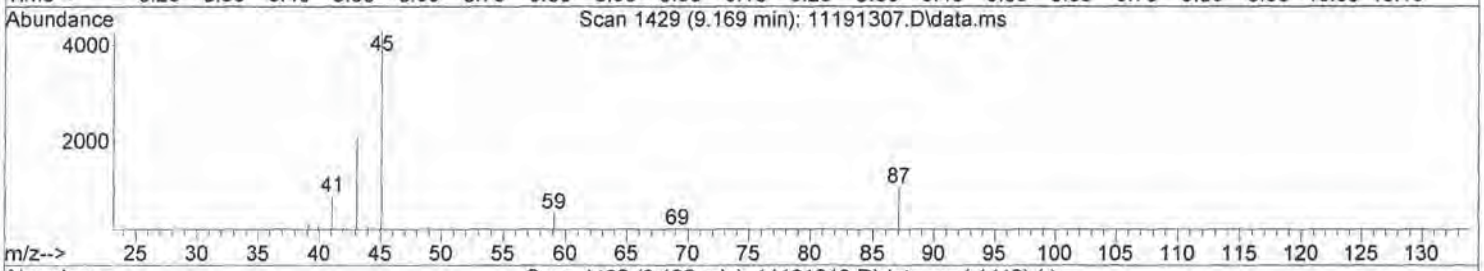
Ion	Exp%	Act%
87.10	100	100
45.10	384.20	0.00#
59.10	35.00	0.00#
43.10	0.00	0.00

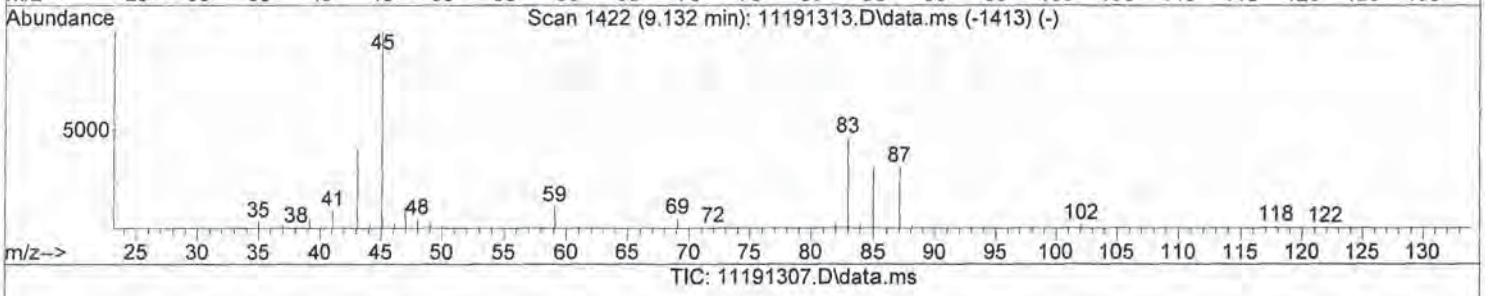
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191307.D
Acq On : 19 Nov 2013 14:07 Operator: EM/CD
Sample : 0.08ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:16:05 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191307.D\data.ms

(29) Diisopropyl Ether (T)

9.169min (+0.038) 0.10ng m

response 2509

Ion	Exp%	Act%
87.10	100	100
45.10	384.20	0.00#
59.10	35.00	0.00#
43.10	0.00	0.00

MP
CD 11/20/13

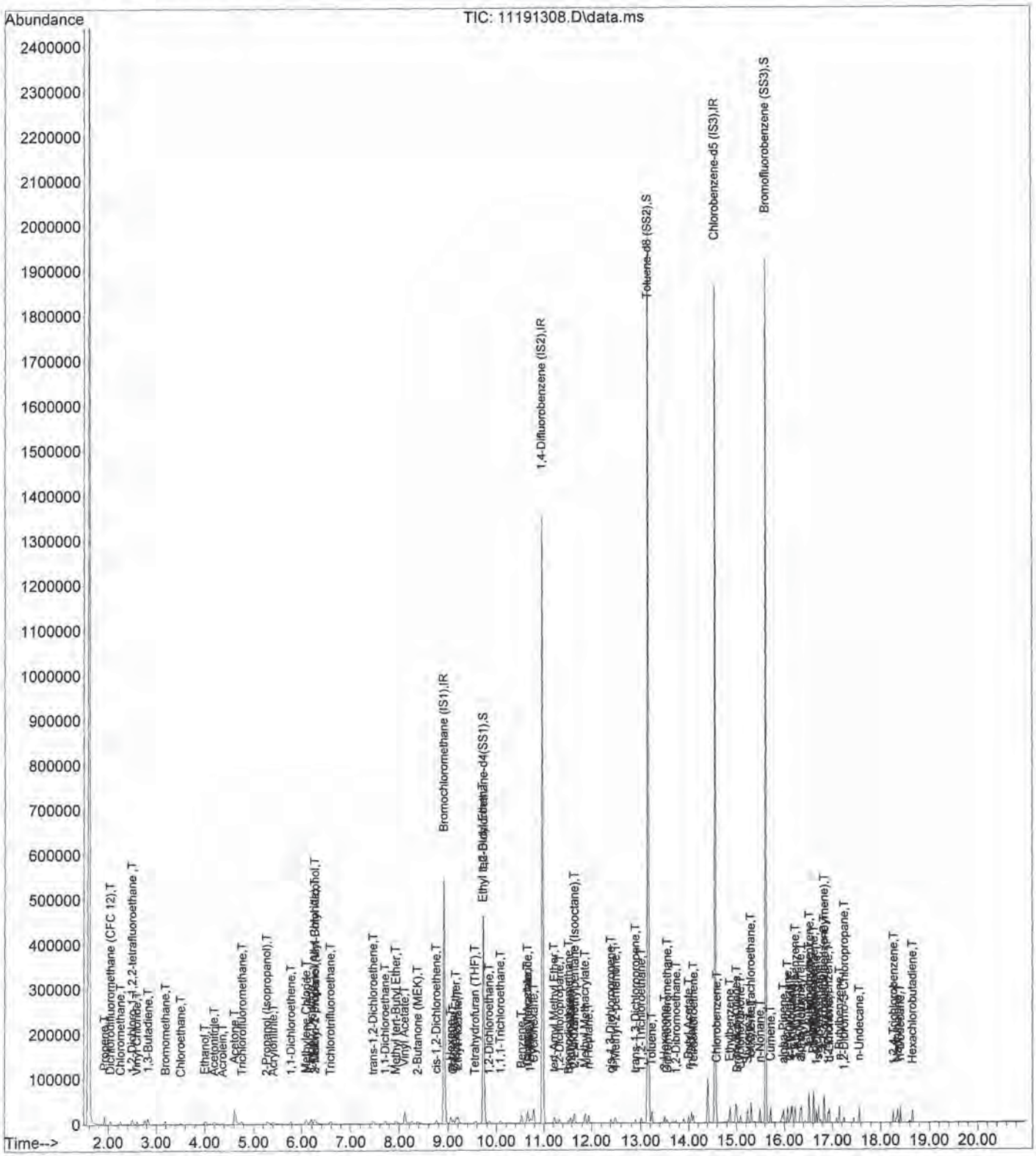
11/21/13

11/22/13

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191308.D
Acq On : 19 Nov 2013 14:36 Operator: EM/CD
Sample : 0.1ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 21 09:14:48 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191308.D
Acq On : 19 Nov 2013 14:36 Operator: EM/CD
Sample : 0.1ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 21 09:14:48 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

EM 11/22/13

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	233212	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	10.97	114	1182506	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.55	82	466188	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.73	65	323071	11.686	ng		-0.01
Spiked Amount 12.500			Recovery = 93.52%				
57) Toluene-d8 (SS2)	13.15	98	1241863	12.574	ng		0.00
Spiked Amount 12.500			Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	15.61	174	503692	12.747	ng		0.00
Spiked Amount 12.500			Recovery = 102.00%				
Target Compounds							Qvalue
2) Propene	1.92	42	4612	0.147	ng		92
3) Dichlorodifluoromethan...	2.04	85	6947	0.154	ng		96
4) Chloromethane	2.25	50	5343	0.199	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	2.49	135	4040	0.163	ng		94
6) Vinyl Chloride	2.60	62	5410	0.161	ng		94
7) 1,3-Butadiene	2.83	54	5188	0.214	ng		96
8) Bromomethane	3.19	94	4950	0.238	ng		92
9) Chloroethane	3.51	64	3146	0.167	ng		93
10) Ethanol	4.00	45	13330	0.843	ng		99
11) Acetonitrile	4.19	41	7678	0.139	ng		99
12) Acrolein	4.37	56	2940	0.207	ng		96
13) Acetone	4.61	58	20678	1.112	ng		96
14) Trichlorofluoromethane	4.76	101	6282	0.150	ng		94
15) 2-Propanol (Isopropanol)	5.27	45	19883	0.366	ng		95
16) Acrylonitrile	5.40	53	4350	0.133	ng		99
17) 1,1-Dichloroethene	5.78	96	3877	0.172	ng		97
18) 2-Methyl-2-Propanol (t...	6.26	59	19733	0.307	ng	#	64
19) Methylene Chloride	6.09	84	6969	0.282	ng		97
20) 3-Chloro-1-propene (Al...	6.26	41	8542	0.170	ng		82
21) Trichlorotrifluoroethane	6.58	151	3546	0.162	ng		98
22) Carbon Disulfide	6.18	76	22445	0.257	ng		99
23) trans-1,2-Dichloroethene	7.46	61	5198	0.149	ng		93
24) 1,1-Dichloroethane	7.71	63	6878	0.156	ng		99
25) Methyl tert-Butyl Ether	7.93	73	11596	0.151	ng		99
26) Vinyl Acetate	8.10	86	5091	0.699	ng	#	89
27) 2-Butanone (MEK)	8.37	72	2921	0.156	ng	#	75
28) cis-1,2-Dichloroethene	8.76	61	5231	0.160	ng		93
29) Diisopropyl Ether	9.16	87	3319m	0.141	ng		
30) Ethyl Acetate	9.20	61	2728	0.308	ng		96
31) n-Hexane	9.05	57	7409	0.163	ng		97
32) Chloroform	9.10	83	6628	0.163	ng		97
34) Tetrahydrofuran (THF)	9.56	72	2489m	0.151	ng		
35) Ethyl tert-Butyl Ether	9.72	87	4991	0.154	ng		91
36) 1,2-Dichloroethane	9.85	62	4632	0.147	ng		100
38) 1,1,1-Trichloroethane	10.08	97	5632	0.148	ng		98
39) Isopropyl Acetate	10.66	61	5077	0.329	ng		94
40) 1-Butanol	10.72	56	6608	0.252	ng		92
41) Benzene	10.53	78	18903	0.183	ng		99
42) Carbon Tetrachloride	10.66	117	4556	0.144	ng		95
43) Cyclohexane	10.78	84	12532	0.312	ng		88
44) tert-Amyl Methyl Ether	11.21	73	11578	0.153	ng		97
45) 1,2-Dichloropropane	11.34	63	3951	0.160	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191308.D
Acq On : 19 Nov 2013 14:36 Operator: EM/CD
Sample : 0.1ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 21 09:14:48 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

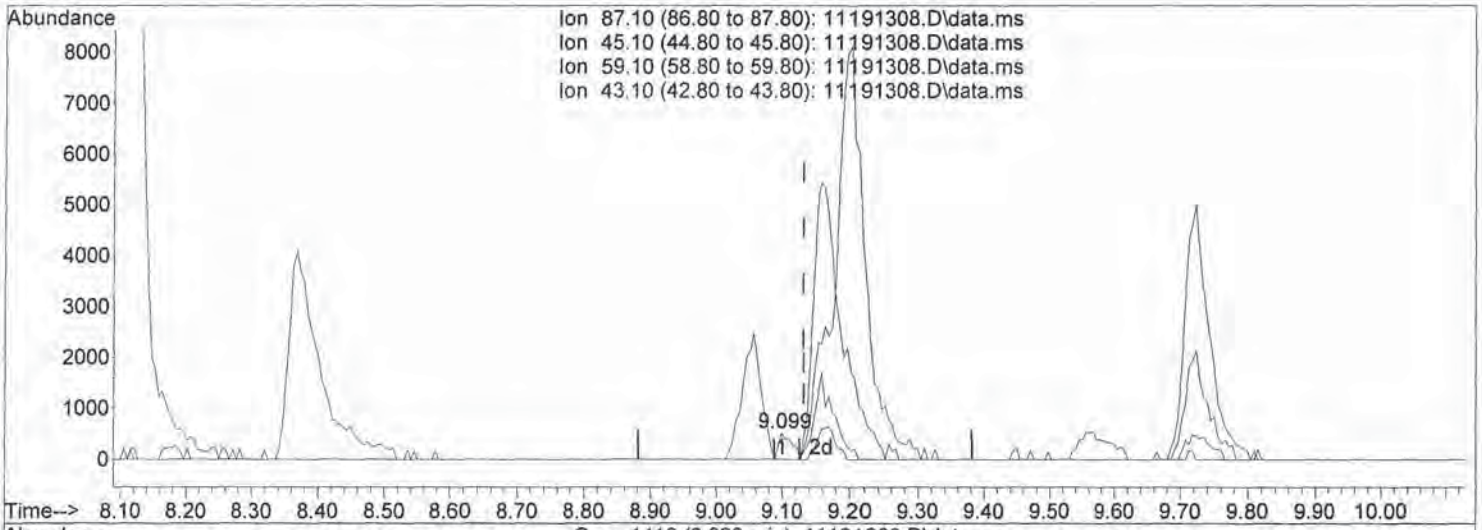
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) Bromodichloromethane	11.53	83	4853	0.154	ng		97
47) Trichloroethene	11.57	130	4600	0.163	ng		96
48) 1,4-Dioxane	11.63	88	3404	0.182	ng	#	74
49) 2,2,4-Trimethylpentane...	11.65	57	18160	0.156	ng		100
50) Methyl Methacrylate	11.86	100	3560	0.300	ng		97
51) n-Heptane	11.93	71	4152	0.152	ng		93
52) cis-1,3-Dichloropropene	12.40	75	5509	0.142	ng		98
53) 4-Methyl-2-pentanone	12.48	58	3877	0.157	ng		98
54) trans-1,3-Dichloropropene	12.89	75	5046	0.141	ng		95
55) 1,1,2-Trichloroethane	13.01	97	3537	0.154	ng		95
58) Toluene	13.23	91	17357	0.169	ng		98
59) 2-Hexanone	13.49	43	8960	0.148	ng		98
60) Dibromochloromethane	13.55	129	4103	0.154	ng		95
61) 1,2-Dibromoethane	13.73	107	4064	0.155	ng		91
62) n-Butyl Acetate	13.99	43	10377	0.160	ng		96
63) n-Octane	14.05	57	3603	0.151	ng		98
64) Tetrachloroethene	14.10	166	4828	0.145	ng		98
65) Chlorobenzene	14.59	112	11295	0.169	ng		98
66) Ethylbenzene	14.86	91	18383	0.161	ng		98
67) m- & p-Xylenes	15.00	91	28537	0.313	ng		100
68) Bromoform	15.02	173	3601	0.145	ng		96
69) Styrene	15.23	104	11752	0.170	ng		98
70) o-Xylene	15.30	91	15097	0.159	ng		94
71) n-Nonane	15.49	43	8574	0.143	ng		99
72) 1,1,2,2-Tetrachloroethane	15.30	83	6269	0.147	ng		97
74) Cumene	15.72	105	19242	0.156	ng		97
75) alpha-Pinene	15.98	93	9759	0.168	ng		99
76) n-Propylbenzene	16.07	91	21819	0.151	ng		98
77) 3-Ethyltoluene	16.14	105	19274	0.153	ng		97
78) 4-Ethyltoluene	16.17	105	17096	0.162	ng		97
79) 1,3,5-Trimethylbenzene	16.23	105	15269	0.157	ng		99
80) alpha-Methylstyrene	16.33	118	7991	0.170	ng		95
81) 2-Ethyltoluene	16.36	105	18310	0.160	ng		98
82) 1,2,4-Trimethylbenzene	16.52	105	15705	0.160	ng		97
83) n-Decane	16.61	57	8275	0.146	ng		98
84) Benzyl Chloride	16.60	91	11408	0.139	ng		94
85) 1,3-Dichlorobenzene	16.61	146	9068	0.154	ng		97
86) 1,4-Dichlorobenzene	16.67	146	9671	0.162	ng		98
87) sec-Butylbenzene	16.71	105	20232	0.159	ng		99
88) 4-Isopropyltoluene (p-...	16.83	119	19560	0.153	ng		94
89) 1,2,3-Trimethylbenzene	16.82	105	15875	0.158	ng		99
90) 1,2-Dichlorobenzene	16.92	146	9255	0.168	ng		96
91) d-Limonene	16.94	68	5754	0.169	ng		97
92) 1,2-Dibromo-3-Chloropr...	17.24	157	3075	0.146	ng		92
93) n-Undecane	17.56	57	8387	0.140	ng		96
94) 1,2,4-Trichlorobenzene	18.27	180	7577	0.178	ng		97
95) Naphthalene	18.35	128	20758	0.166	ng		99
96) n-Dodecane	18.41	57	8488	0.160	ng		97
97) Hexachlorobutadiene	18.65	225	4628	0.160	ng		100
98) Cyclohexanone	15.08	55	5709	0.172	ng		96
99) tert-Butylbenzene	16.51	119	15886	0.161	ng		98
100) n-Butylbenzene	17.15	91	16184	0.168	ng		96

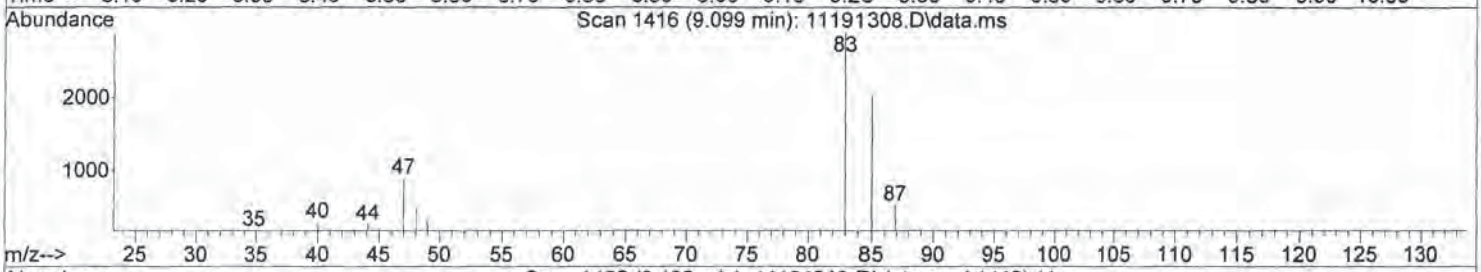
(#) = qualifier out of range (m) = manual integration (+) = signals summed

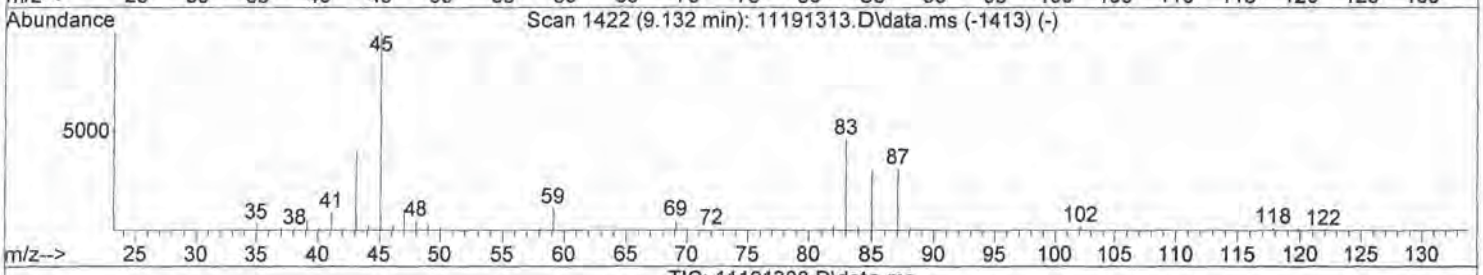
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191308.D
Acq On : 19 Nov 2013 14:36 Operator: EM/CD
Sample : 0.1ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:16:10 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191308.D\data.ms

(29) Diisopropyl Ether (T)

9.099min (-0.032) 0.03ng

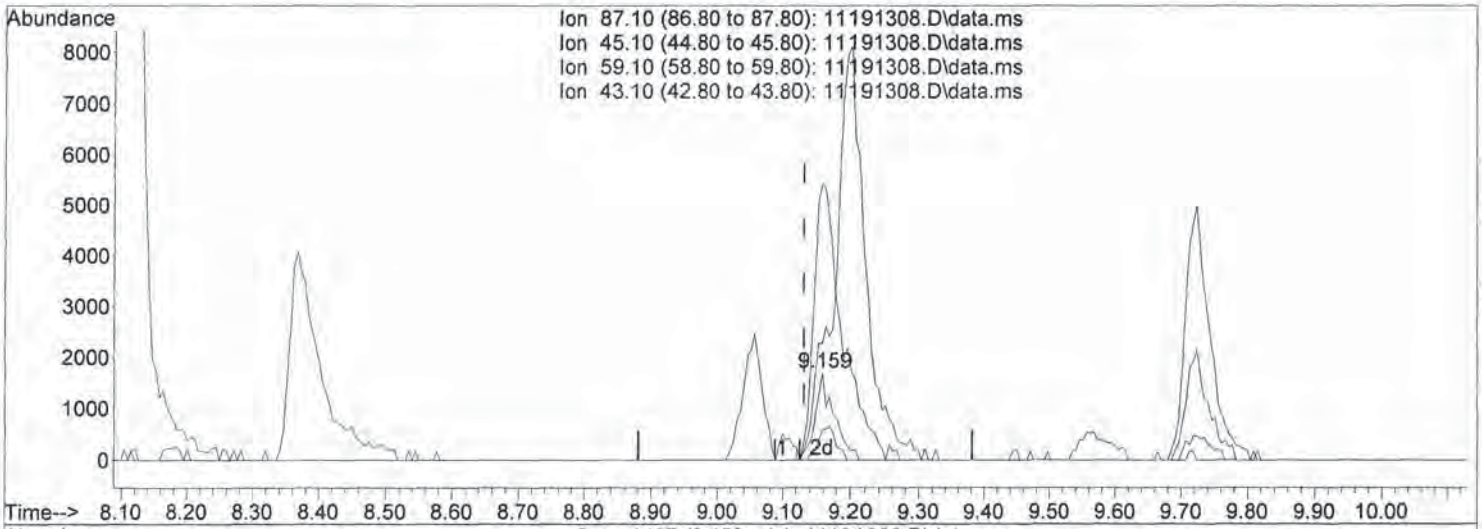
response 686

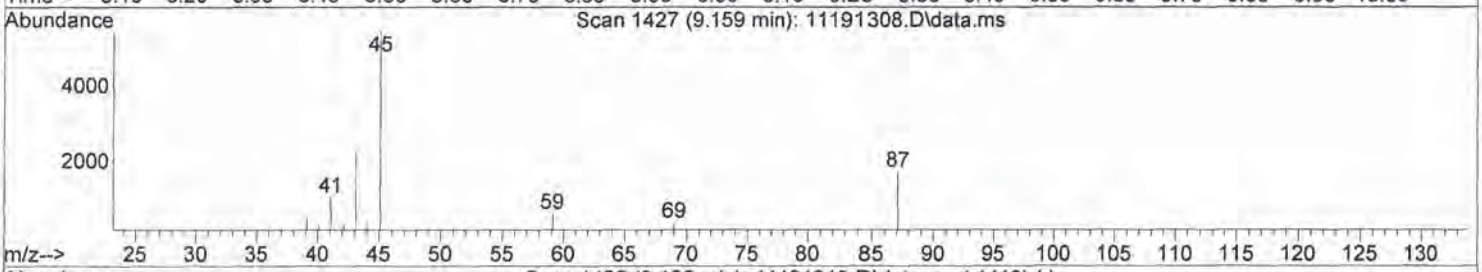
Ion	Exp%	Act%
87.10	100	100
45.10	384.20	0.00#
59.10	35.00	0.00#
43.10	0.00	0.00

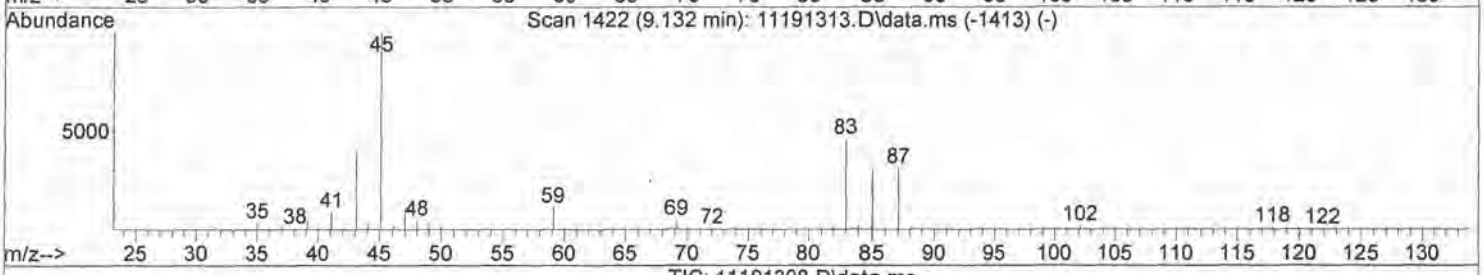
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191308.D
Acq On : 19 Nov 2013 14:36 Operator: EM/CD
Sample : 0.1ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:16:10 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191308.D\data.ms

(29) Diisopropyl Ether (T)

9.159min (+0.027) 0.14ng m

response 3319

Ion	Exp%	Act%
87.10	100	100
45.10	384.20	0.00#
59.10	35.00	0.00#
43.10	0.00	0.00

MP
CD 11/20/13

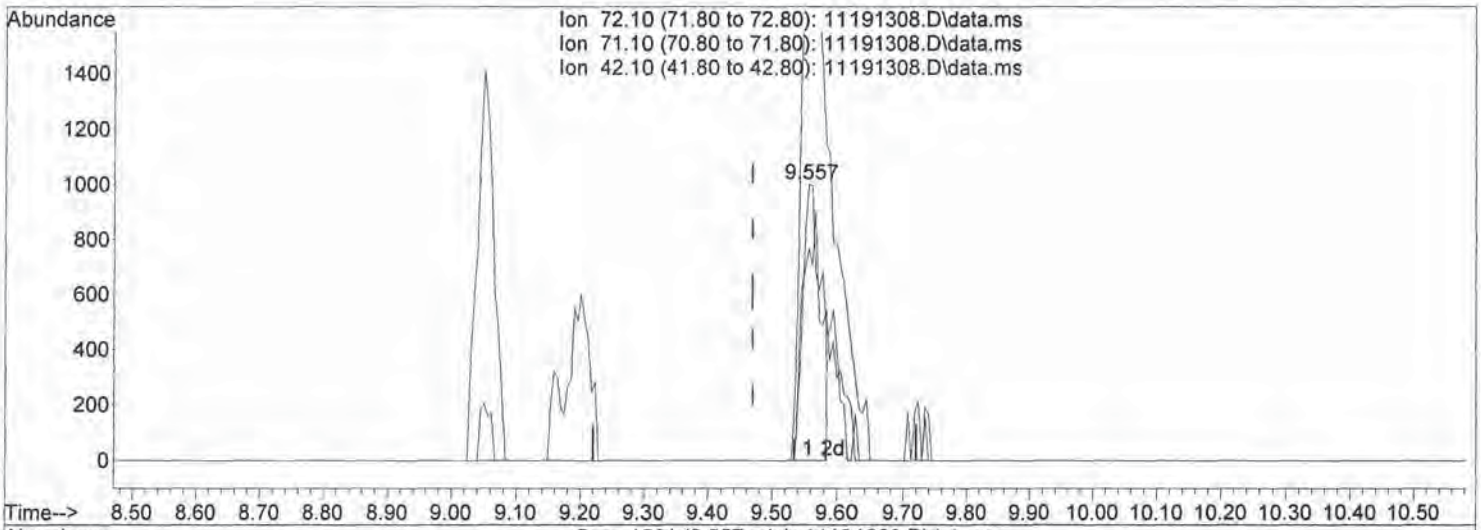
DA 11/21/13

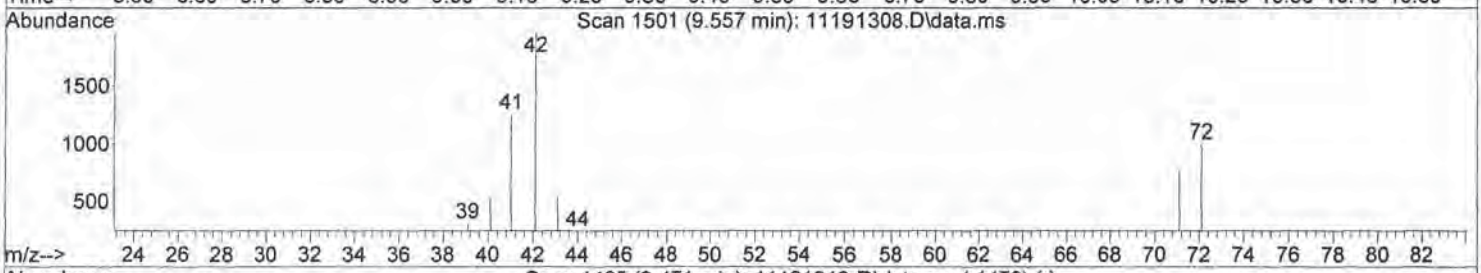
EM 11/22/13

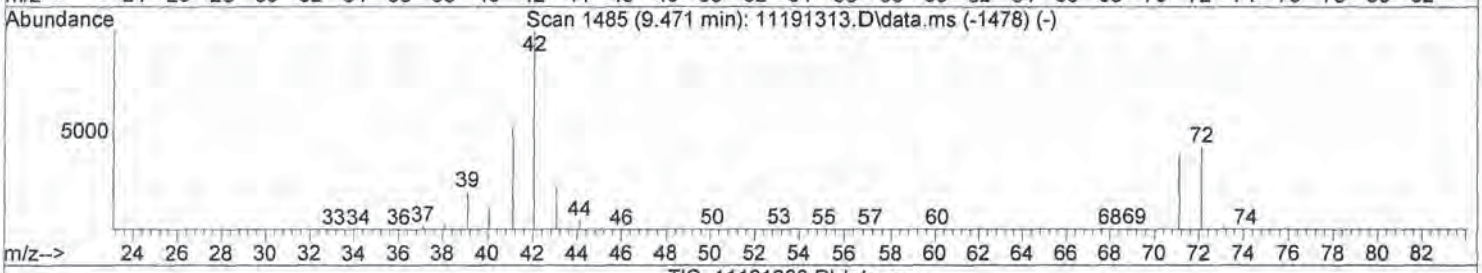
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191308.D
Acq On : 19 Nov 2013 14:36 Operator: EM/CD
Sample : 0.1ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:32:45 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191308.D\data.ms

(34) Tetrahydrofuran (THF) (T)

9.557min (+0.086) 0.12ng

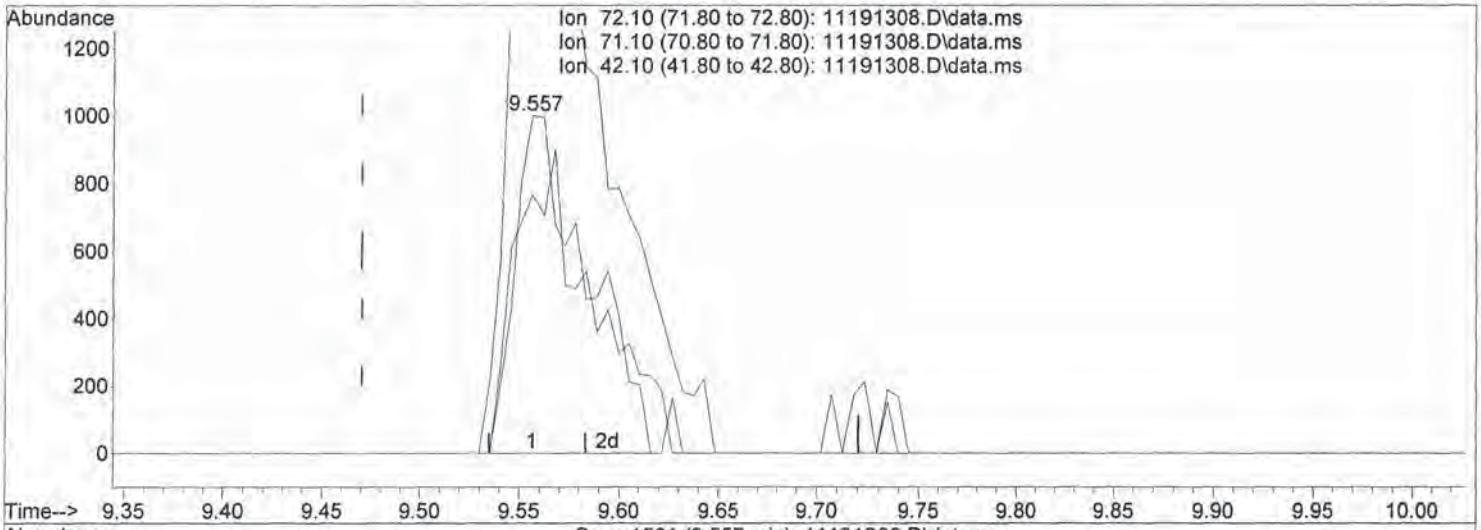
response 1898

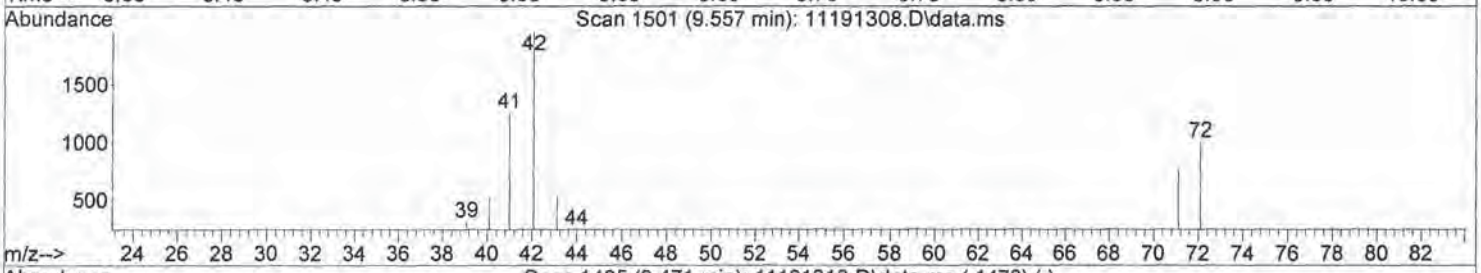
Ion	Exp%	Act%
72.10	100	100
71.10	93.50	128.13#
42.10	240.80	332.88#
0.00	0.00	0.00

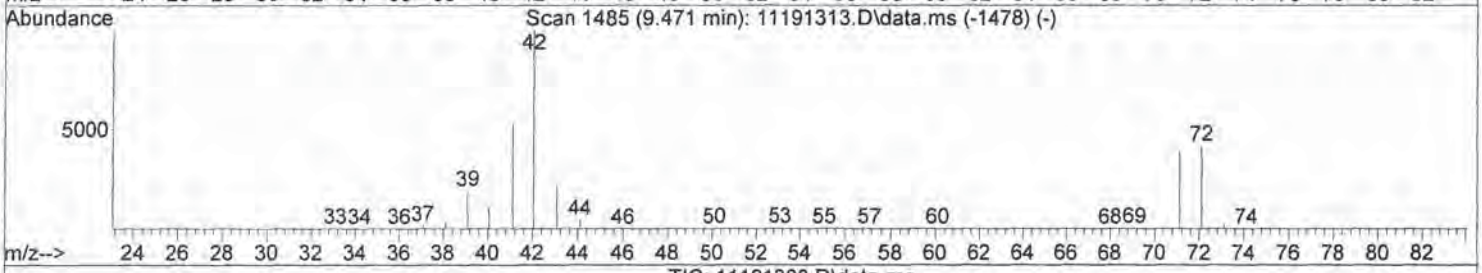
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191308.D
Acq On : 19 Nov 2013 14:36 Operator: EM/CD
Sample : 0.1ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:32:45 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191308.D\data.ms

(34) Tetrahydrofuran (THF) (T)

9.557min (+0.086) 0.15ng m

response 2489

Ion	Exp%	Act%
72.10	100	100
71.10	93.50	97.71
42.10	240.80	253.84
0.00	0.00	0.00

SP
CD 11/21/13

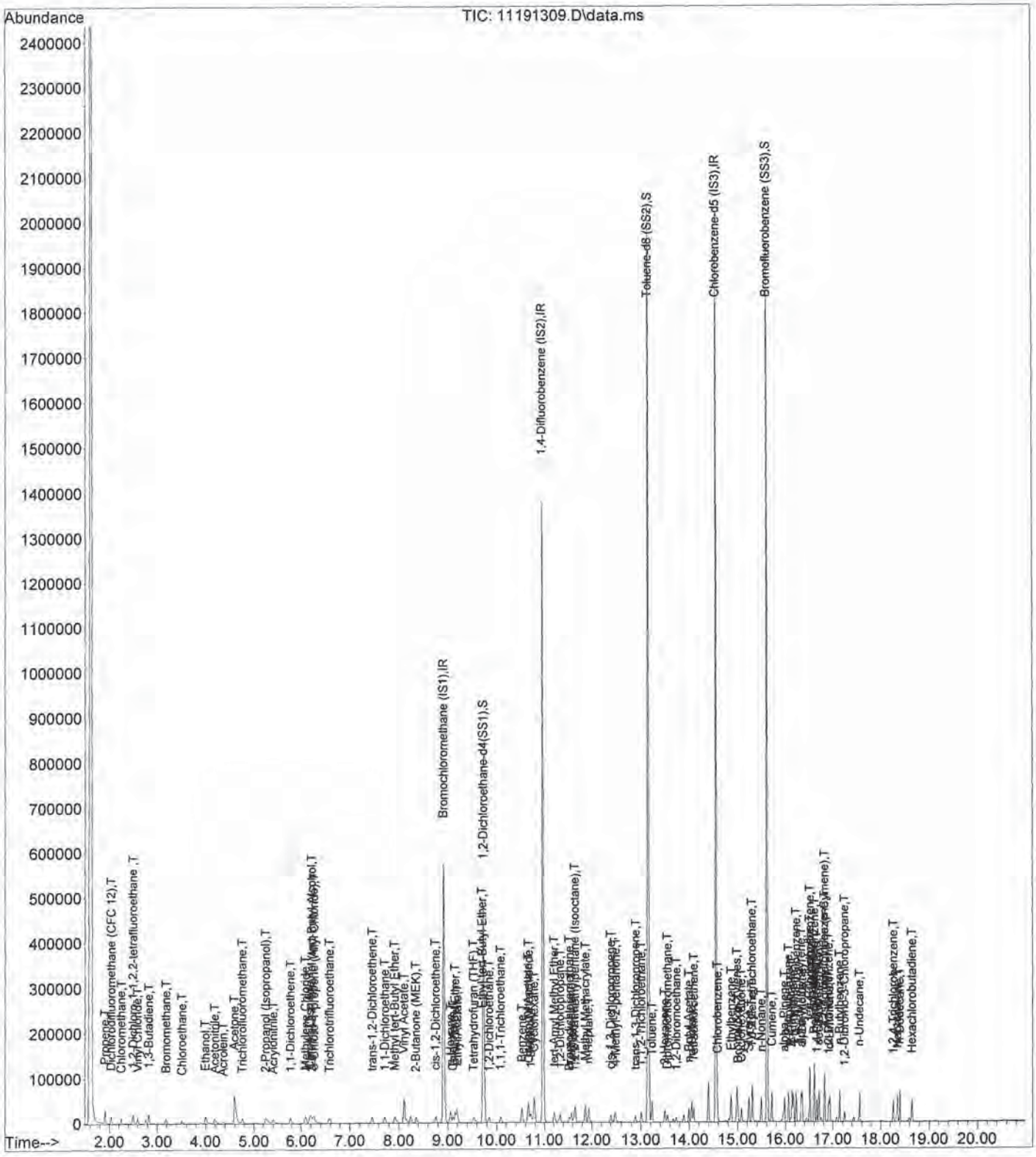
11/21/13

EM 11/22/13

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191309.D
Acq On : 19 Nov 2013 15:06 Operator: EM/CD
Sample : 0.2ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 21 09:16:10 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191309.D
Acq On : 19 Nov 2013 15:06 Operator: EM/CD
Sample : 0.2ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 21 09:16:10 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

EM 11/22/13

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	242944	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	10.97	114	1212568	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.55	82	477299	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.73	65	332334	11.539	ng		-0.01
Spiked Amount 12.500			Recovery =	92.32%			
57) Toluene-d8 (SS2)	13.15	98	1273997	12.599	ng		0.00
Spiked Amount 12.500			Recovery =	100.80%			
73) Bromofluorobenzene (SS3)	15.61	174	514728	12.723	ng		0.00
Spiked Amount 12.500			Recovery =	101.76%			
Target Compounds							Qvalue
2) Propene	1.91	42	8205	0.252	ng		100
3) Dichlorodifluoromethan...	2.04	85	12640	0.269	ng		100
4) Chloromethane	2.25	50	10078	0.360	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	2.49	135	7754	0.300	ng		96
6) Vinyl Chloride	2.60	62	10195	0.290	ng		99
7) 1,3-Butadiene	2.83	54	9057	0.359	ng		99
8) Bromomethane	3.19	94	7732	0.357	ng		99
9) Chloroethane	3.51	64	5551	0.283	ng		99
10) Ethanol	3.99	45	27030	1.640	ng		92
11) Acetonitrile	4.19	41	13448	0.234	ng		100
12) Acrolein	4.37	56	5250	0.355	ng		99
13) Acetone	4.60	58	39327	2.030	ng		95
14) Trichlorofluoromethane	4.76	101	11758	0.270	ng		98
15) 2-Propanol (Isopropanol)	5.24	45	40799	0.721	ng		86
16) Acrylonitrile	5.40	53	9109	0.267	ng		94
17) 1,1-Dichloroethene	5.77	96	6962	0.296	ng		96
18) 2-Methyl-2-Propanol (t...	6.22	59	37360	0.558	ng		78
19) Methylene Chloride	6.09	84	10079	0.391	ng		98
20) 3-Chloro-1-propene (Al...	6.26	41	14563	0.278	ng		89
21) Trichlorotrifluoroethane	6.58	151	6712	0.294	ng		98
22) Carbon Disulfide	6.18	76	34284	0.377	ng		100
23) trans-1,2-Dichloroethene	7.46	61	9613	0.265	ng		99
24) 1,1-Dichloroethane	7.72	63	12751	0.278	ng		99
25) Methyl tert-Butyl Ether	7.92	73	21956	0.274	ng		99
26) Vinyl Acetate	8.10	86	9433	1.243	ng	#	80
27) 2-Butanone (MEK)	8.35	72	4985	0.256	ng	#	68
28) cis-1,2-Dichloroethene	8.75	61	9579	0.282	ng		95
29) Diisopropyl Ether	9.15	87	6718m	0.274	ng		
30) Ethyl Acetate	9.20	61	5173	0.561	ng		92
31) n-Hexane	9.06	57	13194	0.278	ng		98
32) Chloroform	9.10	83	11742	0.278	ng		100
34) Tetrahydrofuran (THF)	9.54	72	4676m	0.272	ng		
35) Ethyl tert-Butyl Ether	9.71	87	9130	0.270	ng		91
36) 1,2-Dichloroethane	9.85	62	8647	0.264	ng		96
38) 1,1,1-Trichloroethane	10.08	97	10584	0.272	ng		96
39) Isopropyl Acetate	10.65	61	9047	0.571	ng	#	68
40) 1-Butanol	10.71	56	13713	0.509	ng		95
41) Benzene	10.52	78	31022	0.293	ng		99
42) Carbon Tetrachloride	10.67	117	8844	0.272	ng		97
43) Cyclohexane	10.78	84	22925	0.557	ng		91
44) tert-Amyl Methyl Ether	11.21	73	21315	0.274	ng		95
45) 1,2-Dichloropropane	11.34	63	7292	0.288	ng		99

CD 11/21/13

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191309.D
Acq On : 19 Nov 2013 15:06 Operator: EM/CD
Sample : 0.2ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 21 09:16:10 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

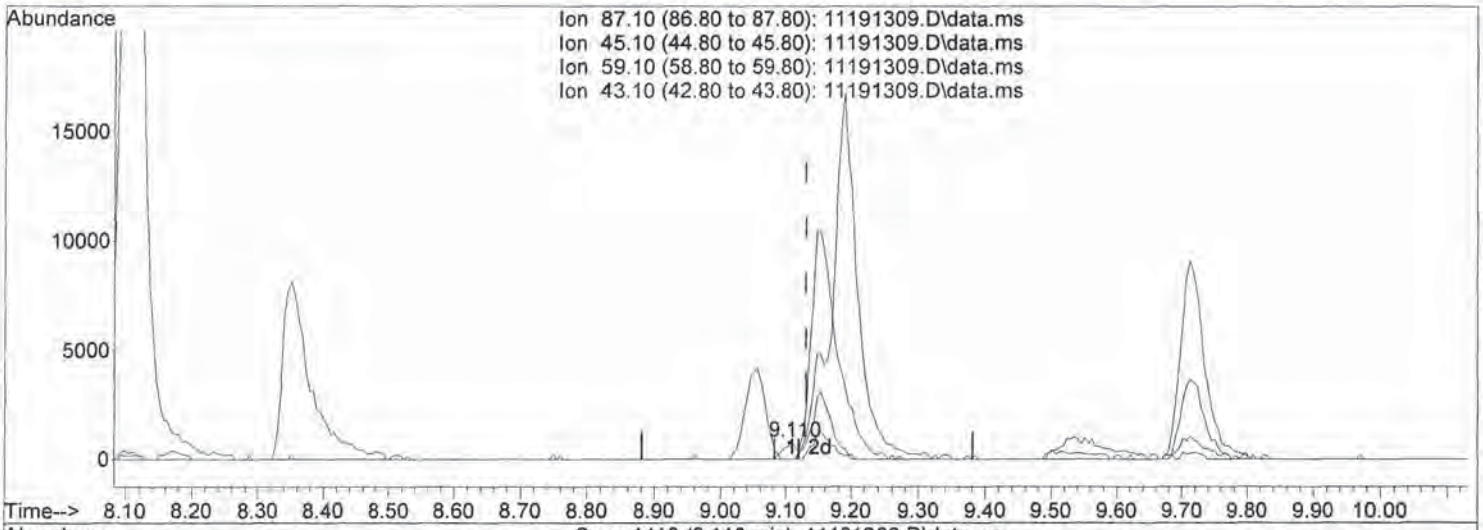
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Bromodichloromethane	11.53	83	8675	0.268	ng	99
47) Trichloroethene	11.57	130	8717	0.302	ng	95
48) 1,4-Dioxane	11.62	88	6389	0.334	ng	76
49) 2,2,4-Trimethylpentane...	11.65	57	34497	0.289	ng	99
50) Methyl Methacrylate	11.86	100	6591	0.542	ng	99
51) n-Heptane	11.93	71	7972	0.284	ng	99
52) cis-1,3-Dichloropropene	12.40	75	10461	0.263	ng	98
53) 4-Methyl-2-pentanone	12.48	58	7392	0.293	ng	96
54) trans-1,3-Dichloropropene	12.89	75	9078	0.248	ng	96
55) 1,1,2-Trichloroethane	13.01	97	6824	0.289	ng	95
58) Toluene	13.23	91	31081	0.295	ng	99
59) 2-Hexanone	13.49	43	17406	0.281	ng	97
60) Dibromochloromethane	13.55	129	7703	0.282	ng	96
61) 1,2-Dibromoethane	13.73	107	8005	0.298	ng	93
62) n-Butyl Acetate	13.99	43	19343	0.291	ng	99
63) n-Octane	14.05	57	6490	0.265	ng	98
64) Tetrachloroethene	14.10	166	9374	0.274	ng	99
65) Chlorobenzene	14.59	112	20834	0.305	ng	100
66) Ethylbenzene	14.87	91	34767	0.297	ng	98
67) m- & p-Xylenes	14.99	91	53972	0.578	ng	96
68) Bromoform	15.01	173	6809	0.269	ng	98
69) Styrene	15.23	104	21471	0.303	ng	98
70) o-Xylene	15.30	91	27563	0.284	ng	97
71) n-Nonane	15.49	43	15899	0.259	ng	97
72) 1,1,2,2-Tetrachloroethane	15.30	83	11678	0.268	ng	100
74) Cumene	15.72	105	35288	0.280	ng	99
75) alpha-Pinene	15.98	93	17598	0.295	ng	98
76) n-Propylbenzene	16.07	91	40814	0.277	ng	97
77) 3-Ethyltoluene	16.14	105	35017	0.272	ng	99
78) 4-Ethyltoluene	16.17	105	32107	0.297	ng	99
79) 1,3,5-Trimethylbenzene	16.23	105	28612	0.288	ng	99
80) alpha-Methylstyrene	16.33	118	15480	0.322	ng	98
81) 2-Ethyltoluene	16.36	105	33023	0.282	ng	99
82) 1,2,4-Trimethylbenzene	16.52	105	28958	0.288	ng	98
83) n-Decane	16.61	57	15996	0.275	ng	96
84) Benzyl Chloride	16.60	91	21385	0.255	ng	95
85) 1,3-Dichlorobenzene	16.61	146	18026	0.299	ng	98
86) 1,4-Dichlorobenzene	16.66	146	18186	0.298	ng	97
87) sec-Butylbenzene	16.71	105	38201	0.293	ng	99
88) 4-Isopropyltoluene (p-...	16.83	119	36962	0.283	ng	96
89) 1,2,3-Trimethylbenzene	16.82	105	29173	0.283	ng	99
90) 1,2-Dichlorobenzene	16.92	146	16892	0.299	ng	99
91) d-Limonene	16.94	68	11035	0.316	ng	96
92) 1,2-Dibromo-3-Chloropr...	17.25	157	5866	0.272	ng	91
93) n-Undecane	17.56	57	15815	0.259	ng	99
94) 1,2,4-Trichlorobenzene	18.27	180	14068	0.323	ng	99
95) Naphthalene	18.35	128	38419	0.299	ng	100
96) n-Dodecane	18.41	57	16716	0.307	ng	96
97) Hexachlorobutadiene	18.65	225	8948	0.302	ng	96
98) Cyclohexanone	15.08	55	10602	0.311	ng	98
99) tert-Butylbenzene	16.51	119	29339	0.290	ng	99
100) n-Butylbenzene	17.15	91	30456	0.310	ng	97

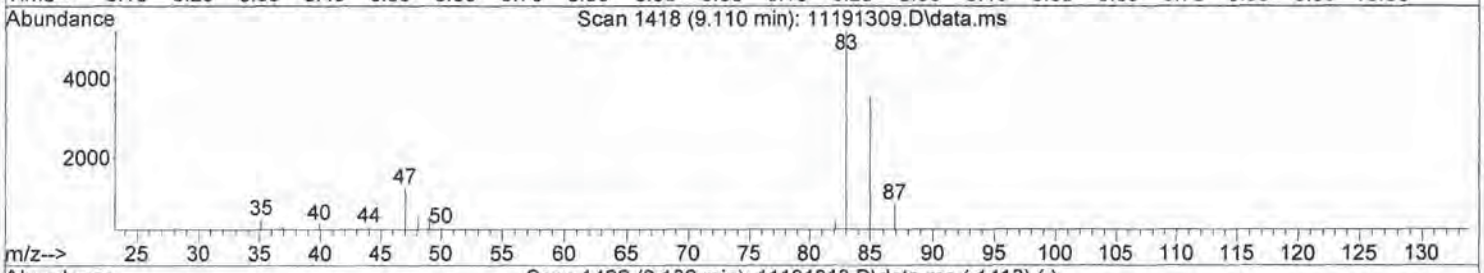
(#) = qualifier out of range (m) = manual integration (+) = signals summed

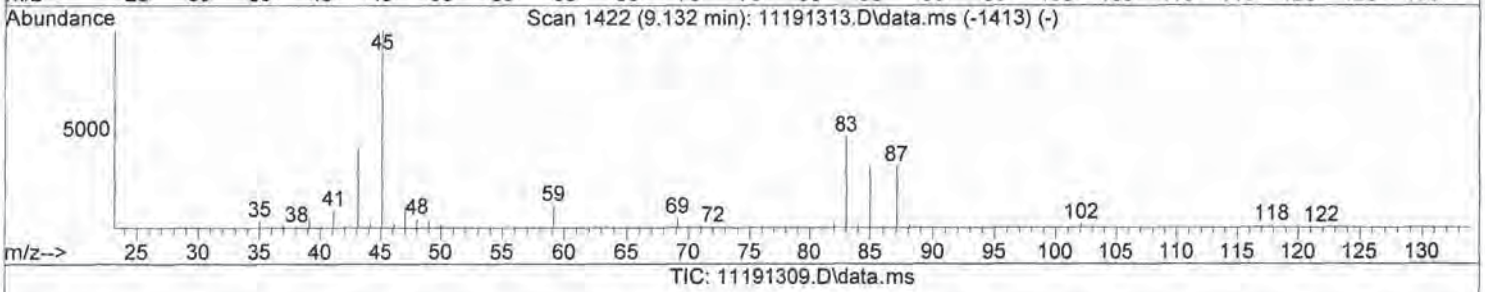
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191309.D
Acq On : 19 Nov 2013 15:06 Operator: EM/CD
Sample : 0.2ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:16:17 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191309.D\data.ms

(29) Diisopropyl Ether (T)

9.110min (-0.022) 0.04ng

response 1101

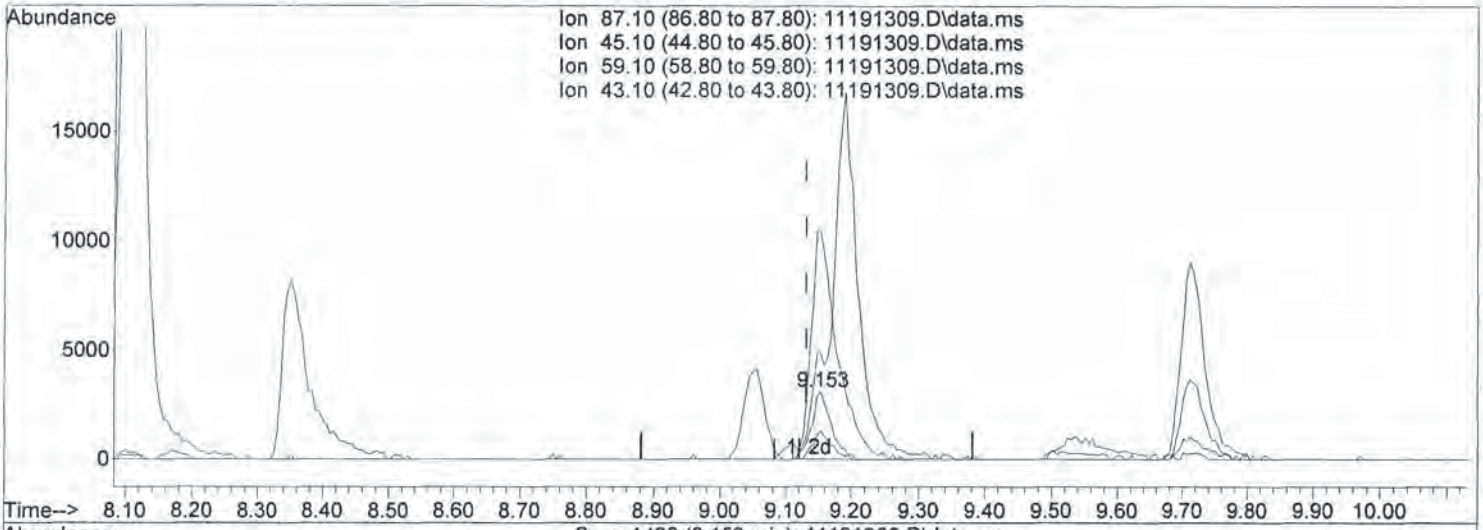
Ion	Exp%	Act%
87.10	100	100
45.10	384.20	0.00#
59.10	35.00	0.00#
43.10	0.00	0.00

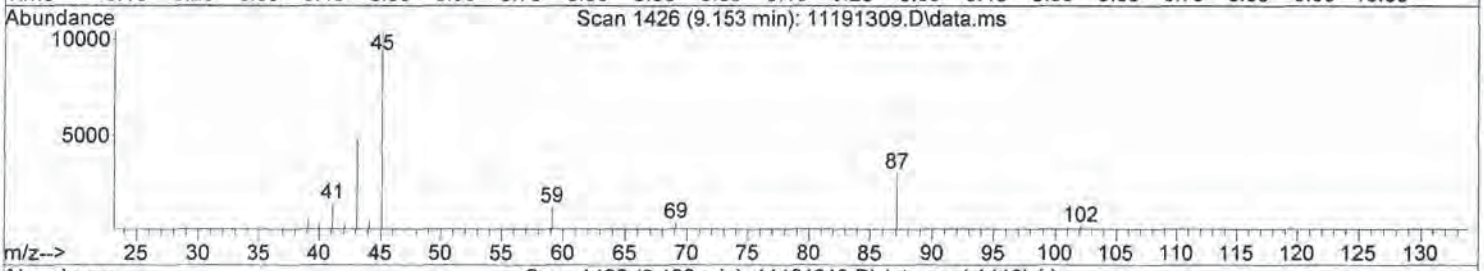
R8111913.M Wed Nov 20 08:03:08 2013

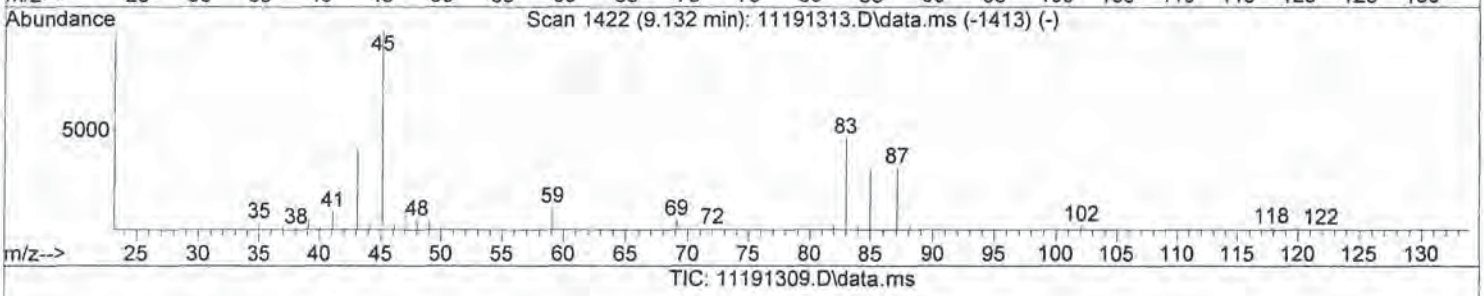
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191309.D
Acq On : 19 Nov 2013 15:06 Operator: EM/CD
Sample : 0.2ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:16:17 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191309.D\data.ms

(29) Diisopropyl Ether (T)

9.153min (+0.021) 0.27ng m

response 6718

Ion	Exp%	Act%
87.10	100	100
45.10	384.20	0.00#
59.10	35.00	0.00#
43.10	0.00	0.00

MP
CD 11/20/13

11/21/13

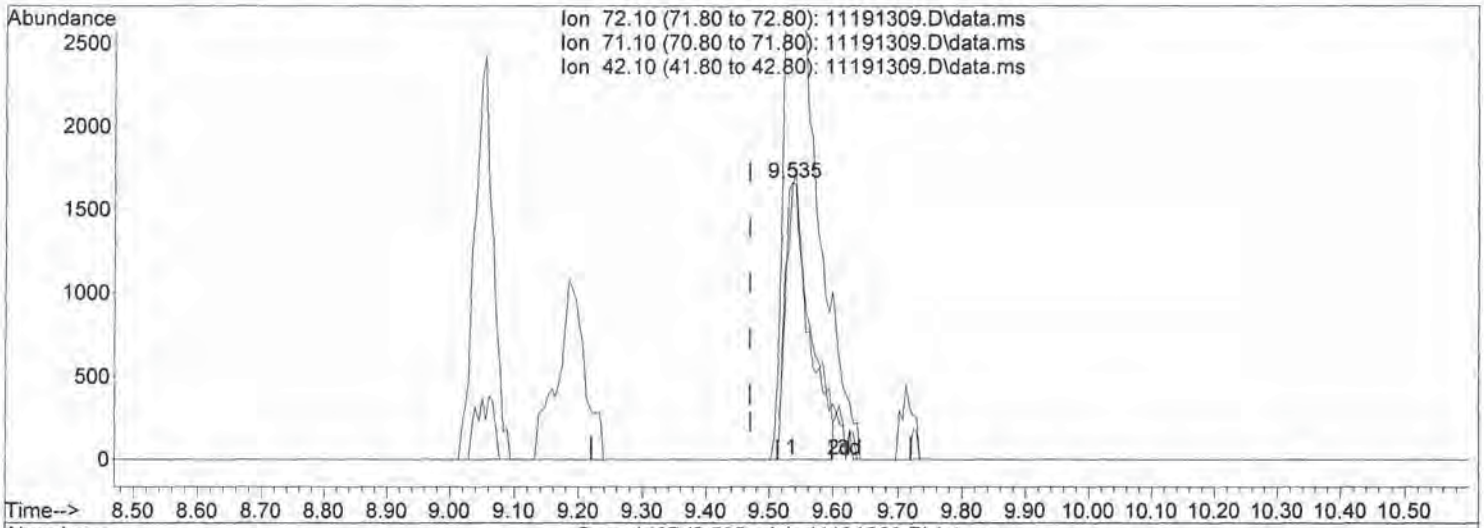
EM 11/22/13

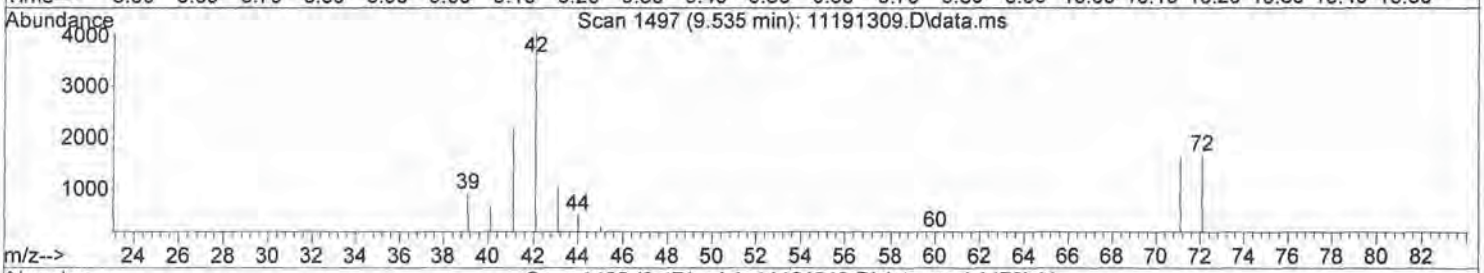
R8111913.M Wed Nov 20 08:03:16 2013

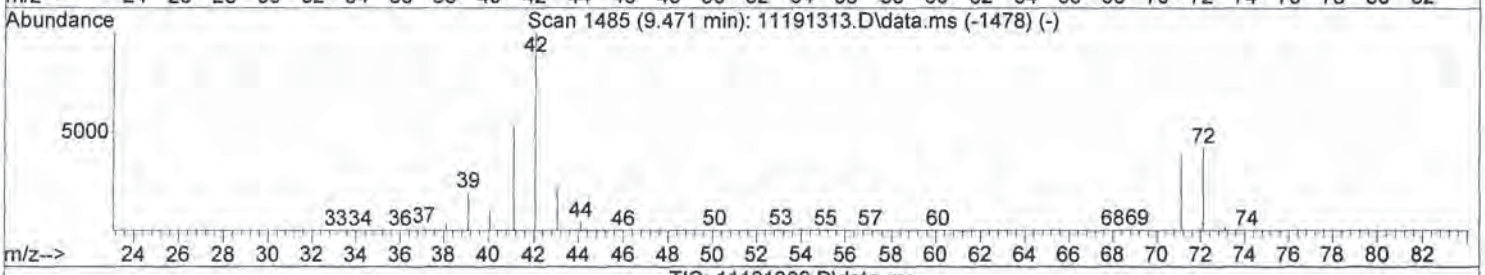
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191309.D
Acq On : 19 Nov 2013 15:06 Operator: EM/CD
Sample : 0.2ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 08:03:11 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191309.D\data.ms

(34) Tetrahydrofuran (THF) (T)

9.535min (+0.064) 0.26ng

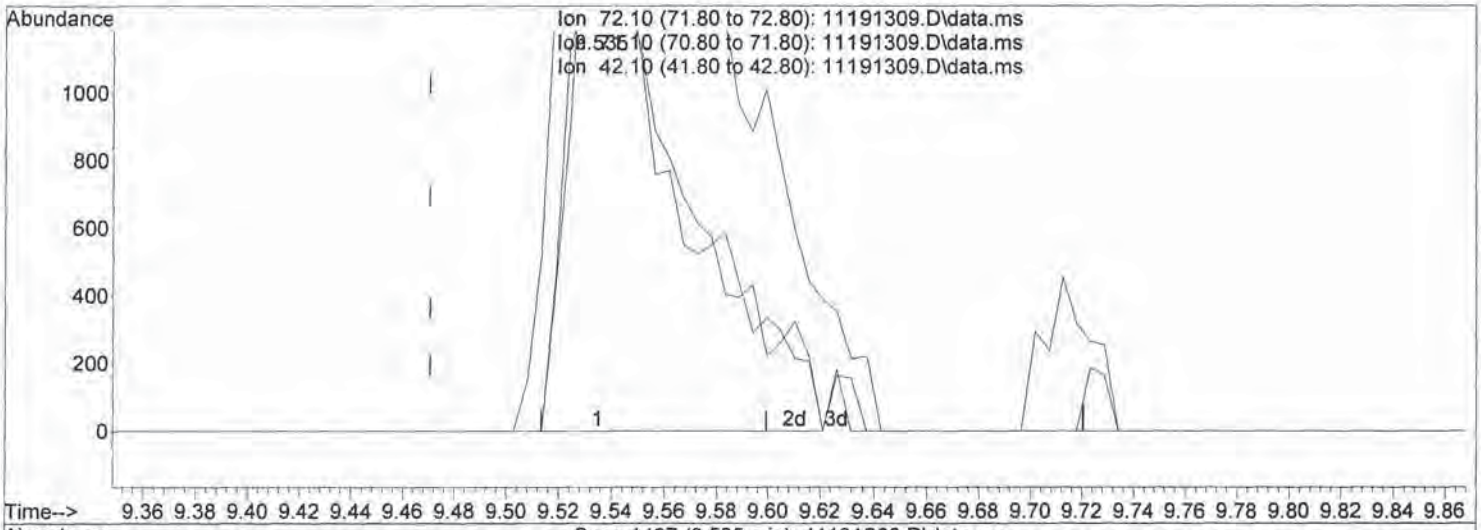
response 4417

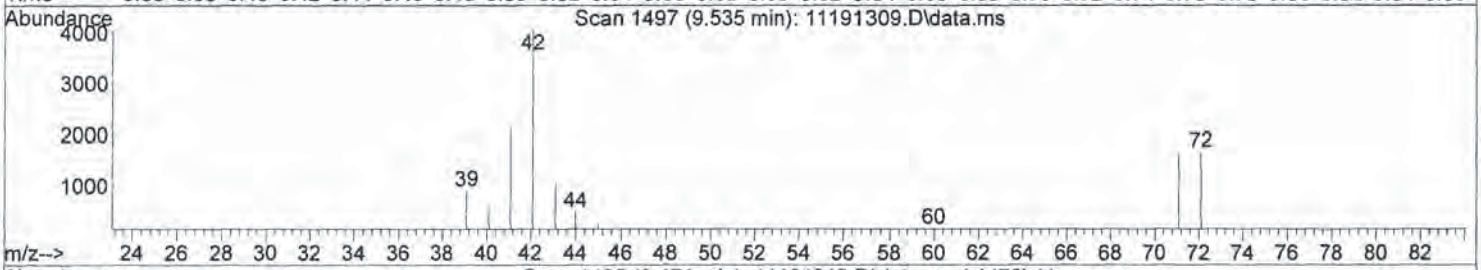
Ion	Exp%	Act%
72.10	100	100
71.10	93.50	103.92
42.10	240.80	283.68#
0.00	0.00	0.00

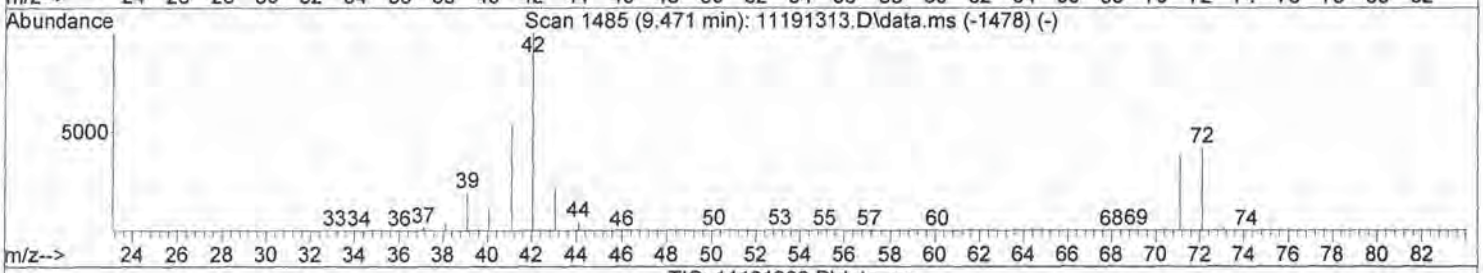
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191309.D
Acq On : 19 Nov 2013 15:06 Operator: EM/CD
Sample : 0.2ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 08:03:11 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191309.D\data.ms

(34) Tetrahydrofuran (THF) (T)

9.535min (+0.064) 0.27ng m

response 4676

Ion	Exp%	Act%
72.10	100	100
71.10	93.50	98.16
42.10	240.80	267.96#
0.00	0.00	0.00

SP
CD 11/21/13

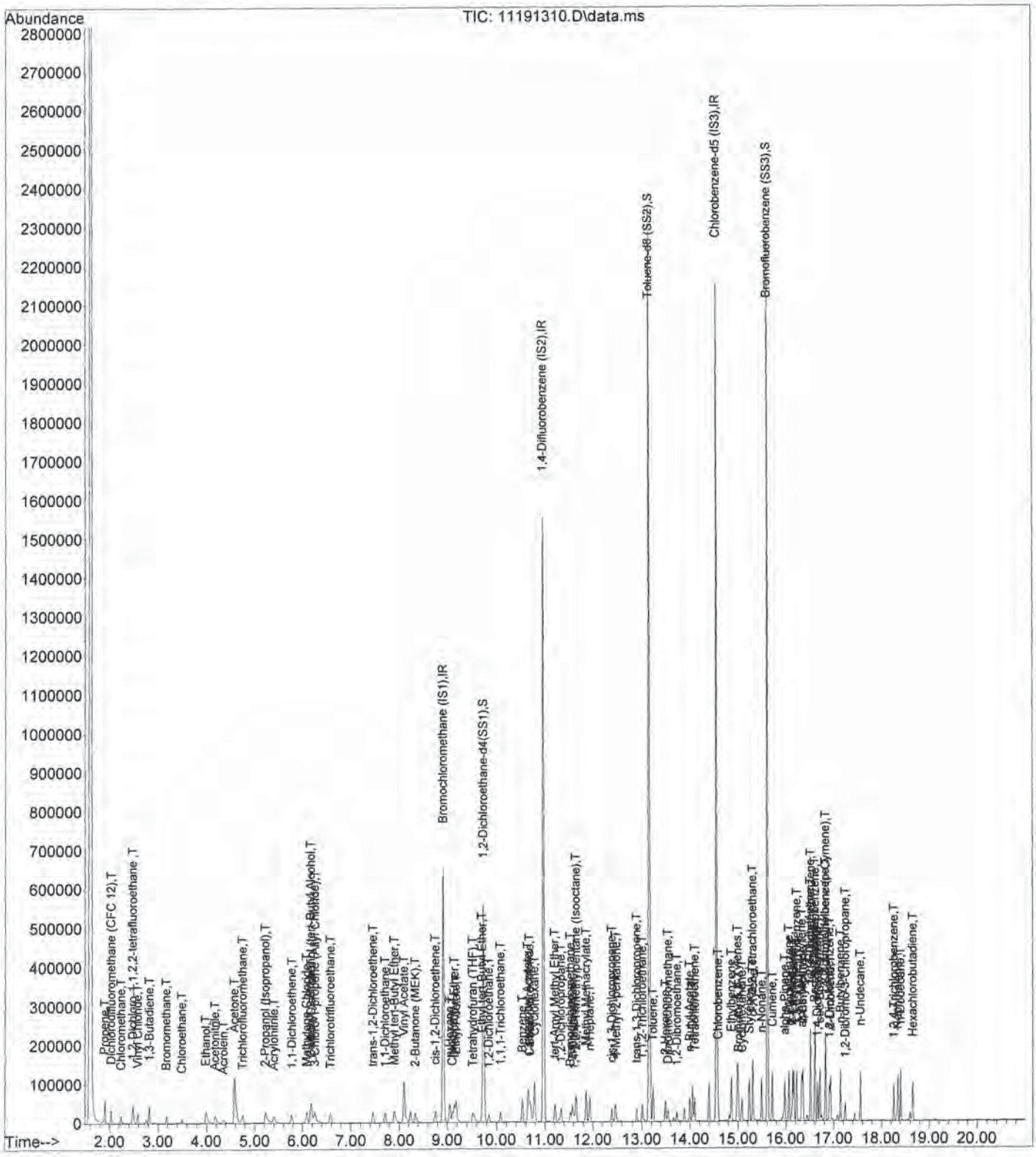
11/21/13

EM 11/22/13

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191310.D
Acq On : 19 Nov 2013 15:35 Operator: EM/CD
Sample : 0.4ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 08:04:06 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191310.D
Acq On : 19 Nov 2013 15:35 Operator: EM/CD
Sample : 0.4ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 08:04:06 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	275769	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	10.97	114	1380210	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.55	82	547291	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.73	65	376963	11.531	ng		-0.01
Spiked Amount 12.500			Recovery = 92.24%				
57) Toluene-d8 (SS2)	13.15	98	1455138	12.550	ng		0.00
Spiked Amount 12.500			Recovery = 100.40%				
73) Bromofluorobenzene (SS3)	15.61	174	593553	12.795	ng		0.00
Spiked Amount 12.500			Recovery = 102.32%				
Target Compounds							Qvalue
2) Propene	1.90	42	15203	0.411	ng		99
3) Dichlorodifluoromethan...	2.03	85	24380	0.458	ng		99
4) Chloromethane	2.23	50	17739	0.558	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	2.48	135	14680	0.501	ng		98
6) Vinyl Chloride	2.58	62	19416	0.487	ng		99
7) 1,3-Butadiene	2.82	54	17761	0.619	ng		98
8) Bromomethane	3.18	94	13115	0.533	ng		100
9) Chloroethane	3.49	64	10628	0.477	ng		99
10) Ethanol	3.98	45	50464	2.698	ng		93
11) Acetonitrile	4.18	41	26021	0.399	ng		99
12) Acrolein	4.35	56	9907	0.590	ng		99
13) Acetone	4.58	58	75502	3.433	ng		93
14) Trichlorofluoromethane	4.75	101	22634	0.458	ng		97
15) 2-Propanol (Isopropanol)	5.22	45	78093	1.215	ng		94
16) Acrylonitrile	5.39	53	17614	0.454	ng		100
17) 1,1-Dichloroethene	5.77	96	13330	0.500	ng		98
18) 2-Methyl-2-Propanol (t...	6.17	59	74645	0.982	ng		86
19) Methylene Chloride	6.08	84	17235	0.589	ng		100
20) 3-Chloro-1-propene (Al...	6.25	41	27005	0.455	ng		87
21) Trichlorotrifluoroethane	6.58	151	12908	0.499	ng		97
22) Carbon Disulfide	6.18	76	59544	0.576	ng		100
23) trans-1,2-Dichloroethene	7.46	61	18799	0.457	ng		99
24) 1,1-Dichloroethane	7.71	63	24542	0.471	ng		98
25) Methyl tert-Butyl Ether	7.91	73	42652	0.469	ng		100
26) Vinyl Acetate	8.10	86	19423	2.254	ng	#	86
27) 2-Butanone (MEK)	8.34	72	11185	0.506	ng		96
28) cis-1,2-Dichloroethene	8.76	61	18061	0.468	ng		98
29) Diisopropyl Ether	9.14	87	11840m	0.425	ng		
30) Ethyl Acetate	9.18	61	9762	0.933	ng		98
31) n-Hexane	9.05	57	25311	0.470	ng		99
32) Chloroform	9.10	83	23086	0.481	ng		99
34) Tetrahydrofuran (THF)	9.52	72	9549	0.490	ng	#	87
35) Ethyl tert-Butyl Ether	9.71	87	18696	0.488	ng		97
36) 1,2-Dichloroethane	9.84	62	16850	0.454	ng		98
38) 1,1,1-Trichloroethane	10.08	97	20026	0.452	ng		99
39) Isopropyl Acetate	10.64	61	17896	0.993	ng	#	68
40) 1-Butanol	10.69	56	27337	0.892	ng		92
41) Benzene	10.52	78	58159	0.483	ng		99
42) Carbon Tetrachloride	10.68	117	17132	0.462	ng		95
43) Cyclohexane	10.78	84	46014	0.981	ng		97
44) tert-Amyl Methyl Ether	11.20	73	42343	0.478	ng		97
45) 1,2-Dichloropropane	11.34	63	14234	0.495	ng		98

GD 11/20/13 11/21/13

Data File: I:\MS08\Data\2013_11\19\11191310.D
Acq On : 19 Nov 2013 15:35 Operator: EM/CD
Sample : 0.4ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 08:04:06 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

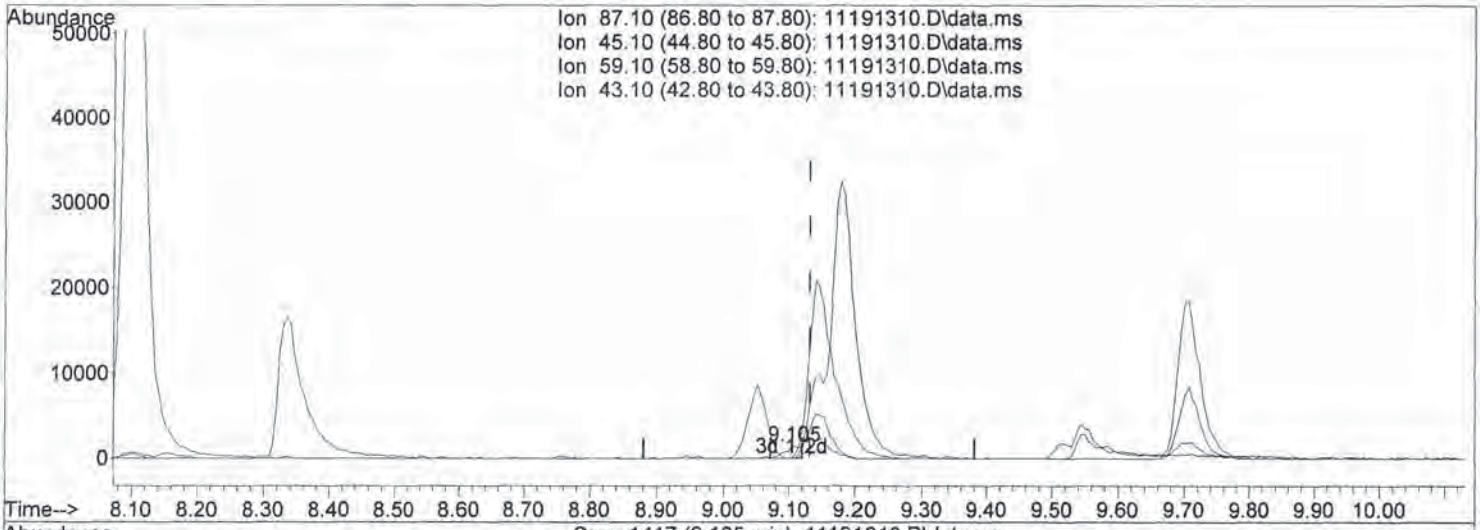
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) Bromodichloromethane	11.53	83	17023	0.462	ng		100
47) Trichloroethene	11.58	130	16372	0.498	ng		99
48) 1,4-Dioxane	11.61	88	12149	0.558	ng	#	70
49) 2,2,4-Trimethylpentane...	11.65	57	67136	0.494	ng		99
50) Methyl Methacrylate	11.86	100	12950	0.936	ng		97
51) n-Heptane	11.93	71	15549	0.486	ng		96
52) cis-1,3-Dichloropropene	12.40	75	20585	0.455	ng		100
53) 4-Methyl-2-pentanone	12.48	58	13875	0.483	ng		95
54) trans-1,3-Dichloropropene	12.89	75	17826	0.427	ng		99
55) 1,1,2-Trichloroethane	13.00	97	13523	0.503	ng		98
58) Toluene	13.23	91	59658	0.495	ng		98
59) 2-Hexanone	13.49	43	35373	0.498	ng		95
60) Dibromochloromethane	13.55	129	15106	0.483	ng		98
61) 1,2-Dibromoethane	13.73	107	14762	0.479	ng		93
62) n-Butyl Acetate	13.99	43	37678	0.494	ng		100
63) n-Octane	14.05	57	13307	0.474	ng		96
64) Tetrachloroethene	14.10	166	17821	0.455	ng		99
65) Chlorobenzene	14.59	112	39870	0.509	ng		100
66) Ethylbenzene	14.86	91	65797	0.490	ng		98
67) m- & p-Xylenes	14.99	91	103026	0.962	ng		99
68) Bromoform	15.01	173	13388	0.461	ng		98
69) Styrene	15.23	104	42169	0.518	ng		99
70) o-Xylene	15.31	91	53159	0.478	ng		96
71) n-Nonane	15.49	43	31246	0.444	ng		98
72) 1,1,2,2-Tetrachloroethane	15.30	83	23488	0.470	ng		98
74) Cumene	15.72	105	68607	0.474	ng		98
75) alpha-Pinene	15.98	93	35492	0.520	ng		95
76) n-Propylbenzene	16.07	91	78392	0.463	ng		99
77) 3-Ethyltoluene	16.14	105	69104	0.468	ng		100
78) 4-Ethyltoluene	16.17	105	63333	0.512	ng		96
79) 1,3,5-Trimethylbenzene	16.23	105	55493	0.487	ng		99
80) alpha-Methylstyrene	16.33	118	29796	0.541	ng		97
81) 2-Ethyltoluene	16.36	105	65641	0.489	ng		98
82) 1,2,4-Trimethylbenzene	16.52	105	56027	0.486	ng		99
83) n-Decane	16.61	57	32013	0.480	ng		94
84) Benzyl Chloride	16.60	91	44710	0.464	ng		95
85) 1,3-Dichlorobenzene	16.61	146	34118	0.494	ng		100
86) 1,4-Dichlorobenzene	16.66	146	35162	0.502	ng		98
87) sec-Butylbenzene	16.71	105	75808	0.506	ng		98
88) 4-Isopropyltoluene (p-...	16.83	119	70691	0.472	ng		97
89) 1,2,3-Trimethylbenzene	16.82	105	57783	0.489	ng		100
90) 1,2-Dichlorobenzene	16.92	146	32195	0.497	ng		100
91) d-Limonene	16.94	68	21209	0.530	ng		99
92) 1,2-Dibromo-3-Chloropr...	17.25	157	11877	0.480	ng		96
93) n-Undecane	17.56	57	31835	0.454	ng		99
94) 1,2,4-Trichlorobenzene	18.27	180	26115	0.523	ng		99
95) Naphthalene	18.35	128	76468	0.520	ng		99
96) n-Dodecane	18.41	57	32755	0.525	ng		100
97) Hexachlorobutadiene	18.66	225	17441	0.514	ng		99
98) Cyclohexanone	15.08	55	21669	0.555	ng		96
99) tert-Butylbenzene	16.51	119	57313	0.494	ng		100
100) n-Butylbenzene	17.15	91	58339	0.517	ng		98

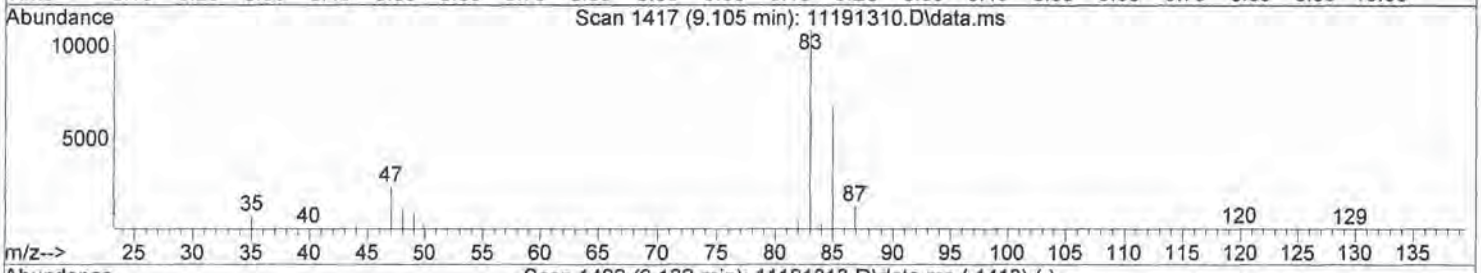
(#) = qualifier out of range (m) = manual integration (+) = signals summed

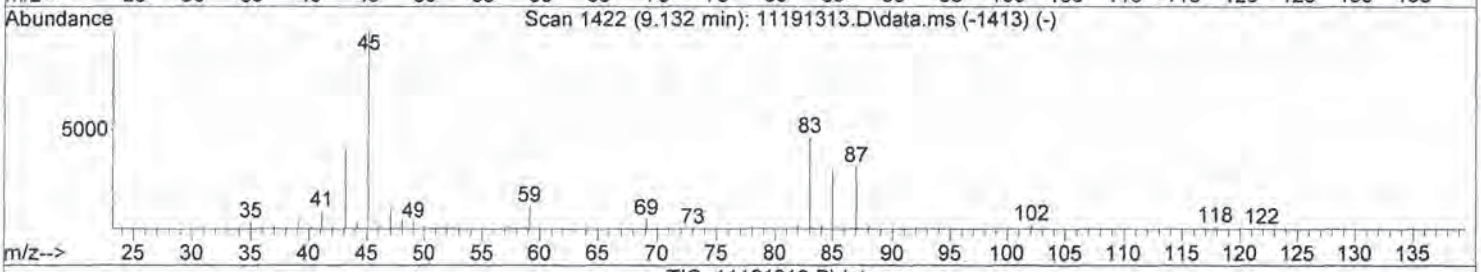
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191310.D
Acq On : 19 Nov 2013 15:35 Operator: EM/CD
Sample : 0.4ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:16:22 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191310.D\data.ms

(29) Diisopropyl Ether (T)

9.105min (-0.027) 0.09ng

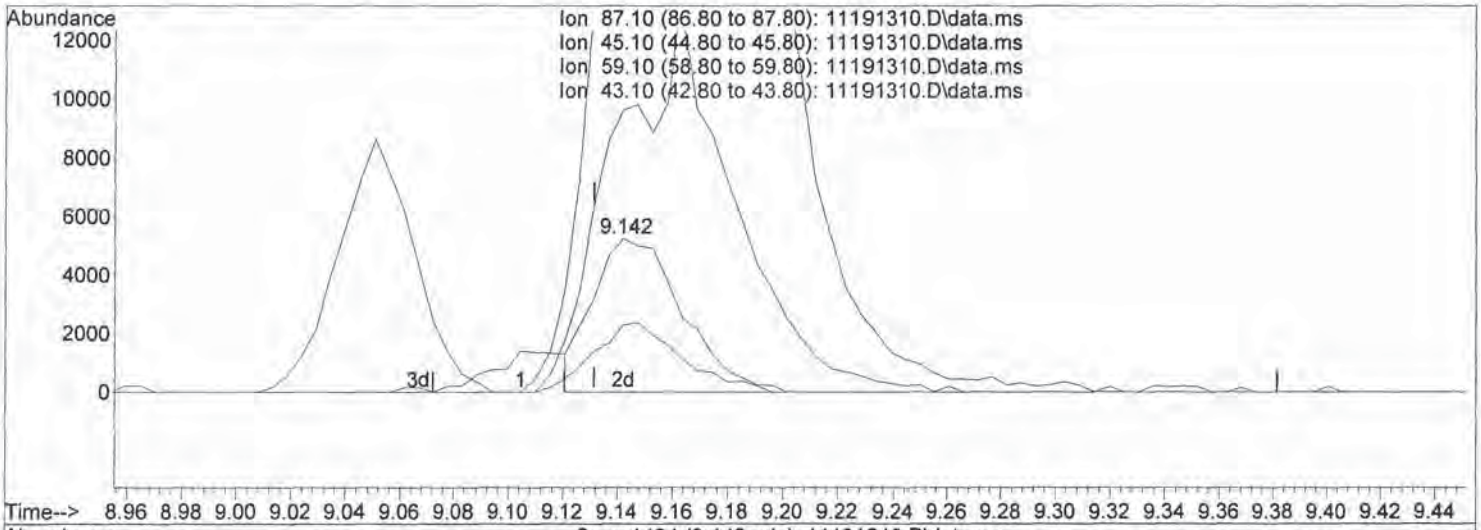
response 2531

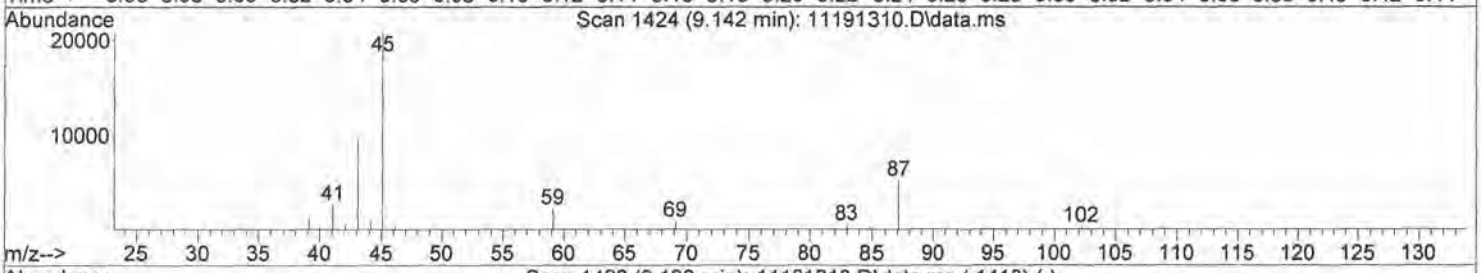
Ion	Exp%	Act%
87.10	100	100
45.10	384.20	0.00#
59.10	35.00	0.00#
43.10	0.00	0.00

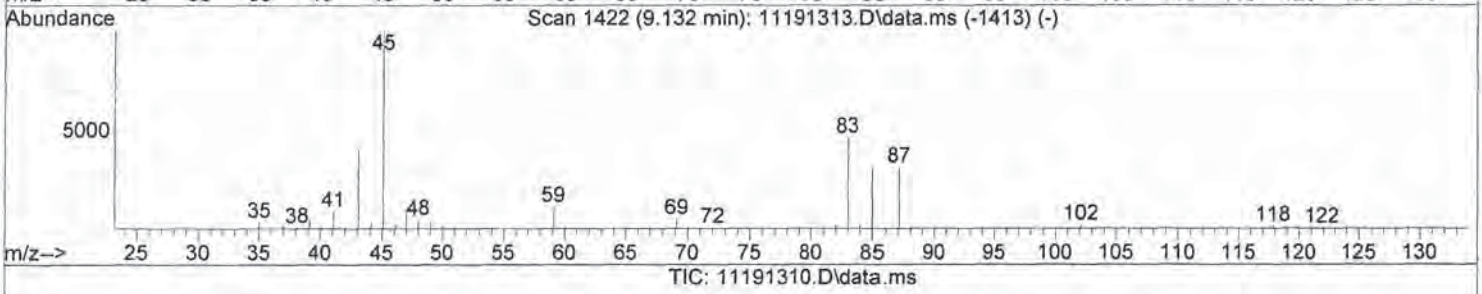
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191310.D
Acq On : 19 Nov 2013 15:35 Operator: EM/CD
Sample : 0.4ng TO-15 ICAL Std
Misc : S25-11181301/S25-11191301 (12/18)
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 20 07:16:22 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191310.D\data.ms

(29) Diisopropyl Ether (T)

9.142min (+0.011) 0.43ng m

response 11840

Ion	Exp%	Act%
87.10	100	100
45.10	384.20	0.00#
59.10	35.00	0.00#
43.10	0.00	0.00

MP
CO 11/20/13

11/21/13

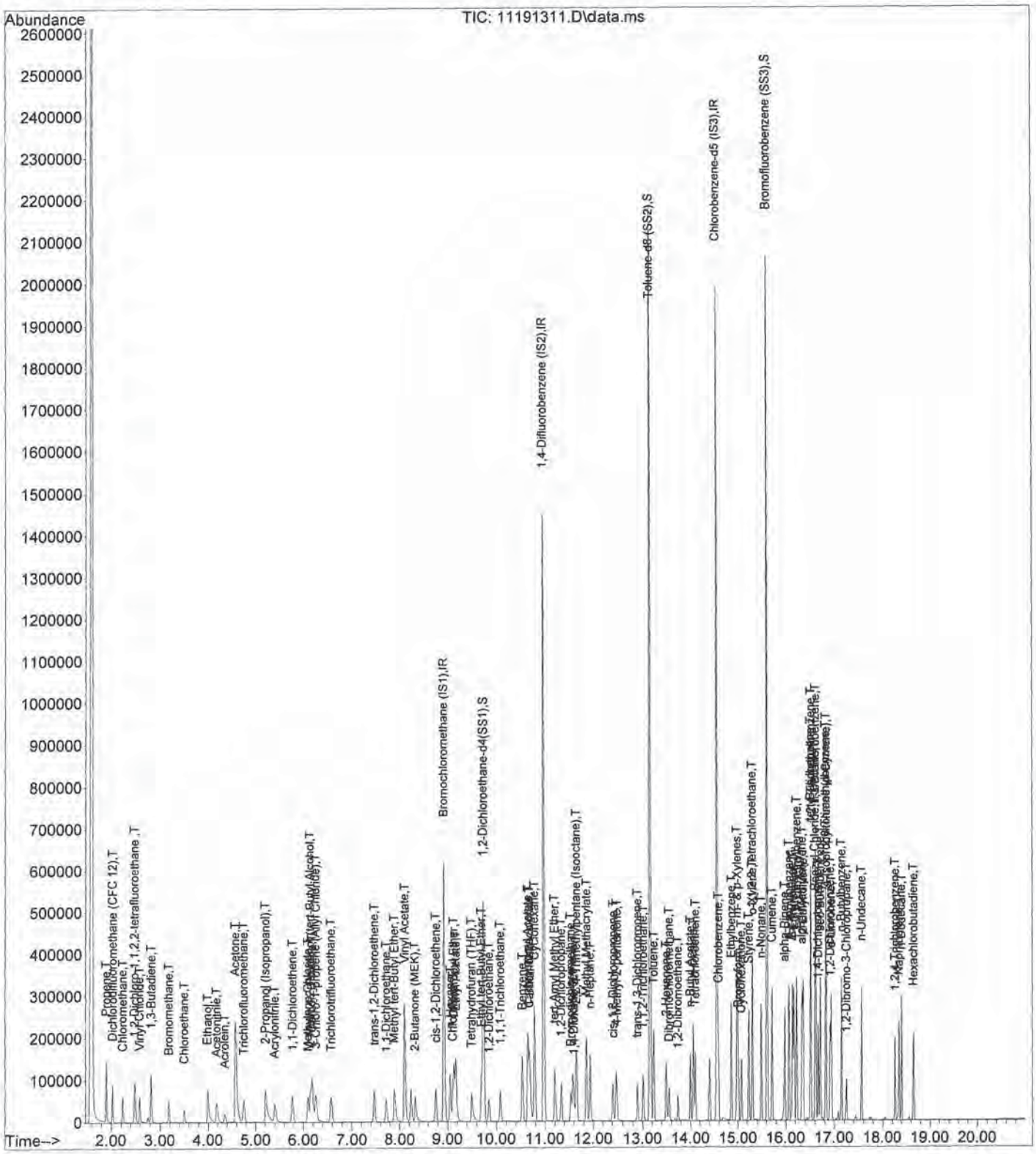
EM 11/22/13

R8111913.M Wed Nov 20 08:04:14 2013 Page: 1

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191311.D
Acq On : 19 Nov 2013 16:04 Operator: EM/CD
Sample : 1.0ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181302 (12/17)
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 20 07:16:29 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191311.D
Acq On : 19 Nov 2013 16:04 Operator: EM/CD
Sample : 1.0ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181302 (12/17)
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 20 07:16:29 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

EM 11/22/13

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.92	130	258588	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	10.97	114	1269907	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.55	82	508485	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.73	65	351350	11.461	ng		-0.01
Spiked Amount 12.500			Recovery =	91.68%			
57) Toluene-d8 (SS2)	13.15	98	1345897	12.494	ng		0.00
Spiked Amount 12.500			Recovery =	99.92%			
73) Bromofluorobenzene (SS3)	15.61	174	548133	12.717	ng		0.00
Spiked Amount 12.500			Recovery =	101.76%			
Target Compounds							Qvalue
2) Propene	1.90	42	39046	1.126	ng		99
3) Dichlorodifluoromethan...	2.03	85	65390	1.309	ng		100
4) Chloromethane	2.23	50	52828	1.772	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	2.48	135	38965	1.418	ng		99
6) Vinyl Chloride	2.58	62	51853	1.388	ng		100
7) 1,3-Butadiene	2.82	54	49166	1.829	ng		100
8) Bromomethane	3.18	94	33489	1.451	ng		97
9) Chloroethane	3.50	64	29228	1.400	ng		99
10) Ethanol	3.98	45	121705	6.939	ng		97
11) Acetonitrile	4.18	41	66438	1.088	ng		98
12) Acrolein	4.35	56	23920	1.520	ng		99
13) Acetone	4.57	58	142054	6.889	ng		95
14) Trichlorofluoromethane	4.75	101	56812	1.227	ng		99
15) 2-Propanol (Isopropanol)	5.20	45	192590	3.197	ng		97
16) Acrylonitrile	5.39	53	46036	1.266	ng		97
17) 1,1-Dichloroethene	5.77	96	35085	1.403	ng		98
18) 2-Methyl-2-Propanol (t...	6.14	59	192858	2.707	ng		94
19) Methylene Chloride	6.09	84	39203	1.428	ng		98
20) 3-Chloro-1-propene (Al...	6.26	41	62758	1.127	ng		95
21) Trichlorotrifluoroethane	6.58	151	33064	1.362	ng		98
22) Carbon Disulfide	6.18	76	128954	1.331	ng		99
23) trans-1,2-Dichloroethene	7.47	61	49867	1.293	ng		100
24) 1,1-Dichloroethane	7.72	63	62898	1.289	ng		98
25) Methyl tert-Butyl Ether	7.89	73	111172	1.305	ng		99
26) Vinyl Acetate	8.10	86	47980	5.938	ng	#	84
27) 2-Butanone (MEK)	8.32	72	24651	1.189	ng		94
28) cis-1,2-Dichloroethene	8.76	61	48353	1.337	ng		100
29) Diisopropyl Ether	9.13	87	37572	1.439	ng	#	99
30) Ethyl Acetate	9.17	61	25689	2.620	ng		99
31) n-Hexane	9.06	57	59606	1.180	ng		99
32) Chloroform	9.11	83	59003	1.311	ng		100
34) Tetrahydrofuran (THF)	9.50	72	25130	1.375	ng		99
35) Ethyl tert-Butyl Ether	9.70	87	47772	1.329	ng		99
36) 1,2-Dichloroethane	9.85	62	44093	1.266	ng		98
38) 1,1,1-Trichloroethane	10.08	97	51008	1.251	ng		98
39) Isopropyl Acetate	10.64	61	46637	2.811	ng	#	76
40) 1-Butanol	10.68	56	65563	2.326	ng		94
41) Benzene	10.53	78	146961	1.325	ng		100
42) Carbon Tetrachloride	10.67	117	44967	1.319	ng		99
43) Cyclohexane	10.78	84	116765	2.707	ng		98
44) tert-Amyl Methyl Ether	11.20	73	109355	1.343	ng		100
45) 1,2-Dichloropropane	11.34	63	36178	1.367	ng		99

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191311.D
Acq On : 19 Nov 2013 16:04 Operator: EM/CD
Sample : 1.0ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181302 (12/17)
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 20 07:16:29 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

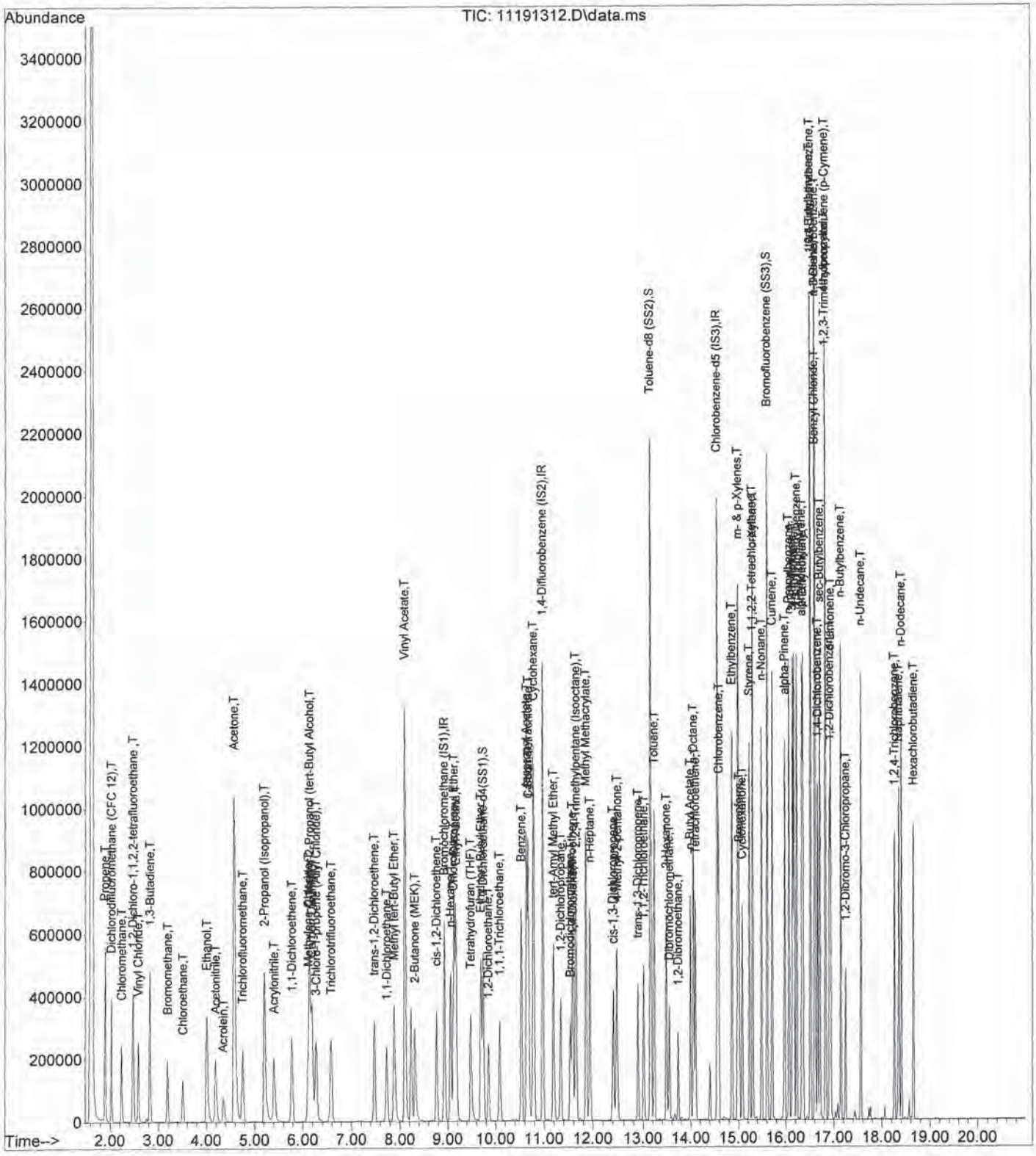
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Bromodichloromethane	11.53	83	46289	1.366	ng	98
47) Trichloroethene	11.57	130	40904	1.352	ng	100
48) 1,4-Dioxane	11.60	88	29652	1.480	ng	99
49) 2,2,4-Trimethylpentane...	11.65	57	170425	1.363	ng	99
50) Methyl Methacrylate	11.86	100	33124	2.603	ng	97
51) n-Heptane	11.93	71	39288	1.336	ng	99
52) cis-1,3-Dichloropropene	12.41	75	53538	1.287	ng	100
53) 4-Methyl-2-pentanone	12.47	58	34869	1.318	ng	96
54) trans-1,3-Dichloropropene	12.89	75	48633	1.266	ng	98
55) 1,1,2-Trichloroethane	13.01	97	34673	1.403	ng	99
58) Toluene	13.23	91	149920	1.338	ng	100
59) 2-Hexanone	13.49	43	85746	1.300	ng	99
60) Dibromochloromethane	13.55	129	39456	1.358	ng	99
61) 1,2-Dibromoethane	13.73	107	38560	1.346	ng	99
62) n-Butyl Acetate	13.99	43	97510	1.375	ng	99
63) n-Octane	14.05	57	33368	1.279	ng	99
64) Tetrachloroethene	14.10	166	45224	1.242	ng	100
65) Chlorobenzene	14.59	112	100778	1.385	ng	100
66) Ethylbenzene	14.87	91	170818	1.371	ng	99
67) m- & p-Xylenes	14.99	91	265429	2.667	ng	99
68) Bromoform	15.01	173	34481	1.277	ng	100
69) Styrene	15.23	104	109460	1.449	ng	99
70) o-Xylene	15.31	91	133862	1.296	ng	99
71) n-Nonane	15.49	43	79147	1.210	ng	99
72) 1,1,2,2-Tetrachloroethane	15.30	83	57224	1.233	ng	100
74) Cumene	15.72	105	176849	1.315	ng	97
75) alpha-Pinene	15.98	93	91348	1.440	ng	99
76) n-Propylbenzene	16.07	91	204243	1.300	ng	99
77) 3-Ethyltoluene	16.14	105	176773	1.288	ng	99
78) 4-Ethyltoluene	16.17	105	162583	1.413	ng	98
79) 1,3,5-Trimethylbenzene	16.23	105	143325	1.354	ng	100
80) alpha-Methylstyrene	16.33	118	77548	1.515	ng	98
81) 2-Ethyltoluene	16.36	105	166760	1.337	ng	98
82) 1,2,4-Trimethylbenzene	16.52	105	142966	1.335	ng	99
83) n-Decane	16.61	57	80111	1.292	ng	97
84) Benzyl Chloride	16.60	91	108728	1.215	ng	99
85) 1,3-Dichlorobenzene	16.61	146	85967	1.339	ng	100
86) 1,4-Dichlorobenzene	16.67	146	83470	1.283	ng	99
87) sec-Butylbenzene	16.71	105	191785	1.379	ng	99
88) 4-Isopropyltoluene (p-...	16.84	119	179911	1.292	ng	99
89) 1,2,3-Trimethylbenzene	16.82	105	145530	1.326	ng	100
90) 1,2-Dichlorobenzene	16.92	146	79076	1.313	ng	100
91) d-Limonene	16.94	68	56322	1.515	ng	97
92) 1,2-Dibromo-3-Chloropr...	17.25	157	26839	1.168	ng	98
93) n-Undecane	17.56	57	79967	1.228	ng	99
94) 1,2,4-Trichlorobenzene	18.27	180	54353	1.171	ng	98
95) Naphthalene	18.35	128	151341	1.107	ng	98
96) n-Dodecane	18.41	57	73938	1.274	ng	98
97) Hexachlorobutadiene	18.66	225	37691	1.196	ng	99
98) Cyclohexanone	15.08	55	50958	1.405	ng	98
99) tert-Butylbenzene	16.51	119	145662	1.351	ng	99
100) n-Butylbenzene	17.15	91	146270	1.396	ng	98

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191312.D
Acq On : 19 Nov 2013 16:34 Operator: EM/CD
Sample : 5.0ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181302 (12/17)
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 20 07:16:35 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191312.D
Acq On : 19 Nov 2013 16:34 Operator: EM/CD
Sample : 5.0ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181302 (12/17)
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 20 07:16:35 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

EM 11/22/13

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.93	130	265682	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	10.98	114	1295650	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	515280	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.74	65	358740	11.390	ng		0.00
Spiked Amount 12.500			Recovery =	91.12%			
57) Toluene-d8 (SS2)	13.15	98	1348893	12.356	ng		0.00
Spiked Amount 12.500			Recovery =	98.88%			
73) Bromofluorobenzene (SS3)	15.61	174	546281	12.507	ng		0.00
Spiked Amount 12.500			Recovery =	100.08%			
Target Compounds							Qvalue
2) Propene	1.89	42	167358	4.698	ng		100
3) Dichlorodifluoromethan...	2.02	85	292423	5.698	ng		99
4) Chloromethane	2.23	50	229238	7.486	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	2.48	135	176781	6.263	ng		99
6) Vinyl Chloride	2.58	62	233528	6.085	ng		100
7) 1,3-Butadiene	2.82	54	218017	7.893	ng		99
8) Bromomethane	3.19	94	139648	5.891	ng		100
9) Chloroethane	3.51	64	129634	6.043	ng		100
10) Ethanol	4.00	45	537186	29.810	ng		98
11) Acetonitrile	4.19	41	293719	4.679	ng		99
12) Acrolein	4.35	56	106151	6.564	ng		100
13) Acetone	4.58	58	652809	30.813	ng		96
14) Trichlorofluoromethane	4.75	101	263561	5.539	ng		99
15) 2-Propanol (Isopropanol)	5.20	45	912549	14.743	ng		98
16) Acrylonitrile	5.40	53	222661	5.959	ng		99
17) 1,1-Dichloroethene	5.77	96	161071	6.270	ng		99
18) 2-Methyl-2-Propanol (t...	6.14	59	882083	12.049	ng		98
19) Methylene Chloride	6.11	84	166823	5.915	ng		99
20) 3-Chloro-1-propene (Al...	6.27	41	271773	4.752	ng		100
21) Trichlorotrifluoroethane	6.58	151	151629	6.080	ng		99
22) Carbon Disulfide	6.18	76	557236	5.599	ng		100
23) trans-1,2-Dichloroethene	7.47	61	230471	5.815	ng		100
24) 1,1-Dichloroethane	7.73	63	285807	5.699	ng		100
25) Methyl tert-Butyl Ether	7.88	73	495878	5.665	ng		100
26) Vinyl Acetate	8.10	86	231202	27.852	ng	#	87
27) 2-Butanone (MEK)	8.31	72	114708	5.385	ng		98
28) cis-1,2-Dichloroethene	8.77	61	223863	6.026	ng		98
29) Diisopropyl Ether	9.13	87	165140	6.157	ng	#	98
30) Ethyl Acetate	9.17	61	114898	11.403	ng		99
31) n-Hexane	9.06	57	253237	4.881	ng		99
32) Chloroform	9.12	83	266594	5.766	ng		100
34) Tetrahydrofuran (THF)	9.48	72	112332	5.981	ng		98
35) Ethyl tert-Butyl Ether	9.69	87	214249	5.800	ng		99
36) 1,2-Dichloroethane	9.85	62	199085	5.565	ng		100
38) 1,1,1-Trichloroethane	10.08	97	233042	5.600	ng		100
39) Isopropyl Acetate	10.64	61	205613	12.148	ng	#	73
40) 1-Butanol	10.68	56	324837	11.294	ng		97
41) Benzene	10.53	78	640805	5.663	ng		100
42) Carbon Tetrachloride	10.68	117	204365	5.876	ng		100
43) Cyclohexane	10.78	84	520890	11.834	ng		99
44) tert-Amyl Methyl Ether	11.19	73	491063	5.910	ng		100
45) 1,2-Dichloropropane	11.34	63	161763	5.989	ng		100

Data File: I:\MS08\Data\2013_11\19\11191312.D
Acq On : 19 Nov 2013 16:34 Operator: EM/CD
Sample : 5.0ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181302 (12/17)
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 20 07:16:35 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

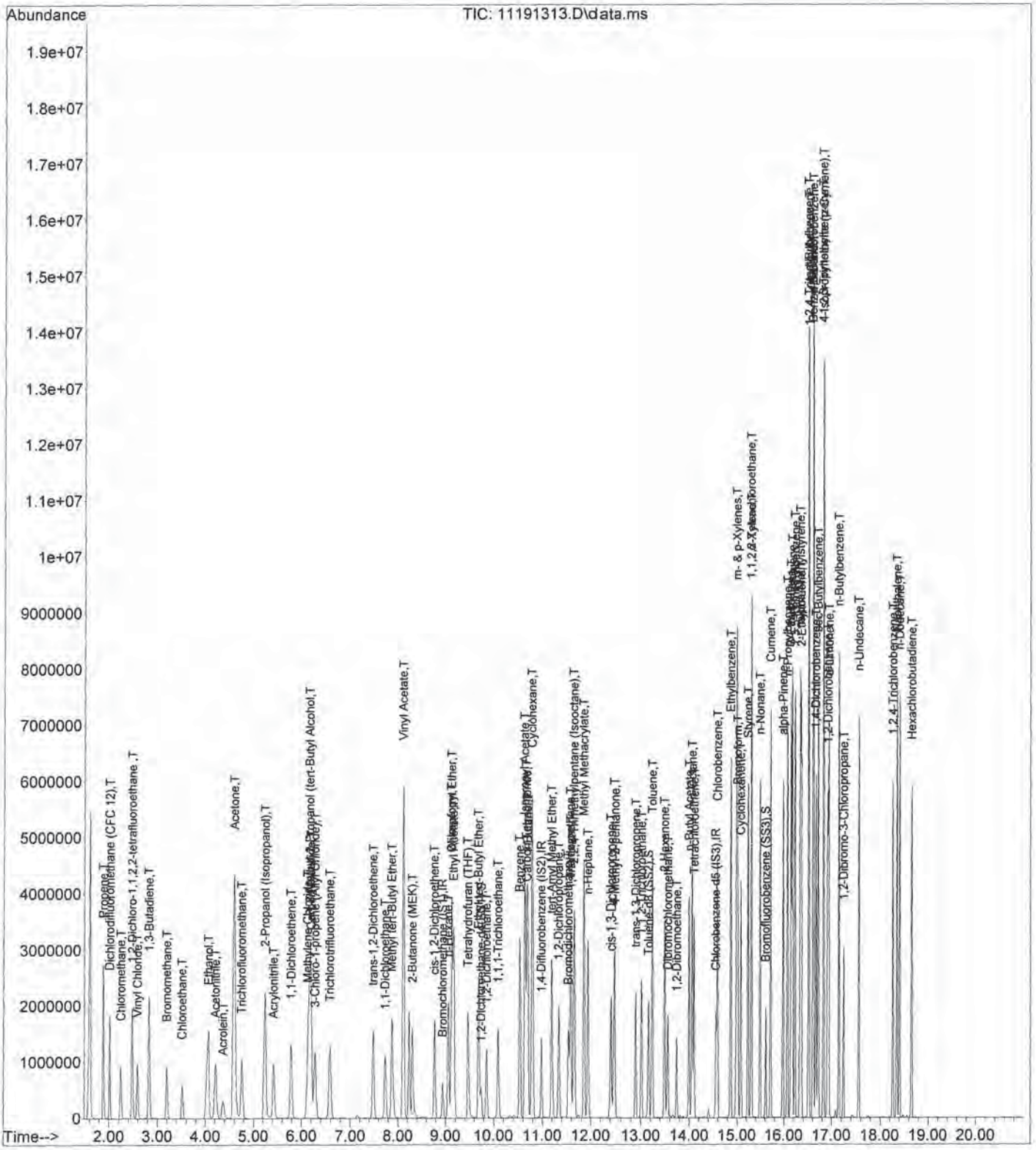
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Bromodichloromethane	11.54	83	208863	6.039	ng	100
47) Trichloroethene	11.57	130	184315	5.971	ng	100
48) 1,4-Dioxane	11.59	88	134283	6.568	ng	99
49) 2,2,4-Trimethylpentane...	11.65	57	736992	5.776	ng	100
50) Methyl Methacrylate	11.85	100	153689	11.838	ng	100
51) n-Heptane	11.93	71	169988	5.665	ng	99
52) cis-1,3-Dichloropropene	12.40	75	248704	5.860	ng	99
53) 4-Methyl-2-pentanone	12.47	58	158365	5.868	ng	97
54) trans-1,3-Dichloropropene	12.89	75	227355	5.803	ng	99
55) 1,1,2-Trichloroethane	13.01	97	156811	6.218	ng	100
58) Toluene	13.23	91	673192	5.928	ng	99
59) 2-Hexanone	13.48	43	393539	5.886	ng	99
60) Dibromochloromethane	13.55	129	184621	6.270	ng	98
61) 1,2-Dibromoethane	13.73	107	177038	6.100	ng	99
62) n-Butyl Acetate	13.99	43	443419	6.170	ng	100
63) n-Octane	14.05	57	147355	5.575	ng	99
64) Tetrachloroethene	14.10	166	201574	5.462	ng	100
65) Chlorobenzene	14.59	112	451603	6.123	ng	99
66) Ethylbenzene	14.86	91	766180	6.066	ng	98
67) m- & p-Xylenes	14.99	91	1197631	11.876	ng	99
68) Bromoform	15.01	173	162786	5.950	ng	100
69) Styrene	15.23	104	497588	6.498	ng	100
70) o-Xylene	15.31	91	606325	5.791	ng	99
71) n-Nonane	15.49	43	357481	5.394	ng	99
72) 1,1,2,2-Tetrachloroethane	15.30	83	268481	5.707	ng	99
74) Cumene	15.72	105	786722	5.774	ng	99
75) alpha-Pinene	15.98	93	411852	6.405	ng	100
76) n-Propylbenzene	16.07	91	918753	5.769	ng	98
77) 3-Ethyltoluene	16.14	105	791821	5.693	ng	99
78) 4-Ethyltoluene	16.17	105	735958	6.314	ng	99
79) 1,3,5-Trimethylbenzene	16.23	105	644825	6.012	ng	99
80) alpha-Methylstyrene	16.33	118	360466	6.948	ng	100
81) 2-Ethyltoluene	16.36	105	747064	5.913	ng	99
82) 1,2,4-Trimethylbenzene	16.52	105	646828	5.959	ng	99
83) n-Decane	16.61	57	364128	5.794	ng	97
84) Benzyl Chloride	16.60	91	537108	5.924	ng	98
85) 1,3-Dichlorobenzene	16.61	146	388196	5.968	ng	99
86) 1,4-Dichlorobenzene	16.67	146	382443	5.801	ng	100
87) sec-Butylbenzene	16.71	105	865353	6.138	ng	98
88) 4-Isopropyltoluene (p-...	16.83	119	814274	5.770	ng	99
89) 1,2,3-Trimethylbenzene	16.82	105	658898	5.926	ng	99
90) 1,2-Dichlorobenzene	16.92	146	359481	5.892	ng	100
91) d-Limonene	16.94	68	255950	6.792	ng	99
92) 1,2-Dibromo-3-Chloropr...	17.25	157	126298	5.426	ng	98
93) n-Undecane	17.56	57	363459	5.508	ng	98
94) 1,2,4-Trichlorobenzene	18.27	180	251315	5.343	ng	99
95) Naphthalene	18.35	128	703240	5.078	ng	99
96) n-Dodecane	18.41	57	340783	5.796	ng	99
97) Hexachlorobutadiene	18.66	225	169508	5.306	ng	100
98) Cyclohexanone	15.08	55	229846	6.255	ng	98
99) tert-Butylbenzene	16.51	119	657706	6.018	ng	100
100) n-Butylbenzene	17.15	91	661349	6.227	ng	99

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191313.D
Acq On : 19 Nov 2013 17:03 Operator: EM/CD
Sample : 25ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:13:03 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:12:33 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191313.D
Acq On : 19 Nov 2013 17:03 Operator: EM/CD
Sample : 25ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:13:03 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:12:33 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

EM 11/22/13

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.94	130	264156	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	10.98	114	1244370	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.55	82	478888	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.74	65	352024	11.241	ng		0.00
Spiked Amount 12.500			Recovery =	89.92%			
57) Toluene-d8 (SS2)	13.16	98	1298702	12.801	ng		0.00
Spiked Amount 12.500			Recovery =	102.40%			
73) Bromofluorobenzene (SS3)	15.61	174	499410	12.303	ng		0.00
Spiked Amount 12.500			Recovery =	98.40%			
Target Compounds							Qvalue
2) Propene	1.89	42	853558	24.098	ng		97
3) Dichlorodifluoromethan...	2.01	85	1450056	28.416	ng		99
4) Chloromethane	2.24	50	1177066	38.659	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	2.48	135	870507	31.016	ng		98
6) Vinyl Chloride	2.59	62	1172963	30.739	ng		100
7) 1,3-Butadiene	2.83	54	1134581	41.312	ng		96
8) Bromomethane	3.20	94	721158	30.598	ng		99
9) Chloroethane	3.52	64	656448	30.776	ng		99
10) Ethanol	4.07	45	3210249	179.176	ng		100
11) Acetonitrile	4.21	41	1627116	26.072	ng		99
12) Acrolein	4.37	56	533651	33.189	ng		98
13) Acetone	4.60	58	3213217	152.543	ng		90
14) Trichlorofluoromethane	4.76	101	1290275	27.273	ng		100
15) 2-Propanol (Isopropanol)	5.25	45	4673983	75.948	ng		100
16) Acrylonitrile	5.42	53	1134630	30.541	ng		99
17) 1,1-Dichloroethene	5.79	96	819731	32.093	ng		92
18) 2-Methyl-2-Propanol (t...	6.17	59	4594342	63.121	ng		99
19) Methylene Chloride	6.13	84	827873	29.525	ng		94
20) 3-Chloro-1-propene (Al...	6.28	41	1391412	24.471	ng	#	100
21) Trichlorotrifluoroethane	6.58	151	760173	30.657	ng		99
22) Carbon Disulfide	6.19	76	2932454	29.636	ng		99
23) trans-1,2-Dichloroethene	7.49	61	1177698	29.885	ng		99
24) 1,1-Dichloroethane	7.73	63	1412969	28.336	ng		100
25) Methyl tert-Butyl Ether	7.87	73	2453684	28.195	ng		100
26) Vinyl Acetate	8.12	86	1186306	143.733	ng	#	83
27) 2-Butanone (MEK)	8.31	72	589509	27.834	ng		94
28) cis-1,2-Dichloroethene	8.77	61	1125115	30.460	ng		94
29) Diisopropyl Ether	9.13	87	813898	30.522	ng	#	58
30) Ethyl Acetate	9.17	61	588656	58.760	ng		100
31) n-Hexane	9.06	57	1116369	21.642	ng		100
32) Chloroform	9.13	83	1347455	29.310	ng		99
34) Tetrahydrofuran (THF)	9.47	72	579979	31.059	ng		95
35) Ethyl tert-Butyl Ether	9.69	87	1070879	29.157	ng		97
36) 1,2-Dichloroethane	9.85	62	998576	28.073	ng		100
38) 1,1,1-Trichloroethane	10.09	97	1153297	28.855	ng		99
39) Isopropyl Acetate	10.64	61	1046554	64.378	ng		98
40) 1-Butanol	10.70	56	2162523	78.288	ng		79
41) Benzene	10.54	78	3095723	28.488	ng		99
42) Carbon Tetrachloride	10.68	117	1043188	31.231	ng		100
43) Cyclohexane	10.79	84	2575897	60.932	ng		99
44) tert-Amyl Methyl Ether	11.20	73	2488328	31.182	ng		98
45) 1,2-Dichloropropane	11.34	63	811406	31.278	ng		99

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191313.D
Acq On : 19 Nov 2013 17:03 Operator: EM/CD
Sample : 25ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:13:03 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:12:33 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

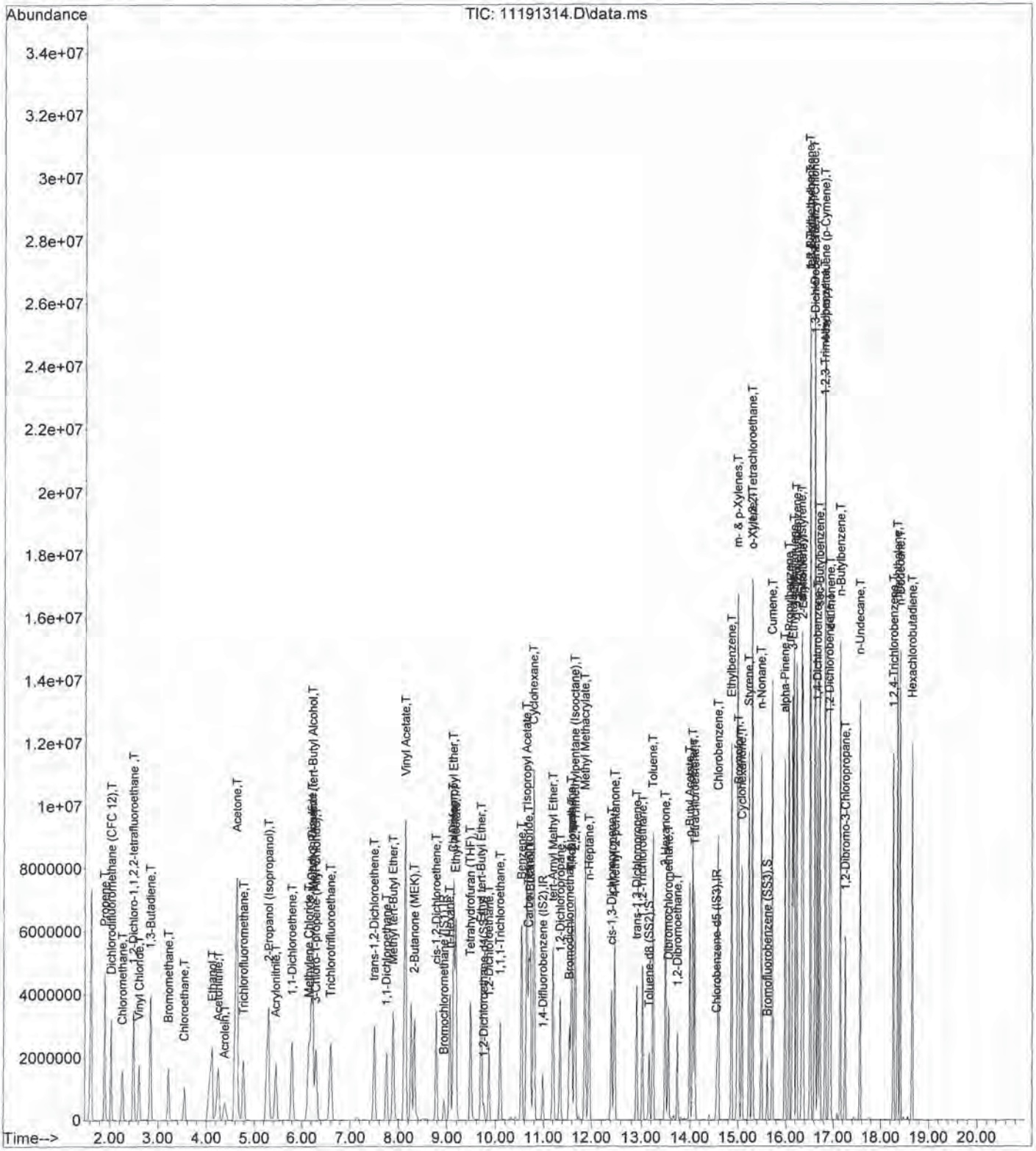
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Bromodichloromethane	11.54	83	1073336	32.314	ng	100
47) Trichloroethene	11.58	130	934694	31.527	ng	100
48) 1,4-Dioxane	11.58	88	750357	38.216	ng	98
49) 2,2,4-Trimethylpentane...	11.65	57	3691865	30.129	ng	98
50) Methyl Methacrylate	11.86	100	788322	63.225	ng	99
51) n-Heptane	11.94	71	805228	27.941	ng	97
52) cis-1,3-Dichloropropene	12.41	75	1285302	31.533	ng	100
53) 4-Methyl-2-pentanone	12.47	58	853836	32.942	ng	94
54) trans-1,3-Dichloropropene	12.89	75	1193416	31.715	ng	100
55) 1,1,2-Trichloroethane	13.01	97	804130	33.199	ng	100
58) Toluene	13.24	91	3330949	31.561	ng	99
59) 2-Hexanone	13.48	43	2131713	34.306	ng	98
60) Dibromochloromethane	13.55	129	953798	34.853	ng	100
61) 1,2-Dibromoethane	13.74	107	915570	33.947	ng	98
62) n-Butyl Acetate	13.99	43	2440551	36.540	ng	98
63) n-Octane	14.06	57	727653	29.623	ng	97
64) Tetrachloroethene	14.10	166	1027818	29.965	ng	99
65) Chlorobenzene	14.59	112	2323104	33.889	ng	99
66) Ethylbenzene	14.87	91	3850388	32.802	ng	98
67) m- & p-Xylenes	15.00	91	6073251	64.798	ng	99
68) Bromoform	15.01	173	911308	35.840	ng	99
69) Styrene	15.24	104	2624880	36.882	ng	99
70) o-Xylene	15.31	91	3110313	31.966	ng	100
71) n-Nonane	15.50	43	1770718	28.747	ng	96
72) 1,1,2,2-Tetrachloroethane	15.30	83	1449243	33.148	ng	99
74) Cumene	15.72	105	4008098	31.653	ng	99
75) alpha-Pinene	15.98	93	2100064	35.143	ng	98
76) n-Propylbenzene	16.07	91	4663701	31.511	ng	99
77) 3-Ethyltoluene	16.15	105	4345192	33.612	ng	99
78) 4-Ethyltoluene	16.17	105	3535645	32.637	ng	97
79) 1,3,5-Trimethylbenzene	16.23	105	3370669	33.814	ng	98
80) alpha-Methylstyrene	16.34	118	2004532	41.572	ng	90
81) 2-Ethyltoluene	16.36	105	3927023	33.442	ng	98
82) 1,2,4-Trimethylbenzene	16.52	105	3451577	34.212	ng	97
83) n-Decane	16.61	57	1788944	30.626	ng	96
84) Benzyl Chloride	16.61	91	3132084	37.173	ng	96
85) 1,3-Dichlorobenzene	16.62	146	2198635	36.370	ng	100
86) 1,4-Dichlorobenzene	16.67	146	2116218	34.539	ng	99
87) sec-Butylbenzene	16.72	105	4478985	34.186	ng	99
88) 4-Isopropyltoluene (p-...	16.84	119	4319975	32.940	ng	98
89) 1,2,3-Trimethylbenzene	16.83	105	3570030	34.549	ng	94
90) 1,2-Dichlorobenzene	16.92	146	2032746	35.851	ng	100
91) d-Limonene	16.94	68	1389221	39.666	ng	98
92) 1,2-Dibromo-3-Chloropr...	17.25	157	812292	37.548	ng	94
93) n-Undecane	17.56	57	1902963	31.027	ng	99
94) 1,2,4-Trichlorobenzene	18.27	180	1697824	38.839	ng	99
95) Naphthalene	18.35	128	5100471	39.625	ng	100
96) n-Dodecane	18.41	57	1972732	36.103	ng	99
97) Hexachlorobutadiene	18.66	225	1028859	34.656	ng	98
98) Cyclohexanone	15.08	55	1423838	41.693	ng	96
99) tert-Butylbenzene	16.52	119	3461063	34.078	ng	100
100) n-Butylbenzene	17.15	91	3532494	35.789	ng	99

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191314.D
Acq On : 19 Nov 2013 17:32 Operator: EM/CD
Sample : 50ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:16:40 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191314.D
Acq On : 19 Nov 2013 17:32 Operator: EM/CD
Sample : 50ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:16:40 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

EMM 11/22/13

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.94	130	270528	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	10.99	114	1272117	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.56	82	496131	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.76	65	364145	11.354	ng		0.01
Spiked Amount 12.500			Recovery =	90.80%			
57) Toluene-d8 (SS2)	13.16	98	1319199	12.551	ng		0.00
Spiked Amount 12.500			Recovery =	100.40%			
73) Bromofluorobenzene (SS3)	15.62	174	522629	12.428	ng		0.00
Spiked Amount 12.500			Recovery =	99.44%			
Target Compounds							Qvalue
2) Propene	1.90	42	1630964	44.961	ng		100
3) Dichlorodifluoromethan...	2.03	85	2795082	53.484	ng		100
4) Chloromethane	2.26	50	2255030	72.319	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	2.49	135	1682996	58.553	ng		99
6) Vinyl Chloride	2.61	62	2266456	57.996	ng		100
7) 1,3-Butadiene	2.84	54	2199400	78.198	ng		100
8) Bromomethane	3.21	94	1368852	56.711	ng		100
9) Chloroethane	3.53	64	1239510	56.743	ng		100
10) Ethanol	4.12	45	6047528	329.584	ng		99
11) Acetonitrile	4.25	41	3139788	49.126	ng		99
12) Acrolein	4.38	56	1027493	62.396	ng		100
13) Acetone	4.63	58	6146051	284.903	ng		96
14) Trichlorofluoromethane	4.77	101	2505715	51.717	ng		100
15) 2-Propanol (Isopropanol)	5.30	45	9230471	146.453	ng		100
16) Acrylonitrile	5.45	53	2263904	59.503	ng		100
17) 1,1-Dichloroethene	5.80	96	1611455	61.604	ng		100
18) 2-Methyl-2-Propanol (t...	6.23	59	9038682	121.255	ng		99
19) Methylene Chloride	6.15	84	1644244	57.258	ng		99
20) 3-Chloro-1-propene (Al...	6.29	41	2654067	45.578	ng		96
21) Trichlorotrifluoroethane	6.59	151	1496805	58.943	ng		100
22) Carbon Disulfide	6.21	76	5739916	56.643	ng		99
23) trans-1,2-Dichloroethene	7.49	61	2313488	57.323	ng		100
24) 1,1-Dichloroethane	7.74	63	2800472	54.839	ng		99
25) Methyl tert-Butyl Ether	7.88	73	4799437	53.850	ng		99
26) Vinyl Acetate	8.14	86	2358182	278.988	ng	#	85
27) 2-Butanone (MEK)	8.32	72	1167525	53.826	ng		97
28) cis-1,2-Dichloroethene	8.78	61	2215394	58.565	ng		100
29) Diisopropyl Ether	9.14	87	1593089	58.335	ng	#	96
30) Ethyl Acetate	9.18	61	1161898	113.250	ng		98
31) n-Hexane	9.06	57	2193409	41.520	ng		100
32) Chloroform	9.13	83	2651276	56.312	ng		100
34) Tetrahydrofuran (THF)	9.48	72	1142640	59.748	ng		99
35) Ethyl tert-Butyl Ether	9.70	87	2102704	55.903	ng		99
36) 1,2-Dichloroethane	9.86	62	1955127	53.670	ng		100
38) 1,1,1-Trichloroethane	10.09	97	2263857	55.406	ng		100
39) Isopropyl Acetate	10.65	61	2017241	121.383	ng	#	93
40) 1-Butanol	10.72	56	4269628	151.197	ng		99
41) Benzene	10.54	78	6005794	54.061	ng		99
42) Carbon Tetrachloride	10.68	117	2060995	60.357	ng		100
43) Cyclohexane	10.79	84	5061907	117.127	ng		99
44) tert-Amyl Methyl Ether	11.20	73	4841760	59.349	ng		100
45) 1,2-Dichloropropane	11.35	63	1583841	59.722	ng		100

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191314.D
Acq On : 19 Nov 2013 17:32 Operator: EM/CD
Sample : 50ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:16:40 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

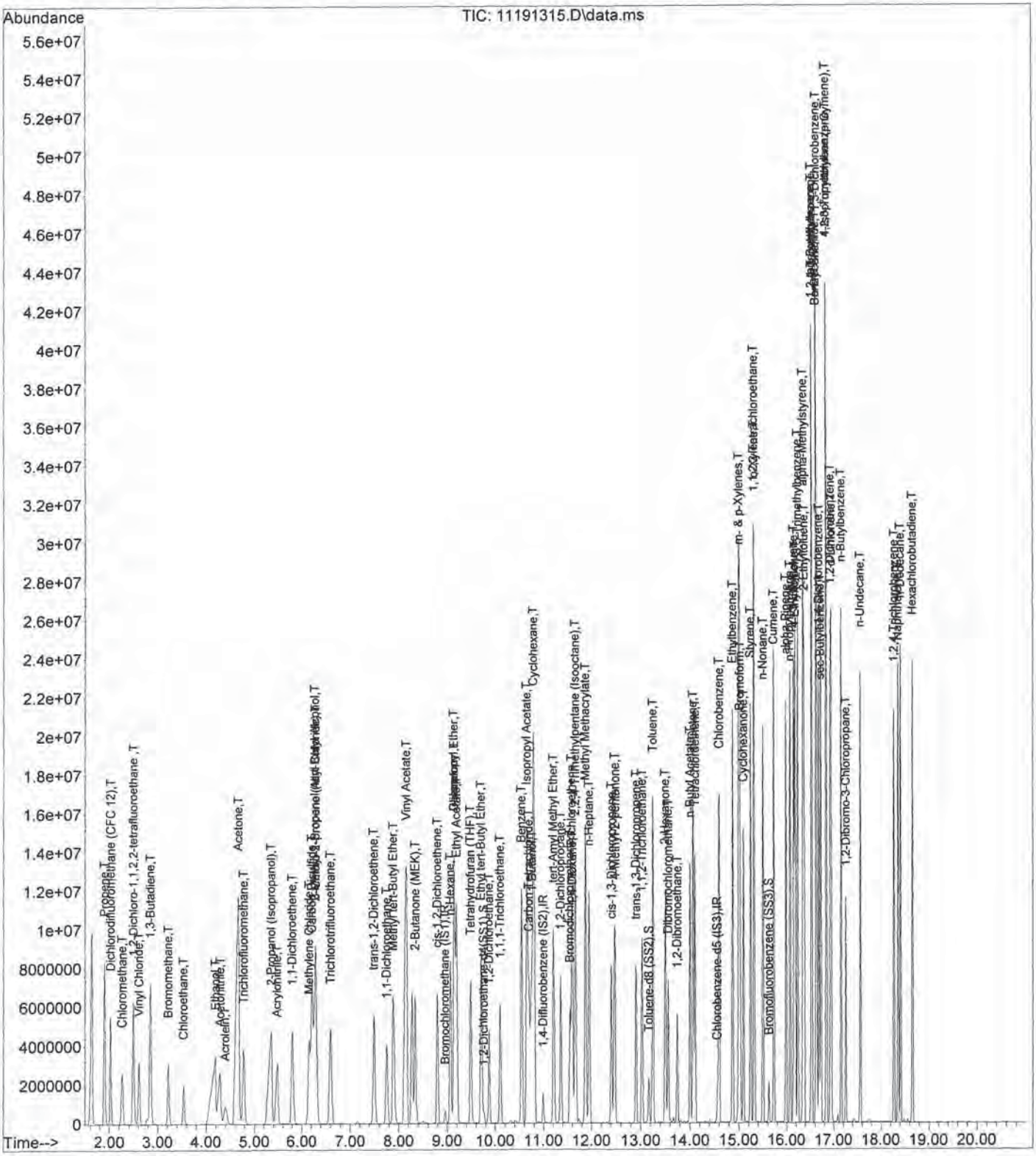
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Bromodichloromethane	11.55	83	2100447	61.858	ng	100
47) Trichloroethene	11.58	130	1836872	60.607	ng	100
48) 1,4-Dioxane	11.59	88	1462973	72.884	ng	100
49) 2,2,4-Trimethylpentane...	11.66	57	7125763	56.884	ng	100
50) Methyl Methacrylate	11.86	100	1547875	121.435	ng	98
51) n-Heptane	11.95	71	1564685	53.109	ng	100
52) cis-1,3-Dichloropropene	12.41	75	2498821	59.968	ng	100
53) 4-Methyl-2-pentanone	12.47	58	1648339	62.209	ng	99
54) trans-1,3-Dichloropropene	12.90	75	2331556	60.610	ng	99
55) 1,1,2-Trichloroethane	13.02	97	1560641	63.027	ng	99
58) Toluene	13.24	91	6350360	58.079	ng	99
59) 2-Hexanone	13.49	43	4052373	62.948	ng	99
60) Dibromochloromethane	13.55	129	1879832	66.305	ng	100
61) 1,2-Dibromoethane	13.74	107	1794332	64.217	ng	100
62) n-Butyl Acetate	13.99	43	4630319	66.916	ng	99
63) n-Octane	14.06	57	1390062	54.623	ng	99
64) Tetrachloroethene	14.10	166	2025712	57.004	ng	100
65) Chlorobenzene	14.59	112	4467248	62.902	ng	100
66) Ethylbenzene	14.87	91	7319224	60.187	ng	99
67) m- & p-Xylenes	15.00	91	11510390	118.541	ng	98
68) Bromoform	15.02	173	1819187	69.059	ng	99
69) Styrene	15.24	104	5084279	68.957	ng	100
70) o-Xylene	15.31	91	5934137	58.868	ng	99
71) n-Nonane	15.50	43	3321546	52.049	ng	99
72) 1,1,2,2-Tetrachloroethane	15.31	83	2793432	61.672	ng	100
74) Cumene	15.72	105	7596578	57.907	ng	98
75) alpha-Pinene	15.99	93	4079027	65.888	ng	99
76) n-Propylbenzene	16.07	91	8639234	56.344	ng	98
77) 3-Ethyltoluene	16.15	105	7713802	57.596	ng	98
78) 4-Ethyltoluene	16.18	105	7210439	64.245	ng	98
79) 1,3,5-Trimethylbenzene	16.23	105	6417186	62.139	ng	98
80) alpha-Methylstyrene	16.34	118	3890501	77.881	ng	100
81) 2-Ethyltoluene	16.36	105	7463952	61.353	ng	98
82) 1,2,4-Trimethylbenzene	16.52	105	6597485	63.122	ng	98
83) n-Decane	16.62	57	3170288	52.389	ng	97
84) Benzyl Chloride	16.61	91	5982146	68.532	ng	98
85) 1,3-Dichlorobenzene	16.63	146	4295013	68.580	ng	99
86) 1,4-Dichlorobenzene	16.67	146	4157037	65.489	ng	99
87) sec-Butylbenzene	16.72	105	8466156	62.373	ng	98
88) 4-Isopropyltoluene (p-...	16.84	119	8149925	59.983	ng	98
89) 1,2,3-Trimethylbenzene	16.83	105	6782720	63.359	ng	98
90) 1,2-Dichlorobenzene	16.92	146	3944364	67.147	ng	100
91) d-Limonene	16.94	68	2667191	73.510	ng	99
92) 1,2-Dibromo-3-Chloropr...	17.25	157	1611412	71.899	ng	98
93) n-Undecane	17.57	57	3574529	56.256	ng	99
94) 1,2,4-Trichlorobenzene	18.27	180	3307144	73.024	ng	99
95) Naphthalene	18.36	128	9590378	71.918	ng	98
96) n-Dodecane	18.41	57	3719341	65.703	ng	98
97) Hexachlorobutadiene	18.66	225	2046136	66.527	ng	100
98) Cyclohexanone	15.09	55	2741583	77.489	ng	100
99) tert-Butylbenzene	16.52	119	6699260	63.669	ng	98
100) n-Butylbenzene	17.15	91	6630251	64.839	ng	98

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

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191315.D
Acq On : 19 Nov 2013 18:01 Operator: EM/Cd
Sample : 100ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:37:29 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191315.D
Acq On : 19 Nov 2013 18:01 Operator: EM/Cd
Sample : 100ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:37:29 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

EM 11/22/13

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.95	130	277165	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	10.99	114	1323000	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	513524	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.76	65	376256	11.451	ng		0.02
Spiked Amount 12.500			Recovery =	91.60%			
57) Toluene-d8 (SS2)	13.16	98	1364060	12.538	ng		0.00
Spiked Amount 12.500			Recovery =	100.32%			
73) Bromofluorobenzene (SS3)	15.62	174	540156	12.409	ng		0.00
Spiked Amount 12.500			Recovery =	99.28%			
Target Compounds							Qvalue
2) Propene	1.90	42	3720438	100.105	ng		99
3) Dichlorodifluoromethan...	2.03	85	5443136	101.660	ng		99
4) Chloromethane	2.26	50	3961997	124.019	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	2.49	135	3333693	113.206	ng		100
6) Vinyl Chloride	2.61	62	4414600	110.259	ng		100
7) 1,3-Butadiene	2.85	54	4315456	149.759	ng		99
8) Bromomethane	3.22	94	2684344	108.547	ng		100
9) Chloroethane	3.54	64	2435933	108.843	ng		99
10) Ethanol	4.19	45	11778732m	626.557	ng		
11) Acetonitrile	4.29	41	6489573	99.106	ng		98
12) Acrolein	4.39	56	2014109	119.381	ng		100
13) Acetone	4.67	58	11698025	529.283	ng		90
14) Trichlorofluoromethane	4.78	101	5046379	101.661	ng		100
15) 2-Propanol (Isopropanol)	5.35	45	15388421	238.311	ng		100
16) Acrylonitrile	5.48	53	4450681	114.177	ng		100
17) 1,1-Dichloroethene	5.80	96	3177710	118.571	ng		99
18) 2-Methyl-2-Propanol (t...	6.29	59	17257753	225.972	ng	#	69
19) Methylene Chloride	6.16	84	3226835	109.678	ng		98
20) 3-Chloro-1-propene (Al...	6.30	41	8700049	145.827	ng		78
21) Trichlorotrifluoroethane	6.60	151	2980923	114.575	ng		100
22) Carbon Disulfide	6.22	76	11211082	107.985	ng		99
23) trans-1,2-Dichloroethene	7.50	61	4487093	108.517	ng		99
24) 1,1-Dichloroethane	7.75	63	5521151	105.527	ng		99
25) Methyl tert-Butyl Ether	7.89	73	9424917	103.217	ng		99
26) Vinyl Acetate	8.17	86	4829618	557.693	ng	#	1
27) 2-Butanone (MEK)	8.35	72	2349895	105.742	ng		94
28) cis-1,2-Dichloroethene	8.79	61	4333981	111.827	ng		99
29) Diisopropyl Ether	9.15	87	3178216	113.591	ng	#	92
30) Ethyl Acetate	9.20	61	2355089	224.053	ng		97
31) n-Hexane	9.07	57	4667858	86.245	ng		100
32) Chloroform	9.15	83	5233792	108.502	ng		100
34) Tetrahydrofuran (THF)	9.49	72	2287185	116.733	ng		98
35) Ethyl tert-Butyl Ether	9.71	87	4169640	108.201	ng		96
36) 1,2-Dichloroethane	9.87	62	3823141	102.436	ng		99
38) 1,1,1-Trichloroethane	10.10	97	4505291	106.023	ng		99
39) Isopropyl Acetate	10.66	61	3959069	229.065	ng	#	80
40) 1-Butanol	10.77	56	9429140	321.066	ng		96
41) Benzene	10.55	78	11760490	101.791	ng		98
42) Carbon Tetrachloride	10.69	117	4159727	117.134	ng		100
43) Cyclohexane	10.80	84	9931609	220.968	ng		88
44) tert-Amyl Methyl Ether	11.21	73	9371068	110.451	ng		99
45) 1,2-Dichloropropane	11.36	63	3133511	113.611	ng		99

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191315.D
Acq On : 19 Nov 2013 18:01 Operator: EM/Cd
Sample : 100ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:37:29 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

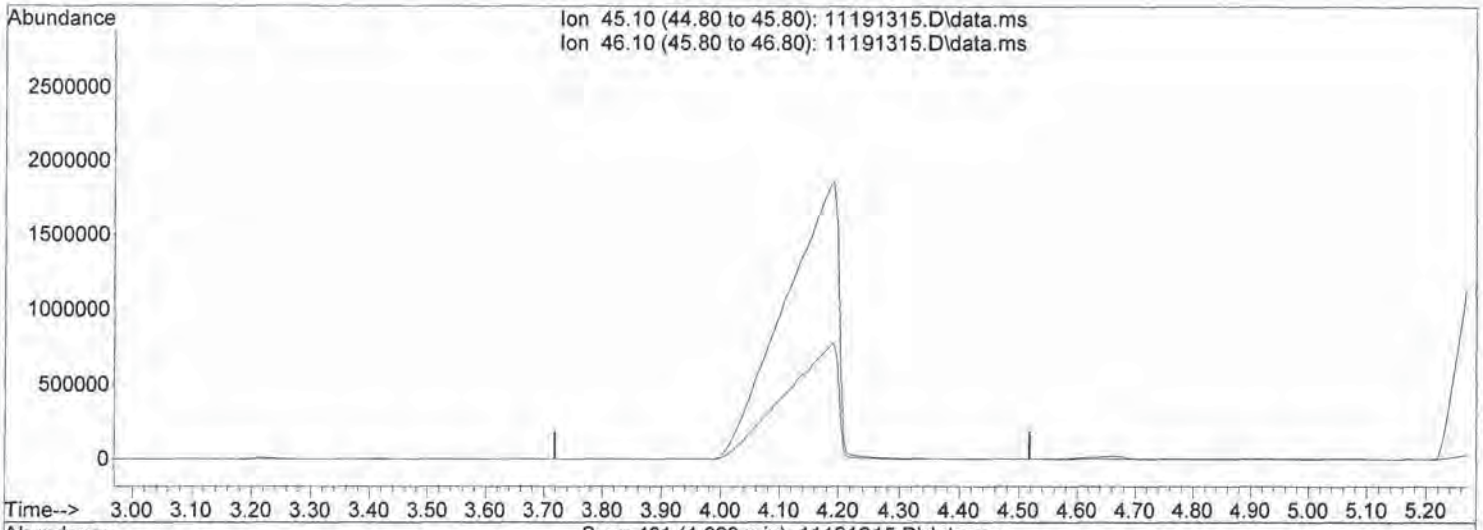
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Bromodichloromethane	11.55	83	4138718	117.196	ng	99
47) Trichloroethene	11.59	130	3733516	118.447	ng	100
48) 1,4-Dioxane	11.61	88	2920066	139.880	ng	100
49) 2,2,4-Trimethylpentane...	11.67	57	13414535	102.968	ng	99
50) Methyl Methacrylate	11.88	100	3089963	233.093	ng	95
51) n-Heptane	11.95	71	3171243	103.500	ng	99
52) cis-1,3-Dichloropropene	12.42	75	4907107	113.235	ng	99
53) 4-Methyl-2-pentanone	12.48	58	3235953	117.428	ng	96
54) trans-1,3-Dichloropropene	12.90	75	4570429	114.241	ng	99
55) 1,1,2-Trichloroethane	13.03	97	3088099	119.918	ng	100
58) Toluene	13.25	91	12042314	106.406	ng	97
59) 2-Hexanone	13.50	43	7653499	114.860	ng	97
60) Dibromochloromethane	13.56	129	3741833	127.510	ng	100
61) 1,2-Dibromoethane	13.74	107	3553987	122.884	ng	100
62) n-Butyl Acetate	14.01	43	8547212	119.338	ng	96
63) n-Octane	14.06	57	2697300	102.401	ng	97
64) Tetrachloroethene	14.11	166	4099460	111.453	ng	99
65) Chlorobenzene	14.60	112	8570819	116.596	ng	98
66) Ethylbenzene	14.87	91	13114172	104.187	ng	93
67) m- & p-Xylenes	15.00	91	19872676	197.729	ng	90
68) Bromoform	15.02	173	3729762	136.792	ng	98
69) Styrene	15.24	104	9648546	126.428	ng	98
70) o-Xylene	15.32	91	10966378	105.105	ng	95
71) n-Nonane	15.50	43	6042055	91.473	ng	95
72) 1,1,2,2-Tetrachloroethane	15.31	83	5170635	110.289	ng	99
74) Cumene	15.72	105	13081431	96.339	ng	90
75) alpha-Pinene	15.99	93	7752547	120.984	ng	100
76) n-Propylbenzene	16.07	91	13739067	86.569	ng	87
77) 3-Ethyltoluene	16.15	105	13738518	99.107	ng	91
78) 4-Ethyltoluene	16.18	105	11959634	102.951	ng	86
79) 1,3,5-Trimethylbenzene	16.24	105	11710215	109.553	ng	93
80) alpha-Methylstyrene	16.35	118	7452598	144.134	ng	99
81) 2-Ethyltoluene	16.37	105	13205194	104.869	ng	91
82) 1,2,4-Trimethylbenzene	16.53	105	11843290	109.474	ng	94
83) n-Decane	16.63	57	4844382	77.341	ng	90
84) Benzyl Chloride	16.62	91	10275888	113.733	ng	91
85) 1,3-Dichlorobenzene	16.63	146	8374600	129.190	ng	98
86) 1,4-Dichlorobenzene	16.68	146	7964462	121.221	ng	97
87) sec-Butylbenzene	16.72	105	13753981	97.898	ng	89
88) 4-Isopropyltoluene (p-...	16.84	119	13114083	93.250	ng	88
89) 1,2,3-Trimethylbenzene	16.84	105	12137702	109.541	ng	94
90) 1,2-Dichlorobenzene	16.93	146	7676865	126.262	ng	98
91) d-Limonene	16.95	68	4852910	129.219	ng	94
92) 1,2-Dibromo-3-Chloropr...	17.26	157	3167222	136.531	ng	95
93) n-Undecane	17.57	57	6377322	96.967	ng	96
94) 1,2,4-Trichlorobenzene	18.28	180	6466060	137.939	ng	99
95) Naphthalene	18.36	128	14363257	104.061	ng	89
96) n-Dodecane	18.41	57	6613737	112.876	ng	94
97) Hexachlorobutadiene	18.66	225	4159343	130.653	ng	99
98) Cyclohexanone	15.10	55	5222824	142.620	ng	98
99) tert-Butylbenzene	16.53	119	12313454	113.062	ng	95
100) n-Butylbenzene	17.16	91	11668905	110.248	ng	93

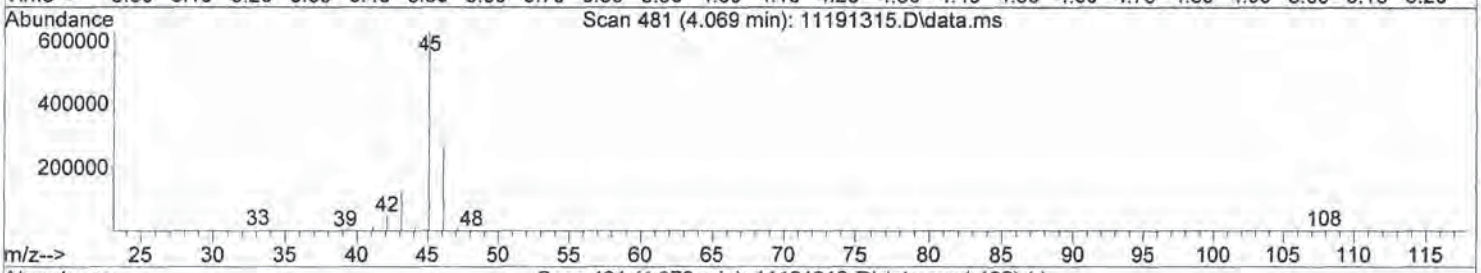
(#) = qualifier out of range (m) = manual integration (+) = signals summed

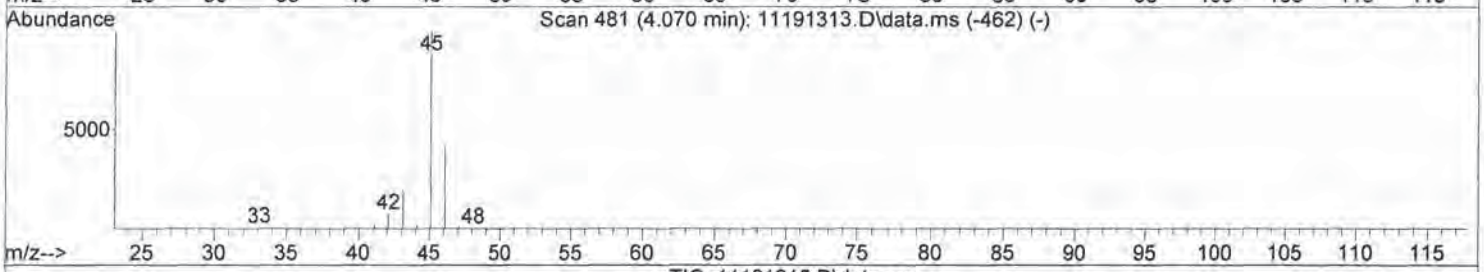
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191315.D
Acq On : 19 Nov 2013 18:01 Operator: EM/Cd
Sample : 100ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:16:47 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191315.D\data.ms

(10) Ethanol (T)

4.070min (-4.070) 0.00ng

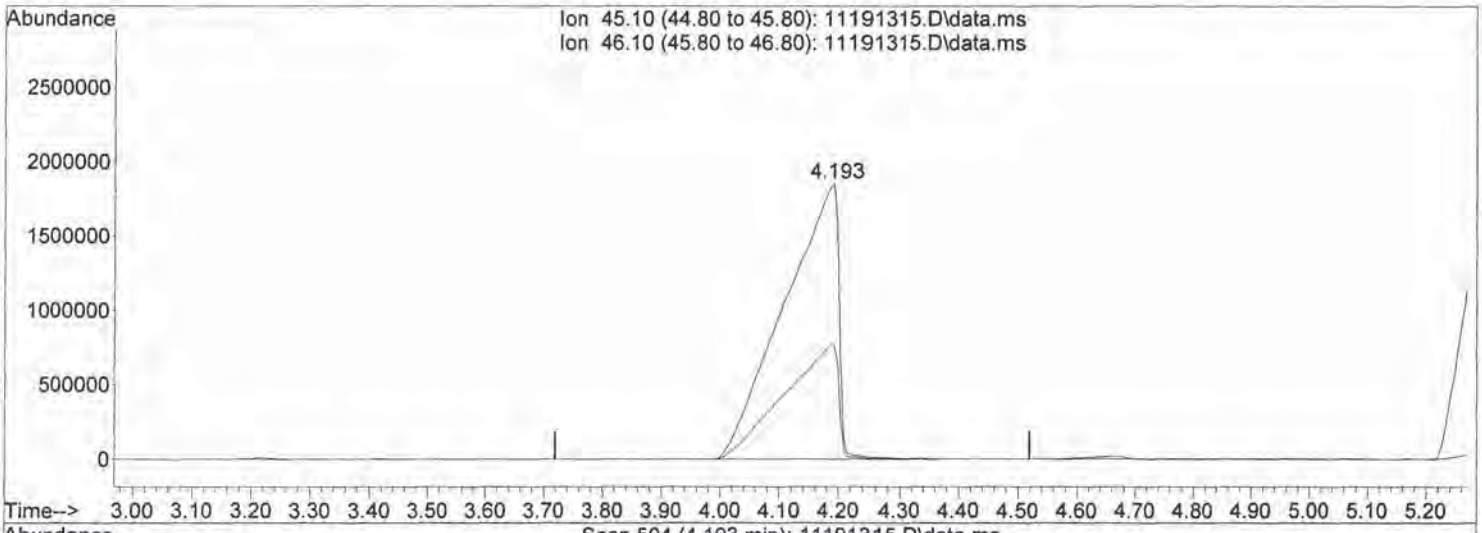
response 0

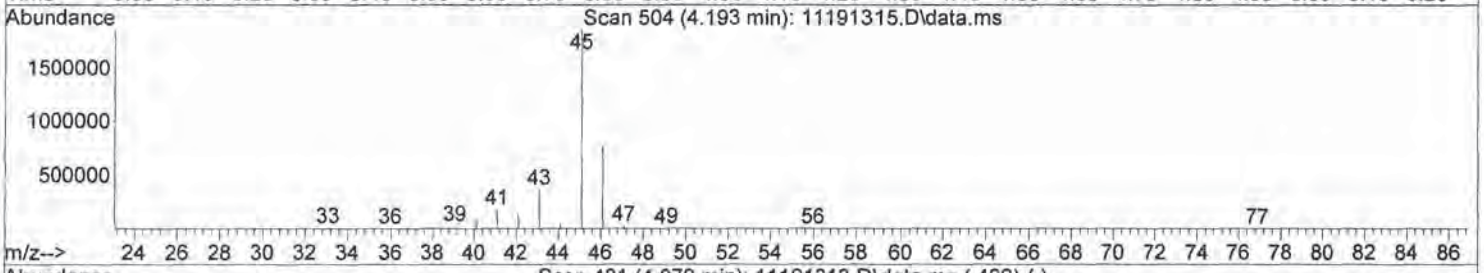
Ion	Exp%	Act%
45.10	100	0.00
46.10	41.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

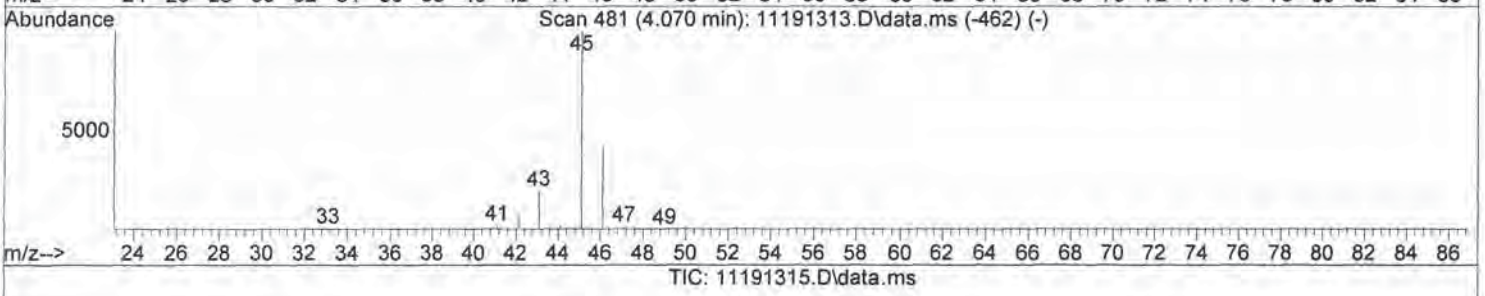
Quantitation Report (Qedit)

Data File: I:\MS08\Data\2013_11\19\11191315.D
Acq On : 19 Nov 2013 18:01 Operator: EM/Cd
Sample : 100ng TO-15 ICAL Std
Misc : S25-11181301/S25-11181303 (12/17)
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 20 07:16:47 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 07:15:01 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 11191315.D\data.ms

(10) Ethanol (T)

4.193min (+0.124) 626.56ng m

response 11778732

Ion	Exp%	Act%
45.10	100	100
46.10	41.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP
CD 11/20/13

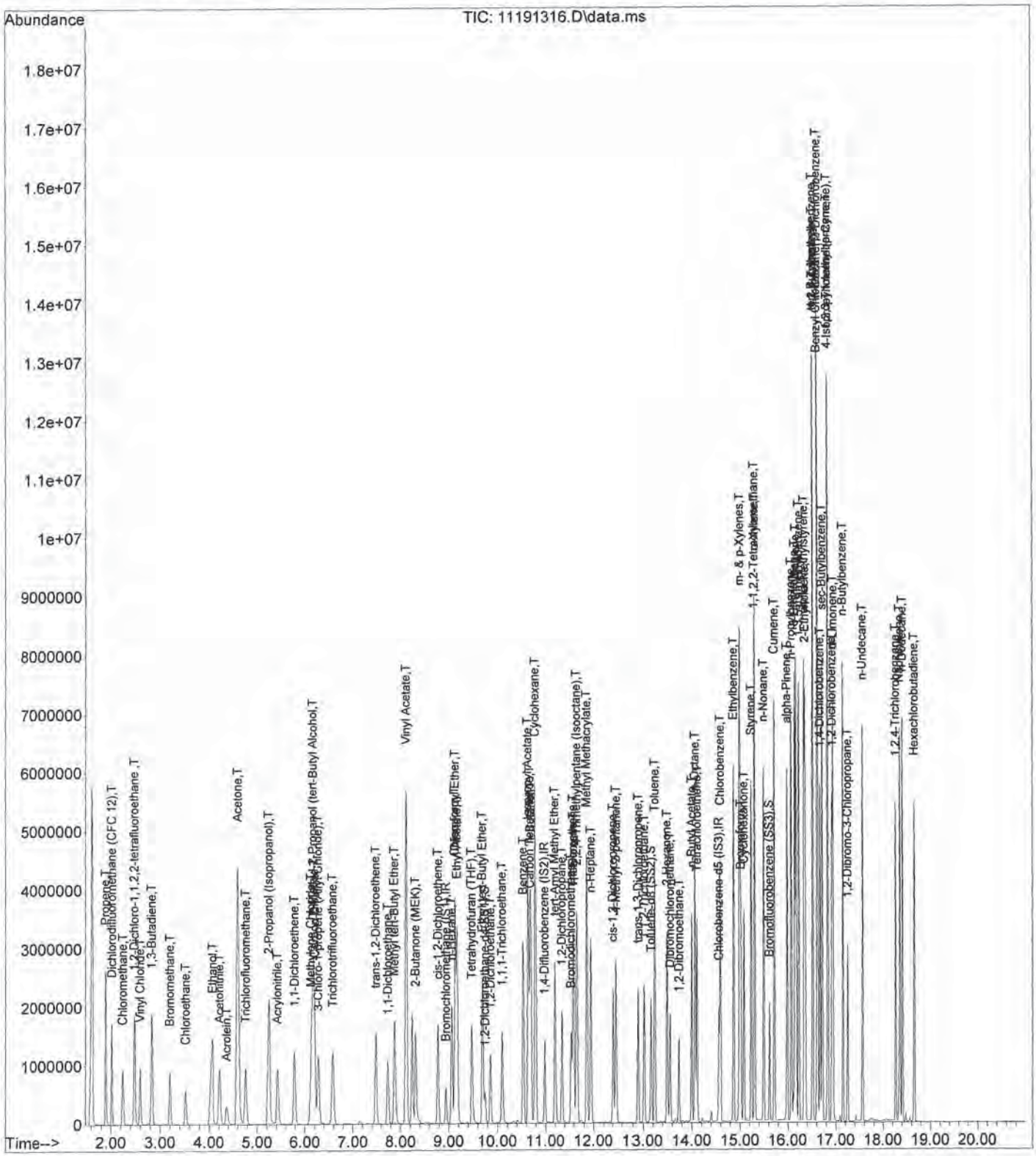
11/21/13

EM 11/22/13

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191316.D
Acq On : 19 Nov 2013 18:30 Operator: EM/CD
Sample : 25ng TO-15 ICV Std (125mL)
Misc : S25-11181301/S25-11181305 (12/17)
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 21 09:37:46 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 21 09:17:24 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191316.D
Acq On : 19 Nov 2013 18:30 Operator: EM/CD
Sample : 25ng TO-15 ICV Std (125mL)
Misc : S25-11181301/S25-11181305 (12/17)
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 21 09:37:46 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 21 09:17:24 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

EM 11/22/13

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.94	130	260850	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	10.98	114	1220477	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.56	82	485955	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.74	65	348022	12.275	ng		0.01
Spiked Amount 12.500			Recovery =	98.16%			
57) Toluene-d8 (SS2)	13.16	98	1285427	12.417	ng		0.00
Spiked Amount 12.500			Recovery =	99.36%			
73) Bromofluorobenzene (SS3)	15.61	174	526653	12.676	ng		0.00
Spiked Amount 12.500			Recovery =	101.44%			
Target Compounds							Qvalue
2) Propene	1.89	42	823330	22.375	ng		99
3) Dichlorodifluoromethan...	2.02	85	1418672	22.796	ng		100
4) Chloromethane	2.24	50	1154124	22.533	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	2.48	135	835287	22.119	ng		99
6) Vinyl Chloride	2.60	62	1147185	22.490	ng		100
7) 1,3-Butadiene	2.83	54	983100	24.610	ng		100
8) Bromomethane	3.20	94	706918	22.443	ng		100
9) Chloroethane	3.52	64	639323	22.492	ng		100
10) Ethanol	4.07	45	2993825	118.202	ng		100
11) Acetonitrile	4.21	41	1572675	22.575	ng		100
12) Acrolein	4.37	56	535670	25.168	ng		99
13) Acetone	4.60	58	3133508	123.463	ng		99
14) Trichlorofluoromethane	4.76	101	1195694	20.752	ng		100
15) 2-Propanol (Isopropanol)	5.24	45	4438340	48.098	ng		100
16) Acrylonitrile	5.42	53	1110197	25.473	ng		99
17) 1,1-Dichloroethene	5.79	96	783765	23.946	ng		100
18) 2-Methyl-2-Propanol (t...	6.17	59	4310086	47.659	ng		100
19) Methylene Chloride	6.13	84	795230	23.187	ng		100
20) 3-Chloro-1-propene (Al...	6.28	41	1370441	24.095	ng		99
21) Trichlorotrifluoroethane	6.58	151	727630	23.988	ng		99
22) Carbon Disulfide	6.20	76	2868865	23.681	ng		100
23) trans-1,2-Dichloroethene	7.49	61	1156564	24.768	ng		99
24) 1,1-Dichloroethane	7.74	63	1364761	23.068	ng		100
25) Methyl tert-Butyl Ether	7.87	73	2395727	23.901	ng		100
26) Vinyl Acetate	8.12	86	1144773	120.936	ng		100
27) 2-Butanone (MEK)	8.31	72	567335	23.624	ng		100
28) cis-1,2-Dichloroethene	8.78	61	1082722	24.729	ng		100
29) Diisopropyl Ether	9.13	87	790975	25.746	ng	#	99
30) Ethyl Acetate	9.17	61	568654	47.280	ng		97
31) n-Hexane	9.06	57	1090133	22.454	ng		100
32) Chloroform	9.13	83	1287314	23.266	ng		100
34) Tetrahydrofuran (THF)	9.47	72	526414	23.267	ng		99
35) Ethyl tert-Butyl Ether	9.69	87	1044068	23.975	ng		100
36) 1,2-Dichloroethane	9.86	62	961438	23.722	ng		100
38) 1,1,1-Trichloroethane	10.09	97	1124229	23.922	ng		100
39) Isopropyl Acetate	10.64	61	990324	50.303	ng		99
40) 1-Butanol	10.69	56	1934336	58.899	ng		99
41) Benzene	10.54	78	2975582	25.691	ng		100
42) Carbon Tetrachloride	10.68	117	1020031	25.509	ng		100
43) Cyclohexane	10.79	84	2538846	48.399	ng		100
44) tert-Amyl Methyl Ether	11.20	73	2422295	24.966	ng		100
45) 1,2-Dichloropropane	11.35	63	775287	24.276	ng		99

Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2013_11\19\11191316.D
Acq On : 19 Nov 2013 18:30 Operator: EM/CD
Sample : 25ng TO-15 ICV Std (125mL)
Misc : S25-11181301/S25-11181305 (12/17)
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 21 09:37:46 2013
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Nov 21 09:17:24 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Bromodichloromethane	11.54	83	1063529	26.633	ng	100
47) Trichloroethene	11.58	130	910945	24.083	ng	99
48) 1,4-Dioxane	11.58	88	690083	26.107	ng	100
49) 2,2,4-Trimethylpentane...	11.65	57	3571921	23.724	ng	100
50) Methyl Methacrylate	11.86	100	762968	50.208	ng	100
51) n-Heptane	11.94	71	799715	23.588	ng	99
52) cis-1,3-Dichloropropene	12.41	75	1376917	28.021	ng	100
53) 4-Methyl-2-pentanone	12.47	58	802994	24.919	ng	100
54) trans-1,3-Dichloropropene	12.89	75	1221754	27.674	ng	100
55) 1,1,2-Trichloroethane	13.02	97	774253	25.388	ng	100
58) Toluene	13.24	91	3188017	23.631	ng	100
59) 2-Hexanone	13.48	43	1963750	26.229	ng	100
60) Dibromochloromethane	13.55	129	963112	27.810	ng	99
61) 1,2-Dibromoethane	13.74	107	892700	25.646	ng	99
62) n-Butyl Acetate	13.99	43	2198073	26.348	ng	100
63) n-Octane	14.06	57	709673	23.801	ng	99
64) Tetrachloroethene	14.10	166	994776	22.680	ng	100
65) Chlorobenzene	14.59	112	2248702	25.223	ng	100
66) Ethylbenzene	14.87	91	3710001	24.780	ng	100
67) m- & p-Xylenes	15.00	91	5883378	49.613	ng	100
68) Bromoform	15.02	173	949152	29.712	ng	100
69) Styrene	15.24	104	2541393	26.631	ng	100
70) o-Xylene	15.31	91	3018736	24.368	ng	100
71) n-Nonane	15.50	43	1743633	24.020	ng	100
72) 1,1,2,2-Tetrachloroethane	15.30	83	1396508	25.285	ng	100
74) Cumene	15.72	105	3912013	24.030	ng	100
75) alpha-Pinene	15.98	93	2045654	24.877	ng	100
76) n-Propylbenzene	16.07	91	4536152	24.259	ng	100
77) 3-Ethyltoluene	16.15	105	4222491	26.582	ng	100
78) 4-Ethyltoluene	16.17	105	3527072	24.753	ng	100
79) 1,3,5-Trimethylbenzene	16.23	105	3273761	25.773	ng	100
80) alpha-Methylstyrene	16.34	118	1922043	26.660	ng	99
81) 2-Ethyltoluene	16.36	105	3822316	25.552	ng	100
82) 1,2,4-Trimethylbenzene	16.52	105	3313887	25.452	ng	100
83) n-Decane	16.61	57	1750663	24.708	ng	99
84) Benzyl Chloride	16.61	91	3130005	31.485	ng	100
85) 1,3-Dichlorobenzene	16.62	146	2090189	27.031	ng	100
86) 1,4-Dichlorobenzene	16.67	146	2068464	25.884	ng	99
87) sec-Butylbenzene	16.72	105	4414163	26.522	ng	100
88) 4-Isopropyltoluene (p-...	16.84	119	4166684	25.008	ng	100
89) 1,2,3-Trimethylbenzene	16.83	105	3443743	26.234	ng	100
90) 1,2-Dichlorobenzene	16.92	146	1956672	26.381	ng	100
91) d-Limonene	16.94	68	1346479	26.721	ng	100
92) 1,2-Dibromo-3-Chloropr...	17.25	157	766424	28.161	ng	100
93) n-Undecane	17.56	57	1862008	25.152	ng	100
94) 1,2,4-Trichlorobenzene	18.27	180	1486239	25.092	ng	100
95) Naphthalene	18.35	128	4469194	25.546	ng	100
96) n-Dodecane	18.41	57	1825627	24.994	ng	100
97) Hexachlorobutadiene	18.66	225	960178	25.568	ng	100
98) Cyclohexanone	15.08	55	1227533	26.154	ng	100
99) tert-Butylbenzene	16.52	119	3386921	25.979	ng	100
100) n-Butylbenzene	17.15	91	3413732	26.671	ng	100

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

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **11191316.D**
Data File Path: **I:\MS08\Data\2013_11\19**
Operator: **EM/CD**
Date Acquired: **11/19/2013** **18:30**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO-15 ICV Std (125mL)**
Misc Info: **S25-11181301/S25-11181305 (**
Instrument Name: **Instrument #MS08**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
2)	Propene	1.89	22.4	25.00	90	70	130	*
3)	Dichlorodifluoromethane (CFC 1:	2.02	22.8	25.50	89	70	130	*
4)	Chloromethane	2.24	22.5	24.75	91	70	130	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroetl	2.48	22.1	25.50	87	70	130	*
6)	Vinyl Chloride	2.60	22.5	25.00	90	70	130	*
7)	1,3-Butadiene	2.83	24.6	26.50	93	70	130	*
8)	Bromomethane	3.20	22.4	25.00	90	70	130	*
9)	Chloroethane	3.52	22.5	25.25	89	70	130	*
10)	Ethanol	4.07	118	127.75	92	70	130	*
11)	Acetonitrile	4.21	22.6	25.25	90	70	130	*
12)	Acrolein	4.37	25.2	26.75	94	70	130	*
13)	Acetone	4.60	123	134.50	91	70	130	*
14)	Trichlorofluoromethane	4.76	20.8	24.75	84	70	130	*
15)	2-Propanol (Isopropanol)	5.24	48.1	52.50	92	70	130	*
16)	Acrylonitrile	5.42	25.5	26.00	98	70	130	*
17)	1,1-Dichloroethene	5.79	23.9	26.75	89	70	130	*
18)	2-Methyl-2-Propanol (tert-Butyl Alcc	6.17	47.7	52.25	91	70	130	*
19)	Methylene Chloride	6.13	23.2	27.00	86	70	130	*
20)	3-Chloro-1-propene (Allyl Chlorid	6.28	24.1	27.00	89	70	130	*
21)	Trichlorotrifluoroethane	6.58	24.0	26.75	90	70	130	*
22)	Carbon Disulfide	6.20	23.7	24.50	97	70	130	*
23)	trans-1,2-Dichloroethene	7.49	24.8	26.50	94	70	130	*
24)	1,1-Dichloroethane	7.74	23.1	26.00	89	70	130	*
25)	Methyl tert-Butyl Ether	7.87	23.9	26.50	90	70	130	*
26)	Vinyl Acetate	8.12	121	128.00	95	70	130	*
27)	2-Butanone (MEK)	8.31	23.6	27.25	87	70	130	*
28)	cis-1,2-Dichloroethene	8.78	24.7	26.75	92	70	130	*
29)	Diisopropyl Ether	9.13	25.7	27.25	94	70	130	*
30)	Ethyl Acetate	9.17	47.3	53.25	89	70	130	*
31)	n-Hexane	9.06	22.5	26.25	86	70	130	*
32)	Chloroform	9.13	23.3	26.75	87	70	130	*
34)	Tetrahydrofuran (THF)	9.47	23.3	25.75	90	70	130	*
35)	Ethyl tert-Butyl Ether	9.69	24.0	26.50	91	70	130	*
36)	1,2-Dichloroethane	9.86	23.7	26.25	90	70	130	*
38)	1,1,1-Trichloroethane	10.09	23.9	25.75	93	70	130	*
39)	Isopropyl Acetate	10.64	50.3	54.50	92	70	130	*
40)	1-Butanol	10.69	58.9	54.75	108	70	130	*
41)	Benzene	10.54	25.7	27.50	93	70	130	*
42)	Carbon Tetrachloride	10.68	25.5	26.25	97	70	130	*
43)	Cyclohexane	10.79	48.4	52.50	92	70	130	*
44)	tert-Amyl Methyl Ether	11.20	25.0	26.25	95	70	130	*
45)	1,2-Dichloropropane	11.35	24.3	26.50	92	70	130	*
46)	Bromodichloromethane	11.54	26.6	26.75	99	70	130	*
47)	Trichloroethene	11.58	24.1	26.00	93	70	130	*
48)	1,4-Dioxane	11.58	26.1	27.25	96	70	130	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.65	23.7	26.00	91	70	130	*

CD 11/21/13

11/21/13

I:\MS08\0-Instrument Info\0-Security Certificates\ICV_07081301.CRT

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **11191316.D**
Data File Path: **I:\MS08\Data\2013_11\19**
Operator: **EM/CD**
Date Acquired: **11/19/2013** **18:30**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO-15 ICV Std (125mL)**
Misc Info: **S25-11181301/S25-11181305 (**
Instrument Name: **Instrument #MS08**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
50)	**Methyl Methacrylate**	**11.86**	**50.2**	**52.50**	96	**70**	**130**	*
51)	**n-Heptane**	**11.94**	**23.6**	**26.75**	88	**70**	**130**	*
52)	**cis-1,3-Dichloropropene**	**12.41**	**28.0**	**28.25**	99	**70**	**130**	*
53)	**4-Methyl-2-pentanone**	**12.47**	**24.9**	**27.25**	91	**70**	**130**	*
54)	**trans-1,3-Dichloropropene**	**12.89**	**27.7**	**27.00**	103	**70**	**130**	*
55)	**1,1,2-Trichloroethane**	**13.02**	**25.4**	**26.25**	97	**70**	**130**	*
58)	**Toluene**	**13.24**	**23.6**	**26.25**	90	**70**	**130**	*
59)	**2-Hexanone**	**13.48**	**26.2**	**27.75**	94	**70**	**130**	*
60)	**Dibromochloromethane**	**13.55**	**27.8**	**27.50**	101	**70**	**130**	*
61)	**1,2-Dibromoethane**	**13.74**	**25.6**	**27.00**	95	**70**	**130**	*
62)	**n-Butyl Acetate**	**13.99**	**26.3**	**28.00**	94	**70**	**130**	*
63)	**n-Octane**	**14.06**	**23.8**	**26.00**	92	**70**	**130**	*
64)	**Tetrachloroethene**	**14.10**	**22.7**	**24.50**	93	**70**	**130**	*
65)	**Chlorobenzene**	**14.59**	**25.2**	**27.00**	93	**70**	**130**	*
66)	**Ethylbenzene**	**14.87**	**24.8**	**26.50**	94	**70**	**130**	*
67)	**m- & p-Xylenes**	**15.00**	**49.6**	**52.50**	94	**70**	**130**	*
68)	**Bromoform**	**15.02**	**29.7**	**27.00**	110	**70**	**130**	*
69)	**Styrene**	**15.24**	**26.6**	**27.25**	98	**70**	**130**	*
70)	**o-Xylene**	**15.31**	**24.4**	**25.75**	95	**70**	**130**	*
71)	**n-Nonane**	**15.50**	**24.0**	**25.75**	93	**70**	**130**	*
72)	**1,1,2,2-Tetrachloroethane**	**15.30**	**25.3**	**25.25**	100	**70**	**130**	*
74)	**Cumene**	**15.72**	**24.0**	**25.50**	94	**70**	**130**	*
75)	**alpha-Pinene**	**15.98**	**24.9**	**26.00**	96	**70**	**130**	*
76)	**n-Propylbenzene**	**16.07**	**24.3**	**25.25**	96	**70**	**130**	*
77)	3-Ethyltoluene	16.15	26.6	26.50	100	**70**	**130**	*
78)	**4-Ethyltoluene**	**16.17**	**24.8**	**26.50**	**94**	**70**	**130**	*
79)	**1,3,5-Trimethylbenzene**	**16.23**	**25.8**	**26.50**	**97**	**70**	**130**	*
80)	alpha-Methylstyrene	16.34	26.7	26.00	**103**	**70**	**130**	*
81)	2-Ethyltoluene	16.36	25.6	26.25	**98**	**70**	**130**	*
82)	**1,2,4-Trimethylbenzene**	**16.52**	**25.5**	**26.50**	**96**	**70**	**130**	*
83)	n-Decane	16.61	24.7	25.75	**96**	**70**	**130**	*
84)	**Benzyl Chloride**	**16.61**	**31.5**	**27.75**	**114**	**70**	**130**	*
85)	**1,3-Dichlorobenzene**	**16.62**	**27.0**	**27.75**	**97**	**70**	**130**	*
86)	**1,4-Dichlorobenzene**	**16.67**	**25.9**	**26.75**	**97**	**70**	**130**	*
87)	sec-Butylbenzene	16.72	26.5	27.00	**98**	**70**	**130**	*
88)	4-Isopropyltoluene (p-Cymene)	16.84	25.0	25.25	**99**	**70**	**130**	*
89)	1,2,3-Trimethylbenzene	16.83	26.2	26.50	**99**	**70**	**130**	*
90)	**1,2-Dichlorobenzene**	**16.92**	**26.4**	**27.25**	**97**	**70**	**130**	*
91)	**d-Limonene**	**16.94**	**26.7**	**26.25**	**102**	**70**	**130**	*
92)	**1,2-Dibromo-3-Chloropropane**	**17.25**	**28.2**	**26.50**	**106**	**70**	**130**	*
93)	n-Undecane	17.56	25.2	25.75	**98**	**70**	**130**	*
94)	**1,2,4-Trichlorobenzene**	**18.27**	**25.1**	**27.50**	**91**	**70**	**130**	*
95)	**Naphthalene**	**18.35**	**25.5**	**25.50**	**100**	**70**	**130**	*
96)	n-Dodecane	18.41	25.0	26.00	**96**	**70**	**130**	*
97)	**Hexachlorobutadiene**	**18.66**	**25.6**	**27.25**	**94**	**70**	**130**	*
98)	Cyclohexanone	15.08	26.2	27.50	95	**70**	**130**	*
99)	tert-Butylbenzene	16.52	26.0	26.75	97	**70**	**130**	*
100)	n-Butylbenzene	17.15	26.7	27.50	97	**70**	**130**	*

Bold = 75 Compound List
*** = Pass**

CO 11/21/13

EM 11/21/13

I:\MS08\0-Instrument Info\0-Security Certificates\ICV_07081301.CRT

Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2014_02\03\02031402.D
Acq On : 3 Feb 2014 8:53 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 03 09:37:41 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	67	0.02
2	T	Propene	1.763	1.887	-7.0	77	-0.03
3	T	Dichlorodifluoromethane (CF	2.982	3.585	-20.2	88	-0.03
4	T	Chloromethane	2.454	2.646	-7.8	77	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.810	1.900	-5.0	77	-0.02
6	T	Vinyl Chloride	2.444	2.637	-7.9	77	-0.01
7	T	1,3-Butadiene	1.914	2.222	-16.1	82	0.00
8	T	Bromomethane	1.509	1.692	-12.1	81	0.00
9	T	Chloroethane	1.362	1.481	-8.7	78	0.00
10	T	Ethanol	1.214	1.383	-13.9	77	0.07
11	T	Acetonitrile	3.338	3.426	-2.6	74	0.02
12	T	Acrolein	1.020	1.035	-1.5	72	0.00
13	T	Acetone	1.216	1.429	-17.5	84	0.00
14	T	Trichlorofluoromethane	2.761	3.131	-13.4	85	0.00
15	T	2-Propanol (Isopropanol)	4.422	5.009	-13.3	80	-0.01
16	T	Acrylonitrile	2.089	2.355	-12.7	77	0.02
17	T	1,1-Dichloroethene	1.568	1.697	-8.2	78	0.00
18	T	2-Methyl-2-Propanol (tert-B	4.334	4.926	-13.7	79	-0.06
19	T	Methylene Chloride	1.644	1.867	-13.6	81	0.04
20	T	3-Chloro-1-propene (Allyl C	2.725	2.683	1.5	74	0.02
21	T	Trichlorotrifluoroethane	1.454	1.513	-4.1	76	0.00
22	T	Carbon Disulfide	5.805	6.522	-12.4	77	0.01
23	T	trans-1,2-Dichloroethene	2.238	2.539	-13.4	80	0.02
24	T	1,1-Dichloroethane	2.835	2.858	-0.8	75	0.01
25	T	Methyl tert-Butyl Ether	4.803	5.550	-15.6	84	-0.05
26	T	Vinyl Acetate	0.454	0.414	8.8	63	0.00
27	T	2-Butanone (MEK)	1.151	1.080	6.2	70	-0.05
28	T	cis-1,2-Dichloroethene	2.098	2.279	-8.6	78	0.01
29	T	Diisopropyl Ether	1.472	1.674	-13.7	78	-0.03
30	T	Ethyl Acetate	0.576	0.552	4.2	70	-0.03
31	T	n-Hexane	2.326	2.014	13.4	66	0.00
32	T	Chloroform	2.651	2.889	-9.0	81	0.01
33	S	1,2-Dichloroethane-d4(SS1)	1.359	1.560	-14.8	79	0.00
34	T	Tetrahydrofuran (THF)	1.044	1.066	-2.1	70	-0.07
35	T	Ethyl tert-Butyl Ether	2.087	2.328	-11.5	81	-0.03
36	T	1,2-Dichloroethane	1.942	2.223	-14.5	83	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	63	0.00
38	T	1,1,1-Trichloroethane	0.481	0.615	-27.9	86	0.00
39	T	Isopropyl Acetate	0.202	0.222	-9.9	72	-0.02
40	T	1-Butanol	0.336	0.388	-15.5	62	-0.03
41	T	Benzene	1.186	1.253	-5.6	70	0.00
42	T	Carbon Tetrachloride	0.410	0.530	-29.3	83	0.00
43	T	Cyclohexane	0.537	0.648	-20.7	81	0.00
44	T	tert-Amyl Methyl Ether	0.994	1.244	-25.2	81	-0.03
45	T	1,2-Dichloropropane	0.327	0.347	-6.1	71	0.00
46	T	Bromodichloromethane	0.409	0.503	-23.0	79	0.00
47	T	Trichloroethene	0.387	0.394	-1.8	69	0.00
48	T	1,4-Dioxane	0.271	0.314	-15.9	71	-0.04
49	T	2,2,4-Trimethylpentane (Iso	1.542	1.785	-15.8	78	0.00
50	T	Methyl Methacrylate	0.156	0.171	-9.6	71	-0.01

SM 2/3/14

Data File: I:\MS08\Data\2014_02\03\02031402.D
Acq On : 3 Feb 2014 8:53 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 03 09:37:41 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	T	n-Heptane	0.347	0.343	1.2	70	0.00
52	T	cis-1,3-Dichloropropene	0.503	0.595	-18.3	74	0.00
53	T	4-Methyl-2-pentanone	0.330	0.354	-7.3	69	-0.02
54	T	trans-1,3-Dichloropropene	0.452	0.573	-26.8	77	0.00
55	T	1,1,2-Trichloroethane	0.312	0.361	-15.7	75	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	70	0.00
57	S	Toluene-d8 (SS2)	2.663	2.512	5.7	65	0.00
58	T	Toluene	3.470	3.502	-0.9	75	0.00
59	T	2-Hexanone	1.926	2.092	-8.6	73	-0.01
60	T	Dibromochloromethane	0.891	0.995	-11.7	76	0.00
61	T	1,2-Dibromoethane	0.895	0.950	-6.1	75	0.00
62	T	n-Butyl Acetate	2.146	2.254	-5.0	70	0.00
63	T	n-Octane	0.767	0.779	-1.6	74	0.00
64	T	Tetrachloroethene	1.128	1.117	1.0	72	0.00
65	T	Chlorobenzene	2.293	2.392	-4.3	75	0.00
66	T	Ethylbenzene	3.851	4.278	-11.1	80	0.00
67	T	m- & p-Xylenes	3.050	3.668	-20.3	85	0.00
68	T	Bromoform	0.822	0.956	-16.3	76	0.00
69	T	Styrene	2.455	2.702	-10.1	76	0.00
70	T	o-Xylene	3.187	3.825	-20.0	85	0.00
71	T	n-Nonane	1.867	2.006	-7.4	78	0.00
72	T	1,1,2,2-Tetrachloroethane	1.421	1.811	-27.4	85	0.00
73	S	Bromofluorobenzene (SS3)	1.069	0.950	11.1	64	0.00
74	T	Cumene	4.188	4.695	-12.1	80	0.00
75	T	alpha-Pinene	2.115	2.310	-9.2	77	0.00
76	T	n-Propylbenzene	4.810	5.628	-17.0	81	0.00
77	T	3-Ethyltoluene	4.086	4.680	-14.5	76	0.00
78	T	4-Ethyltoluene	3.665	4.360	-19.0	87	0.00
79	T	1,3,5-Trimethylbenzene	3.267	3.883	-18.9	82	0.00
80	T	alpha-Methylstyrene	1.854	2.055	-10.8	72	0.00
81	T	2-Ethyltoluene	3.848	4.545	-18.1	82	0.00
82	T	1,2,4-Trimethylbenzene	3.349	4.320	-29.0	89	0.00
83	T	n-Decane	1.823	2.330	-27.8	90	0.00
84	T	Benzyl Chloride	2.557	3.549	-38.8#	84	0.00
85	T	1,3-Dichlorobenzene	1.989	2.466	-24.0	83	0.00
86	T	1,4-Dichlorobenzene	2.056	2.295	-11.6	77	0.00
87	T	sec-Butylbenzene	4.281	5.042	-17.8	81	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.286	5.259	-22.7	84	0.00
89	T	1,2,3-Trimethylbenzene	3.377	4.330	-28.2	87	0.00
90	T	1,2-Dichlorobenzene	1.908	2.154	-12.9	77	0.00
91	T	d-Limonene	1.296	1.502	-15.9	76	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.700	0.838	-19.7	74	0.00
93	T	n-Undecane	1.904	2.076	-9.0	74	0.00
94	T	1,2,4-Trichlorobenzene	1.524	1.677	-10.0	73	0.00
95	T	Naphthalene	4.500	5.420	-20.4	73	0.00
96	T	n-Dodecane	1.879	1.645	12.5	58	0.00
97	T	Hexachlorobutadiene	0.966	0.996	-3.1	71	0.00
98	T	Cyclohexanone	1.207	1.206	0.1	64	0.00
99	T	tert-Butylbenzene	3.353	4.091	-22.0	85	0.00
100	T	n-Butylbenzene	3.292	3.916	-19.0	82	0.00

SH 2/3/14

Data File: I:\MS08\Data\2014_02\03\02031402.D
Acq On : 3 Feb 2014 8:53 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 03 09:37:41 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

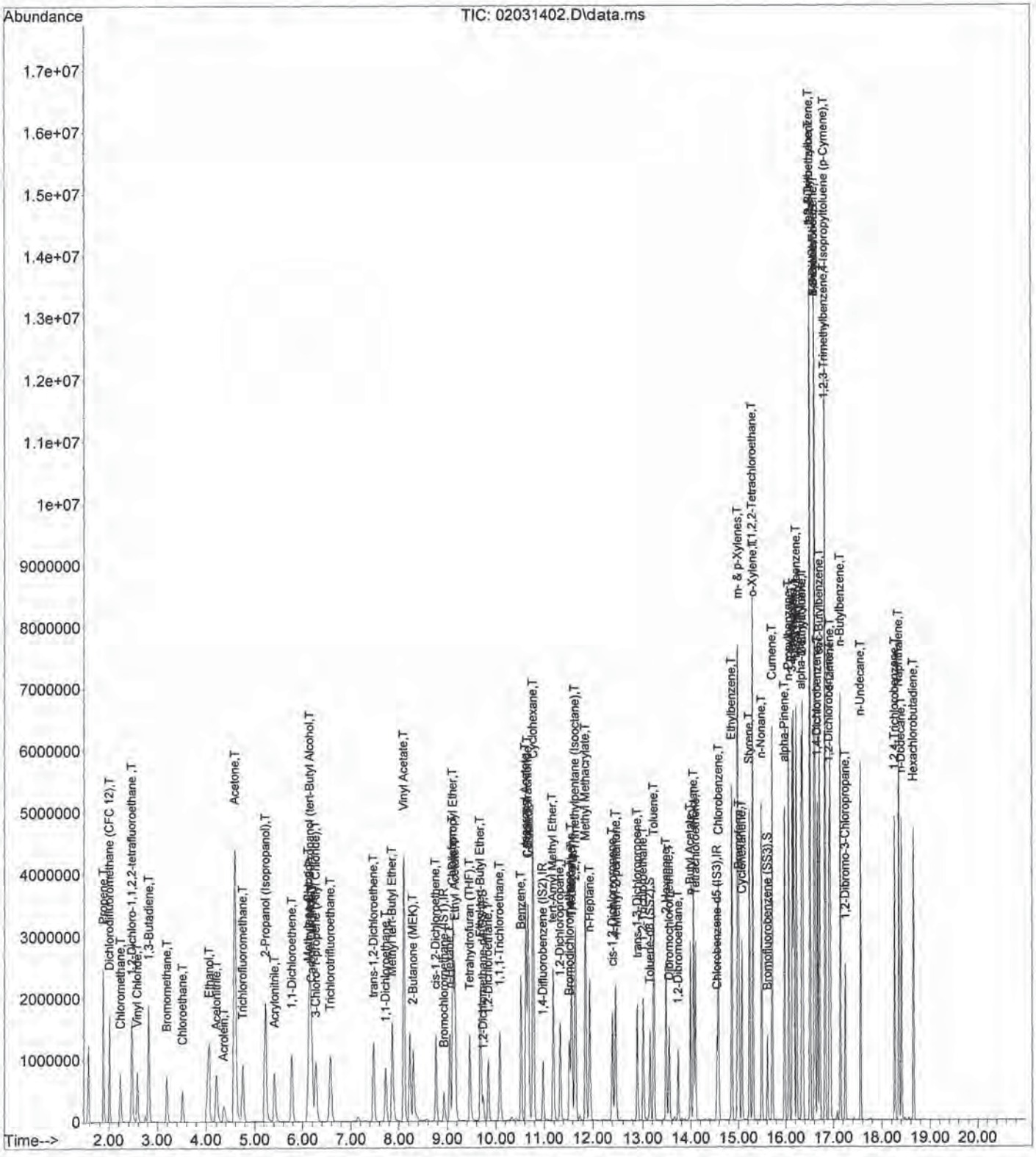
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

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

Data File: I:\MS08\Data\2014_02\03\02031402.D
Acq On : 3 Feb 2014 8:53 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 03 09:37:41 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS08\Data\2014_02\03\02031402.D
Acq On : 3 Feb 2014 8:53 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 03 09:37:41 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.93	130	177477	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	10.98	114	782718	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	336933	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.74	65	276927	14.356	ng		0.00
Spiked Amount 12.500			Recovery =	114.88%			
57) Toluene-d8 (SS2)	13.15	98	846369	11.792	ng		0.00
Spiked Amount 12.500			Recovery =	94.32%			
73) Bromofluorobenzene (SS3)	15.61	174	320065	11.111	ng		0.00
Spiked Amount 12.500			Recovery =	88.88%			
Target Compounds							Qvalue
2) Propene	1.88	42	656392	26.218	ng		94
3) Dichlorodifluoromethan...	2.01	85	1272459	30.051	ng		100
4) Chloromethane	2.23	50	901487	25.869	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	2.47	135	674490	26.252	ng		99
6) Vinyl Chloride	2.58	62	907768	26.156	ng		99
7) 1,3-Butadiene	2.82	54	930772	34.246	ng		95
8) Bromomethane	3.19	94	582455	27.178	ng		99
9) Chloroethane	3.52	64	510071	26.375	ng		100
10) Ethanol	4.06	45	2479272	143.870	ng		100
11) Acetonitrile	4.21	41	1203874	25.399	ng		98
12) Acrolein	4.36	56	385714	26.636	ng		100
13) Acetone	4.59	58	2683365	155.394	ng	#	81
14) Trichlorofluoromethane	4.75	101	1100243	28.066	ng		99
15) 2-Propanol (Isopropanol)	5.23	45	3715967	59.188	ng		96
16) Acrylonitrile	5.41	53	869215	29.312	ng		98
17) 1,1-Dichloroethene	5.78	96	638655	28.678	ng		90
18) 2-Methyl-2-Propanol (t...	6.15	59	3636947	59.107	ng		97
19) Methylene Chloride	6.12	84	669254	28.681	ng		96
20) 3-Chloro-1-propene (Al...	6.27	41	1028695	26.583	ng		94
21) Trichlorotrifluoroethane	6.58	151	580093	28.108	ng		95
22) Carbon Disulfide	6.19	76	2268668	27.524	ng		100
23) trans-1,2-Dichloroethene	7.48	61	937141	29.497	ng		96
24) 1,1-Dichloroethane	7.73	63	1054867	26.206	ng		100
25) Methyl tert-Butyl Ether	7.87	73	2068456	30.330	ng		99
26) Vinyl Acetate	8.11	86	749322	116.347	ng	#	85
27) 2-Butanone (MEK)	8.30	72	410212	25.106	ng		93
28) cis-1,2-Dichloroethene	8.77	61	873728	29.331	ng		95
29) Diisopropyl Ether	9.13	87	635728	30.413	ng	#	98
30) Ethyl Acetate	9.16	61	409804	50.079	ng		100
31) n-Hexane	9.05	57	736245	22.289	ng		99
32) Chloroform	9.12	83	1086875	28.871	ng		99
34) Tetrahydrofuran (THF)	9.47	72	404681	27.291	ng		98
35) Ethyl tert-Butyl Ether	9.69	87	867487	29.278	ng		96
36) 1,2-Dichloroethane	9.85	62	828551	30.047	ng		100
38) 1,1,1-Trichloroethane	10.08	97	991687	32.904	ng		97
39) Isopropyl Acetate	10.63	61	756809	59.942	ng	#	62
40) 1-Butanol	10.68	56	1330034	63.149	ng		96
41) Benzene	10.53	78	2158270	29.056	ng		99
42) Carbon Tetrachloride	10.68	117	863551	33.673	ng		99
43) Cyclohexane	10.78	84	2088910	62.093	ng		99
44) tert-Amyl Methyl Ether	11.19	73	2026085	32.562	ng		97
45) 1,2-Dichloropropane	11.34	63	575841	28.115	ng		99

2/3/14

Data File: I:\MS08\Data\2014_02\03\02031402.D
Acq On : 3 Feb 2014 8:53 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 03 09:37:41 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Bromodichloromethane	11.54	83	843005	32.917	ng	100
47) Trichloroethene	11.57	130	640910	26.421	ng	99
48) 1,4-Dioxane	11.58	88	535061	31.564	ng	99
49) 2,2,4-Trimethylpentane...	11.65	57	2878891	29.815	ng	90
50) Methyl Methacrylate	11.85	100	558114	57.268	ng	90
51) n-Heptane	11.93	71	564478	25.962	ng	99
52) cis-1,3-Dichloropropene	12.40	75	950039	30.147	ng	100
53) 4-Methyl-2-pentanone	12.46	58	593369	28.712	ng	94
54) trans-1,3-Dichloropropene	12.89	75	924346	32.648	ng	100
55) 1,1,2-Trichloroethane	13.00	97	599318	30.643	ng	98
58) Toluene	13.23	91	2501564	26.744	ng	98
59) 2-Hexanone	13.48	43	1564815	30.145	ng	95
60) Dibromochloromethane	13.55	129	724432	30.169	ng	99
61) 1,2-Dibromoethane	13.73	107	685035	28.385	ng	100
62) n-Butyl Acetate	13.99	43	1701160	29.410	ng	97
63) n-Octane	14.05	57	540942	26.166	ng	100
64) Tetrachloroethene	14.10	166	737732	24.258	ng	99
65) Chlorobenzene	14.59	112	1740726	28.160	ng	100
66) Ethylbenzene	14.86	91	3084312	29.713	ng	98
67) m- & p-Xylenes	15.00	91	5190877	63.134	ng	96
68) Bromoform	15.01	173	695712	31.411	ng	99
69) Styrene	15.23	104	1984775	29.998	ng	97
70) o-Xylene	15.31	91	2655159	30.912	ng	96
71) n-Nonane	15.49	43	1379028	27.399	ng	99
72) 1,1,2,2-Tetrachloroethane	15.30	83	1232279	32.180	ng	100
74) Cumene	15.72	105	3195653	28.312	ng	99
75) alpha-Pinene	15.98	93	1619178	28.400	ng	94
76) n-Propylbenzene	16.07	91	3792277	29.251	ng	97
77) 3-Ethyltoluene	16.14	105	3311710	30.069	ng	98
78) 4-Ethyltoluene	16.17	105	3084768	31.224	ng	98
79) 1,3,5-Trimethylbenzene	16.23	105	2773368	31.491	ng	96
80) alpha-Methylstyrene	16.33	118	1440030	28.809	ng	96
81) 2-Ethyltoluene	16.36	105	3216101	31.008	ng	98
82) 1,2,4-Trimethylbenzene	16.52	105	3056449	33.858	ng	96
83) n-Decane	16.61	57	1601249	32.595	ng	100
84) Benzyl Chloride	16.61	91	2630937	38.170	ng	96
85) 1,3-Dichlorobenzene	16.61	146	1827813	34.092	ng	100
86) 1,4-Dichlorobenzene	16.67	146	1638990	29.581	ng	100
87) sec-Butylbenzene	16.71	105	3635422	31.504	ng	98
88) 4-Isopropyltoluene (p-...	16.83	119	3614796	31.292	ng	96
89) 1,2,3-Trimethylbenzene	16.82	105	3122232	34.304	ng	96
90) 1,2-Dichlorobenzene	16.92	146	1567946	30.490	ng	100
91) d-Limonene	16.94	68	1062410	30.409	ng	99
92) 1,2-Dibromo-3-Chloropr...	17.25	157	598848	31.735	ng	81
93) n-Undecane	17.56	57	1413217	27.533	ng	99
94) 1,2,4-Trichlorobenzene	18.27	180	1231705	29.992	ng	100
95) Naphthalene	18.35	128	3725377	30.713	ng	100
96) n-Dodecane	18.41	57	1152852	22.764	ng	100
97) Hexachlorobutadiene	18.65	225	731878	28.108	ng	100
98) Cyclohexanone	15.08	55	910067	27.966	ng	95
99) tert-Butylbenzene	16.52	119	2949636	32.632	ng	99
100) n-Butylbenzene	17.15	91	2902706	32.708	ng	98

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

Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2014_02\04\02041402.D
Acq On : 4 Feb 2014 8:09 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 04 08:36:29 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	73	0.02
2	T	Propene	1.763	1.627	7.7	72	-0.03
3	T	Dichlorodifluoromethane (CF	2.982	3.201	-7.3	86	-0.03
4	T	Chloromethane	2.454	2.238	8.8	71	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.810	1.766	2.4	79	-0.02
6	T	Vinyl Chloride	2.444	2.336	4.4	75	0.00
7	T	1,3-Butadiene	1.914	1.976	-3.2	80	0.00
8	T	Bromomethane	1.509	1.477	2.1	77	0.00
9	T	Chloroethane	1.362	1.288	5.4	74	0.00
10	T	Ethanol	1.214	1.176	3.1	72	0.07
11	T	Acetonitrile	3.338	2.924	12.4	69	0.03
12	T	Acrolein	1.020	0.876	14.1	67	0.00
13	T	Acetone	1.216	1.232	-1.3	79	0.00
14	T	Trichlorofluoromethane	2.761	2.919	-5.7	87	0.00
15	T	2-Propanol (Isopropanol)	4.422	4.362	1.4	76	-0.01
16	T	Acrylonitrile	2.089	2.041	2.3	73	0.02
17	T	1,1-Dichloroethene	1.568	1.492	4.8	75	0.00
18	T	2-Methyl-2-Propanol (tert-B	4.334	4.392	-1.3	77	-0.06
19	T	Methylene Chloride	1.644	1.622	1.3	77	0.04
20	T	3-Chloro-1-propene (Allyl C	2.725	2.376	12.8	72	0.02
21	T	Trichlorotrifluoroethane	1.454	1.326	8.8	73	0.00
22	T	Carbon Disulfide	5.805	5.713	1.6	74	0.01
23	T	trans-1,2-Dichloroethene	2.238	2.239	-0.0	77	0.02
24	T	1,1-Dichloroethane	2.835	2.697	4.9	77	0.01
25	T	Methyl tert-Butyl Ether	4.803	4.915	-2.3	82	-0.05
26	T	Vinyl Acetate	0.454	0.438	3.5	73	0.00
27	T	2-Butanone (MEK)	1.151	1.071	7.0	75	-0.05
28	T	cis-1,2-Dichloroethene	2.098	2.137	-1.9	80	0.01
29	T	Diisopropyl Ether	1.472	1.604	-9.0	82	-0.03
30	T	Ethyl Acetate	0.576	0.567	1.6	78	-0.03
31	T	n-Hexane	2.326	2.372	-2.0	85	0.00
32	T	Chloroform	2.651	2.783	-5.0	85	0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.359	1.668	-22.7	92	0.00
34	T	Tetrahydrofuran (THF)	1.044	1.029	1.4	74	-0.07
35	T	Ethyl tert-Butyl Ether	2.087	2.092	-0.2	80	-0.03
36	T	1,2-Dichloroethane	1.942	2.238	-15.2	91	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	78	0.00
38	T	1,1,1-Trichloroethane	0.481	0.502	-4.4	87	0.00
39	T	Isopropyl Acetate	0.202	0.193	4.5	78	-0.02
40	T	1-Butanol	0.336	0.314	6.5	61	-0.03
41	T	Benzene	1.186	1.124	5.2	77	0.00
42	T	Carbon Tetrachloride	0.410	0.447	-9.0	86	0.00
43	T	Cyclohexane	0.537	0.528	1.7	81	0.00
44	T	tert-Amyl Methyl Ether	0.994	0.989	0.5	80	-0.03
45	T	1,2-Dichloropropane	0.327	0.299	8.6	75	0.00
46	T	Bromodichloromethane	0.409	0.431	-5.4	83	0.00
47	T	Trichloroethene	0.387	0.356	8.0	77	0.00
48	T	1,4-Dioxane	0.271	0.263	3.0	74	-0.04
49	T	2,2,4-Trimethylpentane (Iso	1.542	1.394	9.6	75	0.00
50	T	Methyl Methacrylate	0.156	0.148	5.1	75	-0.01

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Data File: I:\MS08\Data\2014_02\04\02041402.D
Acq On : 4 Feb 2014 8:09 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 04 08:36:29 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	T	n-Heptane	0.347	0.322	7.2	81	0.00
52	T	cis-1,3-Dichloropropene	0.503	0.503	0.0	77	0.00
53	T	4-Methyl-2-pentanone	0.330	0.294	10.9	71	-0.02
54	T	trans-1,3-Dichloropropene	0.452	0.480	-6.2	80	0.00
55	T	1,1,2-Trichloroethane	0.312	0.300	3.8	76	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	85	0.00
57	S	Toluene-d8 (SS2)	2.663	2.487	6.6	78	0.00
58	T	Toluene	3.470	3.055	12.0	79	0.00
59	T	2-Hexanone	1.926	1.778	7.7	76	-0.02
60	T	Dibromochloromethane	0.891	0.853	4.3	79	0.00
61	T	1,2-Dibromoethane	0.895	0.812	9.3	78	0.00
62	T	n-Butyl Acetate	2.146	1.914	10.8	72	0.00
63	T	n-Octane	0.767	0.697	9.1	81	0.00
64	T	Tetrachloroethene	1.128	0.990	12.2	77	0.00
65	T	Chlorobenzene	2.293	2.034	11.3	77	0.00
66	T	Ethylbenzene	3.851	3.638	5.5	83	0.00
67	T	m- & p-Xylenes	3.050	3.188	-4.5	90	0.00
68	T	Bromoform	0.822	0.817	0.6	79	0.00
69	T	Styrene	2.455	2.288	6.8	78	0.00
70	T	o-Xylene	3.187	3.290	-3.2	89	0.00
71	T	n-Nonane	1.867	1.752	6.2	82	0.00
72	T	1,1,2,2-Tetrachloroethane	1.421	1.546	-8.8	88	0.00
73	S	Bromofluorobenzene (SS3)	1.069	0.976	8.7	80	0.00
74	T	Cumene	4.188	4.026	3.9	83	0.00
75	T	alpha-Pinene	2.115	1.982	6.3	80	0.00
76	T	n-Propylbenzene	4.810	4.816	-0.1	84	0.00
77	T	3-Ethyltoluene	4.086	4.100	-0.3	81	0.00
78	T	4-Ethyltoluene	3.665	3.695	-0.8	90	0.00
79	T	1,3,5-Trimethylbenzene	3.267	3.299	-1.0	85	0.00
80	T	alpha-Methylstyrene	1.854	1.767	4.7	75	0.00
81	T	2-Ethyltoluene	3.848	3.898	-1.3	85	0.00
82	T	1,2,4-Trimethylbenzene	3.349	3.791	-13.2	94	0.00
83	T	n-Decane	1.823	2.078	-14.0	97	0.00
84	T	Benzyl Chloride	2.557	3.071	-20.1	88	0.00
85	T	1,3-Dichlorobenzene	1.989	2.184	-9.8	89	0.00
86	T	1,4-Dichlorobenzene	2.056	1.964	4.5	80	0.00
87	T	sec-Butylbenzene	4.281	4.332	-1.2	85	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.286	4.593	-7.2	89	0.00
89	T	1,2,3-Trimethylbenzene	3.377	3.741	-10.8	92	0.00
90	T	1,2-Dichlorobenzene	1.908	1.855	2.8	80	0.00
91	T	d-Limonene	1.296	1.282	1.1	79	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.700	0.694	0.9	74	0.00
93	T	n-Undecane	1.904	1.808	5.0	78	0.00
94	T	1,2,4-Trichlorobenzene	1.524	1.403	7.9	74	0.00
95	T	Naphthalene	4.500	4.486	0.3	73	0.00
96	T	n-Dodecane	1.879	1.448	22.9	62	0.00
97	T	Hexachlorobutadiene	0.966	0.858	11.2	74	0.00
98	T	Cyclohexanone	1.207	0.987	18.2	63	0.00
99	T	tert-Butylbenzene	3.353	3.581	-6.8	90	0.00
100	T	n-Butylbenzene	3.292	3.373	-2.5	86	0.00

2/4/14

Evaluate Continuing Calibration Report

Data File: I:\MS08\Data\2014_02\04\02041402.D
Acq On : 4 Feb 2014 8:09 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 04 08:36:29 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

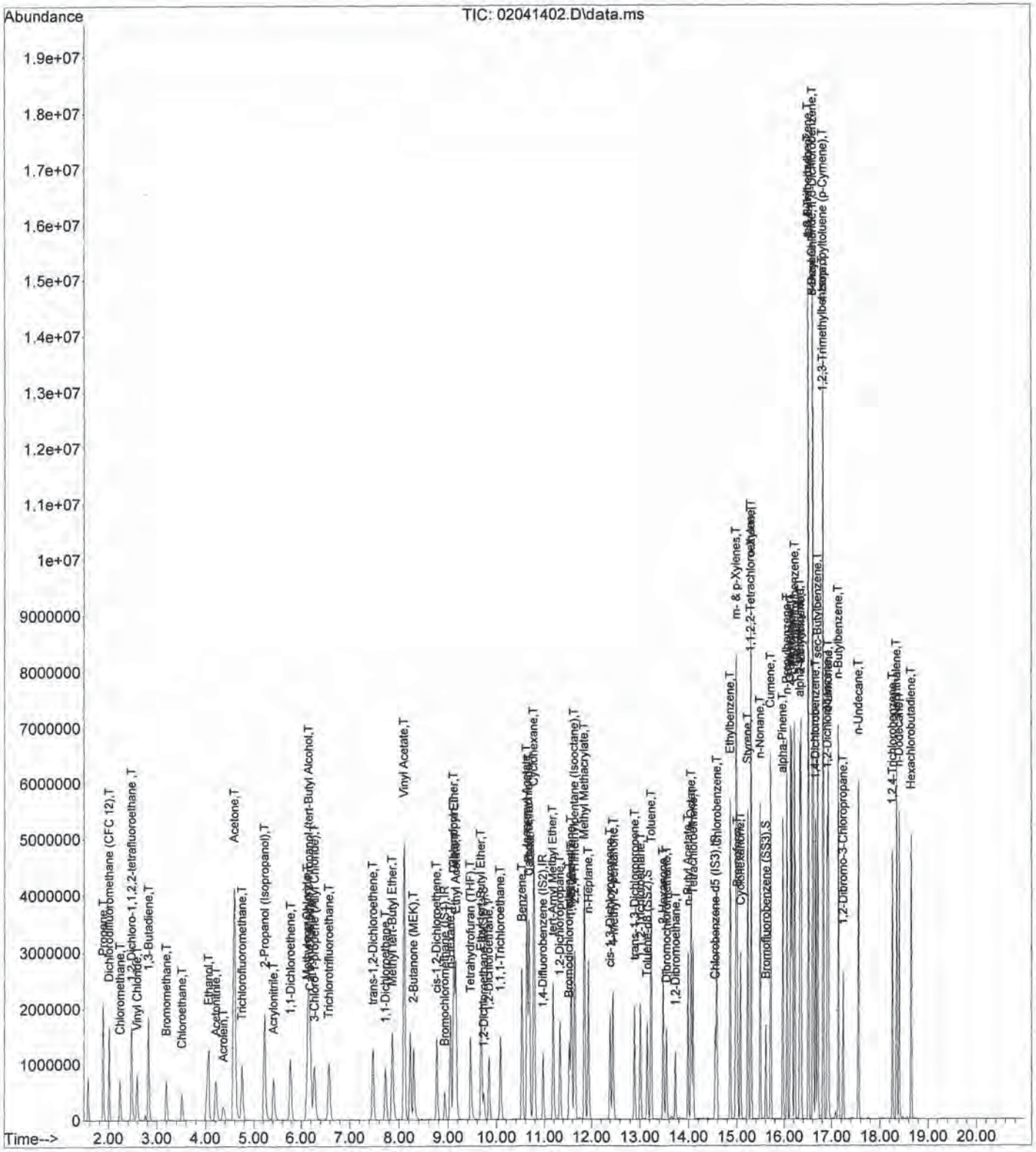
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

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

Data File: I:\MS08\Data\2014_02\04\02041402.D
Acq On : 4 Feb 2014 8:09 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 04 08:36:29 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File: I:\MS08\Data\2014_02\04\02041402.D
Acq On : 4 Feb 2014 8:09 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 04 08:36:29 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	8.93	130	193890	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	10.98	114	964667	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.55	82	408270	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.74	65	323354	15.343	ng		0.00
Spiked Amount 12.500			Recovery = 122.72%				
57) Toluene-d8 (SS2)	13.15	98	1015462	11.675	ng		0.00
Spiked Amount 12.500			Recovery = 93.44%				
73) Bromofluorobenzene (SS3)	15.61	174	398422	11.414	ng		0.00
Spiked Amount 12.500			Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	1.88	42	618166	22.601	ng		94
3) Dichlorodifluoromethan...	2.01	85	1241254	26.833	ng		100
4) Chloromethane	2.24	50	833154	21.884	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	2.47	135	684704	24.394	ng		99
6) Vinyl Chloride	2.59	62	878505	23.170	ng		100
7) 1,3-Butadiene	2.82	54	904321	30.456	ng		95
8) Bromomethane	3.19	94	555425	23.723	ng		99
9) Chloroethane	3.52	64	484598	22.936	ng		100
10) Ethanol	4.06	45	2303088	122.333	ng		100
11) Acetonitrile	4.21	41	1122549	21.678	ng		97
12) Acrolein	4.37	56	356505	22.535	ng		100
13) Acetone	4.60	58	2526310	133.915	ng	#	77
14) Trichlorofluoromethane	4.75	101	1120732	26.168	ng		99
15) 2-Propanol (Isopropanol)	5.23	45	3535503	51.546	ng		94
16) Acrylonitrile	5.41	53	823048	25.406	ng		98
17) 1,1-Dichloroethene	5.78	96	613206	25.205	ng		89
18) 2-Methyl-2-Propanol (t...	6.16	59	3542205	52.694	ng		96
19) Methylene Chloride	6.12	84	635348	24.923	ng		95
20) 3-Chloro-1-propene (Al...	6.28	41	995256	23.542	ng		94
21) Trichlorotrifluoroethane	6.58	151	555244	24.627	ng		96
22) Carbon Disulfide	6.19	76	2171091	24.110	ng		100
23) trans-1,2-Dichloroethene	7.48	61	903155	26.021	ng		97
24) 1,1-Dichloroethane	7.73	63	1087579	24.731	ng		99
25) Methyl tert-Butyl Ether	7.87	73	2001356	26.862	ng		99
26) Vinyl Acetate	8.11	86	866825	123.198	ng	#	85
27) 2-Butanone (MEK)	8.30	72	444299	24.890	ng		94
28) cis-1,2-Dichloroethene	8.77	61	894772	27.494	ng		95
29) Diisopropyl Ether	9.13	87	665482	29.142	ng	#	97
30) Ethyl Acetate	9.16	61	459732	51.425	ng		99
31) n-Hexane	9.05	57	947271	26.250	ng		99
32) Chloroform	9.12	83	1144042	27.817	ng		99
34) Tetrahydrofuran (THF)	9.47	72	426973	26.357	ng		99
35) Ethyl tert-Butyl Ether	9.69	87	851667	26.311	ng		96
36) 1,2-Dichloroethane	9.85	62	911353	30.252	ng		99
38) 1,1,1-Trichloroethane	10.08	97	998538	26.882	ng		97
39) Isopropyl Acetate	10.63	61	813042	52.250	ng	#	61
40) 1-Butanol	10.68	56	1324990	51.044	ng		95
41) Benzene	10.53	78	2384891	26.051	ng		99
42) Carbon Tetrachloride	10.68	117	896595	28.367	ng		100
43) Cyclohexane	10.78	84	2099152	50.629	ng		100
44) tert-Amyl Methyl Ether	11.19	73	1983543	25.865	ng		96
45) 1,2-Dichloropropane	11.34	63	611353	24.219	ng		100

DM 2/4/14

Data File: I:\MS08\Data\2014_02\04\02041402.D
Acq On : 4 Feb 2014 8:09 Operator: WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 04 08:36:29 2014
Quant Method : I:\MS08\Methods\R8111913.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Nov 20 08:04:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

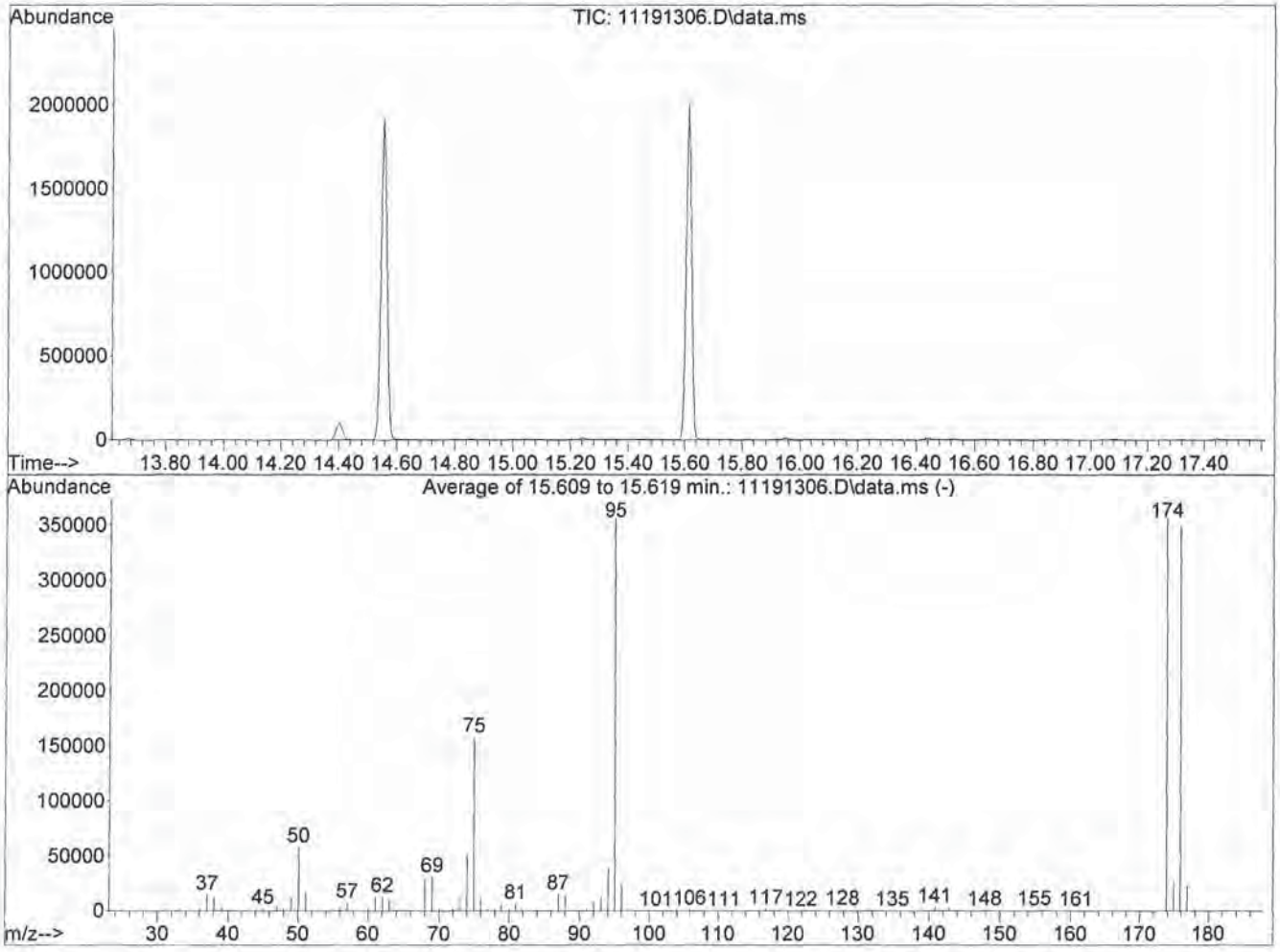
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) Bromodichloromethane	11.53	83	890348	28.209	ng		100
47) Trichloroethene	11.57	130	715127	23.920	ng		99
48) 1,4-Dioxane	11.58	88	552084	26.425	ng		100
49) 2,2,4-Trimethylpentane...	11.65	57	2770114	23.277	ng		89
50) Methyl Methacrylate	11.85	100	595044	49.541	ng		90
51) n-Heptane	11.93	71	652040	24.333	ng		100
52) cis-1,3-Dichloropropene	12.40	75	990002	25.490	ng		100
53) 4-Methyl-2-pentanone	12.46	58	607922	23.868	ng		92
54) trans-1,3-Dichloropropene	12.89	75	953166	27.316	ng		100
55) 1,1,2-Trichloroethane	13.01	97	612660	25.417	ng		98
58) Toluene	13.23	91	2644151	23.329	ng		98
59) 2-Hexanone	13.48	43	1611757	25.624	ng		95
60) Dibromochloromethane	13.55	129	751888	25.842	ng		99
61) 1,2-Dibromoethane	13.73	107	709870	24.274	ng		99
62) n-Butyl Acetate	13.99	43	1750794	24.980	ng		96
63) n-Octane	14.05	57	586612	23.417	ng		99
64) Tetrachloroethene	14.10	166	791911	21.490	ng		100
65) Chlorobenzene	14.59	112	1793767	23.948	ng		100
66) Ethylbenzene	14.86	91	3178372	25.269	ng		98
67) m- & p-Xylenes	14.99	91	5467311	54.877	ng		96
68) Bromoform	15.01	173	720920	26.862	ng		100
69) Styrene	15.23	104	2036660	25.403	ng		97
70) o-Xylene	15.30	91	2767364	26.589	ng		96
71) n-Nonane	15.49	43	1459418	23.930	ng		99
72) 1,1,2,2-Tetrachloroethane	15.30	83	1275352	27.485	ng		100
74) Cumene	15.72	105	3320305	24.276	ng		99
75) alpha-Pinene	15.97	93	1682726	24.357	ng		94
76) n-Propylbenzene	16.07	91	3932595	25.033	ng		97
77) 3-Ethyltoluene	16.14	105	3514781	26.337	ng		99
78) 4-Ethyltoluene	16.17	105	3168065	26.464	ng		98
79) 1,3,5-Trimethylbenzene	16.23	105	2854960	26.753	ng		96
80) alpha-Methylstyrene	16.33	118	1500290	24.770	ng		96
81) 2-Ethyltoluene	16.36	105	3341617	26.589	ng		98
82) 1,2,4-Trimethylbenzene	16.52	105	3249970	29.711	ng		96
83) n-Decane	16.61	57	1730894	29.077	ng		100
84) Benzyl Chloride	16.61	91	2758042	33.022	ng		96
85) 1,3-Dichlorobenzene	16.61	146	1961731	30.197	ng		100
86) 1,4-Dichlorobenzene	16.67	146	1699646	25.315	ng		100
87) sec-Butylbenzene	16.71	105	3784826	27.068	ng		98
88) 4-Isopropyltoluene (p-...	16.83	119	3825459	27.329	ng		97
89) 1,2,3-Trimethylbenzene	16.82	105	3268535	29.637	ng		97
90) 1,2-Dichlorobenzene	16.92	146	1635430	26.246	ng		100
91) d-Limonene	16.94	68	1099435	25.970	ng		100
92) 1,2-Dibromo-3-Chloropr...	17.24	157	601102	26.289	ng	#	79
93) n-Undecane	17.56	57	1490671	23.967	ng		100
94) 1,2,4-Trichlorobenzene	18.27	180	1248428	25.088	ng		100
95) Naphthalene	18.35	128	3736568	25.423	ng		100
96) n-Dodecane	18.41	57	1229568	20.036	ng		100
97) Hexachlorobutadiene	18.65	225	763704	24.205	ng		100
98) Cyclohexanone	15.08	55	902990	22.900	ng		93
99) tert-Butylbenzene	16.52	119	3128854	28.566	ng		100
100) n-Butylbenzene	17.15	91	3029738	28.175	ng		98

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

Data Path : I:\MS08\Data\2013_11\19\
Data File : 11191306.D
Acq On : 19 Nov 2013 13:37
Operator : EM/CD
Sample : 12.5ng TO-15 BFB Std
Misc : S25-11181301
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : I:\MS08\Methods\R8111913.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Nov 20 07:15:01 2013



AutoFind: Scans 2626, 2627, 2628; Background Corrected with Scan 2619

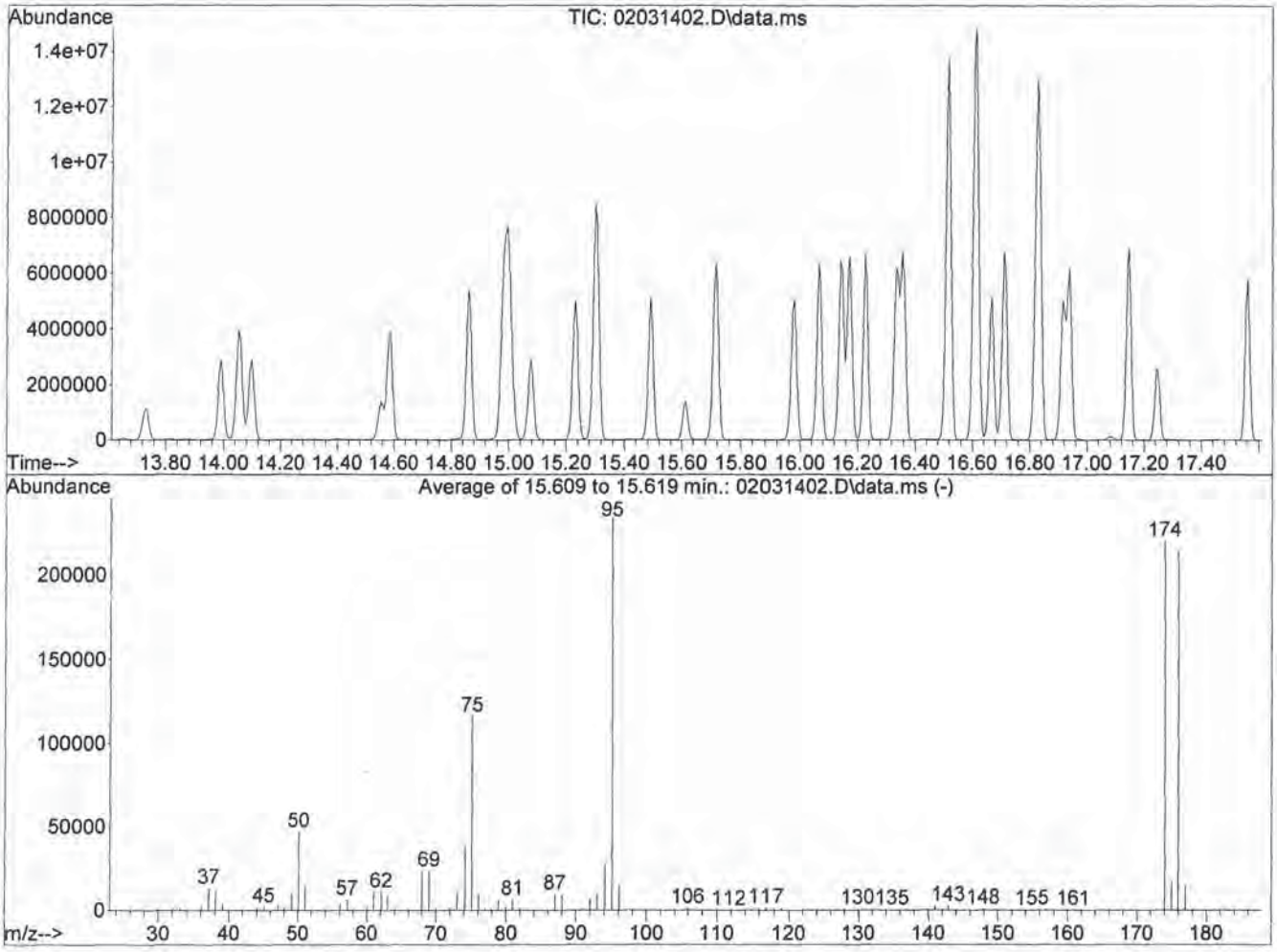
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.4	58304	PASS
75	95	30	66	44.3	157781	PASS
95	95	100	100	100.0	356309	PASS
96	95	5	9	6.7	23701	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.0	356331	PASS
175	174	4	9	7.7	27331	PASS
176	174	93	101	98.0	349056	PASS
177	176	5	9	6.6	23045	PASS

CD 11/20/13 11/21/13

Data Path : I:\MS08\Data\2014_02\03\
Data File : 02031402.D
Acq On : 3 Feb 2014 8:53
Operator : WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Integration File: RTEINT.P

Method : I:\MS08\Methods\R8111913.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Nov 20 08:04:51 2013



AutoFind: Scans 2626, 2627, 2628; Background Corrected with Scan 2618

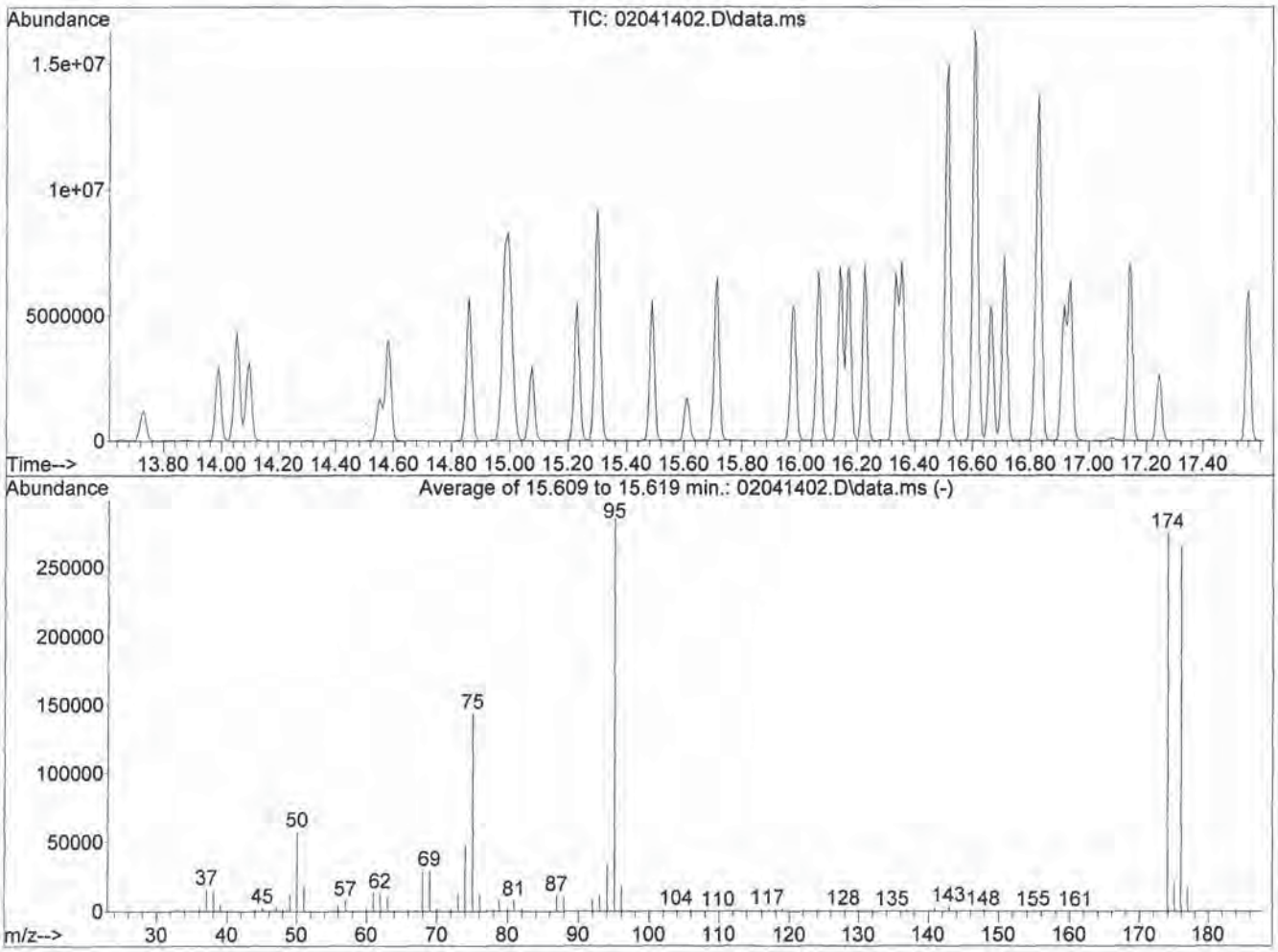
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	46875	PASS
75	95	30	66	49.6	116155	PASS
95	95	100	100	100.0	234240	PASS
96	95	5	9	6.4	14901	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.0	220245	PASS
175	174	4	9	7.8	17222	PASS
176	174	93	101	97.2	213973	PASS
177	176	5	9	6.8	14511	PASS

BFB

Data Path : I:\MS08\Data\2014_02\04\
Data File : 02041402.D
Acq On : 4 Feb 2014 8:09
Operator : WA
Sample : 25ng TO-15 CCV STD
Misc : S29-01271401/S29-01151402 (2/13)
ALS Vial : 15 Sample Multiplier: 1

Integration File: RTEINT.P

Method : I:\MS08\Methods\R8111913.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Nov 20 08:04:51 2013



AutoFind: Scans 2626, 2627, 2628; Background Corrected with Scan 2619

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.3	57715	PASS
75	95	30	66	50.5	143853	PASS
95	95	100	100	100.0	284992	PASS
96	95	5	9	6.5	18499	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	96.5	274901	PASS
175	174	4	9	7.6	20810	PASS
176	174	93	101	96.6	265557	PASS
177	176	5	9	6.6	17461	PASS

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	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
8	11/18/2013 17:50	11181308.D	12.5ng TO-15 BFB Std	S25-11181301	EM/CD	1	*ICAL not used*
9	11/18/2013 18:19	11181309.D	0.40ng Custom ICAL Std	S25-11181301/S25-10221306 (11/20)	EM/CD	14	
10	11/18/2013 18:48	11181310.D	1.0ng Custom ICAL Std	S25-11181301/S25-10221306 (11/20)	EM/CD	14	
11	11/18/2013 19:17	11181311.D	2.5ng Custom ICAL Std	S25-11181301/S25-10221306 (11/20)	EM/CD	14	
12	11/18/2013 19:46	11181312.D	5.0ng Custom ICAL Std	S25-11181301/S25-10221306 (11/20)	EM/CD	14	
13	11/18/2013 20:16	11181313.D	25ng Custom ICAL Std	S25-11181301/S25-10211304 (11/19)	EM/CD	15	
14	11/18/2013 20:45	11181314.D	50ng Custom ICAL Std	S25-11181301/S25-10211304 (11/19)	EM/CD	15	
15	11/18/2013 21:15	11181315.D	100ng Custom ICAL Std	S25-11181301/S25-10211304 (11/19)	EM/CD	15	
16	11/18/2013 21:44	11181316.D	25ng Custom ICV Std (125mL)	S25-11181301/S25-11141301 (12/13)	EM/CD	16	
17	11/18/2013 22:13	11181317.D	25ng Custom ICV Std (125mL)	S25-11181301/S25-11141301 (12/13)	EM/CD	16	

CD 11/20/13

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	11/19/2013 11:11	11191301.D	blank (100mL)	S25-11181301	EM/CD	1	
2	11/19/2013 11:40	11191302.D	0.2ng STD check (200mL)	S25-11181301/S25-11191301 (12/18)	EM/CD	9	
3	11/19/2013 12:09	11191303.D	2.5ng STD check (125mL)	S25-11181301/S25-11181302 (12/17)	EM/CD	10	
4	11/19/2013 12:39	11191304.D	25ng STD check (125mL)	S25-11181301/S25-11181303 (12/17)	EM/CD	11	
5	11/19/2013 13:08	11191305.D	blank (100mL)	S25-11181301	EM/CD	1	
6	11/19/2013 13:37	11191306.D	12.5ng TO-15 BFB Std	S25-11181301	EM/CD	1	***ICAL saved as***
7	11/19/2013 14:07	11191307.D	0.08ng TO-15 ICAL Std	S25-11181301/S25-11191301 (12/18)	EM/CD	9	***R8111913.M***
8	11/19/2013 14:36	11191308.D	0.1ng TO-15 ICAL Std	S25-11181301/S25-11191301 (12/18)	EM/CD	9	
9	11/19/2013 15:06	11191309.D	0.2ng TO-15 ICAL Std	S25-11181301/S25-11191301 (12/18)	EM/CD	9	
10	11/19/2013 15:35	11191310.D	0.4ng TO-15 ICAL Std	S25-11181301/S25-11191301 (12/18)	EM/CD	9	
11	11/19/2013 16:04	11191311.D	1.0ng TO-15 ICAL Std	S25-11181301/S25-11181302 (12/17)	EM/CD	10	
12	11/19/2013 16:34	11191312.D	5.0ng TO-15 ICAL Std	S25-11181301/S25-11181302 (12/17)	EM/CD	10	
13	11/19/2013 17:03	11191313.D	25ng TO-15 ICAL Std	S25-11181301/S25-11181303 (12/17)	EM/CD	11	
14	11/19/2013 17:32	11191314.D	50ng TO-15 ICAL Std	S25-11181301/S25-11181303 (12/17)	EM/CD	11	
15	11/19/2013 18:01	11191315.D	100ng TO-15 ICAL Std	S25-11181301/S25-11181303 (12/17)	EM/CD	11	
16	11/19/2013 18:30	11191316.D	25ng TO-15 ICV Std (125mL)	S25-11181301/S25-11181305 (12/17)	EM/CD	12	
17	11/19/2013 18:59	11191317.D	25ng TO-15 ICV Std (125mL)	S25-11181301/S25-11181305 (12/17)	EM/CD	12	*CF-not used*
18	11/19/2013 19:29	11191318.D	12.5 TO-15 BFB Std	S25-11181301	EM/CD	1	***ICAL saved as***
19	11/19/2013 19:58	11191319.D	0.4ng TO-15 Custom ICAL Std	S25-11181301/S25-10221306 (11/20)	EM/CD	14	***ACF8111913.M***
20	11/19/2013 20:27	11191320.D	1.0ng TO-15 Custom ICAL Std	S25-11181301/S25-10221306 (11/20)	EM/CD	14	
21	11/19/2013 20:57	11191321.D	2.5ng TO-15 Custom ICAL Std	S25-11181301/S25-10221306 (11/20)	EM/CD	14	
22	11/19/2013 21:26	11191322.D	5.0ng TO-15 Custom ICAL Std	S25-11181301/S25-10221306 (11/20)	EM/CD	14	
23	11/19/2013 21:55	11191323.D	25ng TO-15 Custom ICAL Std	S25-11181301/S25-11141305 (12/13)	EM/CD	15	
24	11/19/2013 22:25	11191324.D	50ng TO-15 Custom ICAL Std	S25-11181301/S25-11141305 (12/13)	EM/CD	15	
25	11/19/2013 22:54	11191325.D	100ng TO-15 Custom ICAL Std	S25-11181301/S25-11141305 (12/13)	EM/CD	15	
26	11/19/2013 23:24	11191326.D	25ng TO-15 Custom ICV Std (125mL)	S25-11181301/S25-11141301 (12/13)	EM/CD	16	
27	11/19/2013 23:53	11191327.D	25ng TO-15 Custom ICV Std (125mL)	S25-11181301/S25-11141301 (12/13)	EM/CD	16	*CF-not used*

CD 11/20/13

ICAL R8111913.M: Passed for all compounds 0.08ng-100ng; except; Propene, Bromomethane, Acrolein and Benzene 0.2ng-100ng; Methylene Chloride, Allyl Chloride and Hexane 0.4ng-100ng; Isopropanol 0.2ng-200ng; Ethanol 0.4ng-500ng; Acetone and Carbon Disufide 2.0ng-500ng.

ICAL ACF8111913: Passed for all compounds 0.4ng-100ng

CD 11/21/13

S25-11181301 renamed as S25-11181301A

S25-11181302 renamed as S25-11181302A JDH 1/28/14

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	01/31/14 8:33	01311401.D	25ng TO-15 CCV STD	S29-01271401/S29-01151402 (2/13)	WA	15	*Pass*
2	01/31/14 9:02	01311402.D	25ng TO-15 Custom CCV (125mL)	S29-01271401/S29-01231402 (2/21)	WA	1	*Pass*
3	01/31/14 9:31	01311403.D	TO-15 Method Blank (1000mL)	S29-01271401	WA	1	*Pass*
4	01/31/14 10:41	01311404.D	25ng TO-15 LCS STD (125mL)	S29-01271401/S29-01141405 (2/12)	WA	16	*CF*
5	01/31/14 11:18	01311405.D	P1400380-001 (2.0mL)		WA	6	*Pass*
6	01/31/14 11:47	01311406.D	25ng TO-15 LCS STD (125mL)	S29-01271401/S29-01141405 (2/12)	WA	16	*CF-low press.*
7	01/31/14 12:34	01311407.D	25ng TO-15 LCS STD (125mL)	S29-01271401/S29-01301402 (2/28)	WA	16	*Pass*
8	01/31/14 13:03	01311408.D	P1400380-001 (60mL)		WA	6	
9	01/31/14 13:32	01311409.D	P1400380-002 (1000mL)		WA	7	*CF-rerun*
10	01/31/14 14:07	01311410.D	P1400380-001 dil (20mL)		WA	6	
11	01/31/14 14:36	01311411.D	P1400357-001 (1000mL)		WA	2	
12	01/31/14 15:06	01311412.D	P1400357-002 (1000mL)		WA	3	
13	01/31/14 15:35	01311413.D	P1400357-003 (1000mL)		WA	5	
14	01/31/14 16:04	01311414.D	P1400380-002 (1000mL)		WA	7	
15	01/31/14 16:34	01311415.D	0.26ng TO-15 MDL	S29-01271401/S29-01161409 (2/14)	WA	13	
16	01/31/14 17:03	01311416.D	25ng TO-15 LCSD STD (125mL)	S29-01271401/S29-01301402 (2/28)	WA	16	*Pass*
17	01/31/14 17:32	01311417.D	0.26ng TO-15 MDL	S29-01271401/S29-01161409 (2/14)	WA	13	
18	01/31/14 18:01	01311418.D	0.20ng TO-15 LOD	S29-01271401/S29-01161409 (2/14)	WA	13	
19	01/31/14 18:30	01311419.D	0.10ng TO-15 LOD	S29-01271401/S29-01161409 (2/14)	WA	13	

JDA 2/4

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	2/3/2014 8:24	02031401.D	System	S29-01271401/S29-01151402 (2/13)	WA	15	
2	2/3/2014 8:53	02031402.D	25ng TO-15 CCV STD	S29-01271401/S29-01151402 (2/13)	WA	15	*Pass*
3	2/3/2014 9:21	02031403.D	25ng TO-15 Custom CCV (125mL)	S29-01271401/S29-01231402 (2/21)	WA	1	*Pass*
4	2/3/2014 9:51	02031404.D	TO-15 Method Blank (1000mL)	S29-01271401	WA	1	*Pass*
5	2/3/2014 10:31	02031405.D	25ng TO-15 LCS STD (125mL)	S29-01271401/S29-01141405 (2/12)	WA	16	*Pass*
6	2/3/2014 12:04	02031406.D	Blank	S29-01271401/S29-01141405 (2/12)	WA	16	
7	2/3/2014 13:20	02031407.D	P1400358-012 (2.0mL)		WA	4	*CF*
8	2/3/2014 14:03	02031408.D	P1400358-013 (10mL)		WA	4	*CF*
9	2/3/2014 14:35	02031409.D	P1400358-014 (5.0mL)		WA	4	*CF*
10	2/3/2014 15:05	02031410.D	P1400358-014 dup (5.0mL)		WA	4	*CF*
11	2/3/2014 15:34	02031411.D	P1400358-016 (7.0mL)		WA	4	*CF*
12	2/3/2014 16:35	02031412.D	P1400358-006 (15mL)		WA	3	*CF-rerun higher*
13	2/3/2014 17:04	02031413.D	P1400358-005 (400mL)		WA	2	
14	2/3/2014 17:33	02031414.D	P1400358-007 (400mL)		WA	5	
15	2/3/2014 18:02	02031415.D	P1400358-007 dil (40mL)		WA	5	
16	2/3/2014 18:30	02031416.D	P1400358-008 (400mL)		WA	6	
17	2/3/2014 18:59	02031417.D	P1400358-009 (400mL)		WA	7	
18	2/3/2014 19:28	02031418.D	P1400358-010 (15mL)		WA	8	
19	2/3/2014 19:57	02031419.D	P1400358-011 (15mL)		WA	9	
20	2/3/2014 20:26	02031420.D	P1400358-011 dup (15mL)		WA	9	*Pass as dup*

cont next page

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
21	2/3/2014 20:55	02031421.D	P1400358-015 (15mL)		WA	10	
22	2/3/2014 21:24	02031422.D	P1400358-017 (400mL)		WA	11	
23	2/3/2014 21:53	02031423.D	P1400358-018 (400mL)		WA	12	
24	2/3/2014 22:22	02031424.D	25ng TO-15 LCSD STD (125mL)	S29-01271401/S29-01141405 (2/12)	WA	16	*Pass*

DH 2/4/14

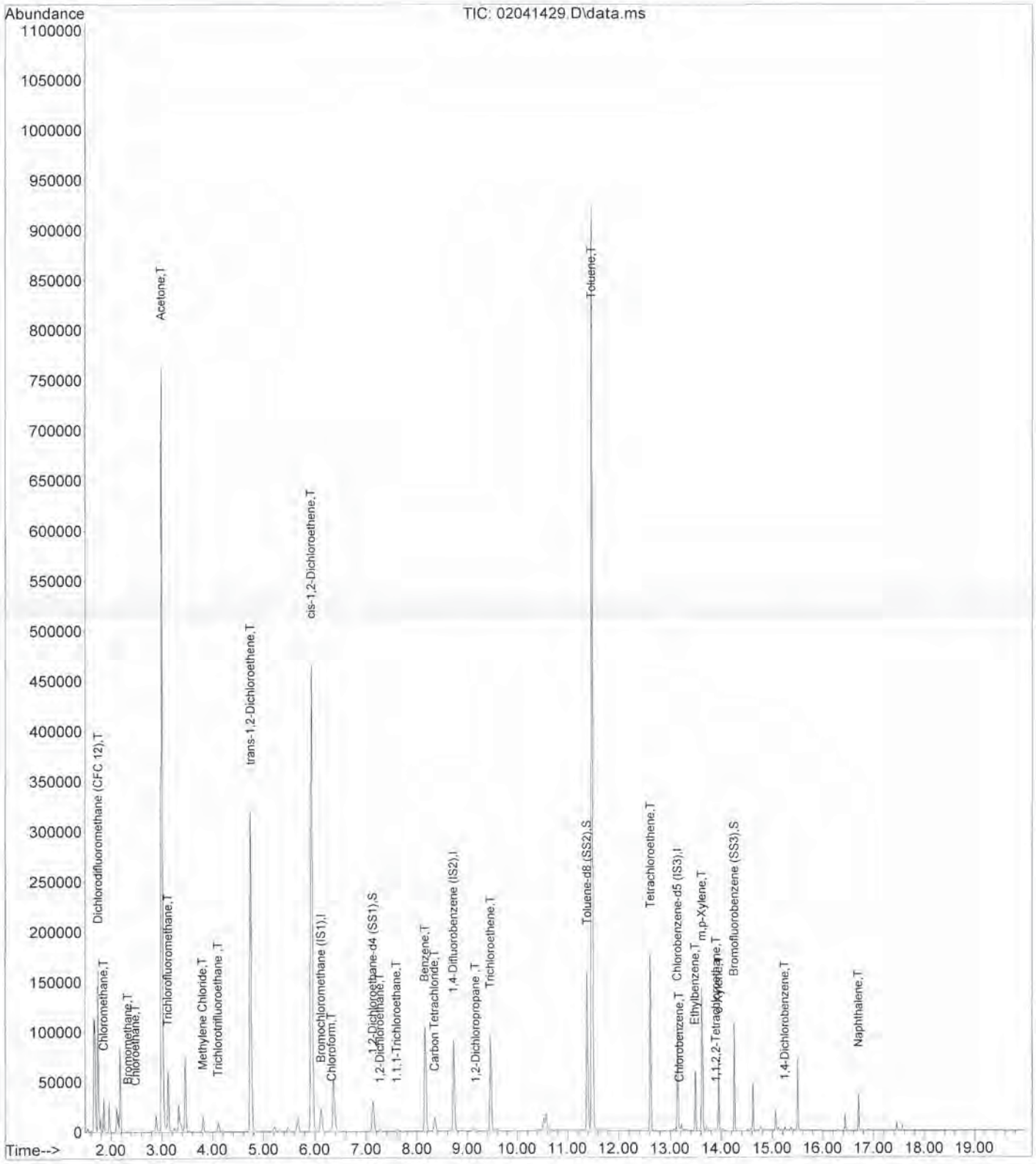
	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	2/4/2014 7:41	02041401.D	Blank	S29-01271401	WA	4	
2	2/4/2014 8:09	02041402.D	25ng TO-15 CCV STD	S29-01271401/S29-01151402 (2/13)	WA	15	*Pass*
3	2/4/2014 8:38	02041403.D	25ng TO-15 Custom CCV (125mL)	S29-01271401/S29-01231402 (2/21)	WA	1	*Pass*
4	2/4/2014 9:32	02041404.D	TO-15 Method Blank (1000mL)	S29-01271401	WA	1	*Pass*
5	2/4/2014 10:01	02041405.D	25ng TO-15 LCS STD (125mL)	S29-01271401/S29-01141405 (2/12)	WA	16	*Pass*
6	2/4/2014 10:40	02041406.D	P1400358-012 (2.0mL)		WA	4	
7	2/4/2014 11:13	02041407.D	P1400358-013 (10mL)		WA	4	
8	2/4/2014 11:42	02041408.D	P1400358-014 (5.0mL)		WA	4	
9	2/4/2014 12:11	02041409.D	P1400358-006 (25mL)		WA	3	
10	2/4/2014 12:41	02041410.D	P1400358-006 dup (25mL)		WA	3	*Pass as dup*
11	2/4/2014 13:09	02041411.D	P1400358-019 (400mL)		WA	2	
12	2/4/2014 13:40	02041412.D	P1400358-013 dil (2.5mL)		WA	4	
13	2/4/2014 14:09	02041413.D	P1400358-016 (6.5mL)		WA	4	
14	2/4/2014 14:38	02041414.D	P1400358-019 (400mL)		WA	2	
15	2/4/2014 15:06	02041415.D	P1400416-001 (0.75mL)		WA	4	
16	2/4/2014 15:36	02041416.D	P1400416-001 (5.0mL)		WA	5	
17	2/4/2014 16:05	02041417.D	P1400358-019 dil (40mL)		WA	2	
18	2/4/2014 16:47	02041418.D	P1400416-001 dil (2.0mL)		WA	5	
19	2/4/2014 17:16	02041419.D	Blank		WA	7	
20	2/4/2014 17:45	02041420.D	Blank		WA	7	
21	2/4/2014 18:14	02041421.D	Blank		WA	5	
22	2/4/2014 18:43	02041422.D	Blank		WA	6	
23	2/4/2014 19:12	02041423.D	5ng std check	S29-01271401/S29-02031403 (3/1)	WA	14	
24	2/4/2014 19:40	02041424.D	Blank	S29-01271401/S29-02031406 (3/1)	WA	12	
25	2/5/2014 7:16	02041425.D	0.2ng std check	S29-01271401/S29-02031406 (3/1)	WA	12	
26	2/5/2014 7:45	02041426.D	P1400416-002 (250mL)		WA	7	

DH 2/5/14

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_02\04\02041429.D Vial: 8
Acq On : 4 Feb 2014 22:27 Operator: WA/LC
Sample : P1400358-001 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 08:59:21 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_02\04\02041429.D Vial: 8
Acq On : 4 Feb 2014 22:27 Operator: WA/LC
Sample : P1400358-001 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 08:59:21 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

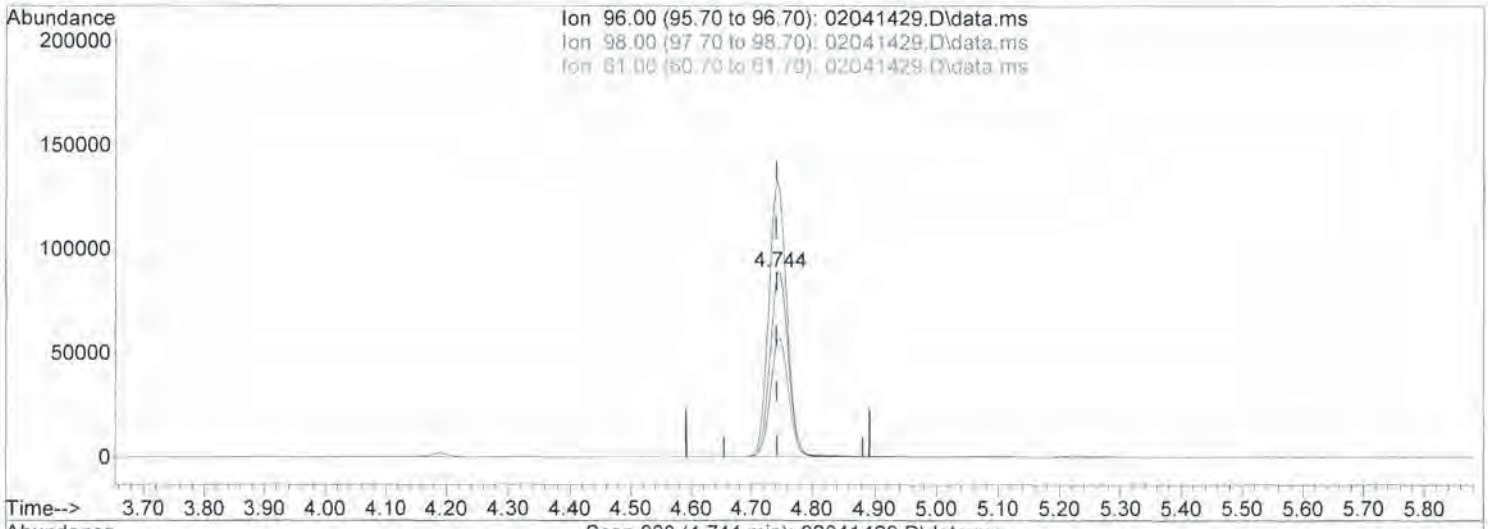
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.13	130	31425	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	168639	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	29884	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.14	65	53965	949.49	pg		0.00
Spiked Amount 1000.000			Recovery =	94.95%			
30) Toluene-d8 (SS2)	11.39	98	179446	993.91	pg		0.00
Spiked Amount 1000.000			Recovery =	99.39%			
40) Bromofluorobenzene (SS3)	14.25	174	63382	1036.43	pg		0.00
Spiked Amount 1000.000			Recovery =	103.64%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.74	85	133939	1342.25	pg		100
3) Chloromethane	1.86	52	10721	410.99	pg		99
4) Vinyl Chloride	2.03	62	234	N.D.			
5) Bromomethane	2.34	94	1028	26.14	pg		99
6) Chloroethane	2.49	64	405	11.52	pg	#	42
7) Acetone	3.00	58	331427	11534.62	pg	#	85
8) Trichlorofluoromethane	3.12	101	58786	755.62	pg		99
9) 1,1-Dichloroethene	0.00	96	0	N.D.			
10) Methylene Chloride	3.81	84	9476	188.48	pg		100
11) Trichlorotrifluoroethane	4.11	151	11384	292.81	pg		100
12) trans-1,2-Dichloroethene	4.74	96	186974	3887.93	pg		100
13) 1,1-Dichloroethane	4.96	63	298	N.D.			
14) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
15) cis-1,2-Dichloroethene	5.94	96	377764	7635.67	pg		99
16) Chloroform	6.33	83	4893	58.84	pg		92
18) 1,2-Dichloroethane	7.28	62	2592	38.90	pg		99
19) 1,1,1-Trichloroethane	7.61	97	2988	38.70	pg		100
20) Benzene	8.17	78	195615	1032.75	pg		100
21) Carbon Tetrachloride	8.35	117	17026	265.68	pg		99
23) 1,2-Dichloropropane	9.17	63	732	15.10	pg		97
24) Bromodichloromethane	0.00	83	0	N.D.	d		
25) Trichloroethene	9.47	130	63983	1334.07	pg		100
26) 1,4-Dioxane	0.00	88	0	N.D.	d		
27) cis-1,3-Dichloropropene	0.00	75	0	N.D.	d		
28) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
29) 1,1,2-Trichloroethane	0.00	83	0	N.D.			
31) Toluene	11.49	91	1004897	5141.54	pg		100
32) 1,2-Dibromoethane	0.00	107	0	N.D.			
33) Tetrachloroethene	12.61	166	162090	3123.27	pg	#	99
35) Chlorobenzene	13.18	112	848	7.07	pg		89
36) Ethylbenzene	13.49	91	60671	282.17	pg		99
37) m,p-Xylene	13.62	91	163293	899.62	pg		98
38) o-Xylene	13.95	106	27755	330.22	pg		99
39) 1,1,2,2-Tetrachloroethane	13.90	83	531	6.28	pg		78
41) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d		
42) 1,4-Dichlorobenzene	15.24	146	2033	20.08	pg		100
43) 1,2-Dichlorobenzene	15.47	146	270	N.D.			
44) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.			
45) Naphthalene	16.70	128	33661	134.91	pg		97
46) Hexachlorobutadiene	0.00	225	0	N.D.			

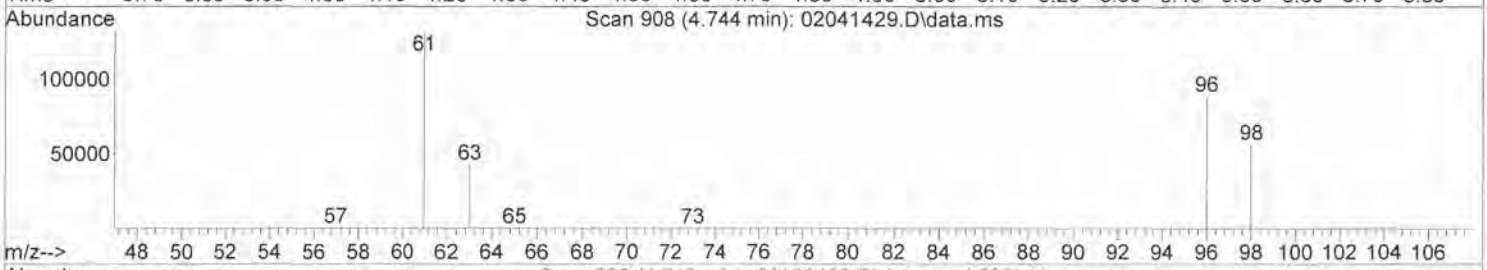
(#) = qualifier out of range (m) = manual integration (+) = signals summed

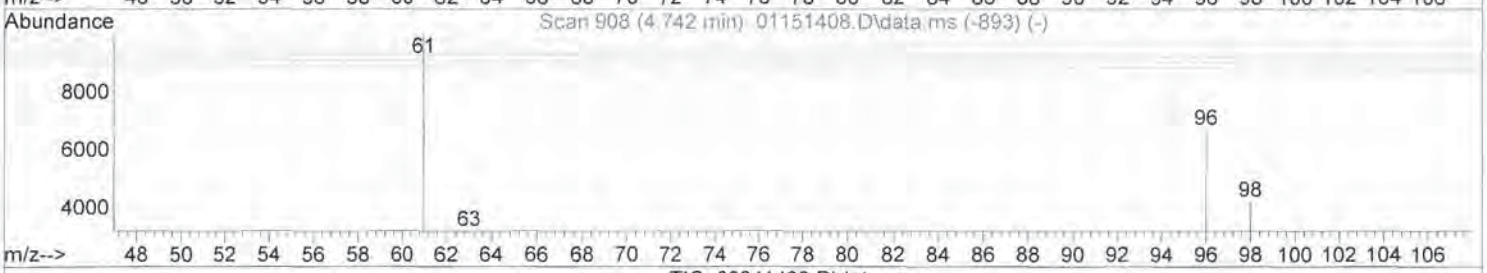
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041429.D Vial: 8
Acq On : 4 Feb 2014 22:27 Operator: WA/LC
Sample : P1400358-001 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 08:59:21 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041429.D\data.ms

(12) trans-1,2-Dichloroethene (T)

4.744min (+0.002) 3887.93pg

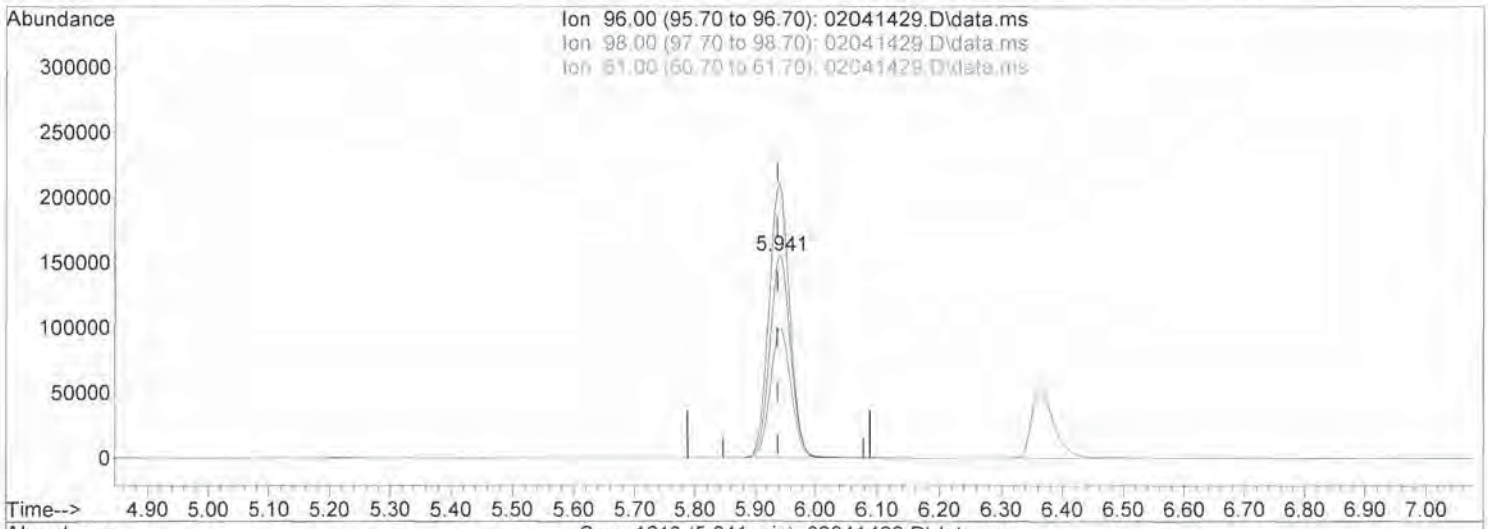
response 186974

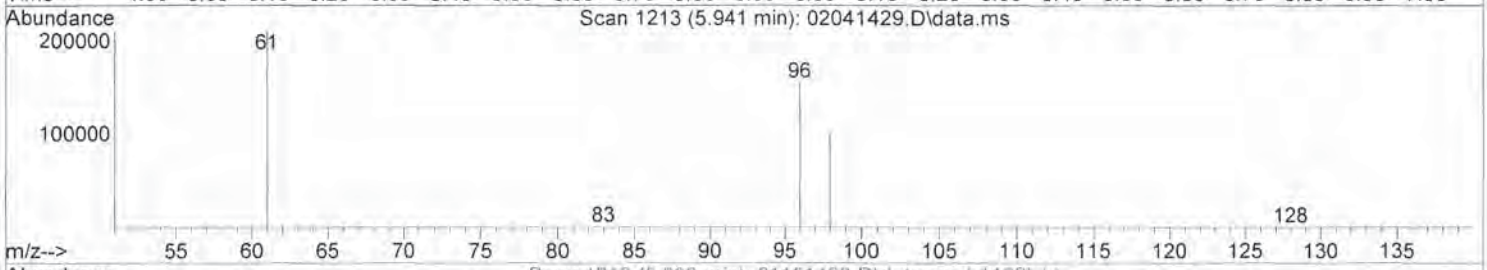
Ion	Exp%	Act%
96.00	100	100
98.00	63.60	63.99
61.00	148.90	148.41
0.00	0.00	0.00

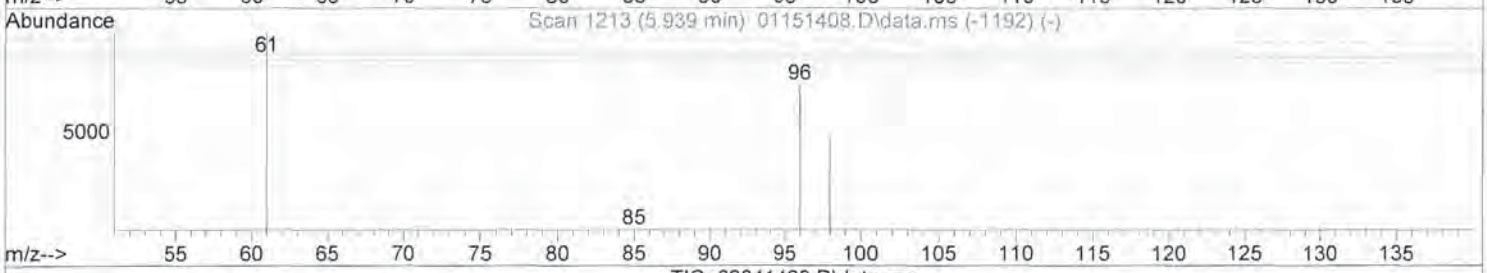
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041429.D Vial: 8
Acq On : 4 Feb 2014 22:27 Operator: WA/LC
Sample : P1400358-001 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 08:59:21 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041429.D\data.ms

(15) cis-1,2-Dichloroethene (T)

5.941min (+0.002) 7635.67pg

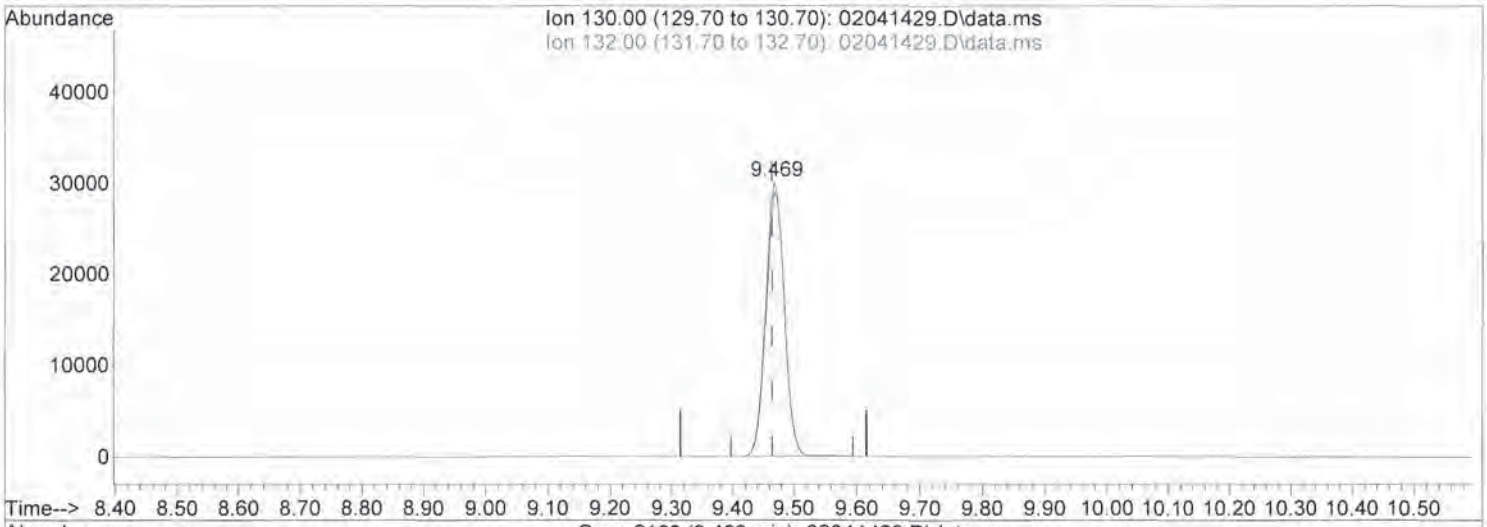
response 377764

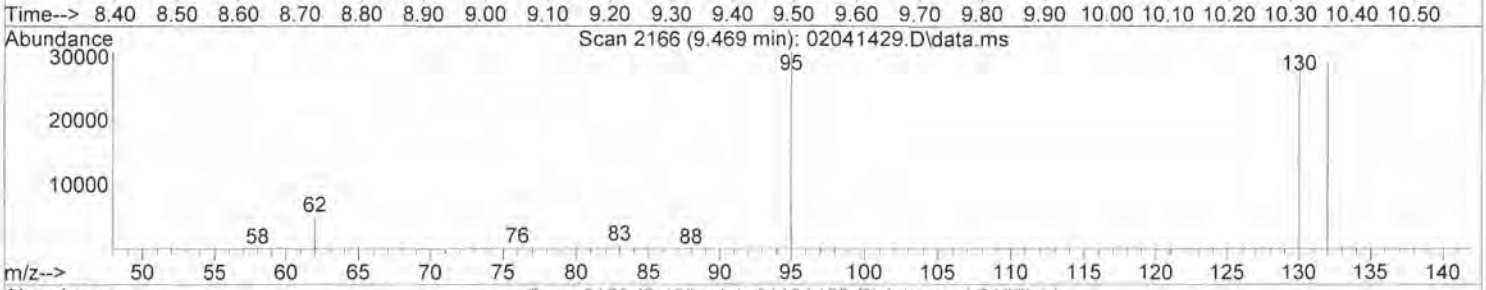
Ion	Exp%	Act%
96.00	100	100
98.00	64.00	64.22
61.00	136.80	135.57
0.00	0.00	0.00

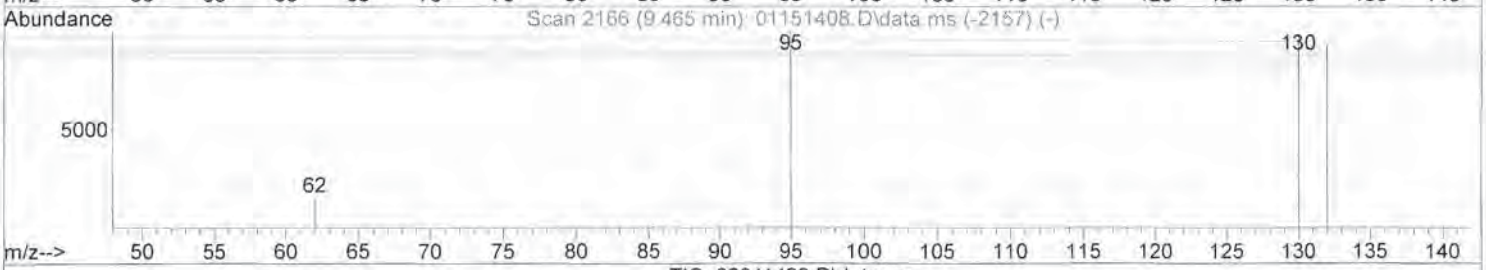
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041429.D Vial: 8
Acq On : 4 Feb 2014 22:27 Operator: WA/LC
Sample : P1400358-001 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 08:59:21 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041429.D\data.ms

(25) Trichloroethene (T)

9.469min (+0.003) 1334.07pg

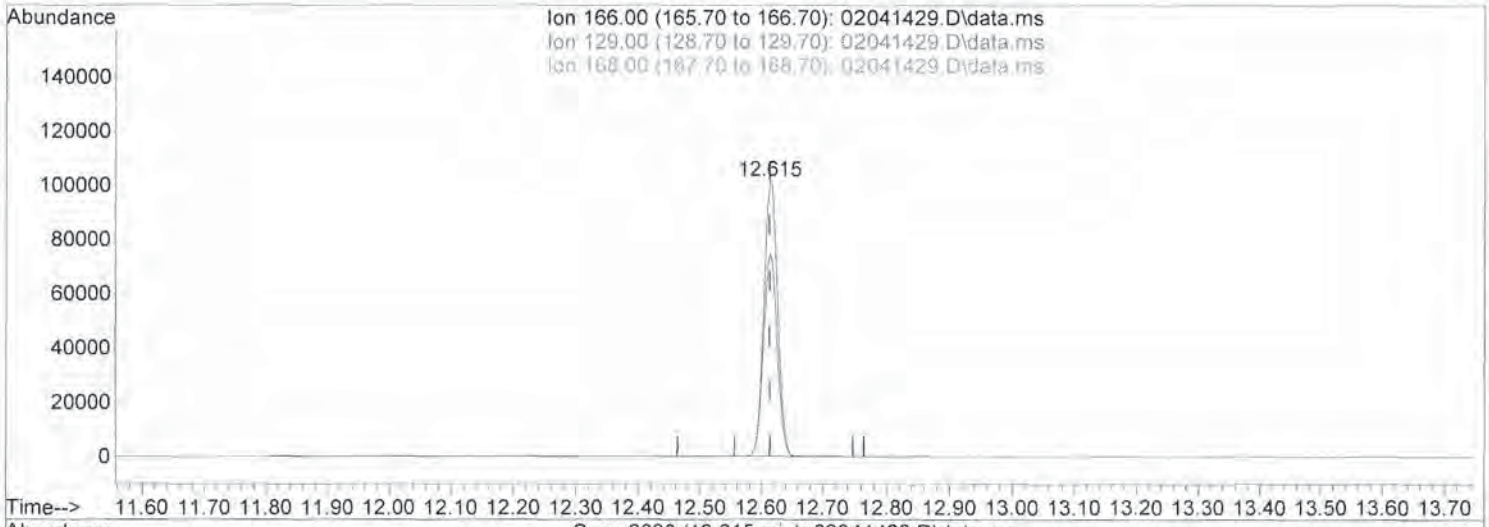
response 63983

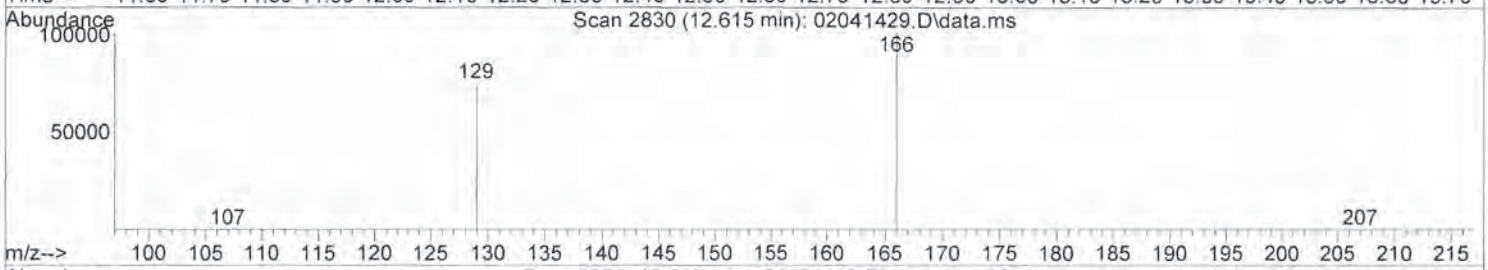
Ion	Exp%	Act%
130.00	100	100
132.00	96.40	96.43
0.00	0.00	0.00
0.00	0.00	0.00

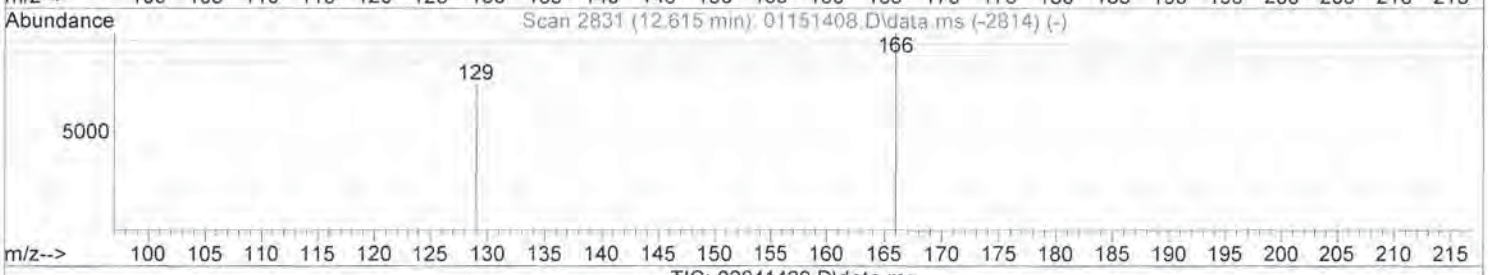
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041429.D Vial: 8
Acq On : 4 Feb 2014 22:27 Operator: WA/LC
Sample : P1400358-001 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 08:59:21 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041429.D\data.ms

(33) Tetrachloroethene (T)

12.615min (+0.000) 3123.27pg

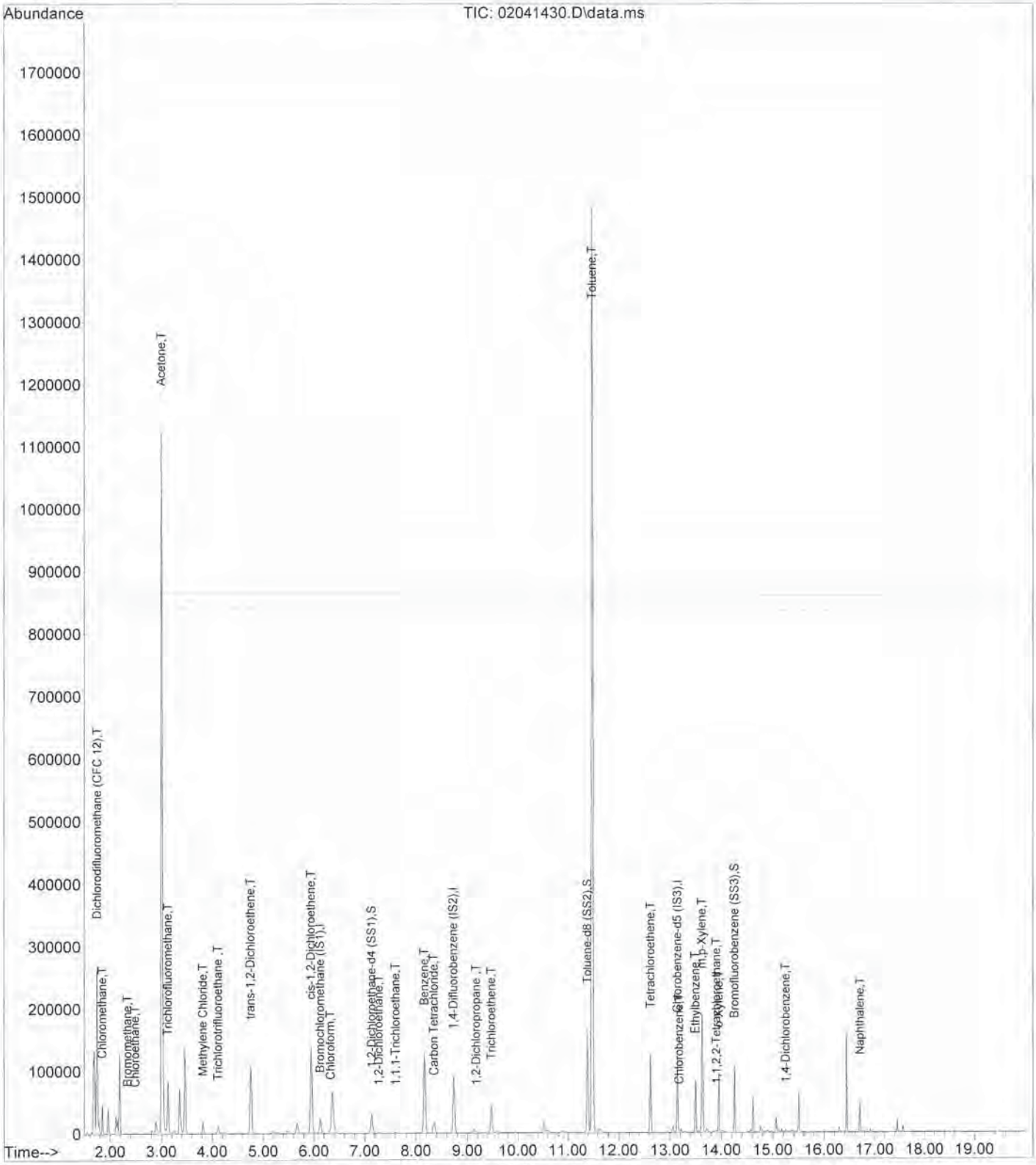
response 162090

Ion	Exp%	Act%
166.00	100	100
129.00	74.10	73.38
168.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_02\04\02041430.D Vial: 9
Acq On : 4 Feb 2014 22:57 Operator: WA/LC
Sample : P1400358-002 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:23:41 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_02\04\02041430.D Vial: 9
Acq On : 4 Feb 2014 22:57 Operator: WA/LC
Sample : P1400358-002 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:23:41 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

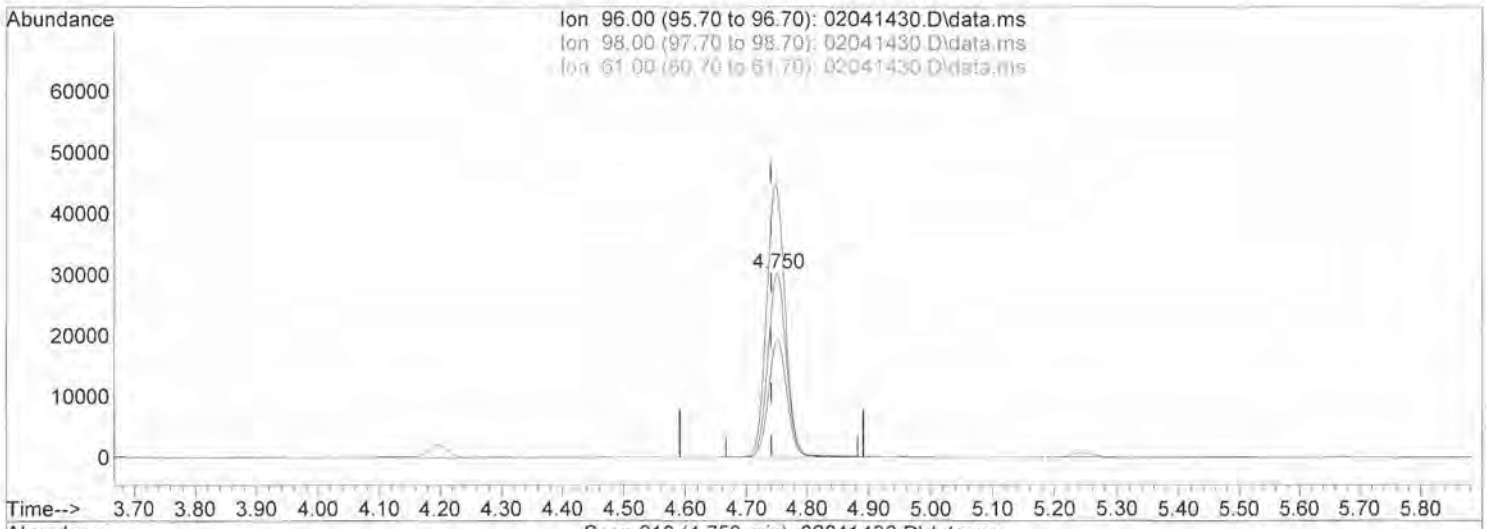
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.13	130	31197	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	168317	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	30124	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.14	65	53743	952.49	pg		0.00
Spiked Amount 1000.000			Recovery =	95.25%			
30) Toluene-d8 (SS2)	11.39	98	179165	994.26	pg		0.00
Spiked Amount 1000.000			Recovery =	99.43%			
40) Bromofluorobenzene (SS3)	14.25	174	63418	1028.75	pg		0.00
Spiked Amount 1000.000			Recovery =	102.88%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.74	85	163628	1651.76	pg		100
3) Chloromethane	1.85	52	12981	501.26	pg		100
4) Vinyl Chloride	2.03	62	326	N.D.			
5) Bromomethane	2.34	94	1025	26.26	pg		97
6) Chloroethane	2.48	64	338	9.68	pg	#	42
7) Acetone	3.00	58	481693	16886.83	pg	#	85
8) Trichlorofluoromethane	3.12	101	82652	1070.16	pg		99
9) 1,1-Dichloroethene	0.00	96	0	N.D.			
10) Methylene Chloride	3.82	84	11777	235.96	pg		100
11) Trichlorotrifluoroethane	4.12	151	13968	361.90	pg		100
12) trans-1,2-Dichloroethene	4.75	96	65447	1370.85	pg		100
13) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
14) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
15) cis-1,2-Dichloroethene	5.95	96	113274	2306.32	pg		99
16) Chloroform	6.33	83	16219	196.47	pg		97
18) 1,2-Dichloroethane	7.28	62	3210	48.53	pg		99
19) 1,1,1-Trichloroethane	7.61	97	3284	42.85	pg		100
20) Benzene	8.17	78	244375	1299.60	pg		100
21) Carbon Tetrachloride	8.35	117	22377	351.73	pg		99
23) 1,2-Dichloropropane	9.18	63	988	20.42	pg		96
24) Bromodichloromethane	0.00	83	0	N.D.	d		
25) Trichloroethene	9.47	130	23101	482.59	pg		100
26) 1,4-Dioxane	0.00	88	0	N.D.	d		
27) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
28) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
29) 1,1,2-Trichloroethane	0.00	83	0	N.D.	d		
31) Toluene	11.49	91	1649287	8454.69	pg		100
32) 1,2-Dibromoethane	0.00	107	0	N.D.			
33) Tetrachloroethene	12.62	166	115396	2227.79	pg	#	99
35) Chlorobenzene	13.18	112	786	6.50	pg		86
36) Ethylbenzene	13.49	91	84481	389.78	pg		100
37) m,p-Xylene	13.62	91	211179	1154.16	pg		98
38) o-Xylene	13.95	106	37178	438.81	pg		99
39) 1,1,2,2-Tetrachloroethane	13.90	83	786	9.22	pg	#	72
41) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d		
42) 1,4-Dichlorobenzene	15.24	146	2287	22.41	pg		98
43) 1,2-Dichlorobenzene	15.47	146	247	N.D.			
44) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.			
45) Naphthalene	16.70	128	46574	185.17	pg		98
46) Hexachlorobutadiene	0.00	225	0	N.D.			

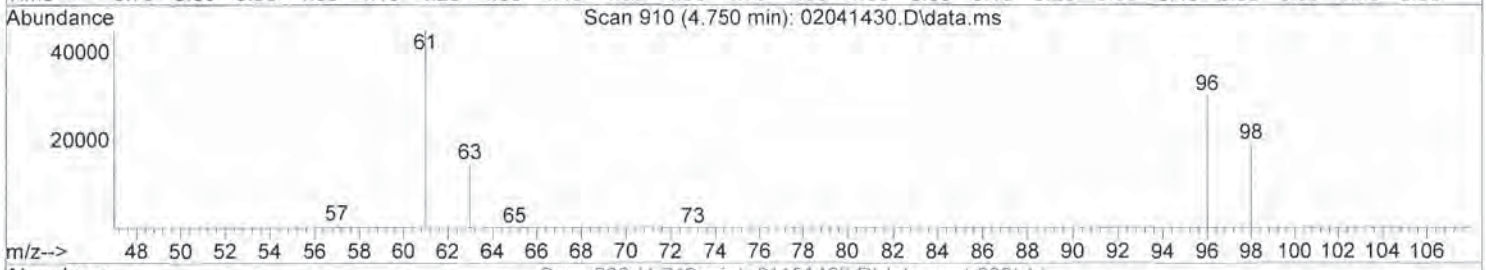
(#) = qualifier out of range (m) = manual integration (+) = signals summed

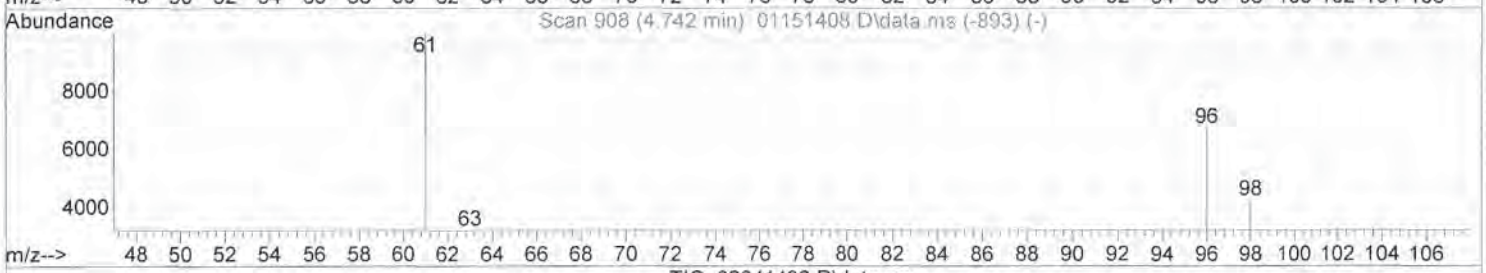
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041430.D Vial: 9
Acq On : 4 Feb 2014 22:57 Operator: WA/LC
Sample : P1400358-002 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:23:41 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041430.D\data.ms

(12) trans-1,2-Dichloroethene (T)

4.750min (+0.008) 1370.85pg

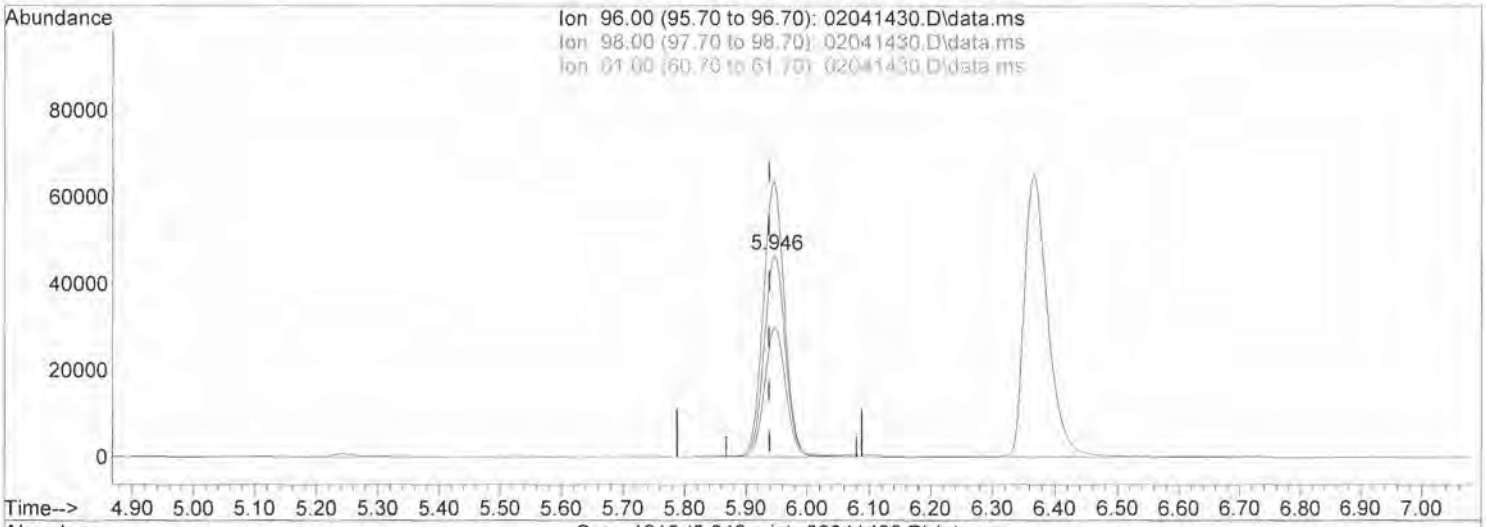
response 65447

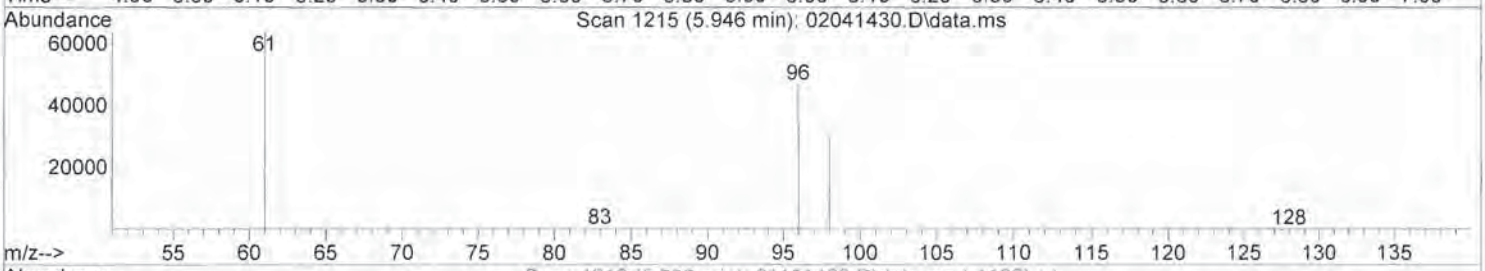
Ion	Exp%	Act%
96.00	100	100
98.00	63.60	63.95
61.00	148.90	149.18
0.00	0.00	0.00

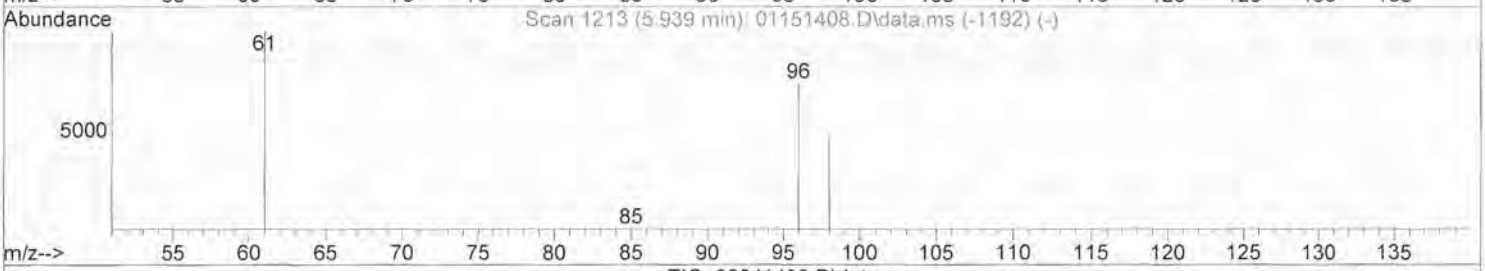
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041430.D Vial: 9
Acq On : 4 Feb 2014 22:57 Operator: WA/LC
Sample : P1400358-002 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:23:41 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041430.D\data.ms

(15) cis-1,2-Dichloroethene (T)

5.946min (+0.008) 2306.32pg

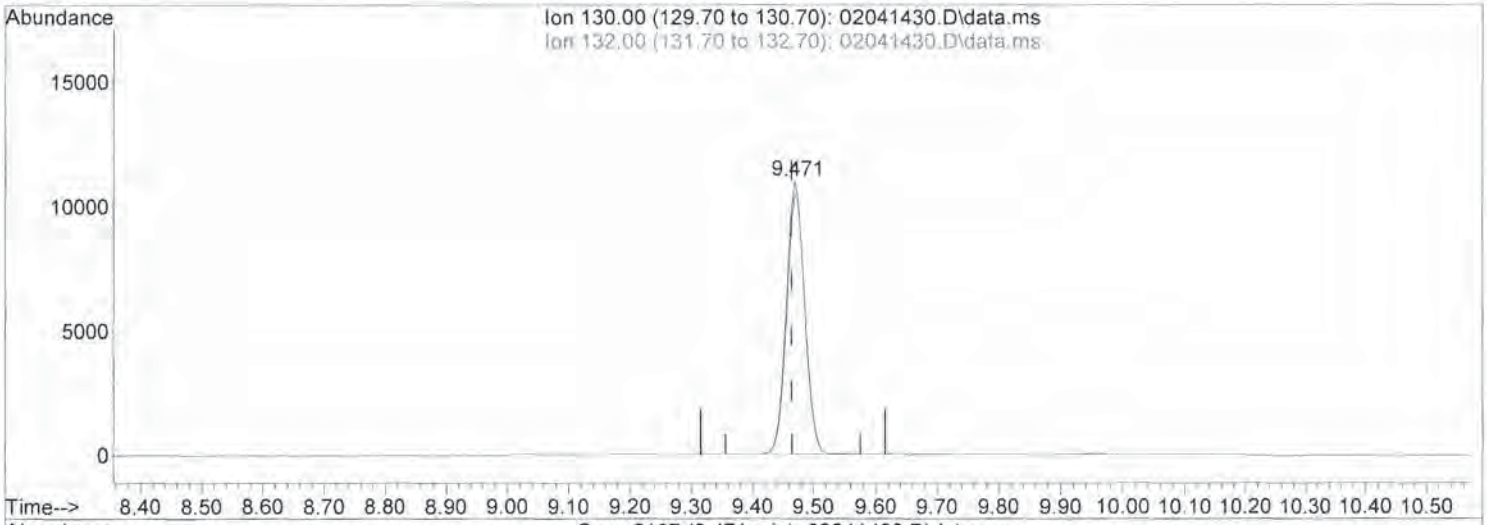
response 113274

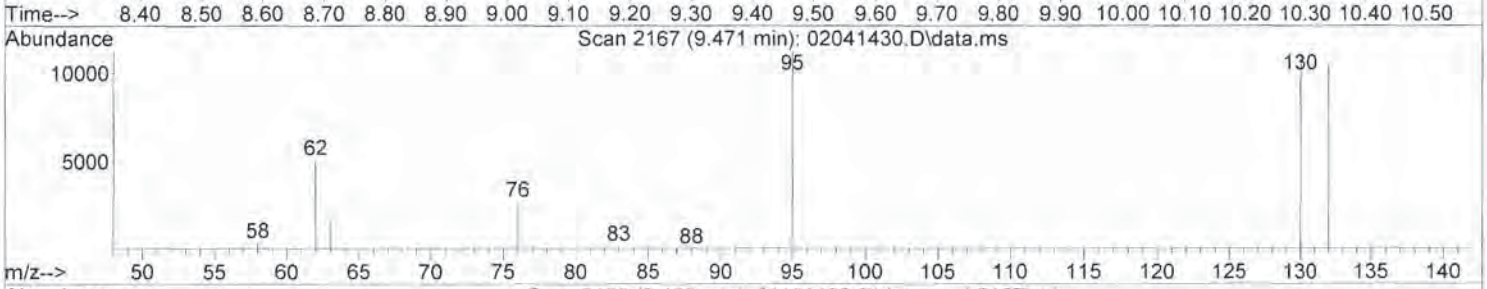
Ion	Exp%	Act%
96.00	100	100
98.00	64.00	64.19
61.00	136.80	137.96
0.00	0.00	0.00

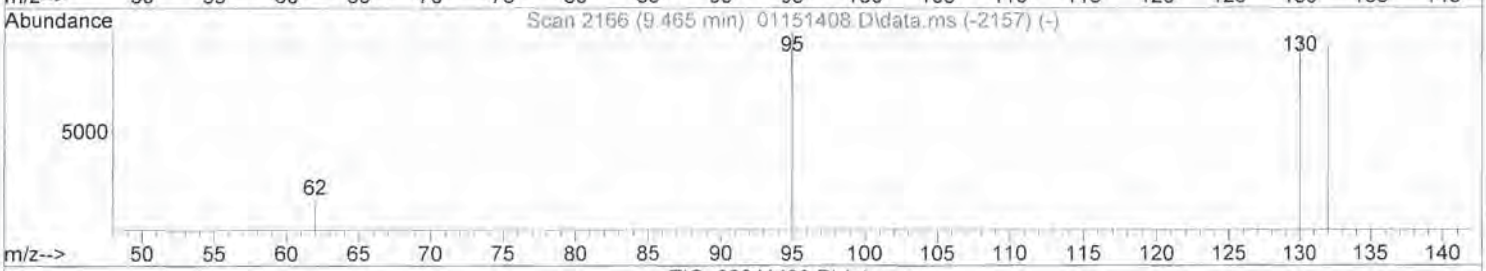
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041430.D Vial: 9
Acq On : 4 Feb 2014 22:57 Operator: WA/LC
Sample : P1400358-002 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:23:41 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041430.D\data.ms

(25) Trichloroethene (T)

9.471min (+0.005) 482.59pg

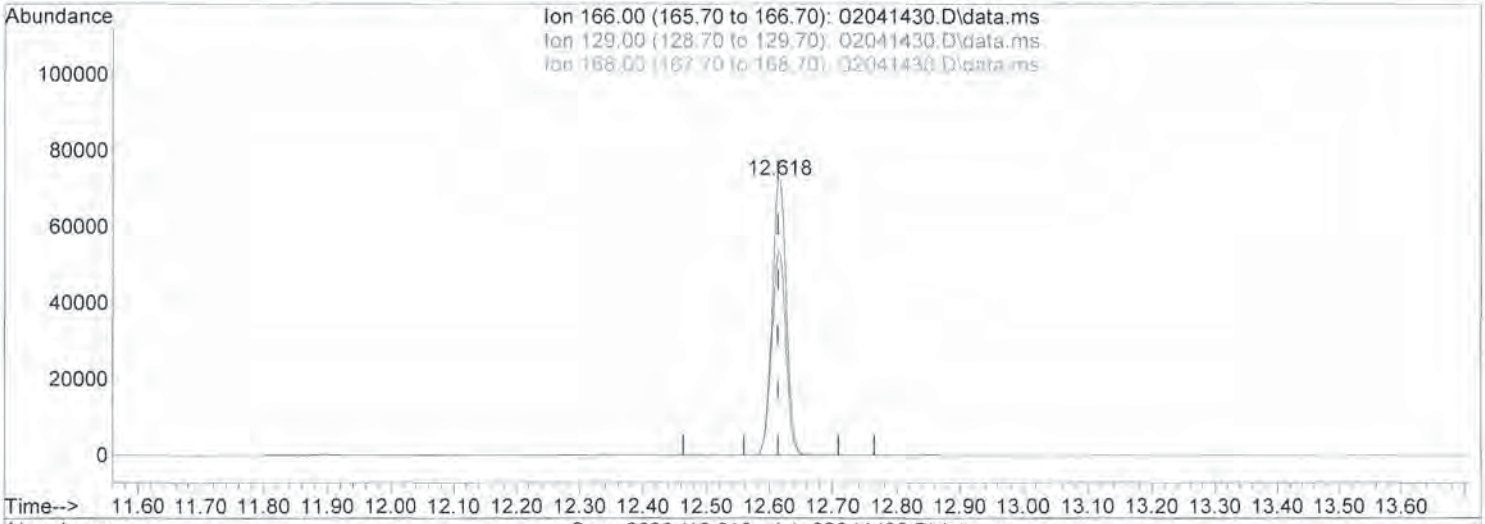
response 23101

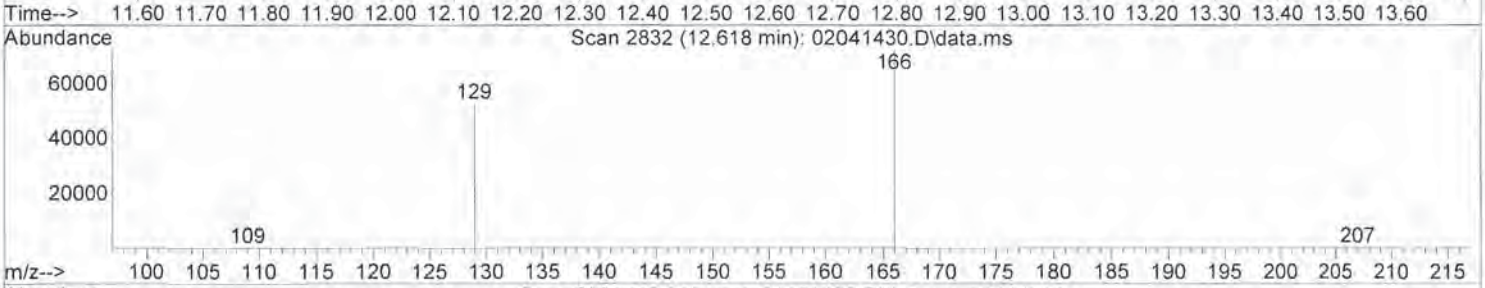
Ion	Exp%	Act%
130.00	100	100
132.00	96.40	96.29
0.00	0.00	0.00
0.00	0.00	0.00

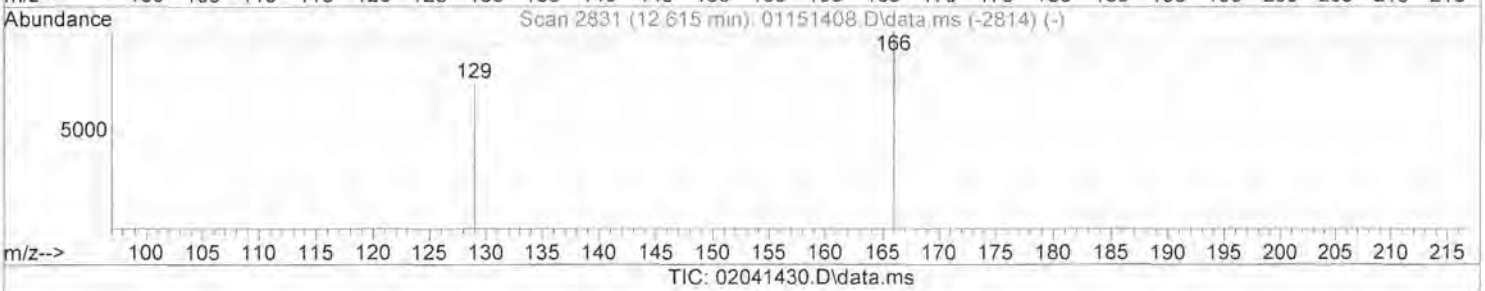
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041430.D Vial: 9
Acq On : 4 Feb 2014 22:57 Operator: WA/LC
Sample : P1400358-002 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:23:41 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041430.D\data.ms

(33) Tetrachloroethene (T)

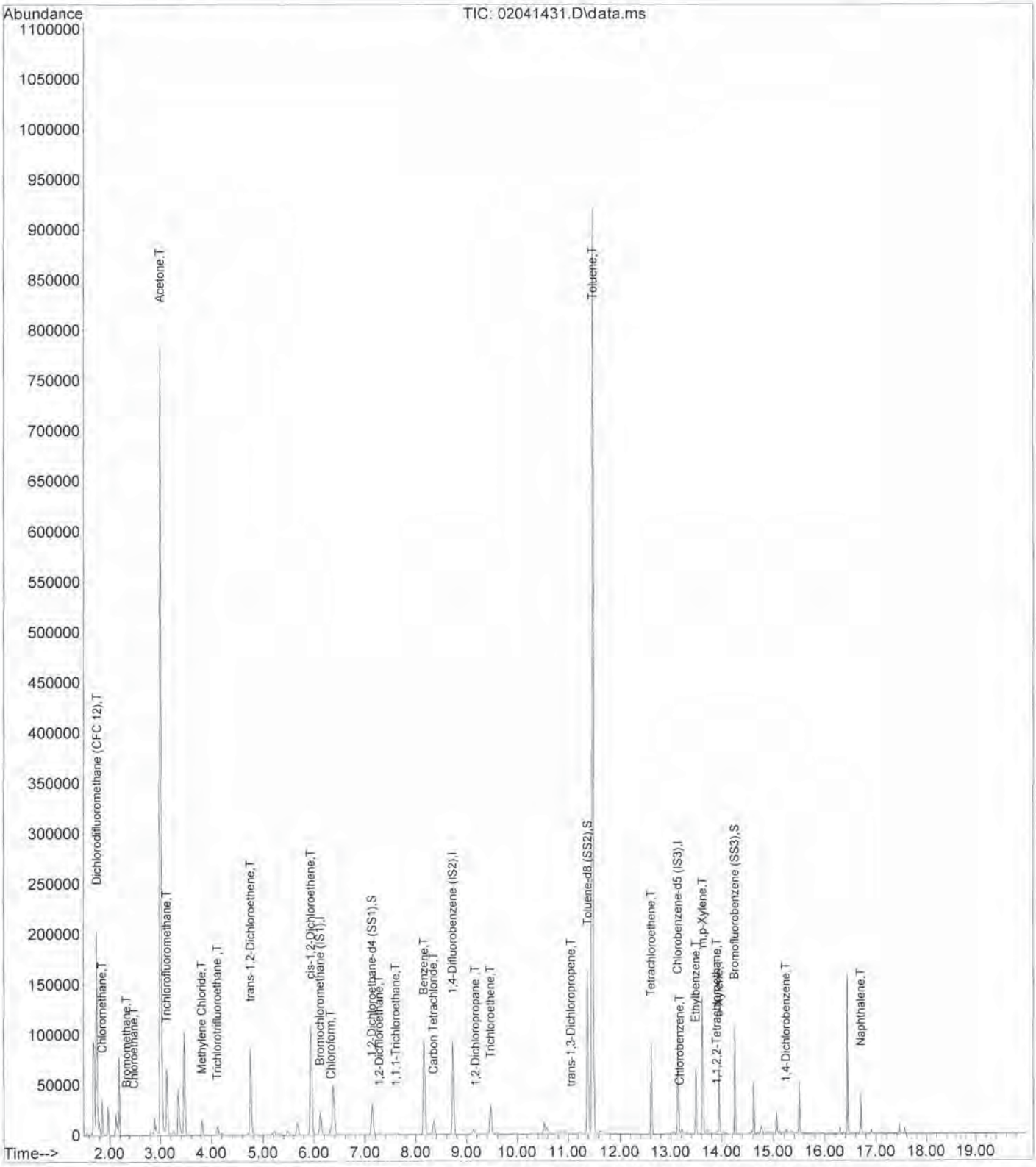
12.618min (+0.003) 2227.79pg

response 115396

Ion	Exp%	Act%
166.00	100	100
129.00	74.10	73.49
168.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS19\DATA\2014_02\04\02041431.D Vial: 10
Acq On : 4 Feb 2014 23:26 Operator: WA/LC
Sample : P1400358-003 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:48:12 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_02\04\02041431.D Vial: 10
Acq On : 4 Feb 2014 23:26 Operator: WA/LC
Sample : P1400358-003 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:48:12 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

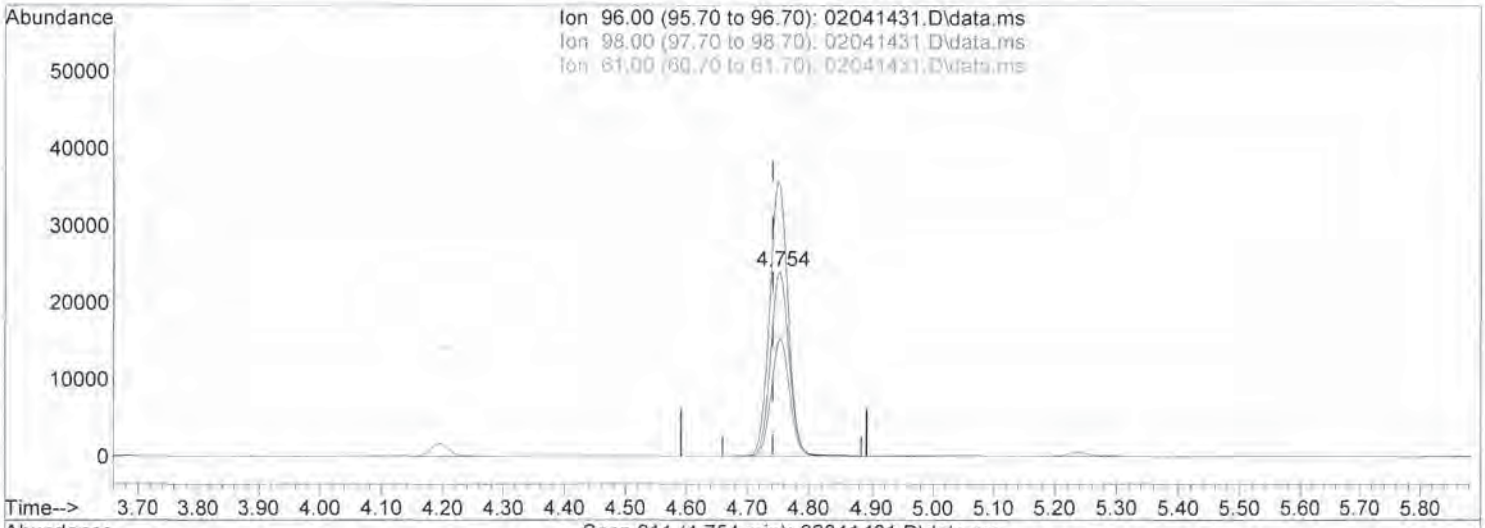
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.13	130	31086	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	168822	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	29896	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.14	65	53678	954.74	pg		0.00
Spiked Amount 1000.000			Recovery =	95.47%			
30) Toluene-d8 (SS2)	11.39	98	181017	1001.53	pg		0.00
Spiked Amount 1000.000			Recovery =	100.15%			
40) Bromofluorobenzene (SS3)	14.25	174	63389	1036.12	pg		0.00
Spiked Amount 1000.000			Recovery =	103.61%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.75	85	126032	1276.79	pg		100
3) Chloromethane	1.85	52	10150	393.34	pg		100
4) Vinyl Chloride	2.04	62	305	N.D.			
5) Bromomethane	2.34	94	877	22.54	pg		99
6) Chloroethane	2.49	64	320	9.20	pg	#	42
7) Acetone	3.00	58	323550	11383.28	pg	#	83
8) Trichlorofluoromethane	3.13	101	64667	840.28	pg		99
9) 1,1-Dichloroethene	0.00	96	0	N.D.			
10) Methylene Chloride	3.82	84	9065	182.27	pg		100
11) Trichlorotrifluoroethane	4.12	151	10845	281.99	pg		100
12) trans-1,2-Dichloroethene	4.75	96	50541	1062.41	pg		100
13) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
14) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
15) cis-1,2-Dichloroethene	5.95	96	87656	1791.10	pg		99
16) Chloroform	6.33	83	13172	160.13	pg		98
18) 1,2-Dichloroethane	7.28	62	2649	40.19	pg		99
19) 1,1,1-Trichloroethane	7.61	97	2693	35.26	pg		100
20) Benzene	8.17	78	173785	927.50	pg		100
21) Carbon Tetrachloride	8.35	117	17104	269.81	pg		99
23) 1,2-Dichloropropane	9.18	63	772	15.91	pg		96
24) Bromodichloromethane	0.00	83	0	N.D.	d		
25) Trichloroethene	9.47	130	17964	374.15	pg		100
26) 1,4-Dioxane	0.00	88	0	N.D.	d		
27) cis-1,3-Dichloropropene	0.00	75	0	N.D.	d		
28) trans-1,3-Dichloropropene	11.06	75	417	5.90	pg	#	43
29) 1,1,2-Trichloroethane	0.00	83	0	N.D.	d		
31) Toluene	11.49	91	1001605	5119.14	pg		99
32) 1,2-Dibromoethane	12.13	107	206	N.D.			
33) Tetrachloroethene	12.62	166	81027	1559.60	pg	#	99
35) Chlorobenzene	13.18	112	956	7.96	pg		100
36) Ethylbenzene	13.49	91	62658	291.29	pg		100
37) m,p-Xylene	13.62	91	154476	850.70	pg		98
38) o-Xylene	13.95	106	27318	324.89	pg		99
39) 1,1,2,2-Tetrachloroethane	13.90	83	611	7.22	pg		81
41) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d		
42) 1,4-Dichlorobenzene	15.24	146	2360	23.30	pg		100
43) 1,2-Dichlorobenzene	15.47	146	389	N.D.			
44) 1,2,4-Trichlorobenzene	16.63	182	280	N.D.			
45) Naphthalene	16.70	128	37504	150.25	pg		97
46) Hexachlorobutadiene	0.00	225	0	N.D.			

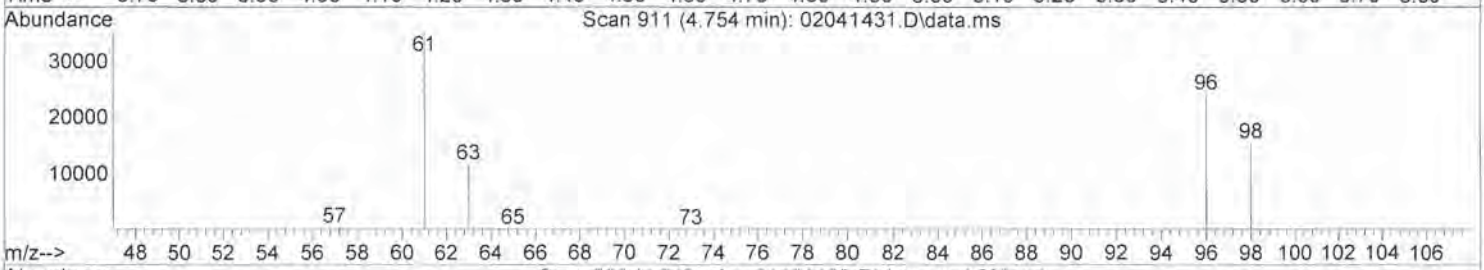
(#) = qualifier out of range (m) = manual integration (+) = signals summed

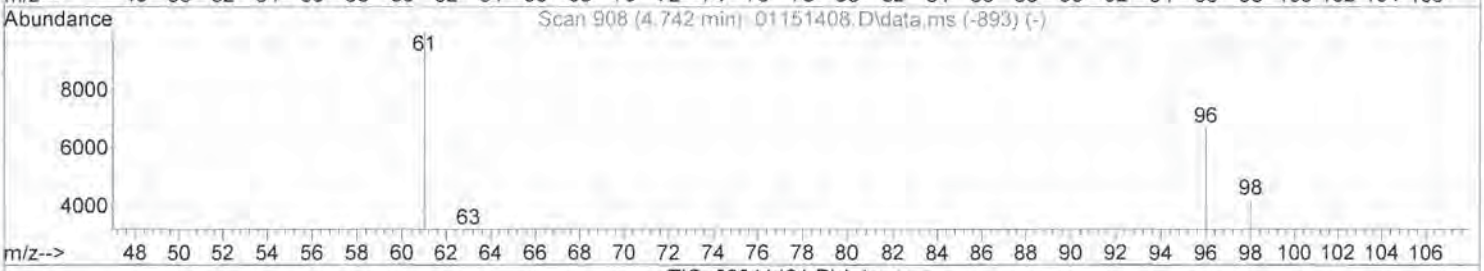
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041431.D Vial: 10
Acq On : 4 Feb 2014 23:26 Operator: WA/LC
Sample : P1400358-003 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:48:12 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041431.D\data.ms

(12) trans-1,2-Dichloroethene (T)

4.754min (+0.012) 1062.41pg

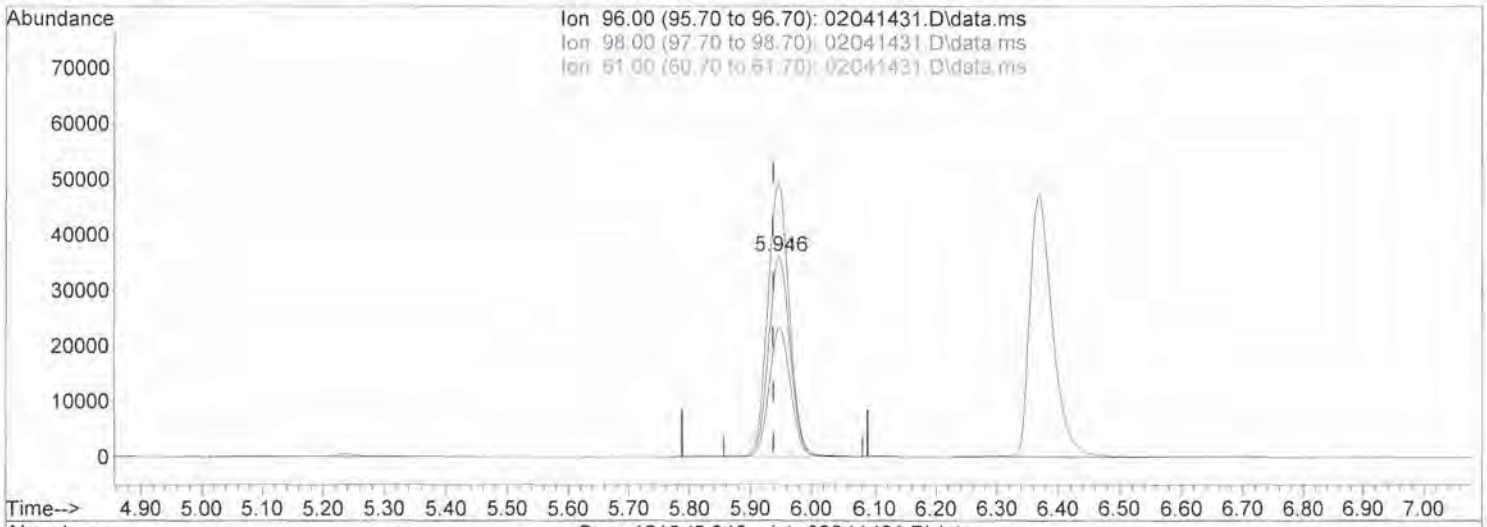
response 50541

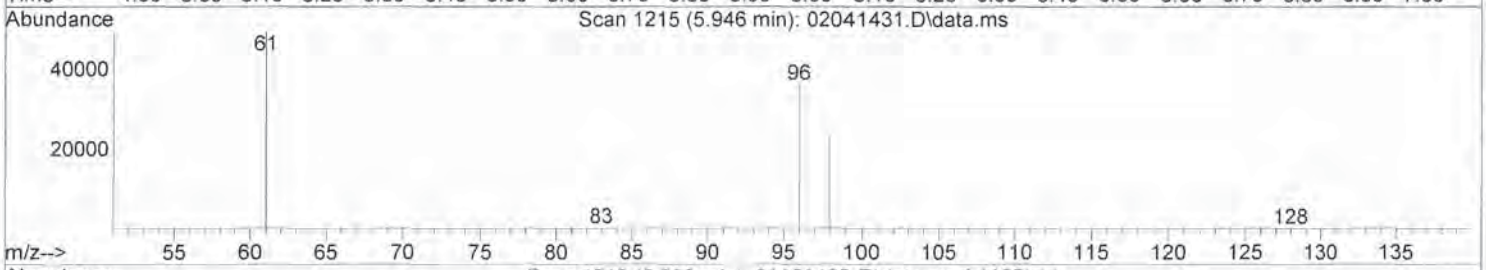
Ion	Exp%	Act%
96.00	100	100
98.00	63.60	63.84
61.00	148.90	149.42
0.00	0.00	0.00

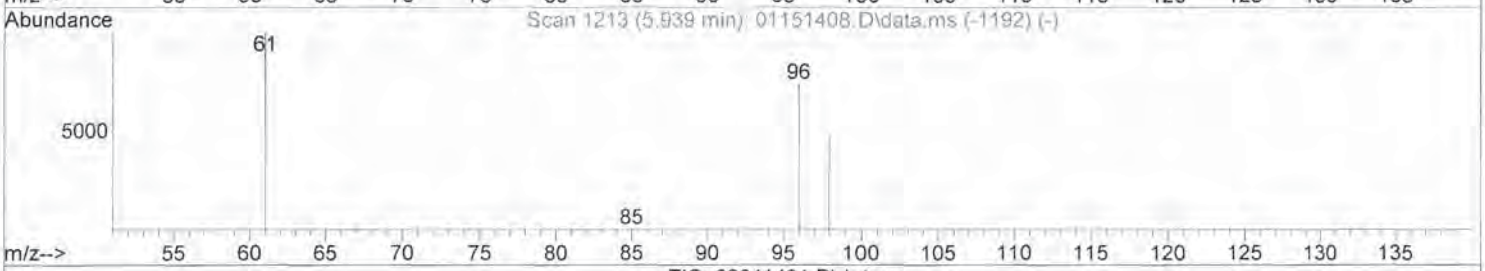
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041431.D Vial: 10
Acq On : 4 Feb 2014 23:26 Operator: WA/LC
Sample : P1400358-003 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:48:12 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041431.D\data.ms

(15) cis-1,2-Dichloroethene (T)

5.946min (+0.008) 1791.10pg

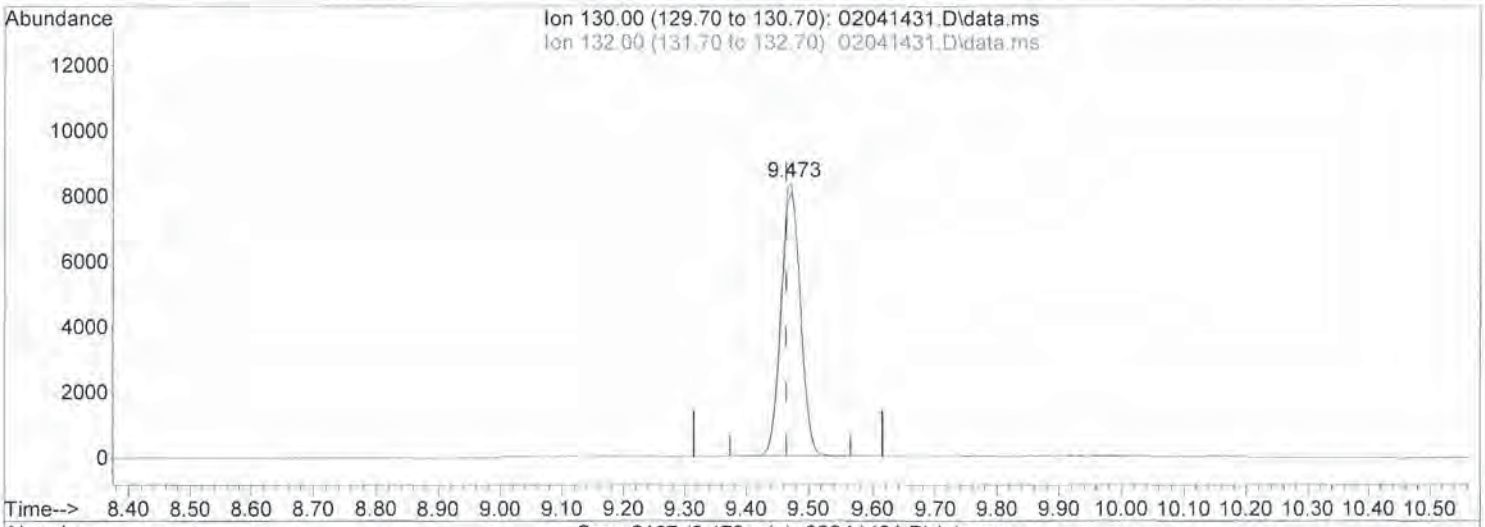
response 87656

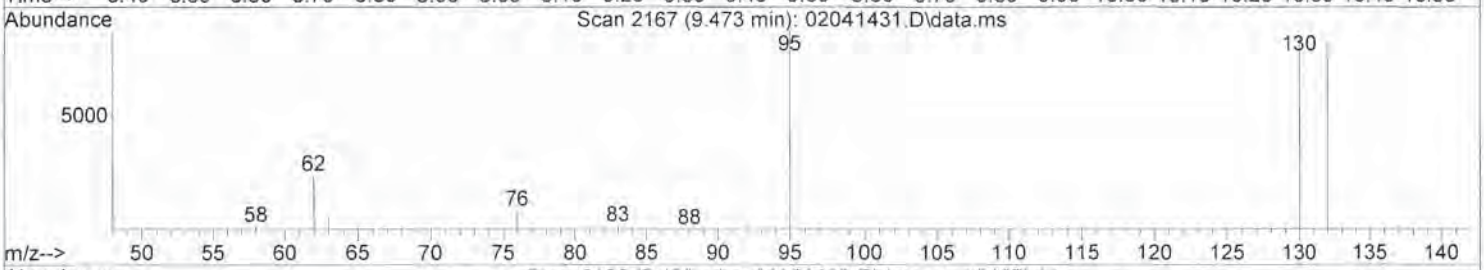
Ion	Exp%	Act%
96.00	100	100
98.00	64.00	64.25
61.00	136.80	137.68
0.00	0.00	0.00

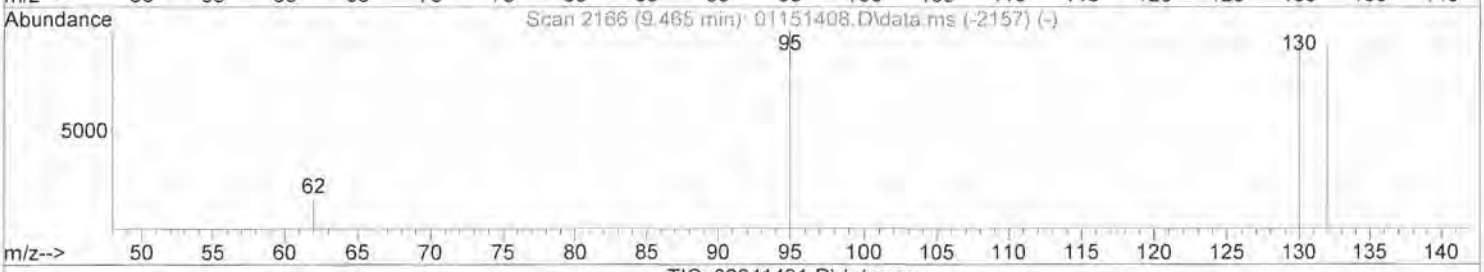
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041431.D Vial: 10
Acq On : 4 Feb 2014 23:26 Operator: WA/LC
Sample : P1400358-003 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:48:12 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041431.D\data.ms

(25) Trichloroethene (T)

9.473min (+0.008) 374.15pg

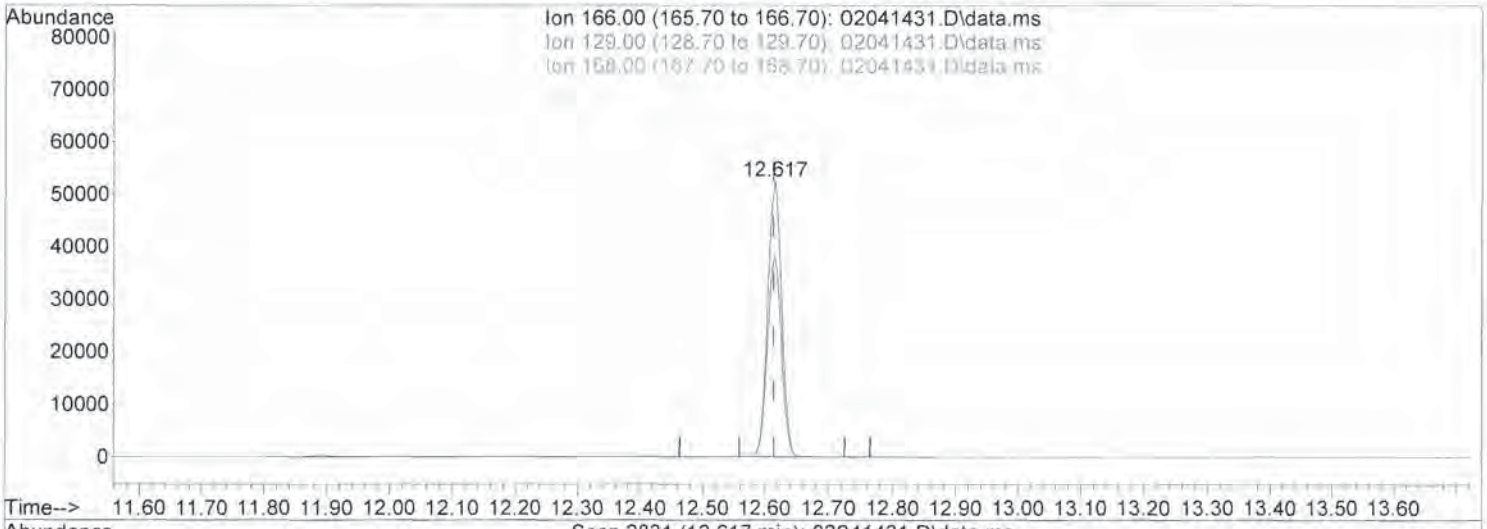
response 17964

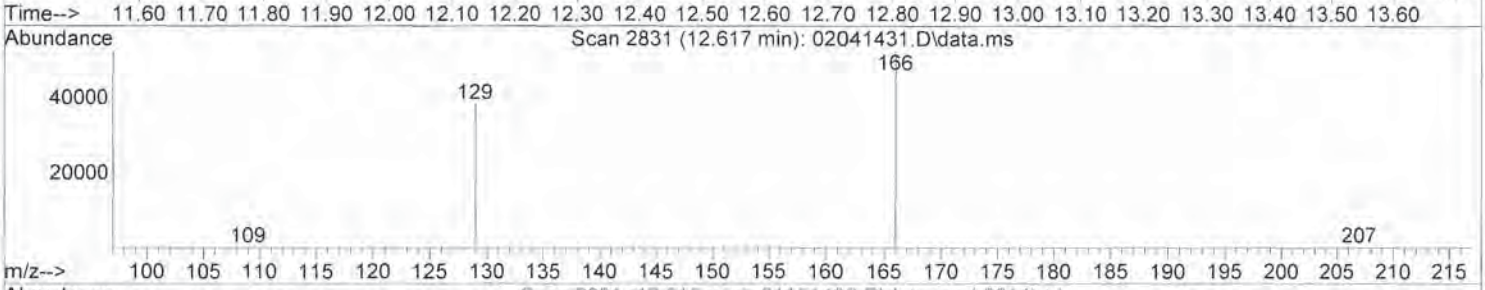
Ion	Exp%	Act%
130.00	100	100
132.00	96.40	96.17
0.00	0.00	0.00
0.00	0.00	0.00

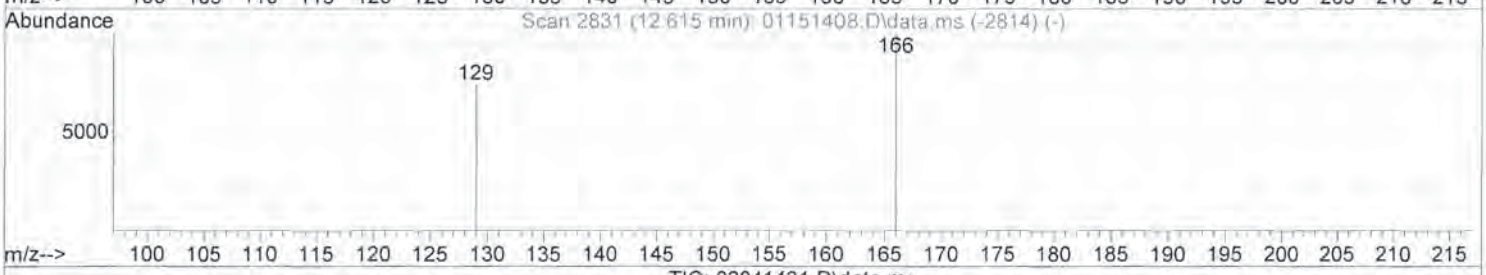
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041431.D Vial: 10
Acq On : 4 Feb 2014 23:26 Operator: WA/LC
Sample : P1400358-003 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:48:12 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041431.D\data.ms

(33) Tetrachloroethene (T)

12.617min (+0.002) 1559.60pg

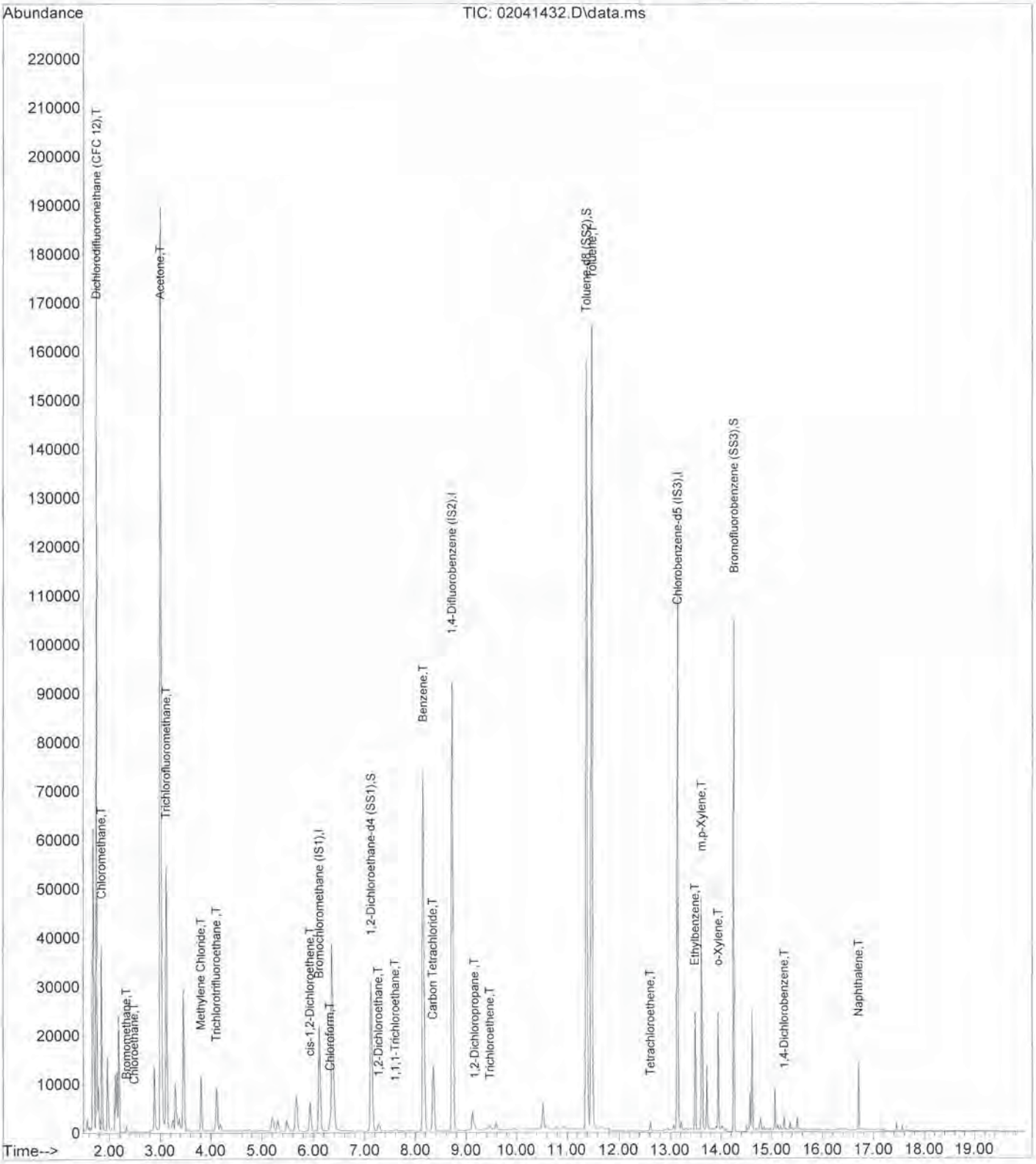
response 81027

Ion	Exp%	Act%
166.00	100	100
129.00	74.10	73.52
168.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_02\04\02041432.D Vial: 11
Acq On : 4 Feb 2014 23:55 Operator: WA/LC
Sample : P1400358-004 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:53:40 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_02\04\02041432.D Vial: 11
Acq On : 4 Feb 2014 23:55 Operator: WA/LC
Sample : P1400358-004 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:53:40 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

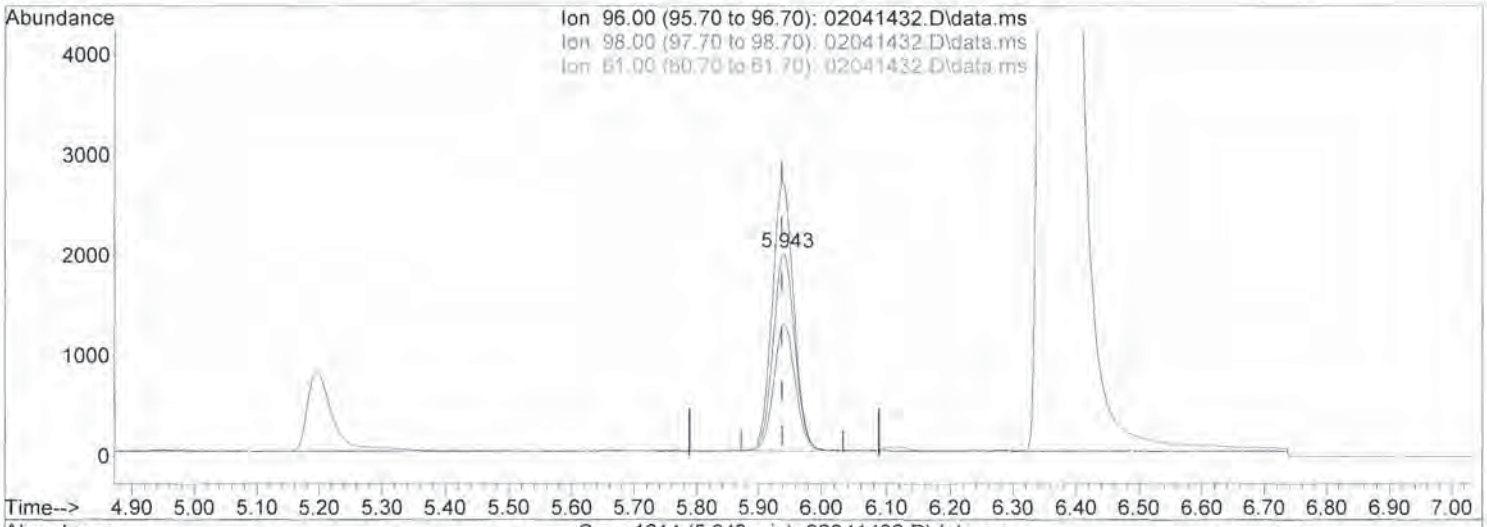
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	30367	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	167660	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	29110	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	52984	964.71	pg		0.00
Spiked Amount 1000.000			Recovery =	96.47%			
30) Toluene-d8 (SS2)	11.39	98	178426	994.03	pg		0.00
Spiked Amount 1000.000			Recovery =	99.40%			
40) Bromofluorobenzene (SS3)	14.25	174	62419	1047.82	pg		0.00
Spiked Amount 1000.000			Recovery =	104.78%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.75	85	134255	1392.29	pg		100
3) Chloromethane	1.85	52	10778	427.57	pg		99
4) Vinyl Chloride	2.04	62	365	N.D.			
5) Bromomethane	2.34	94	825	21.71	pg		99
6) Chloroethane	2.49	64	258	7.59	pg	#	42
7) Acetone	3.00	58	86374	3110.80	pg	#	89
8) Trichlorofluoromethane	3.13	101	55282	735.34	pg		99
9) 1,1-Dichloroethene	0.00	96	0	N.D.			
10) Methylene Chloride	3.81	84	6865	141.30	pg		99
11) Trichlorotrifluoroethane	4.12	151	11464	305.14	pg		100
12) trans-1,2-Dichloroethene	4.75	96	199	N.D.			
13) 1,1-Dichloroethane	4.97	63	264	N.D.			
14) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
15) cis-1,2-Dichloroethene	5.94	96	4803	100.46	pg		100
16) Chloroform	6.32	83	4164	51.82	pg		93
18) 1,2-Dichloroethane	7.27	62	2496	38.77	pg		100
19) 1,1,1-Trichloroethane	7.61	97	930	12.47	pg		100
20) Benzene	8.16	78	139556	762.45	pg		100
21) Carbon Tetrachloride	8.35	117	16841	271.95	pg		99
23) 1,2-Dichloropropane	9.17	63	660	13.70	pg		97
24) Bromodichloromethane	0.00	83	0	N.D.	d		
25) Trichloroethene	9.47	130	275	5.77	pg		100
26) 1,4-Dioxane	0.00	88	0	N.D.			
27) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
28) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
29) 1,1,2-Trichloroethane	0.00	83	0	N.D.			
31) Toluene	11.49	91	186464	959.61	pg		99
32) 1,2-Dibromoethane	0.00	107	0	N.D.			
33) Tetrachloroethene	12.62	166	1714	33.22	pg	#	99
35) Chlorobenzene	13.18	112	391	N.D.			
36) Ethylbenzene	13.49	91	24480	116.88	pg		100
37) m,p-Xylene	13.62	91	53666	303.52	pg		98
38) o-Xylene	13.95	106	9478	115.77	pg		98
39) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d		
41) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d		
42) 1,4-Dichlorobenzene	15.25	146	1614	16.37	pg		99
43) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
44) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.			
45) Naphthalene	16.70	128	12497	51.42	pg		97
46) Hexachlorobutadiene	0.00	225	0	N.D.			

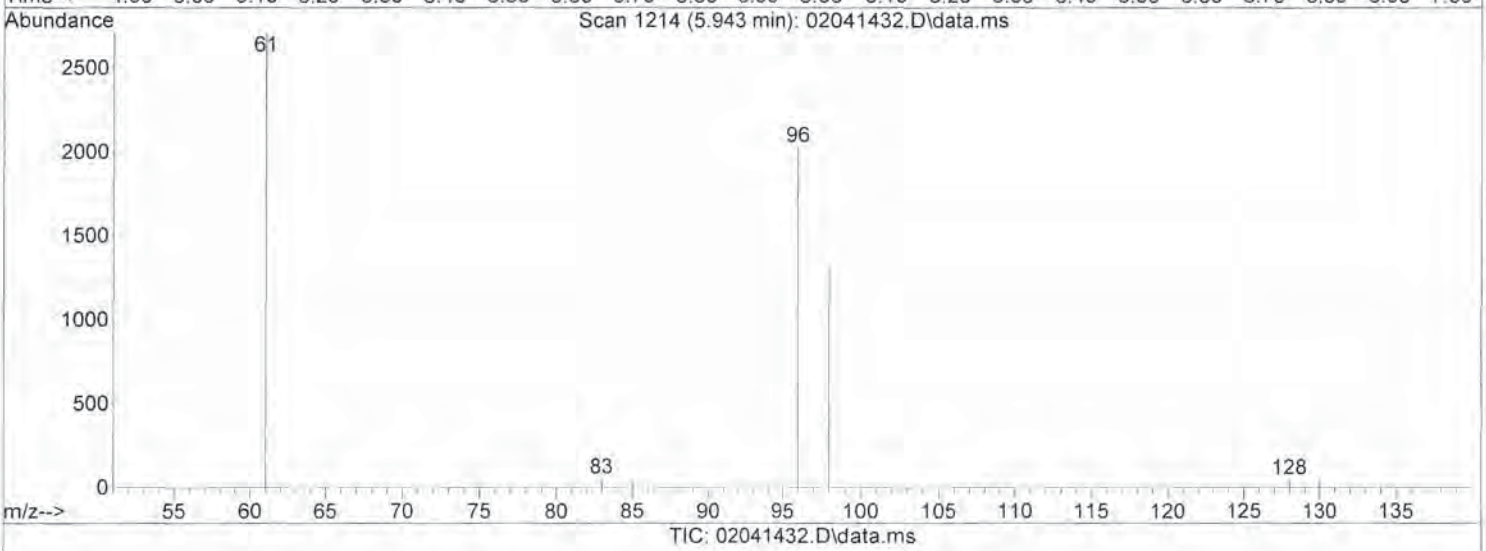
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041432.D Vial: 11
Acq On : 4 Feb 2014 23:55 Operator: WA/LC
Sample : P1400358-004 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:53:40 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M





TIC: 02041432.D\data.ms

(15) cis-1,2-Dichloroethene (T)

5.943min (+0.004) 100.46pg

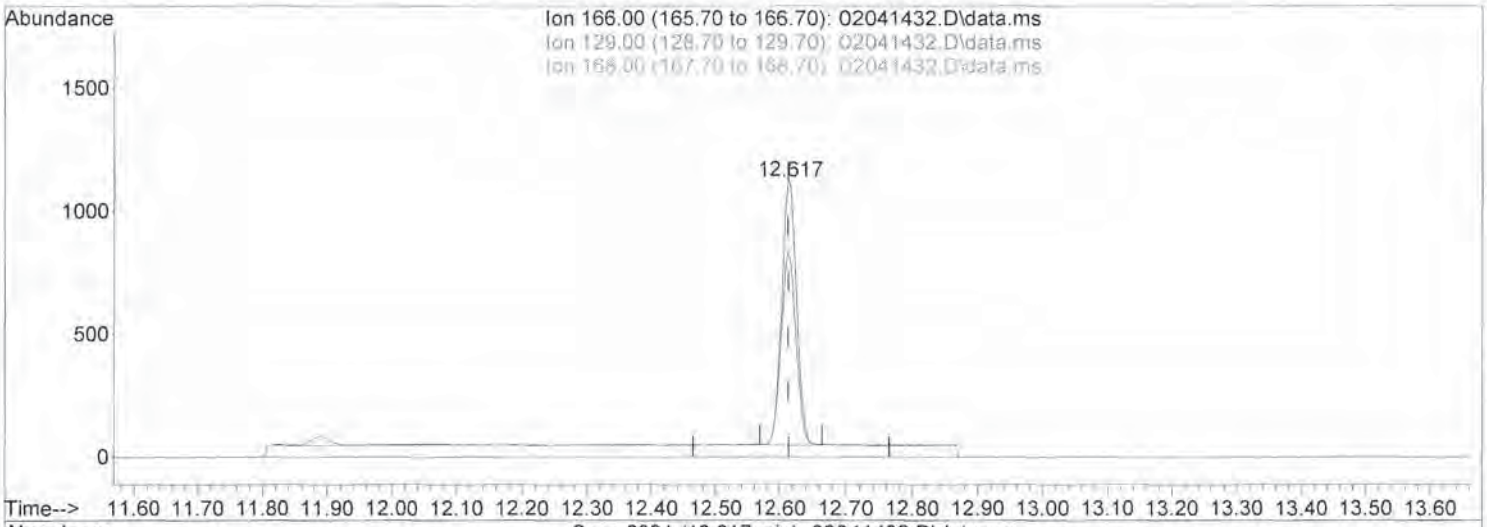
response 4803

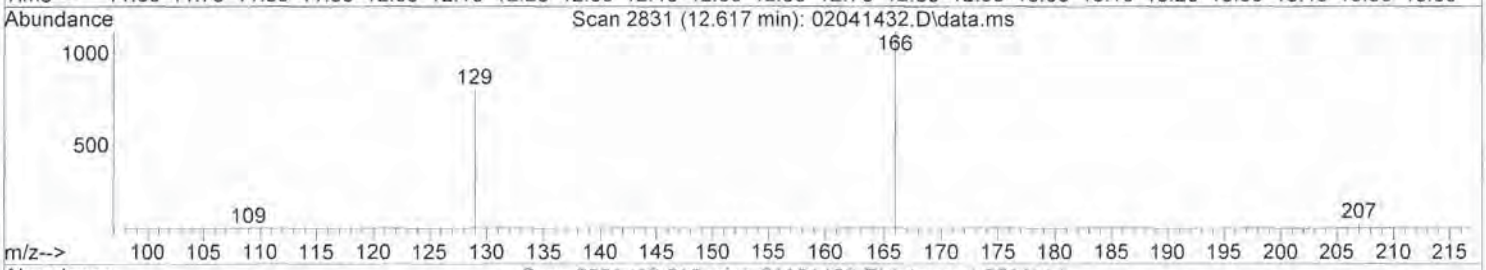
Ion	Exp%	Act%
96.00	100	100
98.00	64.00	64.15
61.00	136.80	136.19
0.00	0.00	0.00

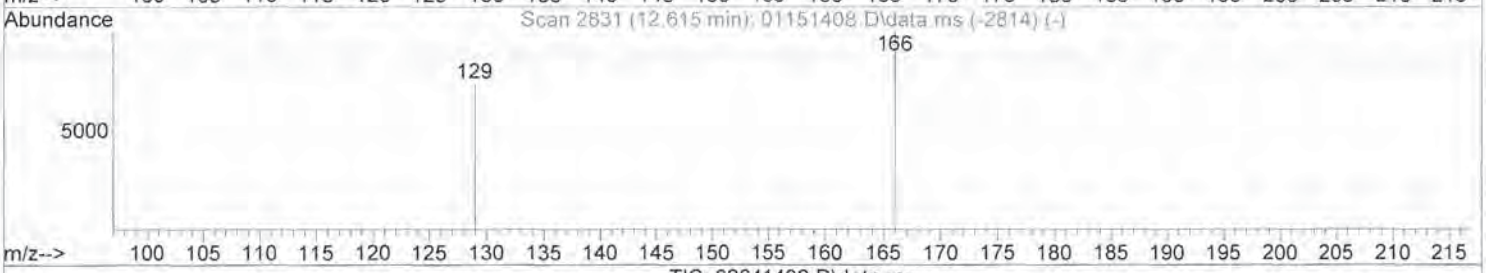
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041432.D Vial: 11
Acq On : 4 Feb 2014 23:55 Operator: WA/LC
Sample : P1400358-004 (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 09:53:40 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041432.D\data.ms

(33) Tetrachloroethene (T)

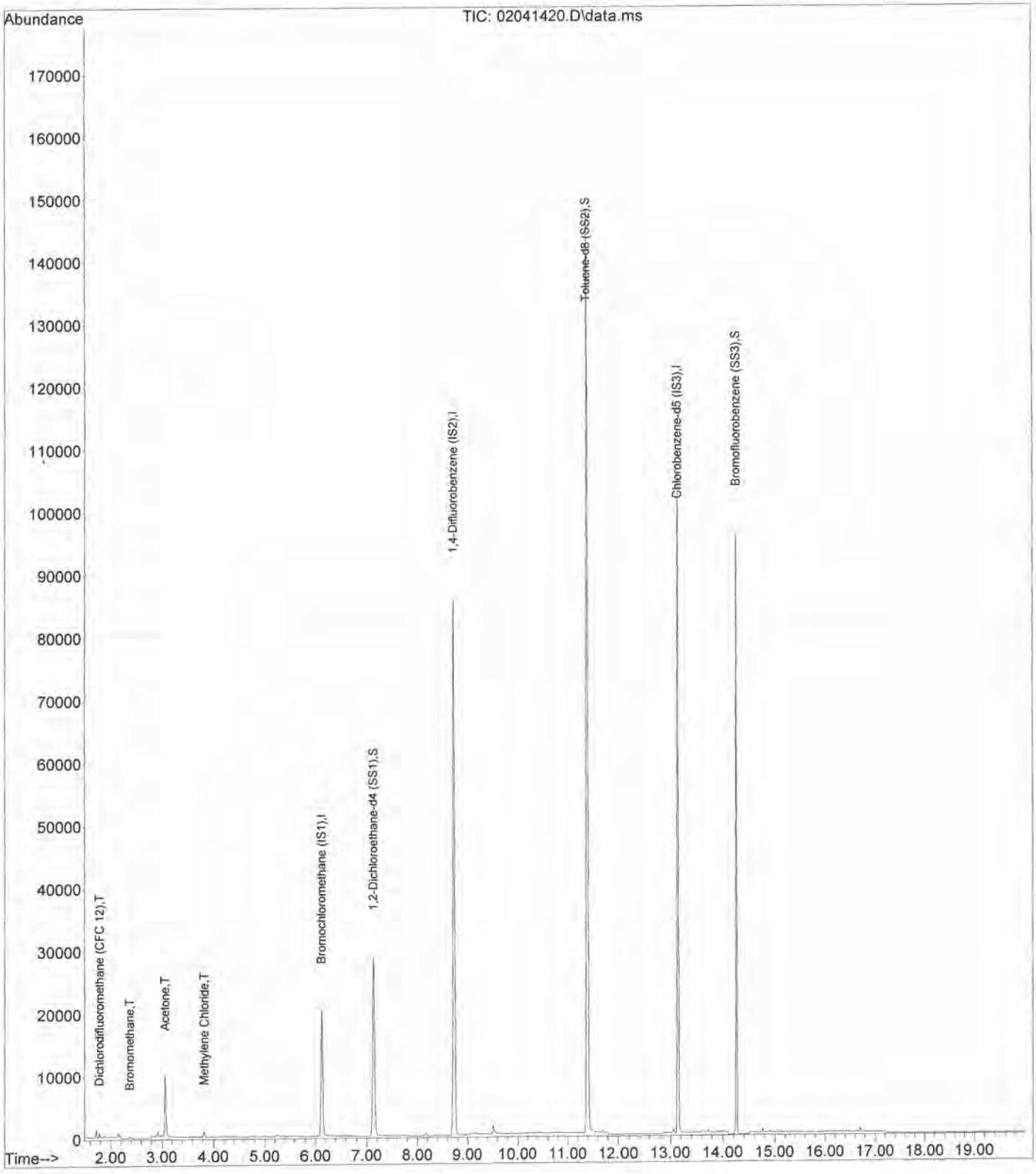
12.617min (+0.002) 33.22pg

response 1714

Ion	Exp%	Act%
166.00	100	100
129.00	74.10	73.45
168.00	0.00	0.00
0.00	0.00	0.00

Data File : I:\MS19\DATA\2014_02\04\02041420.D Vial: 1
Acq On : 4 Feb 2014 18:04 Operator: WA/LC
Sample : TO-15SIM Method Blank (1000mL) Inst : MS19
Misc : S29-12101302

Quant Time: Feb 05 06:54:53 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Data File : I:\MS19\DATA\2014_02\04\02041420.D Vial: 1
Acq On : 4 Feb 2014 18:04 Operator: WA/LC
Sample : TO-15SIM Method Blank (1000mL) Inst : MS19
Misc : S29-12101302

Quant Time: Feb 05 06:54:53 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	28353	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	155815	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	27183	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	49558	966.42	pg		0.00
Spiked Amount 1000.000			Recovery =	96.64%			
30) Toluene-d8 (SS2)	11.39	98	165430	991.69	pg		0.00
Spiked Amount 1000.000			Recovery =	99.17%			
40) Bromofluorobenzene (SS3)	14.25	174	56905	1022.97	pg		0.00
Spiked Amount 1000.000			Recovery =	102.30%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.78	85	587	6.52	pg	#	42
3) Chloromethane	0.00	52	0	N.D.			
4) Vinyl Chloride	0.00	62	0	N.D.			
5) Bromomethane	2.37	94	217	6.12	pg	#	3
6) Chloroethane	0.00	64	0	N.D.			
7) Acetone	3.06	58	4647	179.25	pg	#	90
8) Trichlorofluoromethane	0.00	101	0	N.D.			
9) 1,1-Dichloroethene	0.00	96	0	N.D.			
10) Methylene Chloride	3.82	84	506	11.15	pg		100
11) Trichlorotrifluoroethane	0.00	151	0	N.D.			
12) trans-1,2-Dichloroethene	0.00	96	0	N.D.			
13) 1,1-Dichloroethane	0.00	63	0	N.D.			
14) Methyl tert-Butyl Ether	5.25	73	243	N.D.			
15) cis-1,2-Dichloroethene	0.00	96	0	N.D.			
16) Chloroform	0.00	83	0	N.D.			
18) 1,2-Dichloroethane	0.00	62	0	N.D.			
19) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
20) Benzene	8.17	78	701	N.D.			
21) Carbon Tetrachloride	0.00	117	0	N.D.			
23) 1,2-Dichloropropane	0.00	63	0	N.D.			
24) Bromodichloromethane	0.00	83	0	N.D.			
25) Trichloroethene	0.00	130	0	N.D.			
26) 1,4-Dioxane	0.00	88	0	N.D.			
27) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
28) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
29) 1,1,2-Trichloroethane	0.00	83	0	N.D.			
31) Toluene	11.49	91	417	N.D.			
32) 1,2-Dibromoethane	0.00	107	0	N.D.			
33) Tetrachloroethene	0.00	166	0	N.D.			
35) Chlorobenzene	0.00	112	0	N.D.			
36) Ethylbenzene	0.00	91	0	N.D.			
37) m,p-Xylene	13.62	91	370	N.D.			
38) o-Xylene	0.00	106	0	N.D.			
39) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.			
41) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
42) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
43) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
44) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.			
45) Naphthalene	16.70	128	683	N.D.			
46) Hexachlorobutadiene	0.00	225	0	N.D.			

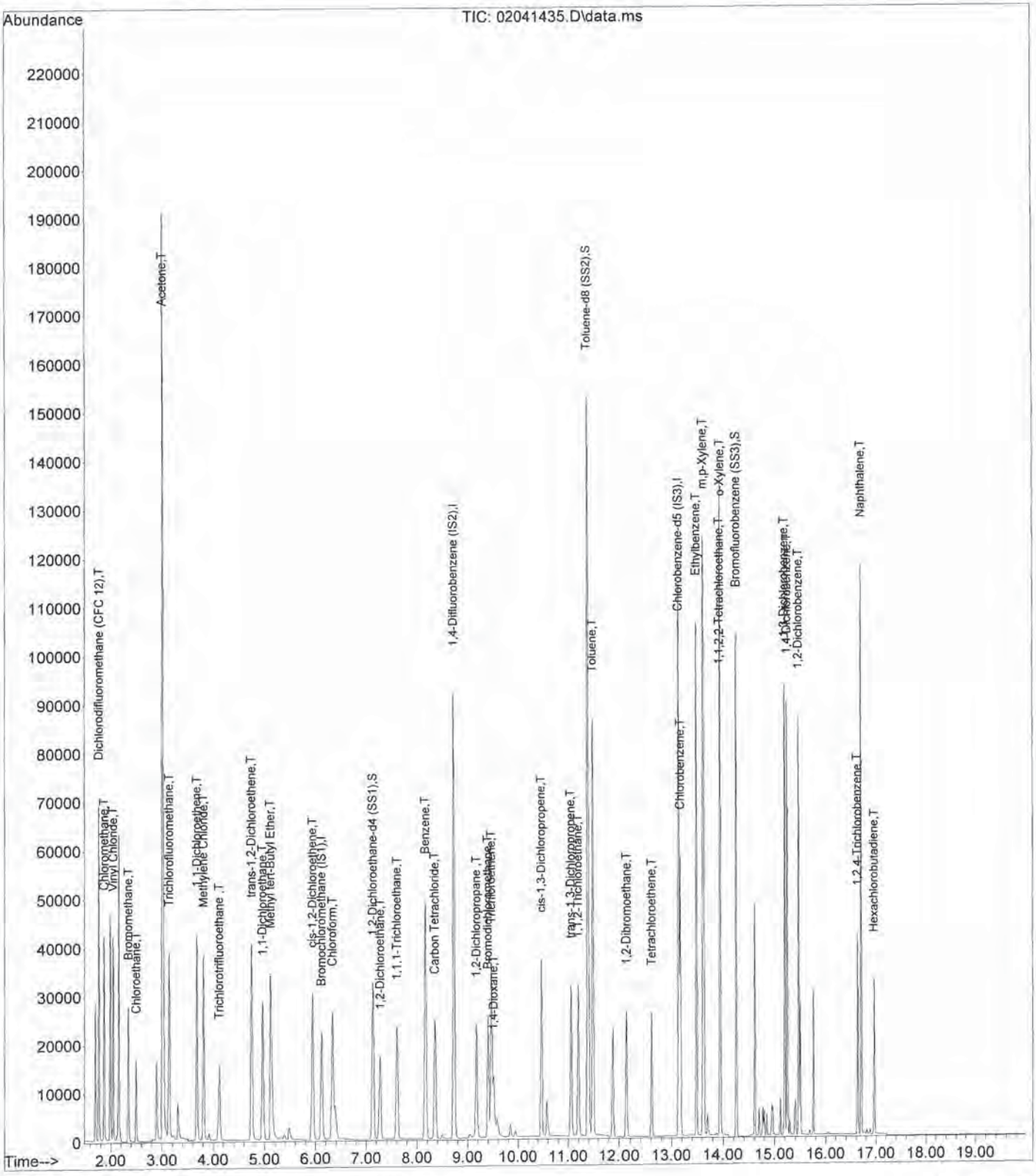
(#) = qualifier out of range (m) = manual integration (+) = signals summed

2/5/14 u

2/5/14

Data File : I:\MS19\DATA\2014_02\04\02041435.D Vial: 15
Acq On : 5 Feb 2014 8:51 Operator: WA/LC
Sample : 500pg TO-15SIM LCS Std (125mL) Inst : MS19
Misc : S29-12101302/S29-02051401

Quant Time: Feb 05 09:25:11 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Data File : I:\MS19\DATA\2014_02\04\02041435.D Vial: 15
Acq On : 5 Feb 2014 8:51 Operator: WA/LC
Sample : 500pg TO-15SIM LCS Std (125mL) Inst : MS19
Misc : S29-12101302/S29-02051401

Quant Time: Feb 05 09:25:11 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	30595	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	166258	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	28673	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	55785	1008.14	pg		0.00
Spiked Amount 1000.000			Recovery =	100.81%			
30) Toluene-d8 (SS2)	11.39	98	175328	985.01	pg		0.00
Spiked Amount 1000.000			Recovery =	98.50%			
40) Bromofluorobenzene (SS3)	14.25	174	61531	1048.65	pg		0.00
Spiked Amount 1000.000			Recovery =	104.87%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.77	85	49707	511.65	pg		100
3) Chloromethane	1.87	52	12009	472.85	pg		100
4) Vinyl Chloride	2.05	62	37066	494.96	pg		100
5) Bromomethane	2.35	94	19437	507.68	pg		100
6) Chloroethane	2.50	64	17630	514.88	pg		100
7) Acetone	3.01	58	84348	3015.19	pg		97
8) Trichlorofluoromethane	3.14	101	38955	514.30	pg		99
9) 1,1-Dichloroethene	3.69	96	22333	506.16	pg		99
10) Methylene Chloride	3.81	84	23743	485.06	pg		98
11) Trichlorotrifluoroethane	4.12	151	19766	522.20	pg		100
12) trans-1,2-Dichloroethene	4.75	96	23412	500.04	pg		99
13) 1,1-Dichloroethane	4.97	63	43203	510.34	pg		100
14) Methyl tert-Butyl Ether	5.12	73	72709	481.94	pg		100
15) cis-1,2-Dichloroethene	5.95	96	24536	509.40	pg		99
16) Chloroform	6.33	83	41078	507.38	pg		100
18) 1,2-Dichloroethane	7.28	62	32297	497.88	pg		100
19) 1,1,1-Trichloroethane	7.61	97	36553	486.30	pg		100
20) Benzene	8.17	78	92063	499.23	pg		100
21) Carbon Tetrachloride	8.35	117	30822	494.01	pg		100
23) 1,2-Dichloropropane	9.17	63	24657	516.04	pg		99
24) Bromodichloromethane	9.40	83	32256	516.14	pg		100
25) Trichloroethene	9.47	130	23198	490.62	pg		100
26) 1,4-Dioxane	9.51	88	19835	521.01	pg		96
27) cis-1,3-Dichloropropene	10.47	75	38229	505.61	pg		98
28) trans-1,3-Dichloropropene	11.05	75	32523	467.23	pg		100
29) 1,1,2-Trichloroethane	11.19	83	19450	512.12	pg		100
31) Toluene	11.49	91	94219	488.97	pg		99
32) 1,2-Dibromoethane	12.13	107	24420	507.82	pg		100
33) Tetrachloroethene	12.61	166	23722	463.64	pg	#	100
35) Chlorobenzene	13.18	112	60739	527.52	pg		100
36) Ethylbenzene	13.49	91	105502	511.39	pg		100
37) m,p-Xylene	13.62	91	168847	969.50	pg		100
38) o-Xylene	13.95	106	39231	486.48	pg		100
39) 1,1,2,2-Tetrachloroethane	13.93	83	40857	503.50	pg		100
41) 1,3-Dichlorobenzene	15.20	146	48940	515.80	pg		100
42) 1,4-Dichlorobenzene	15.24	146	49059	505.04	pg		100
43) 1,2-Dichlorobenzene	15.47	146	47013	517.90	pg		100
44) 1,2,4-Trichlorobenzene	16.63	182	29747	464.16	pg		100
45) Naphthalene	16.70	128	105707	441.55	pg		100
46) Hexachlorobutadiene	16.96	225	19029	502.69	pg		100

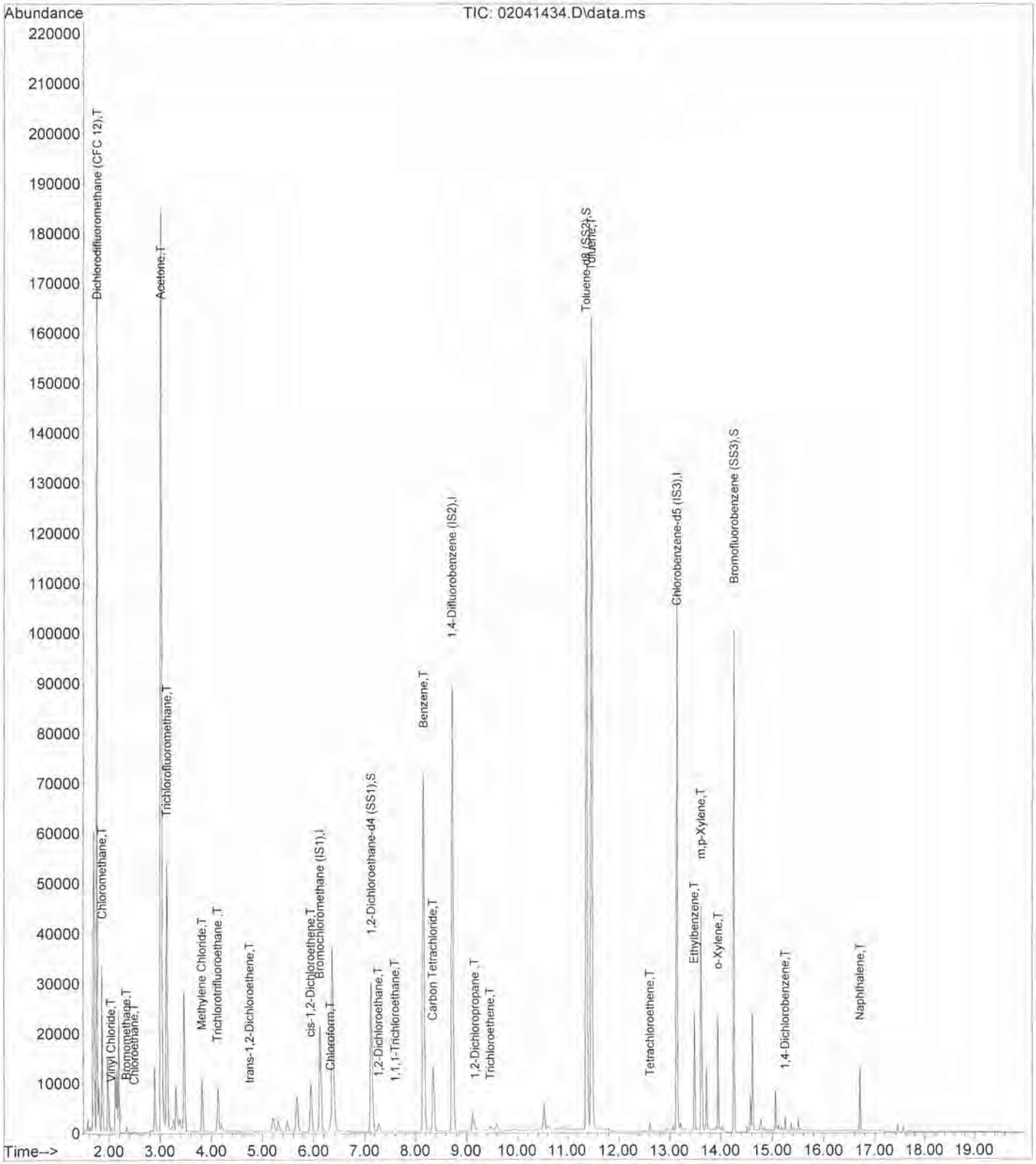
(#) = qualifier out of range (m) = manual integration (+) = signals summed

2/5/14 cc
2/5/14

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_02\04\02041434.D Vial: 11
Acq On : 5 Feb 2014 7:47 Operator: WA/LC
Sample : P1400358-004 dup (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 10:02:56 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_02\04\02041434.D Vial: 11
Acq On : 5 Feb 2014 7:47 Operator: WA/LC
Sample : P1400358-004 dup (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 10:02:56 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

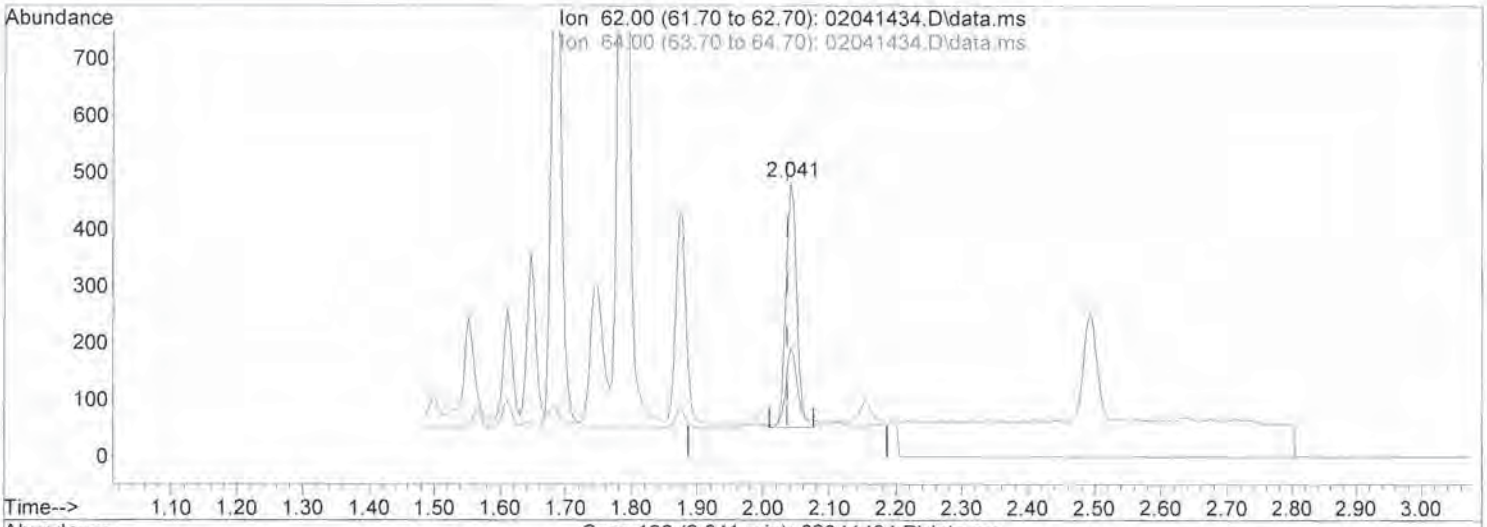
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	29751	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	163504	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	27913	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	52158	969.33	pg		0.00
Spiked Amount 1000.000			Recovery =	96.93%			
30) Toluene-d8 (SS2)	11.39	98	172398	984.86	pg		0.00
Spiked Amount 1000.000			Recovery =	98.49%			
40) Bromofluorobenzene (SS3)	14.25	174	59188	1036.19	pg		0.00
Spiked Amount 1000.000			Recovery =	103.62%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.76	85	133480	1412.92	pg		100
3) Chloromethane	1.86	52	9150	370.50	pg		99
4) Vinyl Chloride	2.04	62	493	6.77	pg	#	43
5) Bromomethane	2.34	94	809	21.73	pg		100
6) Chloroethane	2.49	64	267	8.02	pg	#	42
7) Acetone	3.01	58	85166	3130.80	pg		90
8) Trichlorofluoromethane	3.13	101	54433	739.04	pg		99
9) 1,1-Dichloroethene	0.00	96	0	N.D.			
10) Methylene Chloride	3.81	84	6722	141.22	pg		99
11) Trichlorotrifluoroethane	4.12	151	11258	305.86	pg		100
12) trans-1,2-Dichloroethene	4.75	96	231	5.07	pg	#	75
13) 1,1-Dichloroethane	4.96	63	256	N.D.			
14) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
15) cis-1,2-Dichloroethene	5.95	96	7841	167.41	pg		99
16) Chloroform	6.33	83	4092	51.98	pg		94
18) 1,2-Dichloroethane	7.28	62	2437	38.63	pg		99
19) 1,1,1-Trichloroethane	7.61	97	906	12.40	pg		99
20) Benzene	8.17	78	135163	753.74	pg		100
21) Carbon Tetrachloride	8.35	117	16362	269.69	pg		99
23) 1,2-Dichloropropane	9.17	63	653	13.90	pg		97
24) Bromodichloromethane	0.00	83	0	N.D.	d		
25) Trichloroethene	9.47	130	384	8.26	pg		99
26) 1,4-Dioxane	0.00	88	0	N.D.			
27) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
28) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
29) 1,1,2-Trichloroethane	0.00	83	0	N.D.			
31) Toluene	11.49	91	181518	957.90	pg		99
32) 1,2-Dibromoethane	0.00	107	0	N.D.			
33) Tetrachloroethene	12.62	166	1687	33.53	pg	#	99
35) Chlorobenzene	13.17	112	399	N.D.			
36) Ethylbenzene	13.49	91	24050	119.75	pg		99
37) m,p-Xylene	13.62	91	52020	306.83	pg		98
38) o-Xylene	13.95	106	9236	117.65	pg		98
39) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d		
41) 1,3-Dichlorobenzene	0.00	146	0	N.D.	d		
42) 1,4-Dichlorobenzene	15.25	146	1594	16.86	pg		100
43) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
44) 1,2,4-Trichlorobenzene	0.00	182	0	N.D.			
45) Naphthalene	16.70	128	11737	50.36	pg		97
46) Hexachlorobutadiene	0.00	225	0	N.D.			

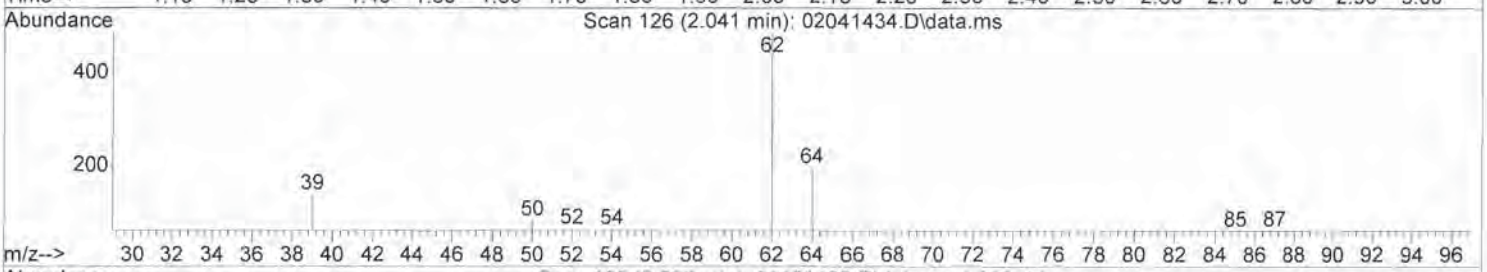
(#) = qualifier out of range (m) = manual integration (+) = signals summed

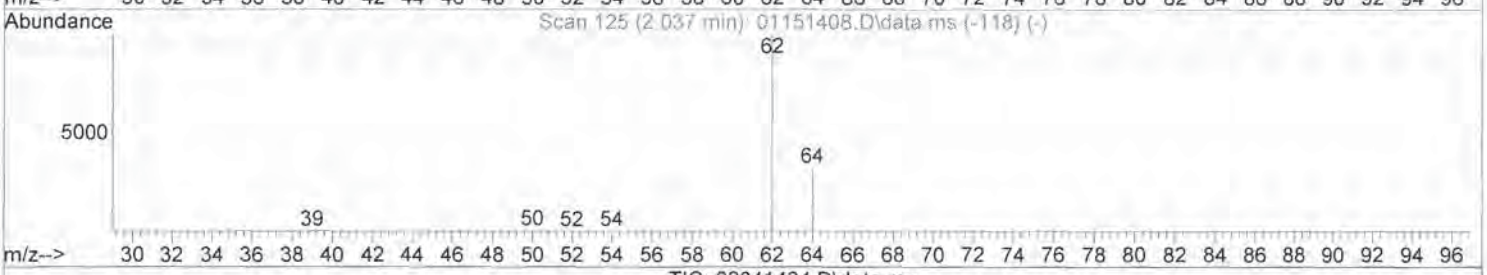
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041434.D Vial: 11
Acq On : 5 Feb 2014 7:47 Operator: WA/LC
Sample : P1400358-004 dup (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 10:02:56 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041434.D\data.ms

(4) Vinyl Chloride (T)

2.041min (+0.005) 6.77pg

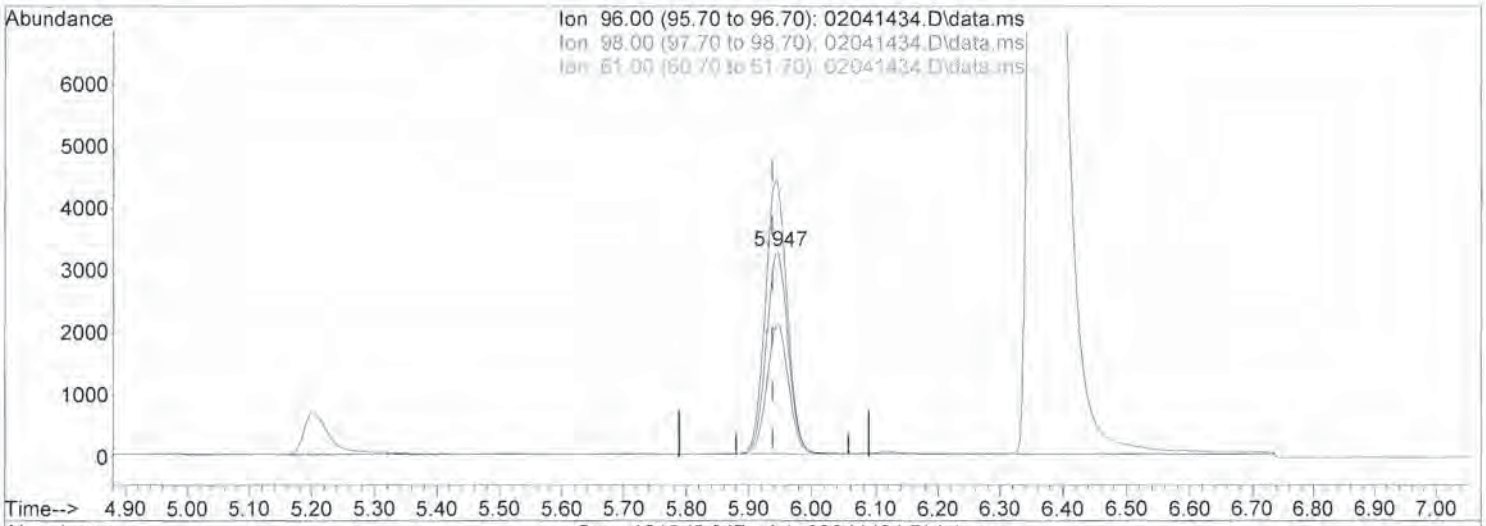
response 493

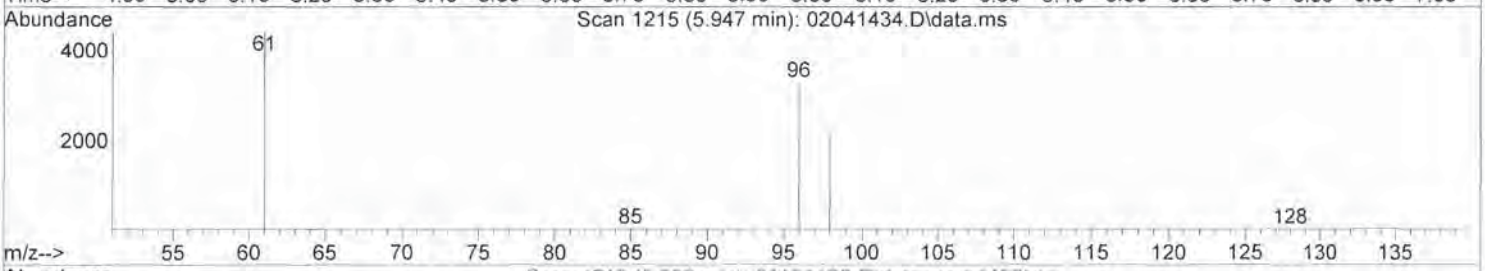
Ion	Exp%	Act%
62.00	100	100
64.00	31.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

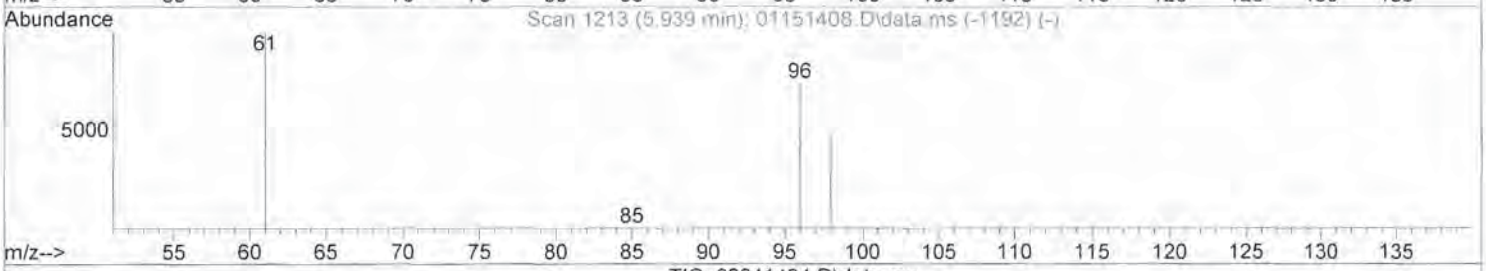
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041434.D Vial: 11
Acq On : 5 Feb 2014 7:47 Operator: WA/LC
Sample : P1400358-004 dup (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 10:02:56 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041434.D\data.ms

(15) cis-1,2-Dichloroethene (T)

5.947min (+0.008) 167.41pg

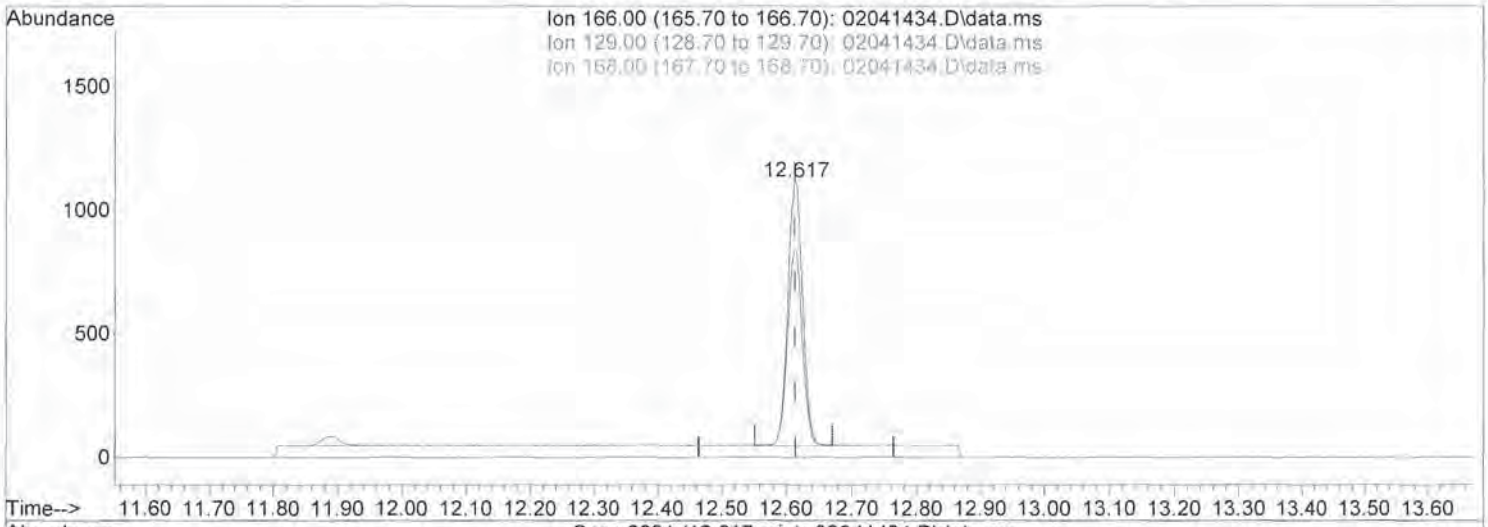
response 7841

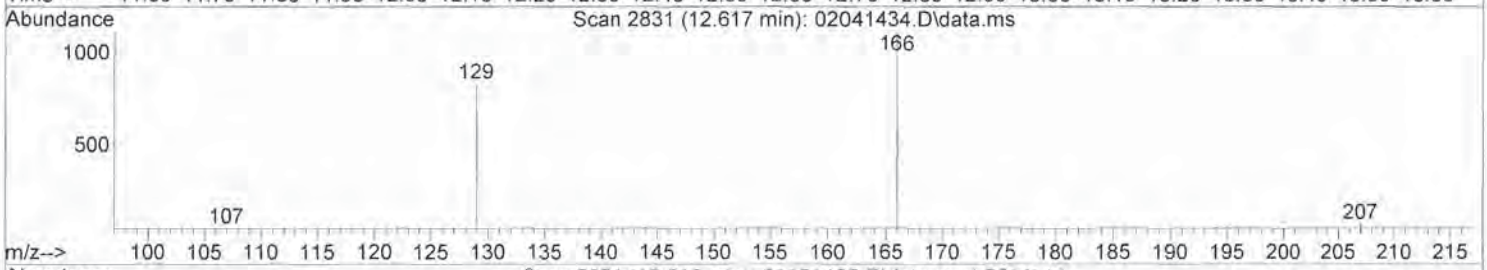
Ion	Exp%	Act%
96.00	100	100
98.00	64.00	64.24
61.00	136.80	135.24
0.00	0.00	0.00

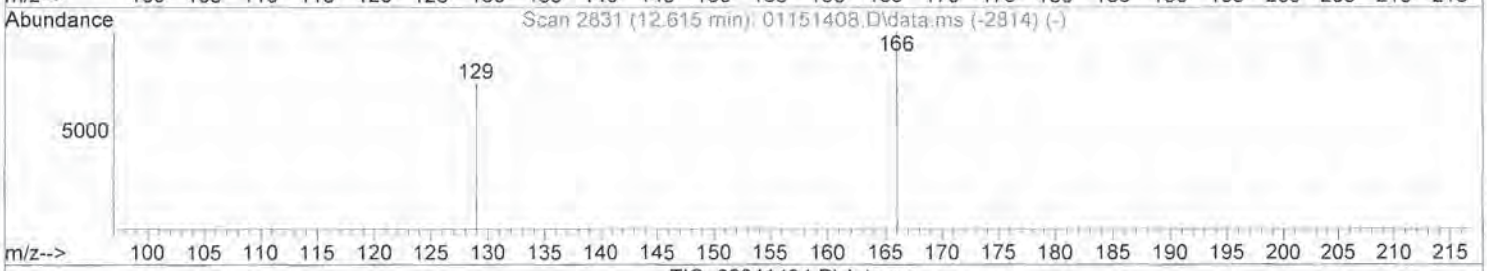
Quantitation Report (Qedit)

Data File : I:\MS19\DATA\2014_02\04\02041434.D Vial: 11
Acq On : 5 Feb 2014 7:47 Operator: WA/LC
Sample : P1400358-004 dup (1000mL) Inst : MS19
Misc :

Quant Time: Feb 05 10:02:56 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M







TIC: 02041434.D\data.ms

(33) Tetrachloroethene (T)

12.617min (+0.002) 33.53pg

response 1687

Ion	Exp%	Act%
166.00	100	100
129.00	74.10	73.62
168.00	0.00	0.00
0.00	0.00	0.00

Response Factor Report MS19

Method Path : I:\MS19\METHODS\
Method File : X19011514.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jan 15 17:06:21 2014
Response Via : Initial Calibration

Calibration Files
10 =01151404.D 20 =01151405.D 50 =01151406.D 100 =01151407.D 500 =01151408.D 1000=01151409.D
2500=01151410.D 9999=01151411.D 20K =01151412.D 50K =01151413.D

		Compound	10	20	50	100	500	1000	2500	9999	20K	50K	Avg	%RSD
1)	I	Bromochloromethane...	ISTD											
2)	T	Dichlorodifluo...	3.538	3.472	3.211	3.143	3.249	3.225	3.062	3.059	2.991	2.804	3.175	6.87
3)	T	Chloromethane	1.057	1.025	0.886	0.823	0.805	0.792	0.677	0.768	0.753	0.715	0.830	15.09
4)	T	Vinyl Chloride	2.741	2.648	2.481	2.428	2.496	2.496	2.366	2.358	2.288	2.175	2.448	6.77
5)	T	Bromomethane		1.597	1.314	1.221	1.238	1.224	1.143	1.214	1.182	1.129	1.251	11.24
6)	T	Chloroethane	1.290	1.215	1.146	1.101	1.136	1.127	1.077	1.080	1.038	0.982	1.119	7.81
7)	T	Acetone					0.978	0.954	0.897	0.910	0.898	0.849	0.914	5.04
8)	T	Trichlorofluor...	2.686	2.613	2.488	2.412	2.560	2.571	2.433	2.426	2.343	2.225	2.476	5.52
9)	T	1,1-Dichloroet...	1.691	1.498	1.430	1.414	1.452	1.463	1.382	1.403	1.367	1.321	1.442	7.00
10)	T	Methylene Chlo...			1.905	1.724	1.610	1.594	1.510	1.526	1.493	1.437	1.600	9.45
11)	T	Trichlorotrifl...	1.412	1.315	1.240	1.217	1.250	1.243	1.176	1.198	1.177	1.143	1.237	6.31
12)	T	trans-1,2-Dich...	1.758	1.674	1.490	1.488	1.537	1.526	1.457	1.492	1.464	1.418	1.530	6.88
13)	T	1,1-Dichloroet...	3.135	2.919	2.756	2.708	2.843	2.820	2.667	2.712	2.629	2.480	2.767	6.43
14)	T	Methyl tert-Bu...	5.681	5.277	4.905	4.823	5.002	4.973	4.747	4.791	4.687	4.425	4.931	6.99
15)	T	cis-1,2-Dichlo...	1.846	1.703	1.571	1.510	1.586	1.581	1.494	1.531	1.495	1.427	1.574	7.67
16)	T	Chloroform	3.023	2.890	2.651	2.575	2.693	2.662	2.500	2.591	2.509	2.366	2.646	7.24
17)	S	1,2-Dichloroet...	1.855	1.866	1.849	1.818	1.868	1.843	1.764	1.815	1.754	1.654	1.809	3.72
18)	T	1,2-Dichloroet...	2.365	2.274	2.129	2.087	2.181	2.169	2.039	2.085	2.013	1.861	2.120	6.61
19)	T	1,1,1-Trichlor...	2.755	2.622	2.459	2.405	2.502	2.491	2.371	2.403	2.343	2.217	2.457	6.11
20)	T	Benzene	7.720	6.960	6.178	5.901	5.881	5.839	5.564	5.623	5.493	5.117	6.027	12.76
21)	T	Carbon Tetrach...	2.111	2.046	1.979	1.944	2.092	2.097	2.017	2.087	2.053	1.967	2.039	2.93
22)	I	1,4-Difluorobenzen...	ISTD											
23)	T	1,2-Dichloropr...	0.321	0.306	0.285	0.276	0.289	0.289	0.276	0.283	0.279	0.270	0.287	5.38
24)	T	Bromodichlorom...	0.414	0.389	0.365	0.355	0.376	0.380	0.367	0.380	0.373	0.362	0.376	4.40
25)	T	Trichloroethene	0.317	0.298	0.276	0.269	0.280	0.281	0.272	0.283	0.284	0.283	0.284	4.94
26)	T	1,4-Dioxane	0.262	0.250	0.232	0.226	0.225	0.201	0.217	0.226	0.226	0.224	0.229	7.26
27)	T	cis-1,3-Dichlo...	0.495	0.472	0.444	0.432	0.451	0.456	0.442	0.459	0.455	0.442	0.455	3.94
28)	T	trans-1,3-Dich...	0.464	0.434	0.404	0.393	0.407	0.415	0.404	0.426	0.425	0.413	0.419	4.82
29)	T	1,1,2-Trichlor...	0.258	0.238	0.223	0.218	0.227	0.229	0.219	0.227	0.225	0.220	0.228	5.27
30)	S	Toluene-d8 (SS2)	1.071	1.072	1.072	1.078	1.067	1.070	1.068	1.060	1.071	1.076	1.071	0.47
31)	T	Toluene	1.430	1.267	1.156	1.112	1.135	1.140	1.092	1.120	1.101	1.037	1.159	9.65
32)	T	1,2-Dibromoethane	0.323	0.306	0.279	0.273	0.286	0.288	0.278	0.290	0.289	0.282	0.289	5.09
33)	T	Tetrachloroethene	0.338	0.314	0.294	0.288	0.302	0.301	0.291	0.308	0.314	0.328	0.308	5.23
34)	I	Chlorobenzene-d5 (...	ISTD											
35)	T	Chlorobenzene	4.738	4.405	4.062	3.909	4.077	4.092	3.921	4.005	3.757	3.189	4.016	10.02
36)	T	Ethylbenzene	8.539	7.921	7.304	7.072	7.407	7.409	7.145	7.253	6.698	5.202	7.195	11.97
37)	T	m,p-Xylene	7.046	6.445	5.969	5.752	6.025	6.040	5.848	5.994	5.547		6.074	7.21

1/16/14

Method Path : I:\MS19\METHODS\
Method File : X19011514.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

38)	T	o-Xylene	3.214	3.008	2.791	2.703	2.831	2.847	2.759	2.876	2.746	2.351	2.813	7.85
39)	T	1,1,2,2-Tetrac...	3.173	2.989	2.824	2.763	2.886	2.903	2.828	2.904	2.732	2.298	2.830	7.94
40)	S	Bromofluoroben...	2.110	2.111	2.113	2.114	2.106	2.099	2.097	2.010	1.960	1.743	2.046	5.81
41)	T	1,3-Dichlorobe...	3.738	3.507	3.275	3.179	3.265	3.280	3.223	3.421	3.312	2.890	3.309	6.68
42)	T	1,4-Dichlorobe...	3.904	3.636	3.403	3.306	3.322	3.363	3.290	3.485	3.322	2.848	3.388	7.96
43)	T	1,2-Dichlorobe...	3.619	3.391	3.188	3.105	3.158	3.181	3.104	3.236	3.061	2.617	3.166	8.03
44)	T	1,2,4-Trichlor...	2.695	2.463	2.305	2.228	2.102	2.141	2.092	2.227	2.159	1.938	2.235	9.55
45)	T	Naphthalene	1.047	0.904	0.821	0.794	0.769	0.791	0.775	0.836	0.777		0.835 E1	10.78
46)	T	Hexachlorobuta...	1.499	1.426	1.338	1.305	1.292	1.293	1.270	1.313	1.279	1.186	1.320	6.56

(#) = Out of Range

TO-15 (SIM) INITIAL CALIBRATION CONCENTRATIONS

0.2ng/L Working Standard ID: **S29-01061408**
4ng/L Working Standard ID: **S29-01021411**
5ng/L Working Standard ID: **0**
20ng/L Working Standard ID: **0**
50ng/L Working Standard ID: **0**
200ng/L Working Standard ID: **S29-01021404**

Std. Canister Utilized (ng/L)	0.2	0.2	0.2	5	4	4	4	200	50	200
Injection Amt(mL)	50	100	250	20	125	250	625	50	400	250
Compound Name	Conc. 10pg	Conc. 20pg	Conc. 50pg	Conc. 100pg	Conc. 500pg	Conc. 1000pg	Conc. 2500pg	Conc. 10,000pg	Conc. 20,000pg	Conc. 50,000pg
Freon-12	10.00	20.00	50.00	100.0	500	1000	2500	10000	20000	50000
Chloromethane	9.60	19.20	48.00	96.0	480	960	2400	9600	19200	48000
Vinyl Chloride	9.70	19.40	48.50	97.0	485	970	2425	9700	19400	48500
1,3-Butadiene	11.80	23.60	59.00	118.0	590	1180	2950	11800	23600	59000
Bromomethane	9.70	19.40	48.50	97.0	485	970	2425	9700	19400	48500
Chloroethane	9.70	19.40	48.50	97.0	485	970	2425	9700	19400	48500
Acrolein	10.50	21.00	52.50	105.0	525	1050	2625	10500	21000	52500
Acetone	52.90	105.80	264.50	529.0	2645	5290	13225	52900	105800	264500
Freon-11	9.90	19.80	49.50	99.0	495	990	2475	9900	19800	49500
1,1-Dichloroethene	10.60	21.20	53.00	106.0	530	1060	2650	10600	21200	53000
Methylene Chloride	10.10	20.20	50.50	101.0	505	1010	2525	10100	20200	50500
Freon-113	10.80	21.60	54.00	108.0	540	1080	2700	10800	21600	54000
trans-1,2-Dichloroethene	10.40	20.80	52.00	104.0	520	1040	2600	10400	20800	52000
1,1-Dichloroethane	10.40	20.80	52.00	104.0	520	1040	2600	10400	20800	52000
Methyl tert-Butyl Ether	10.50	21.00	52.50	105.0	525	1050	2625	10500	21000	52500
cis-1,2-Dichloroethene	10.80	21.60	54.00	108.0	540	1080	2700	10800	21600	54000
Chloroform	10.60	21.20	53.00	106.0	530	1060	2650	10600	21200	53000
1,2-Dichloroethane	10.50	21.00	52.50	105.0	525	1050	2625	10500	21000	52500
1,1,1-Trichloroethane	10.30	20.60	51.50	103.0	515	1030	2575	10300	20600	51500
Benzene	11.00	22.00	55.00	110.0	550	1100	2750	11000	22000	55000
Carbon Tetrachloride	10.40	20.80	52.00	104.0	520	1040	2600	10400	20800	52000
1,2-Dichloropropane	10.60	21.20	53.00	106.0	530	1060	2650	10600	21200	53000
Bromodichloromethane	10.70	21.40	53.50	107.0	535	1070	2675	10700	21400	53500
Trichloroethene	10.40	20.80	52.00	104.0	520	1040	2600	10400	20800	52000
1,4-Dioxane	10.90	21.80	54.50	109.0	545	1090	2725	10900	21800	54500
cis-1,3-Dichloropropene	10.20	20.40	51.00	102.0	510	1020	2550	10200	20400	51000
trans-1,3-Dichloropropene	10.30	20.60	51.50	103.0	515	1030	2575	10300	20600	51500
1,1,2-Trichloroethane	10.60	21.20	53.00	106.0	530	1060	2650	10600	21200	53000
Toluene	10.60	21.20	53.00	106.0	530	1060	2650	10600	21200	53000
1,2-Dibromoethane	10.70	21.40	53.50	107.0	535	1070	2675	10700	21400	53500
Tetrachloroethene	9.80	19.60	49.00	98.0	490	980	2450	9800	19600	49000
Chlorobenzene	10.80	21.60	54.00	108.0	540	1080	2700	10800	21600	54000
Ethylbenzene	10.70	21.40	53.50	107.0	535	1070	2675	10700	21400	53500
m,p-Xylenes	21.00	42.00	105.00	210.0	1050	2100	5250	21000	42000	105000
o-Xylene	10.30	20.60	51.50	103.0	515	1030	2575	10300	20600	51500
1,1,2,2-Tetrachloroethane	10.10	20.20	50.50	101.0	505	1010	2525	10100	20200	50500
1,3-Dichlorobenzene	11.00	22.00	55.00	110.0	550	1100	2750	11000	22000	55000
1,4-Dichlorobenzene	10.60	21.20	53.00	106.0	530	1060	2650	10600	21200	53000
1,2-Dichlorobenzene	10.80	21.60	54.00	108.0	540	1080	2700	10800	21600	54000
1,2-Dibromo-3-chloropropane	10.60	21.20	53.00	106.0	530	1060	2650	10600	21200	53000
1,2,4-Trichlorobenzene	10.90	21.80	54.50	109.0	545	1090	2725	10900	21800	54500
Naphthalene	10.20	20.40	51.00	102.0	510	1020	2550	10200	20400	51000
Hexachloro-1,3-butadiene	10.90	21.80	54.50	109.0	545	1090	2725	10900	21800	54500

Calibration Status Report MS19

Method : I:\MS19\METHODS\X19011514.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	10	10	1000	I:\MS19\DATA\2014_01\15\01151404.D
2	20	20	1000	I:\MS19\DATA\2014_01\15\01151405.D
3	50	50	1000	I:\MS19\DATA\2014_01\15\01151406.D
4	100	100	1000	I:\MS19\DATA\2014_01\15\01151407.D
5	500	500	1000	I:\MS19\DATA\2014_01\15\01151408.D
6	1000	1000	1000	I:\MS19\DATA\2014_01\15\01151409.D
7	2500	2500	1000	I:\MS19\DATA\2014_01\15\01151410.D
8	9999	10000	1000	I:\MS19\DATA\2014_01\15\01151411.D
9	20K	20000	1000	I:\MS19\DATA\2014_01\15\01151412.D
10	50K	50000	1000	I:\MS19\DATA\2014_01\15\01151413.D

#	ID	Update Time	Quant Time	Acquisition Time
1	10	Jan 15 17:06 2014	Jan 15 16:58 2014	15 Jan 2014 10:16
2	20	Jan 15 17:06 2014	Jan 15 16:58 2014	15 Jan 2014 10:43
3	50	Jan 15 17:06 2014	Jan 15 16:58 2014	15 Jan 2014 11:11
4	100	Jan 15 17:06 2014	Jan 15 16:58 2014	15 Jan 2014 11:39
5	500	Jan 15 17:06 2014	Jan 15 16:58 2014	15 Jan 2014 12:18
6	1000	Jan 15 17:06 2014	Jan 15 16:58 2014	15 Jan 2014 12:46
7	2500	Jan 15 17:06 2014	Jan 15 16:58 2014	15 Jan 2014 13:14
8	9999	Jan 15 17:06 2014	Jan 15 16:58 2014	15 Jan 2014 14:25
9	20K	Jan 15 17:06 2014	Jan 15 16:58 2014	15 Jan 2014 14:53
10	50K	Jan 15 17:06 2014	Jan 15 16:58 2014	15 Jan 2014 15:21

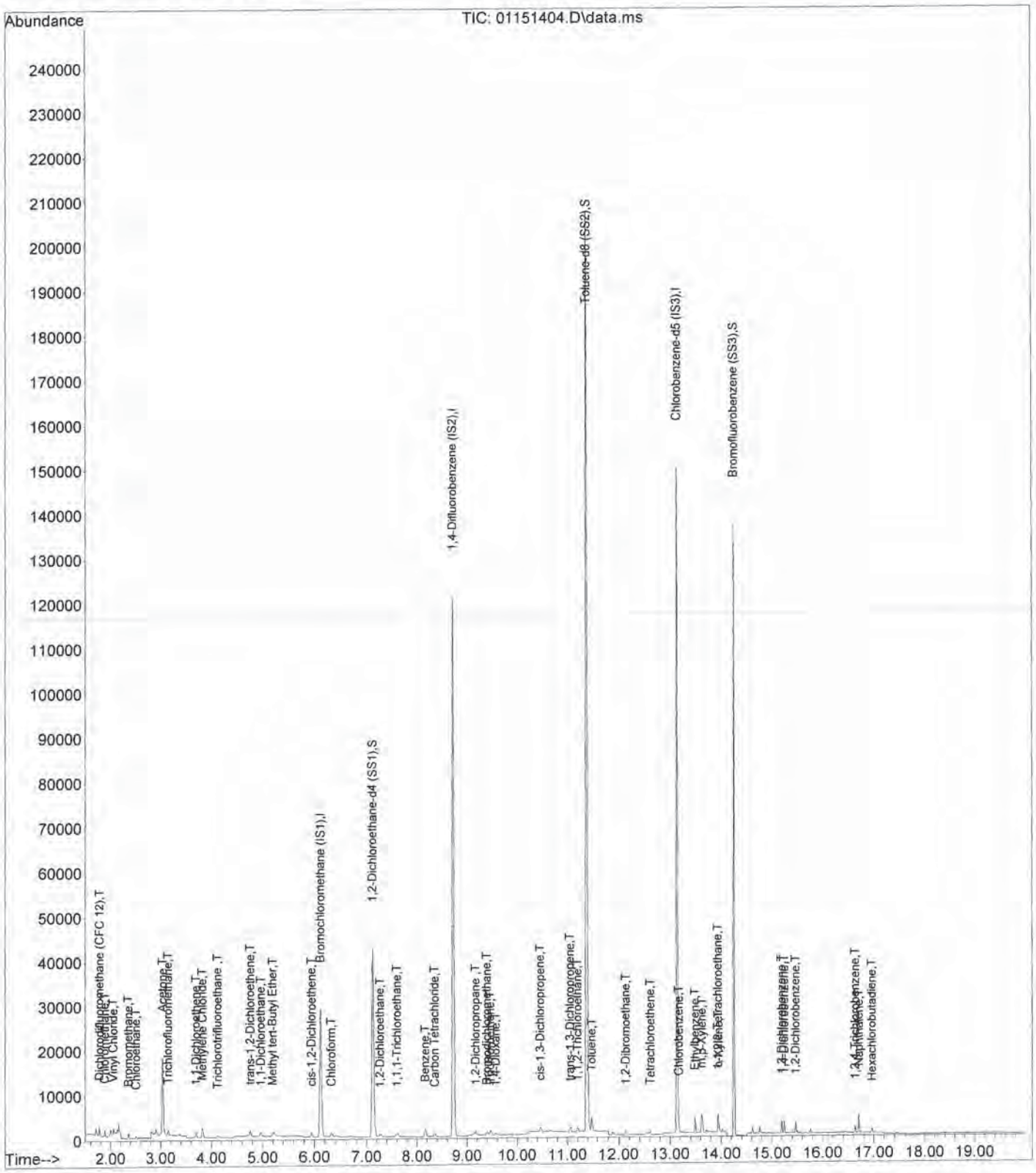
X19011514.M Wed Jan 15 17:07:37 2014

1/16/14

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151404.D Vial: 14
Acq On : 15 Jan 2014 10:16 Operator: SC
Sample : 10pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01061408 (2/14)

Quant Time: Jan 15 16:58:07 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:52 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151404.D Vial: 14
Acq On : 15 Jan 2014 10:16 Operator: SC
Sample : 10pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01061408 (2/14)

Quant Time: Jan 15 16:58:07 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:52 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

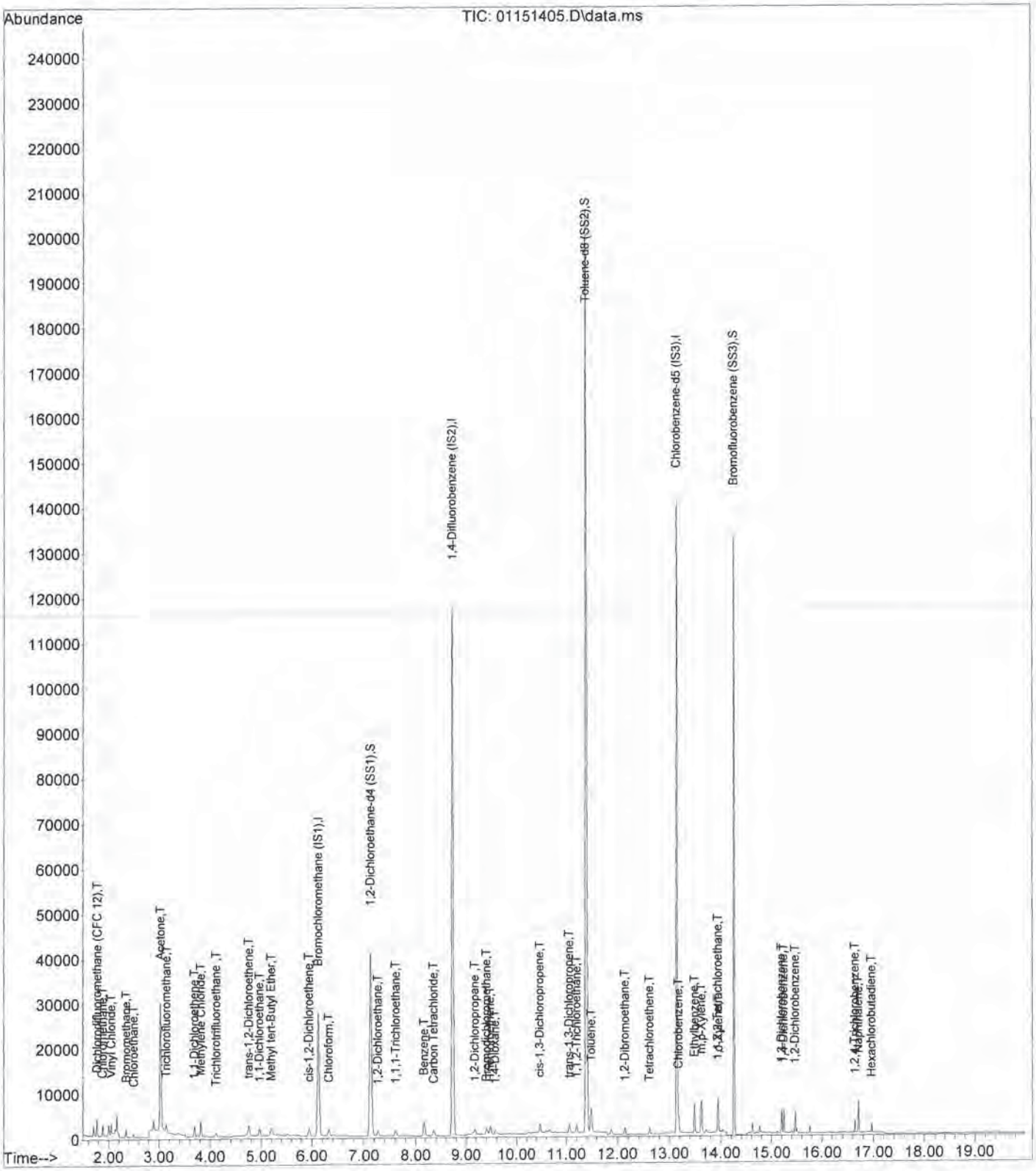
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	39226	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	220215	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	37815	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	72762	1025.61	pg		0.00
Spiked Amount 1000.000			Recovery = 102.56%				
30) Toluene-d8 (SS2)	11.39	98	235918	1000.66	pg		0.00
Spiked Amount 1000.000			Recovery = 100.07%				
40) Bromofluorobenzene (SS3)	14.25	174	79798	1031.19	pg		0.00
Spiked Amount 1000.000			Recovery = 103.12%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.78	85	1388	11.14	pg		100
3) Chloromethane	1.89	52	398	12.22	pg		95
4) Vinyl Chloride	2.06	62	1043	10.86	pg		97
5) Bromomethane	2.36	94	775	15.79	pg		90
6) Chloroethane	2.51	64	491	11.18	pg	#	42
7) Acetone	3.04	58	8839	246.44	pg	#	83
8) Trichlorofluoromethane	3.15	101	1043	10.74	pg		98
9) 1,1-Dichloroethene	3.69	96	703	11.98	pg		95
10) Methylene Chloride	3.82	84	1389	22.13	pg		98
11) Trichlorotrifluoroethane	4.13	151	598	12.32	pg		99
12) trans-1,2-Dichloroethene	4.76	96	717	11.94	pg		97
13) 1,1-Dichloroethane	4.96	63	1279	11.78	pg		95
14) Methyl tert-Butyl Ether	5.20	73	2340	12.10	pg		94
15) cis-1,2-Dichloroethene	5.95	96	782	12.66	pg		98
16) Chloroform	6.32	83	1257	12.11	pg		99
18) 1,2-Dichloroethane	7.27	62	974	11.71	pg		99
19) 1,1,1-Trichloroethane	7.61	97	1113	11.55	pg		99
20) Benzene	8.17	78	3331	14.09	pg		99
21) Carbon Tetrachloride	8.36	117	861	10.76	pg		99
23) 1,2-Dichloropropane	9.18	63	749	11.83	pg		98
24) Bromodichloromethane	9.40	83	975	11.78	pg		100
25) Trichloroethene	9.47	130	727	11.61	pg		100
26) 1,4-Dioxane	9.57	88	628	12.45	pg	#	62
27) cis-1,3-Dichloropropene	10.47	75	1111	11.09	pg		90
28) trans-1,3-Dichloropropene	11.05	75	1053	11.42	pg		98
29) 1,1,2-Trichloroethane	11.20	83	603	11.99	pg		99
31) Toluene	11.49	91	3338	13.08	pg		99
32) 1,2-Dibromoethane	12.13	107	760	11.93	pg		98
33) Tetrachloroethene	12.62	166	729	10.76	pg	#	99
35) Chlorobenzene	13.18	112	1935	12.74	pg		96
36) Ethylbenzene	13.49	91	3455	12.70	pg		100
37) m,p-Xylene	13.62	91	5595	24.36	pg		100
38) o-Xylene	13.95	106	1252	11.77	pg		90
39) 1,1,2,2-Tetrachloroethane	13.94	83	1212	11.33	pg		90
41) 1,3-Dichlorobenzene	15.20	146	1555	12.43	pg		99
42) 1,4-Dichlorobenzene	15.25	146	1565	12.22	pg		99
43) 1,2-Dichlorobenzene	15.47	146	1478	12.35	pg		100
44) 1,2,4-Trichlorobenzene	16.64	182	1111	13.14	pg		100
45) Naphthalene	16.70	128	4039	12.79	pg		97
46) Hexachlorobutadiene	16.97	225	618	12.38	pg		99

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151405.D Vial: 14
Acq On : 15 Jan 2014 10:43 Operator: SC
Sample : 20pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01061408 (2/14)

Quant Time: Jan 15 16:58:10 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151405.D Vial: 14
Acq On : 15 Jan 2014 10:43 Operator: SC
Sample : 20pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01061408 (2/14)

Quant Time: Jan 15 16:58:10 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	37763	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	213235	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	36796	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	70482	1031.96	pg		0.00
Spiked Amount 1000.000			Recovery = 103.20%				
30) Toluene-d8 (SS2)	11.39	98	228617	1001.43	pg		0.00
Spiked Amount 1000.000			Recovery = 100.14%				
40) Bromofluorobenzene (SS3)	14.25	174	77668	1031.46	pg		0.00
Spiked Amount 1000.000			Recovery = 103.15%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.77	85	2622	21.87	pg		100
3) Chloromethane	1.88	52	743	23.70	pg		97
4) Vinyl Chloride	2.05	62	1940	20.99	pg		99
5) Bromomethane	2.35	94	1170	24.76	pg		99
6) Chloroethane	2.50	64	890	21.06	pg		97
7) Acetone	3.03	58	14882	431.01	pg	#	81
8) Trichlorofluoromethane	3.14	101	1954	20.90	pg		97
9) 1,1-Dichloroethene	3.69	96	1199	21.22	pg		98
10) Methylene Chloride	3.82	84	1942	32.14	pg		100
11) Trichlorotrifluoroethane	4.12	151	1073	22.97	pg		98
12) trans-1,2-Dichloroethene	4.75	96	1315	22.75	pg		95
13) 1,1-Dichloroethane	4.96	63	2293	21.94	pg		100
14) Methyl tert-Butyl Ether	5.19	73	4185	22.47	pg		95
15) cis-1,2-Dichloroethene	5.94	96	1389	23.36	pg		99
16) Chloroform	6.32	83	2314	23.16	pg		100
18) 1,2-Dichloroethane	7.27	62	1803	22.52	pg		98
19) 1,1,1-Trichloroethane	7.61	97	2040	21.99	pg		100
20) Benzene	8.17	78	5782	25.40	pg		99
21) Carbon Tetrachloride	8.35	117	1607	20.87	pg		99
23) 1,2-Dichloropropane	9.18	63	1384	22.58	pg		99
24) Bromodichloromethane	9.40	83	1773	22.12	pg		97
25) Trichloroethene	9.47	130	1322	21.80	pg		98
26) 1,4-Dioxane	9.57	88	1162	23.80	pg	#	63
27) cis-1,3-Dichloropropene	10.47	75	2053	21.17	pg		93
28) trans-1,3-Dichloropropene	11.06	75	1907	21.36	pg		99
29) 1,1,2-Trichloroethane	11.20	83	1077	22.11	pg		100
31) Toluene	11.49	91	5729	23.18	pg		100
32) 1,2-Dibromoethane	12.13	107	1395	22.62	pg		99
33) Tetrachloroethene	12.61	166	1311	19.98	pg	#	99
35) Chlorobenzene	13.17	112	3501	23.69	pg		97
36) Ethylbenzene	13.49	91	6237	23.56	pg		100
37) m,p-Xylene	13.62	91	9960	44.56	pg		100
38) o-Xylene	13.95	106	2280	22.03	pg		98
39) 1,1,2,2-Tetrachloroethane	13.94	83	2222	21.34	pg		94
41) 1,3-Dichlorobenzene	15.20	146	2839	23.32	pg		99
42) 1,4-Dichlorobenzene	15.25	146	2836	22.75	pg		100
43) 1,2-Dichlorobenzene	15.47	146	2695	23.13	pg		100
44) 1,2,4-Trichlorobenzene	16.64	182	1976	24.03	pg		99
45) Naphthalene	16.70	128	6785	22.09	pg		99
46) Hexachlorobutadiene	16.96	225	1144	23.55	pg		100

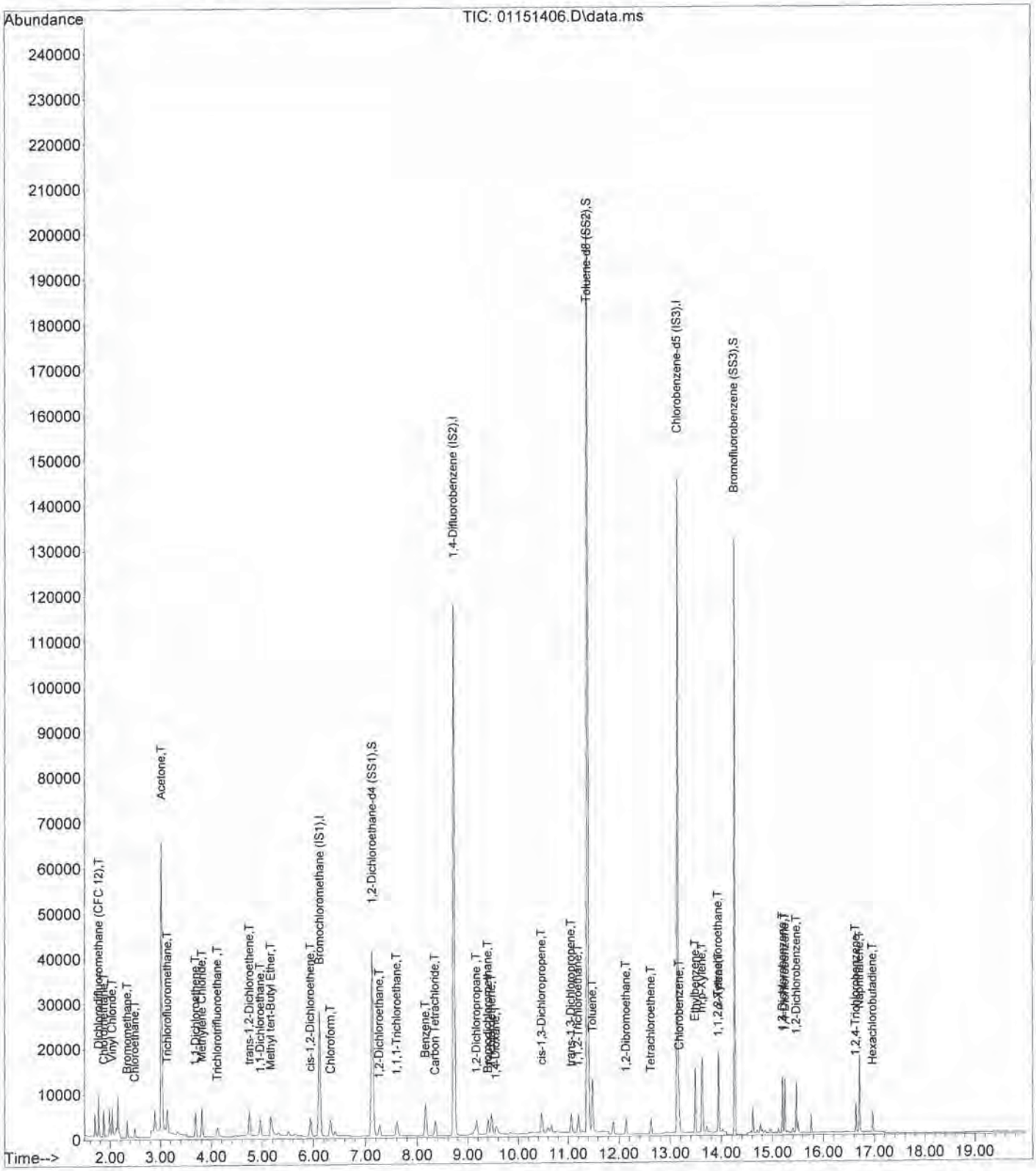
(#) = qualifier out of range (m) = manual integration (+) = signals summed

EC 1/16/14

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151406.D Vial: 14
Acq On : 15 Jan 2014 11:11 Operator: SC
Sample : 50pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01061408 (2/14)

Quant Time: Jan 15 16:58:12 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151406.D Vial: 14
Acq On : 15 Jan 2014 11:11 Operator: SC
Sample : 50pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01061408 (2/14)

Quant Time: Jan 15 16:58:12 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

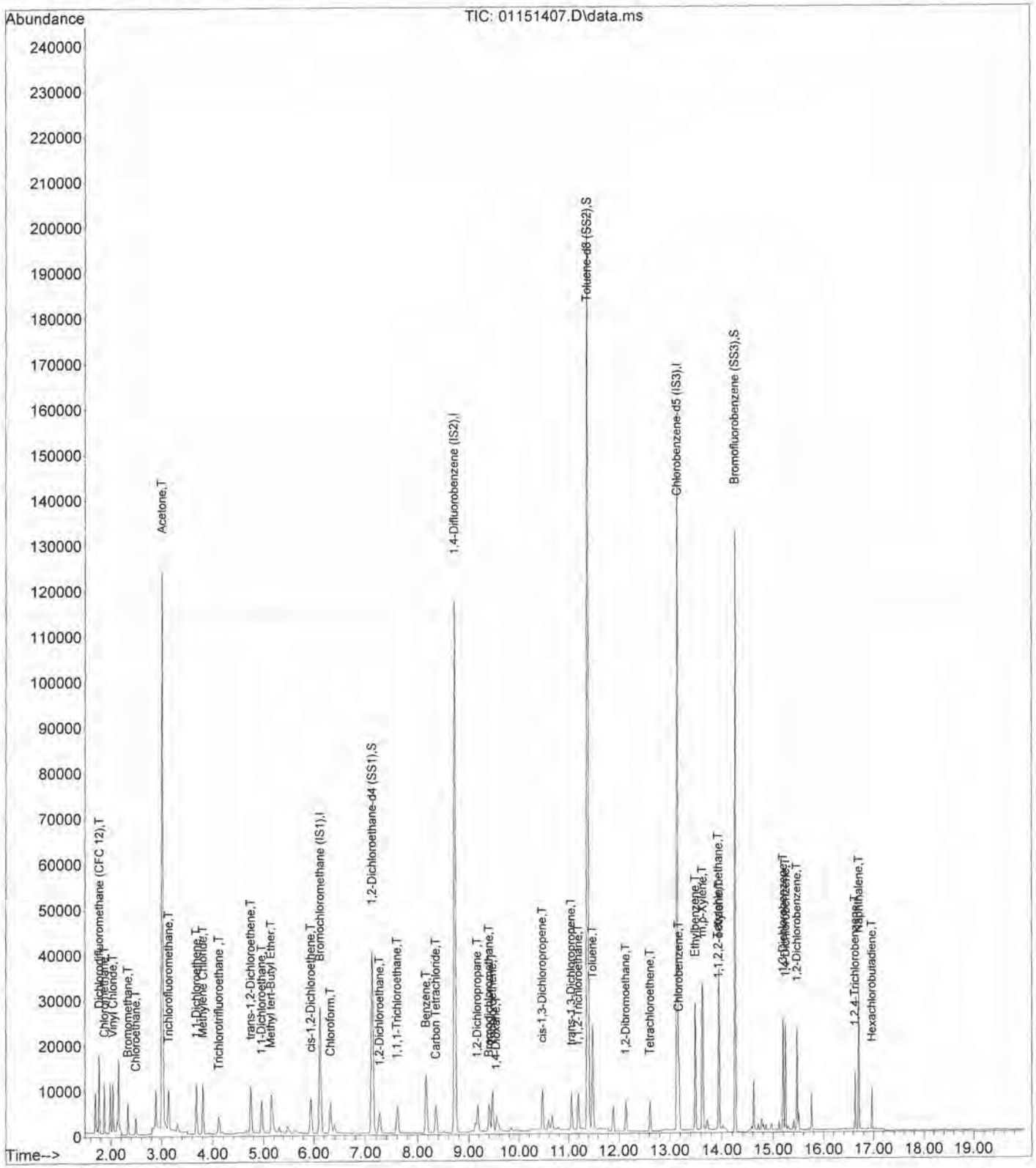
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	38058	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	213034	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	36884	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	70352	1022.07	pg		0.00
Spiked Amount 1000.000			Recovery =	102.21%			
30) Toluene-d8 (SS2)	11.39	98	228449	1001.64	pg		0.00
Spiked Amount 1000.000			Recovery =	100.16%			
40) Bromofluorobenzene (SS3)	14.25	174	77949	1032.72	pg		0.00
Spiked Amount 1000.000			Recovery =	103.27%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.77	85	6111	50.57	pg		100
3) Chloromethane	1.87	52	1619	51.25	pg		99
4) Vinyl Chloride	2.04	62	4580	49.17	pg		99
5) Bromomethane	2.34	94	2425	50.92	pg		98
6) Chloroethane	2.50	64	2115	49.66	pg		100
7) Acetone	3.01	58	31472	904.42	pg	#	83
8) Trichlorofluoromethane	3.14	101	4687	49.75	pg		99
9) 1,1-Dichloroethene	3.69	96	2885	50.67	pg		99
10) Methylene Chloride	3.81	84	3661	60.13	pg		100
11) Trichlorotrifluoroethane	4.12	151	2549	54.14	pg		98
12) trans-1,2-Dichloroethene	4.75	96	2949	50.63	pg		95
13) 1,1-Dichloroethane	4.96	63	5455	51.80	pg		100
14) Methyl tert-Butyl Ether	5.17	73	9800	52.22	pg		97
15) cis-1,2-Dichloroethene	5.94	96	3228	53.88	pg		99
16) Chloroform	6.32	83	5348	53.10	pg		100
18) 1,2-Dichloroethane	7.27	62	4254	52.72	pg		100
19) 1,1,1-Trichloroethane	7.61	97	4819	51.54	pg		100
20) Benzene	8.16	78	12931	56.37	pg		100
21) Carbon Tetrachloride	8.35	117	3916	50.46	pg		100
23) 1,2-Dichloropropane	9.17	63	3215	52.51	pg		99
24) Bromodichloromethane	9.40	83	4157	51.91	pg		99
25) Trichloroethene	9.47	130	3060	50.51	pg		100
26) 1,4-Dioxane	9.56	88	2699	55.33	pg	#	64
27) cis-1,3-Dichloropropene	10.47	75	4821	49.76	pg		99
28) trans-1,3-Dichloropropene	11.05	75	4433	49.70	pg		100
29) 1,1,2-Trichloroethane	11.19	83	2521	51.80	pg		99
31) Toluene	11.49	91	13049	52.85	pg		100
32) 1,2-Dibromoethane	12.13	107	3178	51.58	pg		99
33) Tetrachloroethene	12.62	166	3072	46.86	pg	#	100
35) Chlorobenzene	13.18	112	8090	54.62	pg		99
36) Ethylbenzene	13.49	91	14412	54.31	pg		100
37) m,p-Xylene	13.62	91	23117	103.19	pg		100
38) o-Xylene	13.95	106	5301	51.10	pg		98
39) 1,1,2,2-Tetrachloroethane	13.93	83	5260	50.39	pg		99
41) 1,3-Dichlorobenzene	15.20	146	6643	54.43	pg		99
42) 1,4-Dichlorobenzene	15.24	146	6652	53.24	pg		99
43) 1,2-Dichlorobenzene	15.47	146	6349	54.37	pg		100
44) 1,2,4-Trichlorobenzene	16.63	182	4633	56.20	pg		100
45) Naphthalene	16.70	128	15446	50.16	pg		99
46) Hexachlorobutadiene	16.96	225	2690	55.24	pg		100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151407.D Vial: 14
Acq On : 15 Jan 2014 11:39 Operator: SC
Sample : 100pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01061408 (2/14)

Quant Time: Jan 15 16:58:14 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151407.D Vial: 14
Acq On : 15 Jan 2014 11:39 Operator: SC
Sample : 100pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01061408 (2/14)

Quant Time: Jan 15 16:58:14 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	37740	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.72	114	212380	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	37128	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	68595	1004.95	pg		0.00
Spiked Amount 1000.000			Recovery = 100.50%				
30) Toluene-d8 (SS2)	11.39	98	229038	1007.32	pg		0.00
Spiked Amount 1000.000			Recovery = 100.73%				
40) Bromofluorobenzene (SS3)	14.25	174	78478	1032.90	pg		0.00
Spiked Amount 1000.000			Recovery = 103.29%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.77	85	11861	98.97	pg		100
3) Chloromethane	1.87	52	2982	95.19	pg		100
4) Vinyl Chloride	2.04	62	8888	96.22	pg		99
5) Bromomethane	2.34	94	4471	94.67	pg		99
6) Chloroethane	2.49	64	4032	95.46	pg		100
7) Acetone	3.01	58	58616	1698.65	pg	#	80
8) Trichlorofluoromethane	3.14	101	9010	96.43	pg		100
9) 1,1-Dichloroethene	3.68	96	5656	100.18	pg		99
10) Methylene Chloride	3.81	84	6571	108.83	pg		100
11) Trichlorotrifluoroethane	4.12	151	4962	106.27	pg		100
12) trans-1,2-Dichloroethene	4.75	96	5840	101.12	pg		99
13) 1,1-Dichloroethane	4.96	63	10629	101.78	pg		97
14) Methyl tert-Butyl Ether	5.15	73	19111	102.69	pg		98
15) cis-1,2-Dichloroethene	5.94	96	6155	103.59	pg		100
16) Chloroform	6.32	83	10300	103.14	pg		100
18) 1,2-Dichloroethane	7.27	62	8269	103.34	pg		100
19) 1,1,1-Trichloroethane	7.61	97	9347	100.81	pg		100
20) Benzene	8.16	78	24497	107.69	pg		100
21) Carbon Tetrachloride	8.35	117	7630	99.14	pg		99
23) 1,2-Dichloropropane	9.17	63	6212	101.77	pg		100
24) Bromodichloromethane	9.40	83	8076	101.16	pg		100
25) Trichloroethene	9.47	130	5940	98.34	pg		100
26) 1,4-Dioxane	9.54	88	5237	107.69	pg	#	61
27) cis-1,3-Dichloropropene	10.47	75	9356	96.87	pg		99
28) trans-1,3-Dichloropropene	11.06	75	8596	96.67	pg		100
29) 1,1,2-Trichloroethane	11.20	83	4904	101.08	pg		100
31) Toluene	11.49	91	25026	101.67	pg		100
32) 1,2-Dibromoethane	12.13	107	6203	100.98	pg		100
33) Tetrachloroethene	12.61	166	5995	91.72	pg	#	100
35) Chlorobenzene	13.17	112	15674	105.13	pg		99
36) Ethylbenzene	13.49	91	28096	105.17	pg		100
37) m,p-Xylene	13.63	91	44845	198.86	pg		100
38) o-Xylene	13.95	106	10336	98.98	pg		98
39) 1,1,2,2-Tetrachloroethane	13.94	83	10362	98.62	pg		99
41) 1,3-Dichlorobenzene	15.20	146	12985	105.69	pg		100
42) 1,4-Dichlorobenzene	15.25	146	13012	103.45	pg		100
43) 1,2-Dichlorobenzene	15.47	146	12451	105.93	pg		100
44) 1,2,4-Trichlorobenzene	16.63	182	9018	108.67	pg		100
45) Naphthalene	16.70	128	30070	97.00	pg		100
46) Hexachlorobutadiene	16.97	225	5280	107.72	pg		99

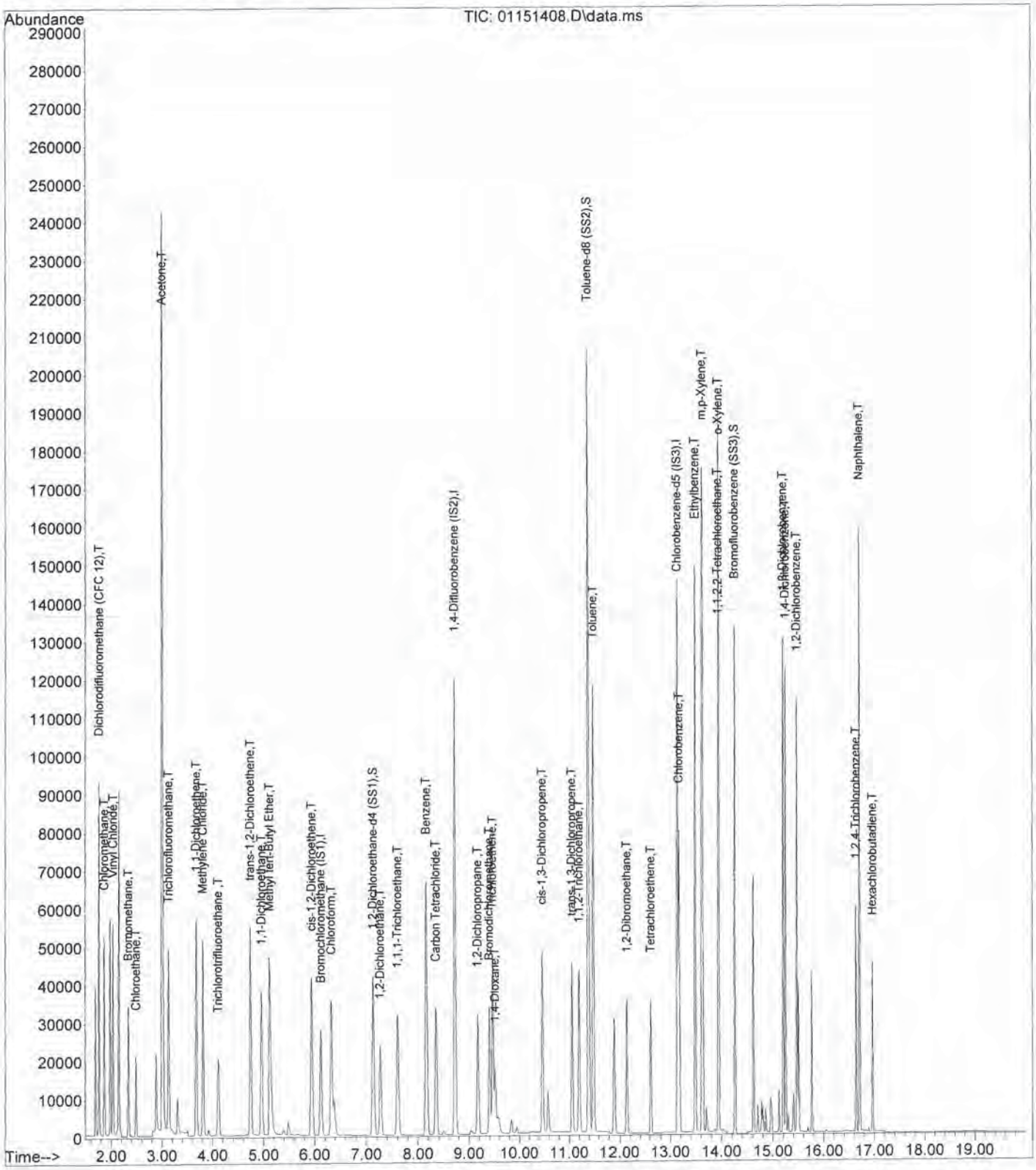
(#) = qualifier out of range (m) = manual integration (+) = signals summed

C. 1/16/14

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151408.D Vial: 15
Acq On : 15 Jan 2014 12:18 Operator: SC
Sample : 500pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021411 (1/31)

Quant Time: Jan 15 16:58:16 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151408.D Vial: 15
Acq On : 15 Jan 2014 12:18 Operator: SC
Sample : 500pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021411 (1/31)

Quant Time: Jan 15 16:58:16 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

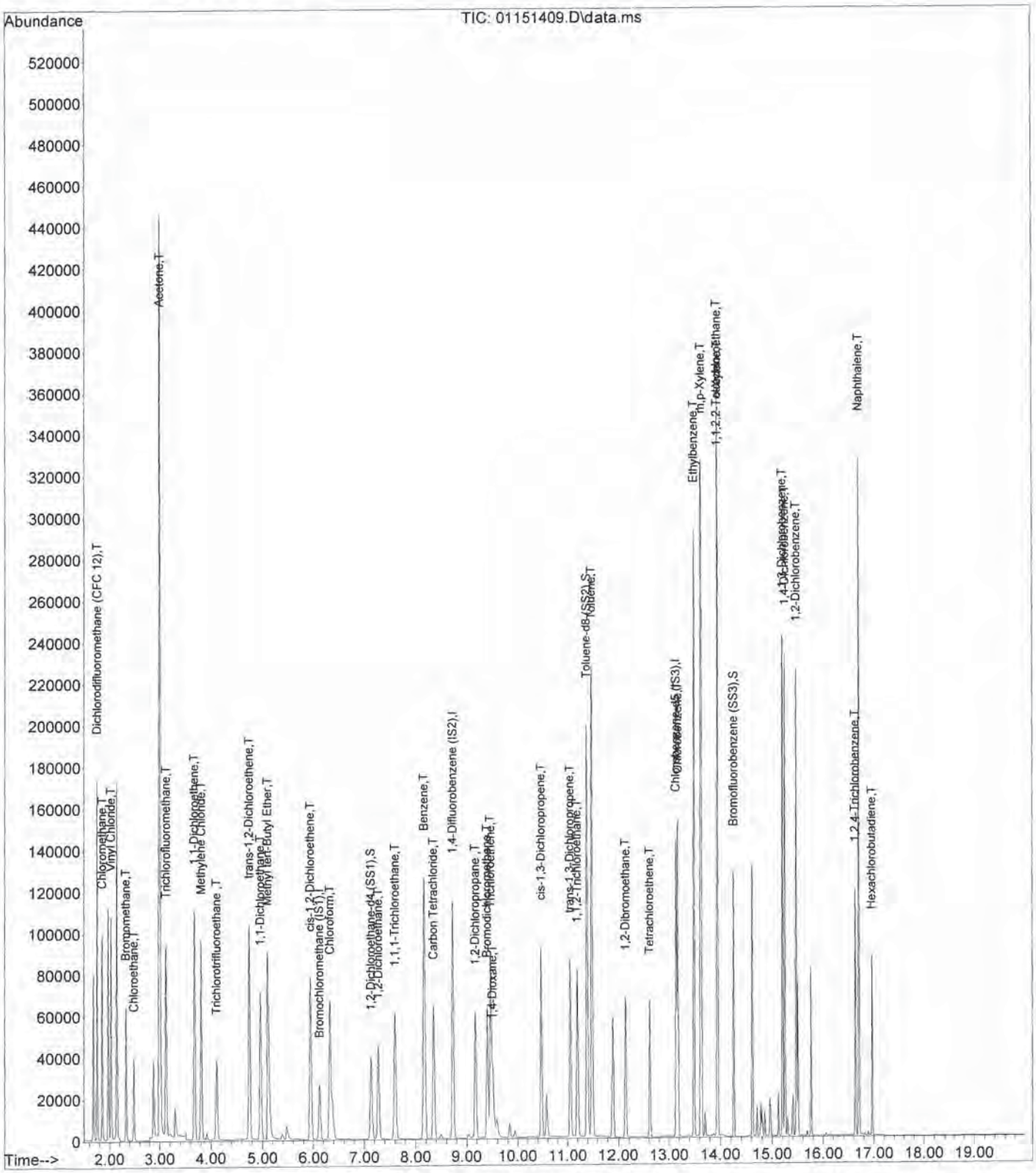
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	38690	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	216183	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	37606	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	72276	1032.87	pg		0.00
Spiked Amount 1000.000			Recovery = 103.29%				
30) Toluene-d8 (SS2)	11.39	98	230748	996.99	pg		0.00
Spiked Amount 1000.000			Recovery = 99.70%				
40) Bromofluorobenzene (SS3)	14.25	174	79182	1028.92	pg		0.00
Spiked Amount 1000.000			Recovery = 102.89%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.76	85	62848	511.56	pg		100
3) Chloromethane	1.86	52	14946	465.37	pg		100
4) Vinyl Chloride	2.04	62	46845	494.66	pg		100
5) Bromomethane	2.34	94	23238	479.97	pg		100
6) Chloroethane	2.49	64	21318	492.32	pg		100
7) Acetone	3.00	58	100134	2830.57	pg		100
8) Trichlorofluoromethane	3.13	101	49027	511.85	pg		100
9) 1,1-Dichloroethene	3.68	96	29784	514.60	pg		100
10) Methylene Chloride	3.81	84	31457	508.19	pg		100
11) Trichlorotrifluoroethane	4.11	151	26114	545.56	pg		100
12) trans-1,2-Dichloroethene	4.74	96	30919	522.20	pg		100
13) 1,1-Dichloroethane	4.96	63	57193	534.24	pg		100
14) Methyl tert-Butyl Ether	5.11	73	101600	532.53	pg		100
15) cis-1,2-Dichloroethene	5.94	96	33139	544.05	pg		100
16) Chloroform	6.32	83	55217	539.33	pg		100
18) 1,2-Dichloroethane	7.27	62	44295	539.97	pg		100
19) 1,1,1-Trichloroethane	7.60	97	49859	524.54	pg		100
20) Benzene	8.16	78	125142	536.63	pg		100
21) Carbon Tetrachloride	8.35	117	42096	533.54	pg		100
23) 1,2-Dichloropropane	9.17	63	33133	533.29	pg		100
24) Bromodichloromethane	9.40	83	43460	534.82	pg		100
25) Trichloroethene	9.47	130	31502	512.38	pg		100
26) 1,4-Dioxane	9.51	88	26508	535.49	pg		100
27) cis-1,3-Dichloropropene	10.47	75	49755	506.08	pg		100
28) trans-1,3-Dichloropropene	11.06	75	45335	500.89	pg		100
29) 1,1,2-Trichloroethane	11.20	83	26012	526.73	pg		100
31) Toluene	11.49	91	130067	519.13	pg		100
32) 1,2-Dibromoethane	12.13	107	33023	528.13	pg		100
33) Tetrachloroethene	12.61	166	31957	480.35	pg	#	100
35) Chlorobenzene	13.17	112	82802	548.32	pg		100
36) Ethylbenzene	13.49	91	149023	550.76	pg		100
37) m,p-Xylene	13.63	91	237900	1041.52	pg		100
38) o-Xylene	13.95	106	54827	518.37	pg		100
39) 1,1,2,2-Tetrachloroethane	13.94	83	54810	515.00	pg		100
41) 1,3-Dichlorobenzene	15.20	146	67538	542.73	pg		100
42) 1,4-Dichlorobenzene	15.24	146	66202	519.63	pg		100
43) 1,2-Dichlorobenzene	15.47	146	64129	538.64	pg		100
44) 1,2,4-Trichlorobenzene	16.64	182	43091	512.65	pg		100
45) Naphthalene	16.70	128	147509	469.80	pg		100
46) Hexachlorobutadiene	16.97	225	26490	533.56	pg		100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151409.D Vial: 15
Acq On : 15 Jan 2014 12:46 Operator: SC
Sample : 1000pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021411 (1/31)

Quant Time: Jan 15 16:58:18 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151409.D Vial: 15
Acq On : 15 Jan 2014 12:46 Operator: SC
Sample : 1000pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021411 (1/31)

Quant Time: Jan 15 16:58:18 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

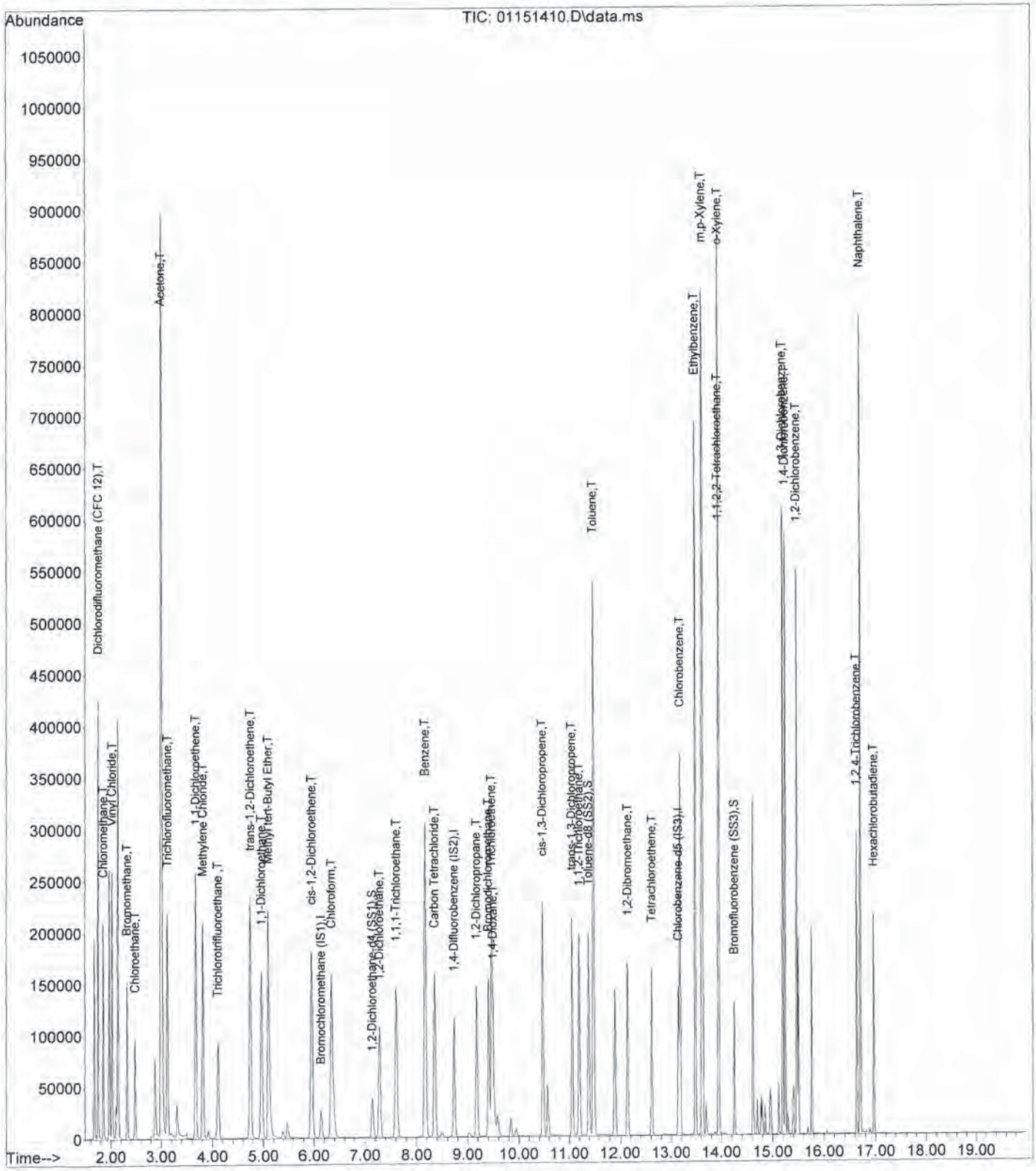
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	37060	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	205307	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	36116	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	68308	1019.10	pg		0.00
Spiked Amount 1000.000			Recovery = 101.91%				
30) Toluene-d8 (SS2)	11.39	98	219758	999.80	pg		0.00
Spiked Amount 1000.000			Recovery = 99.98%				
40) Bromofluorobenzene (SS3)	14.25	174	75823	1025.92	pg		0.00
Spiked Amount 1000.000			Recovery = 102.59%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.75	85	119511	1015.56	pg		100
3) Chloromethane	1.85	52	28180	916.02	pg		100
4) Vinyl Chloride	2.03	62	89709	988.95	pg		100
5) Bromomethane	2.33	94	44008	948.94	pg		100
6) Chloroethane	2.48	64	40511	976.71	pg		100
7) Acetone	3.00	58	187063	5520.43	pg		100
8) Trichlorofluoromethane	3.13	101	94324	1028.07	pg		99
9) 1,1-Dichloroethene	3.67	96	57456	1036.38	pg		100
10) Methylene Chloride	3.81	84	59670	1006.37	pg		100
11) Trichlorotrifluoroethane	4.11	151	49762	1085.33	pg		100
12) trans-1,2-Dichloroethene	4.74	96	58805	1036.86	pg		99
13) 1,1-Dichloroethane	4.96	63	108672	1059.75	pg		100
14) Methyl tert-Butyl Ether	5.10	73	193497	1058.82	pg		100
15) cis-1,2-Dichloroethene	5.94	96	63295	1084.84	pg		100
16) Chloroform	6.33	83	104590	1066.51	pg		100
18) 1,2-Dichloroethane	7.28	62	84419	1074.35	pg		100
19) 1,1,1-Trichloroethane	7.60	97	95082	1044.29	pg		100
20) Benzene	8.16	78	238024	1065.57	pg		100
21) Carbon Tetrachloride	8.35	117	80833	1069.57	pg		100
23) 1,2-Dichloropropane	9.17	63	62973	1067.27	pg		100
24) Bromodichloromethane	9.40	83	83372	1080.32	pg		100
25) Trichloroethene	9.47	130	59903	1025.93	pg		100
26) 1,4-Dioxane	9.51	88	45071	958.71	pg		96
27) cis-1,3-Dichloropropene	10.47	75	95450	1022.29	pg		100
28) trans-1,3-Dichloropropene	11.05	75	87746	1020.82	pg		100
29) 1,1,2-Trichloroethane	11.19	83	49767	1061.14	pg		100
31) Toluene	11.49	91	248036	1042.41	pg		100
32) 1,2-Dibromoethane	12.13	107	63362	1067.02	pg		100
33) Tetrachloroethene	12.61	166	60644	959.83	pg	#	100
35) Chlorobenzene	13.18	112	159623	1100.63	pg		100
36) Ethylbenzene	13.49	91	286307	1101.79	pg		100
37) m,p-Xylene	13.63	91	458109	2088.32	pg		100
38) o-Xylene	13.95	106	105912	1042.68	pg		100
39) 1,1,2,2-Tetrachloroethane	13.94	83	105907	1036.16	pg		100
41) 1,3-Dichlorobenzene	15.20	146	130295	1090.23	pg		100
42) 1,4-Dichlorobenzene	15.25	146	128756	1052.33	pg		100
43) 1,2-Dichlorobenzene	15.47	146	124063	1085.04	pg		100
44) 1,2,4-Trichlorobenzene	16.63	182	84279	1044.03	pg		100
45) Naphthalene	16.70	128	291493	966.67	pg		100
46) Hexachlorobutadiene	16.96	225	50904	1067.61	pg		100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151410.D Vial: 15
Acq On : 15 Jan 2014 13:14 Operator: SC
Sample : 2500pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021411 (1/31)

Quant Time: Jan 15 16:58:20 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\0115141O.D Vial: 15
Acq On : 15 Jan 2014 13:14 Operator: SC
Sample : 2500pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021411 (1/31)

Quant Time: Jan 15 16:58:20 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

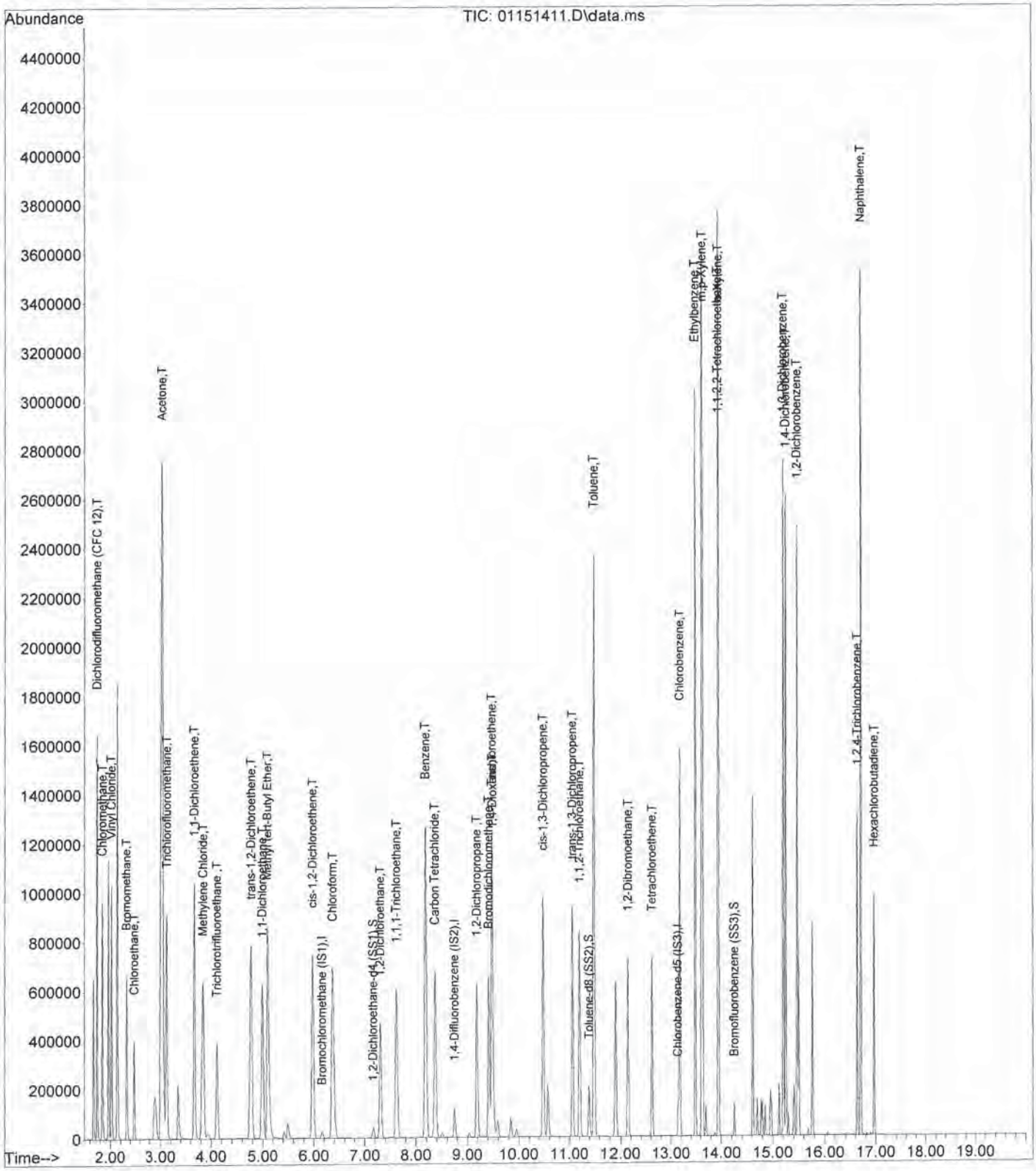
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.13	130	37978	1000.00	pg		0.02
22) 1,4-Difluorobenzene (IS2)	8.73	114	209144	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	36455	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.14	65	67003	975.47	pg		0.01
Spiked Amount 1000.000			Recovery =	97.55%			
30) Toluene-d8 (SS2)	11.39	98	223368	997.58	pg		0.00
Spiked Amount 1000.000			Recovery =	99.76%			
40) Bromofluorobenzene (SS3)	14.25	174	76457	1024.88	pg		0.00
Spiked Amount 1000.000			Recovery =	102.49%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.74	85	290714	2410.66	pg		100
3) Chloromethane	1.85	52	61687	1956.74	pg		100
4) Vinyl Chloride	2.02	62	217934	2344.43	pg		100
5) Bromomethane	2.32	94	105237	2214.36	pg		100
6) Chloroethane	2.48	64	99174	2333.27	pg		100
7) Acetone	3.00	58	450389	12970.19	pg		99
8) Trichlorofluoromethane	3.12	101	228694	2432.37	pg		100
9) 1,1-Dichloroethene	3.67	96	139132	2448.97	pg		100
10) Methylene Chloride	3.81	84	144816	2383.38	pg		100
11) Trichlorotrifluoroethane	4.11	151	120602	2566.79	pg		100
12) trans-1,2-Dichloroethene	4.75	96	143840	2474.92	pg		100
13) 1,1-Dichloroethane	4.97	63	263310	2505.70	pg		100
14) Methyl tert-Butyl Ether	5.09	73	473246	2527.01	pg		100
15) cis-1,2-Dichloroethene	5.95	96	153160	2561.62	pg		100
16) Chloroform	6.34	83	251602	2503.57	pg		100
18) 1,2-Dichloroethane	7.28	62	203290	2524.61	pg		100
19) 1,1,1-Trichloroethane	7.61	97	231876	2485.16	pg		100
20) Benzene	8.17	78	581117	2538.62	pg		100
21) Carbon Tetrachloride	8.35	117	199180	2571.80	pg		100
23) 1,2-Dichloropropane	9.18	63	153214	2549.03	pg		100
24) Bromodichloromethane	9.41	83	205151	2609.55	pg		100
25) Trichloroethene	9.47	130	147912	2486.74	pg		99
26) 1,4-Dioxane	9.50	88	123617	2581.22	pg		100
27) cis-1,3-Dichloropropene	10.47	75	235748	2478.59	pg		100
28) trans-1,3-Dichloropropene	11.06	75	217830	2487.70	pg		100
29) 1,1,2-Trichloroethane	11.20	83	121156	2535.91	pg		100
31) Toluene	11.49	91	605462	2497.88	pg		100
32) 1,2-Dibromoethane	12.14	107	155525	2571.01	pg		100
33) Tetrachloroethene	12.62	166	149010	2315.16	pg	#	100
35) Chlorobenzene	13.18	112	385940	2636.39	pg		100
36) Ethylbenzene	13.49	91	696804	2656.57	pg		100
37) m,p-Xylene	13.63	91	1119329	5055.09	pg		99
38) o-Xylene	13.95	106	259038	2526.46	pg		99
39) 1,1,2,2-Tetrachloroethane	13.94	83	260300	2523.02	pg		100
41) 1,3-Dichlorobenzene	15.20	146	323131	2678.63	pg		100
42) 1,4-Dichlorobenzene	15.24	146	317875	2573.85	pg		100
43) 1,2-Dichlorobenzene	15.47	146	305483	2646.87	pg		100
44) 1,2,4-Trichlorobenzene	16.63	182	207838	2550.72	pg		100
45) Naphthalene	16.70	128	720701	2367.81	pg		100
46) Hexachlorobutadiene	16.97	225	126168	2621.51	pg		100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151411.D Vial: 13
Acq On : 15 Jan 2014 14:25 Operator: SC
Sample : 10000pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021404 (1/31)

Quant Time: Jan 15 16:58:22 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151411.D Vial: 13
Acq On : 15 Jan 2014 14:25 Operator: SC
Sample : 10000pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021404 (1/31)

Quant Time: Jan 15 16:58:22 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

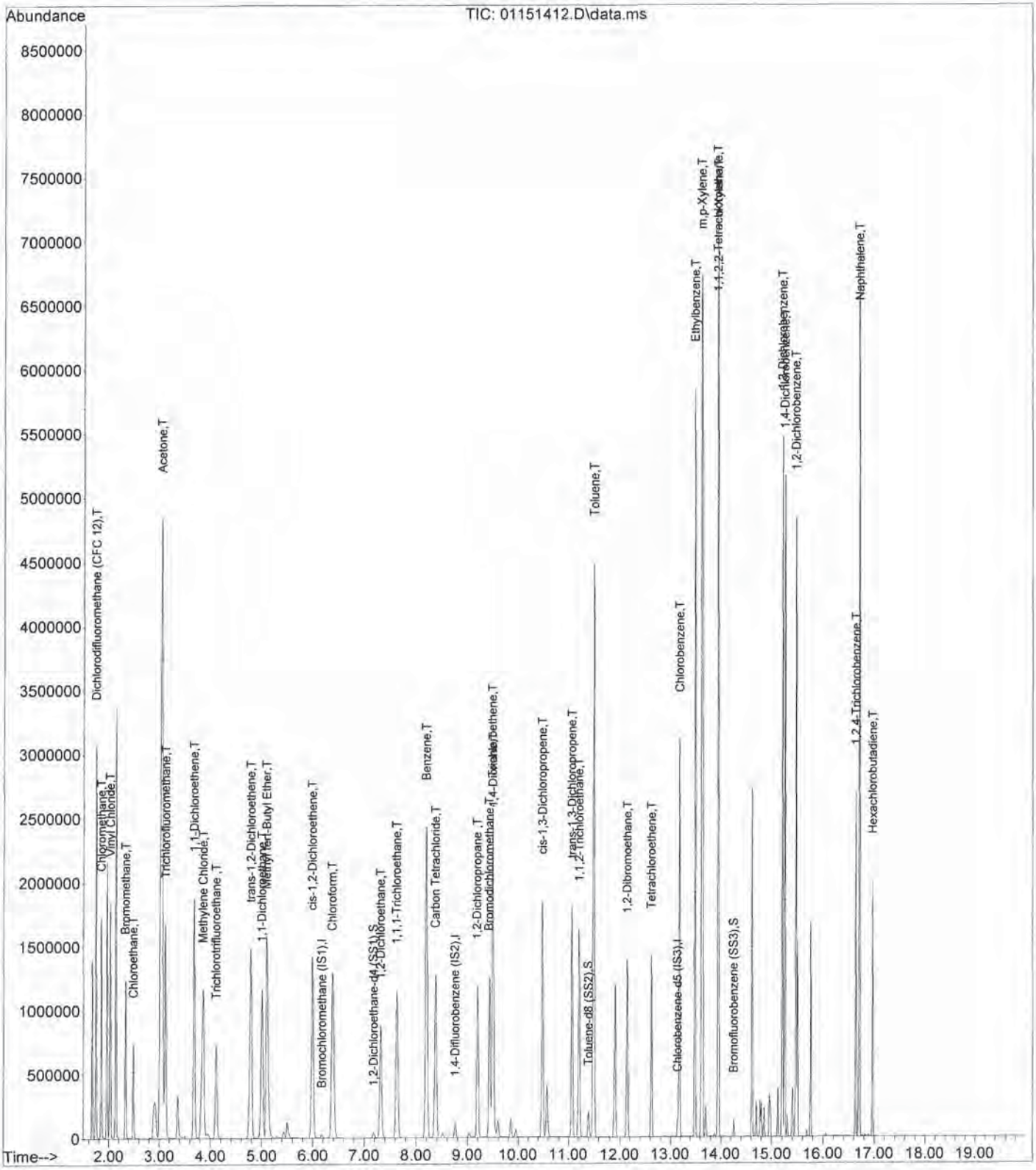
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.16	130	39948	1000.00	pg		0.04
22) 1,4-Difluorobenzene (IS2)	8.75	114	216508	1000.00	pg		0.02
34) Chlorobenzene-d5 (IS3)	13.14	54	38467	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.17	65	72501	1003.46	pg		0.04
Spiked Amount 1000.000			Recovery =	100.35%			
30) Toluene-d8 (SS2)	11.40	98	229464	989.95	pg		0.00
Spiked Amount 1000.000			Recovery =	99.00%			
40) Bromofluorobenzene (SS3)	14.25	174	77337	982.45	pg		0.00
Spiked Amount 1000.000			Recovery =	98.25%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.74	85	1221936	9632.87	pg		99
3) Chloromethane	1.85	52	294636	8885.10	pg		99
4) Vinyl Chloride	2.02	62	913674	9344.17	pg		100
5) Bromomethane	2.33	94	470381	9409.49	pg		100
6) Chloroethane	2.48	64	418380	9357.85	pg		100
7) Acetone	3.03	58	1923484	52660.41	pg		95
8) Trichlorofluoromethane	3.12	101	959622	9703.14	pg		100
9) 1,1-Dichloroethene	3.67	96	594107	9941.66	pg		99
10) Methylene Chloride	3.84	84	615732	9633.95	pg		99
11) Trichlorotrifluoroethane	4.11	151	516703	10454.76	pg		100
12) trans-1,2-Dichloroethene	4.77	96	620054	10142.55	pg		100
13) 1,1-Dichloroethane	4.99	63	1126821	10194.20	pg		100
14) Methyl tert-Butyl Ether	5.09	73	2009747	10202.30	pg		100
15) cis-1,2-Dichloroethene	5.98	96	660426	10501.01	pg		100
16) Chloroform	6.37	83	1097359	10380.83	pg		100
18) 1,2-Dichloroethane	7.31	62	874421	10323.72	pg		100
19) 1,1,1-Trichloroethane	7.62	97	988933	10076.32	pg		100
20) Benzene	8.18	78	2470884	10261.81	pg		100
21) Carbon Tetrachloride	8.37	117	866859	10640.87	pg		100
23) 1,2-Dichloropropane	9.19	63	649791	10442.91	pg		100
24) Bromodichloromethane	9.42	83	879265	10803.96	pg		100
25) Trichloroethene	9.48	130	637172	10347.98	pg		99
26) 1,4-Dioxane	9.49	88	533281	10756.60	pg		93
27) cis-1,3-Dichloropropene	10.48	75	1013994	10298.27	pg		99
28) trans-1,3-Dichloropropene	11.06	75	950767	10488.81	pg		100
29) 1,1,2-Trichloroethane	11.21	83	520810	10530.27	pg		99
31) Toluene	11.50	91	2571085	10246.42	pg		99
32) 1,2-Dibromoethane	12.14	107	671614	10724.93	pg		100
33) Tetrachloroethene	12.62	166	653275	9804.68	pg	#	100
35) Chlorobenzene	13.18	112	1664025	10772.56	pg		99
36) Ethylbenzene	13.49	91	2985393	10786.51	pg		99
37) m,p-Xylene	13.63	91	4841766	20722.59	pg		98
38) o-Xylene	13.95	106	1139305	10530.70	pg		96
39) 1,1,2,2-Tetrachloroethane	13.94	83	1128115	10362.59	pg		100
41) 1,3-Dichlorobenzene	15.20	146	1447672	11372.93	pg		100
42) 1,4-Dichlorobenzene	15.25	146	1420874	10903.12	pg		100
43) 1,2-Dichlorobenzene	15.47	146	1344333	11038.78	pg		100
44) 1,2,4-Trichlorobenzene	16.64	182	933828	10861.08	pg		100
45) Naphthalene	16.71	128	3278605	10208.20	pg		99
46) Hexachlorobutadiene	16.97	225	550411	10838.21	pg		100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151412.D Vial: 13
Acq On : 15 Jan 2014 14:53 Operator: SC
Sample : 20000pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021404 (1/31)

Quant Time: Jan 15 16:58:24 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151412.D Vial: 13
Acq On : 15 Jan 2014 14:53 Operator: SC
Sample : 20000pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021404 (1/31)

Quant Time: Jan 15 16:58:24 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

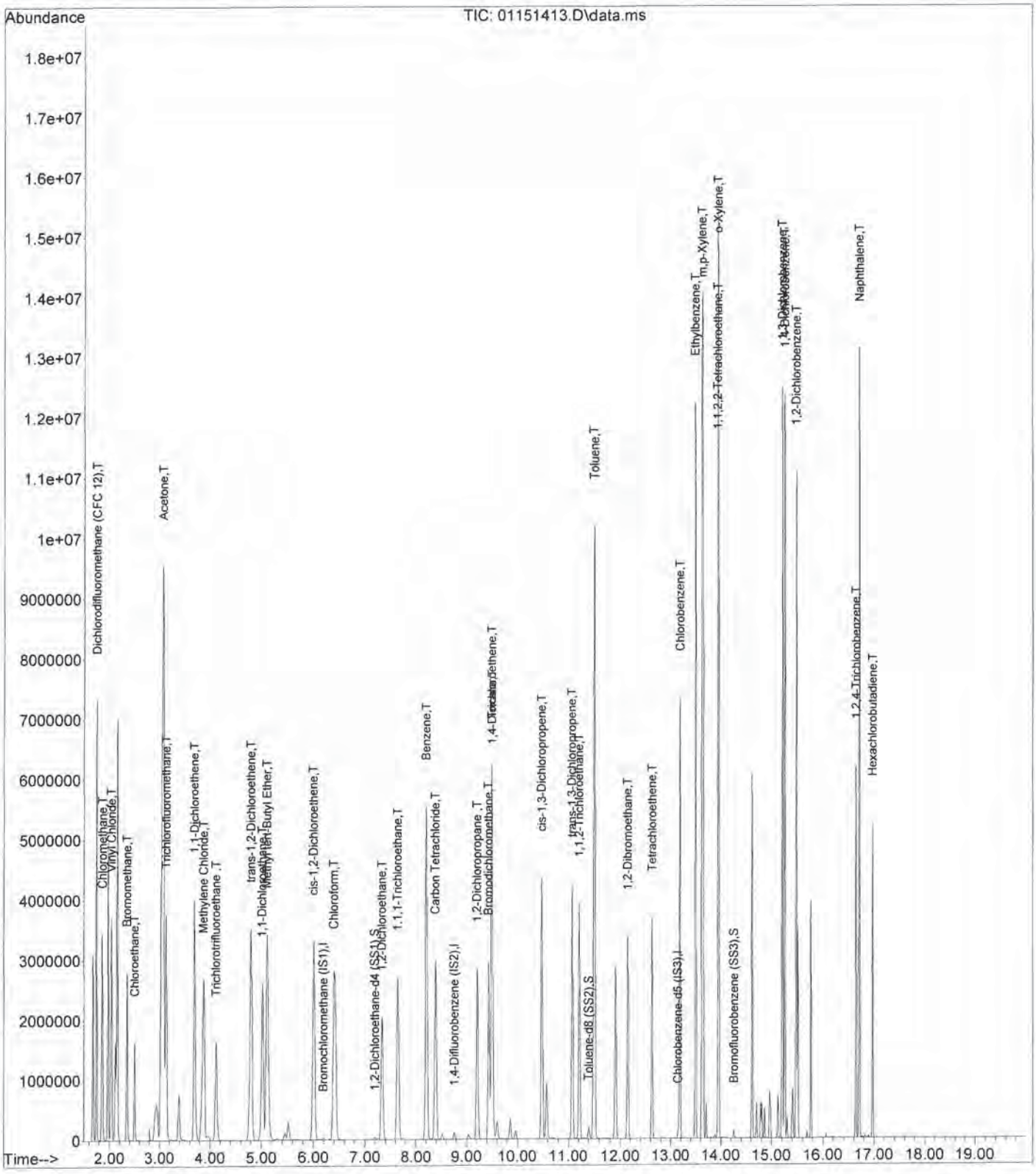
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.18	130	39059	1000.00	pg		0.06
22) 1,4-Difluorobenzene (IS2)	8.76	114	208857	1000.00	pg		0.03
34) Chlorobenzene-d5 (IS3)	13.14	54	39477	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.18	65	68512	969.83	pg		0.05
Spiked Amount 1000.000			Recovery =	96.98%			
30) Toluene-d8 (SS2)	11.40	98	223589	999.94	pg		0.00
Spiked Amount 1000.000			Recovery =	99.99%			
40) Bromofluorobenzene (SS3)	14.26	174	77390	957.97	pg		0.00
Spiked Amount 1000.000			Recovery =	95.80%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.74	85	2336532	18838.79	pg		99
3) Chloromethane	1.85	52	564600	17413.70	pg		98
4) Vinyl Chloride	2.02	62	1733363	18130.64	pg		99
5) Bromomethane	2.33	94	895529	18321.87	pg		100
6) Chloroethane	2.49	64	786545	17992.96	pg		100
7) Acetone	3.04	58	3709339	103864.25	pg		98
8) Trichlorofluoromethane	3.12	101	1811860	18737.46	pg		100
9) 1,1-Dichloroethene	3.68	96	1132346	19379.71	pg		98
10) Methylene Chloride	3.85	84	1177885	18849.06	pg		99
11) Trichlorotrifluoroethane	4.11	151	992938	20547.98	pg		100
12) trans-1,2-Dichloroethene	4.79	96	1189418	19898.77	pg		99
13) 1,1-Dichloroethane	5.01	63	2136161	19765.42	pg		100
14) Methyl tert-Butyl Ether	5.10	73	3844478	19960.34	pg		99
15) cis-1,2-Dichloroethene	5.99	96	1261460	20514.19	pg		99
16) Chloroform	6.38	83	2077796	20102.97	pg		100
18) 1,2-Dichloroethane	7.32	62	1651260	19939.07	pg		99
19) 1,1,1-Trichloroethane	7.63	97	1885086	19644.46	pg		100
20) Benzene	8.20	78	4719921	20048.43	pg		100
21) Carbon Tetrachloride	8.38	117	1668216	20943.78	pg		100
23) 1,2-Dichloropropane	9.19	63	1233607	20551.79	pg		100
24) Bromodichloromethane	9.42	83	1668794	21256.45	pg		100
25) Trichloroethene	9.49	130	1234452	20782.51	pg		99
26) 1,4-Dioxane	9.50	88	1028913	21514.06	pg		94
27) cis-1,3-Dichloropropene	10.48	75	1940079	20425.52	pg		98
28) trans-1,3-Dichloropropene	11.07	75	1829233	20919.25	pg		100
29) 1,1,2-Trichloroethane	11.21	83	996744	20891.47	pg		99
31) Toluene	11.50	91	4873796	20134.83	pg		99
32) 1,2-Dibromoethane	12.14	107	1289472	21345.75	pg		99
33) Tetrachloroethene	12.62	166	1283554	19969.92	pg	#	99
35) Chlorobenzene	13.18	112	3204011	20211.44	pg		99
36) Ethylbenzene	13.50	91	5658571	19921.89	pg		97
37) m,p-Xylene	13.63	91	9197570	38358.14	pg		95
38) o-Xylene	13.95	106	2232875	20110.63	pg		93
39) 1,1,2,2-Tetrachloroethane	13.94	83	2178633	19500.39	pg		99
41) 1,3-Dichlorobenzene	15.20	146	2876037	22016.13	pg		99
42) 1,4-Dichlorobenzene	15.25	146	2779834	20785.39	pg		99
43) 1,2-Dichlorobenzene	15.47	146	2610436	20886.78	pg		99
44) 1,2,4-Trichlorobenzene	16.64	182	1858257	21059.89	pg		100
45) Naphthalene	16.71	128	6256883	18982.88	pg		98
46) Hexachlorobutadiene	16.97	225	1100625	21118.07	pg		100

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

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151413.D Vial: 13
Acq On : 15 Jan 2014 15:21 Operator: SC
Sample : 50000pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021404 (1/31)

Quant Time: Jan 15 16:58:26 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151413.D Vial: 13
Acq On : 15 Jan 2014 15:21 Operator: SC
Sample : 50000pg SIM ICAL Std Inst : MS19
Misc : S29-12101301/S29-01021404 (1/31)

Quant Time: Jan 15 16:58:26 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 16:57:53 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.19	130	38933	1000.00	pg		0.07
22) 1,4-Difluorobenzene (IS2)	8.76	114	204292	1000.00	pg		0.04
34) Chlorobenzene-d5 (IS3)	13.14	54	43824	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.20	65	64406	914.66	pg		0.06
Spiked Amount 1000.000			Recovery =	91.47%			
30) Toluene-d8 (SS2)	11.40	98	219740	1004.69	pg		0.01
Spiked Amount 1000.000			Recovery =	100.47%			
40) Bromofluorobenzene (SS3)	14.26	174	76372	851.60	pg		0.00
Spiked Amount 1000.000			Recovery =	85.16%			
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.74	85	5458847	44155.56	pg		98
3) Chloromethane	1.86	52	1336512	41354.85	pg		96
4) Vinyl Chloride	2.04	62	4106231	43089.38	pg		99
5) Bromomethane	2.35	94	2132288	43766.24	pg		100
6) Chloroethane	2.50	64	1853732	42543.10	pg		99
7) Acetone	3.07	58	8741301	245555.07	pg	#	84
8) Trichlorofluoromethane	3.13	101	4287960	44487.71	pg		100
9) 1,1-Dichloroethene	3.69	96	2725543	46797.69	pg		97
10) Methylene Chloride	3.88	84	2825601	45362.91	pg		97
11) Trichlorotrifluoroethane	4.12	151	2403332	49895.79	pg		100
12) trans-1,2-Dichloroethene	4.80	96	2870484	48178.14	pg		98
13) 1,1-Dichloroethane	5.02	63	5021611	46614.22	pg		99
14) Methyl tert-Butyl Ether	5.11	73	9045562	47116.11	pg		99
15) cis-1,2-Dichloroethene	6.01	96	2999371	48934.42	pg		98
16) Chloroform	6.40	83	4882936	47395.99	pg		100
18) 1,2-Dichloroethane	7.33	62	3804513	46088.41	pg		99
19) 1,1,1-Trichloroethane	7.64	97	4445325	46474.61	pg		100
20) Benzene	8.21	78	10956826	46691.05	pg		99
21) Carbon Tetrachloride	8.39	117	3982050	50154.83	pg		100
23) 1,2-Dichloropropane	9.21	63	2918081	49701.32	pg		100
24) Bromodichloromethane	9.43	83	3951982	51463.65	pg		99
25) Trichloroethene	9.50	130	3010587	51817.05	pg		99
26) 1,4-Dioxane	9.51	88	2497448	53387.30	pg		95
27) cis-1,3-Dichloropropene	10.49	75	4604586	49561.22	pg		97
28) trans-1,3-Dichloropropene	11.07	75	4347363	50827.71	pg		99
29) 1,1,2-Trichloroethane	11.22	83	2385581	51118.39	pg		98
31) Toluene	11.51	91	11223301	47402.25	pg		97
32) 1,2-Dibromoethane	12.15	107	3081638	52152.94	pg		99
33) Tetrachloroethene	12.63	166	3286282	52271.46	pg	#	97
35) Chlorobenzene	13.18	112	7546520	42882.70	pg		97
36) Ethylbenzene	13.50	91	12197385	38683.22	pg		90
37) m,p-Xylene	13.63	91	19369051	72765.40	pg		87
38) o-Xylene	13.96	106	5304963	43040.35	pg	#	85
39) 1,1,2,2-Tetrachloroethane	13.94	83	5084962	40999.54	pg		98
41) 1,3-Dichlorobenzene	15.21	146	6966992	48042.32	pg		97
42) 1,4-Dichlorobenzene	15.26	146	6613882	44547.97	pg		97
43) 1,2-Dichlorobenzene	15.48	146	6192991	44636.59	pg		98
44) 1,2,4-Trichlorobenzene	16.64	182	4627715	47244.25	pg		100
45) Naphthalene	16.71	128	11668160	31888.83	pg		88
46) Hexachlorobutadiene	16.97	225	2833622	48976.62	pg		100

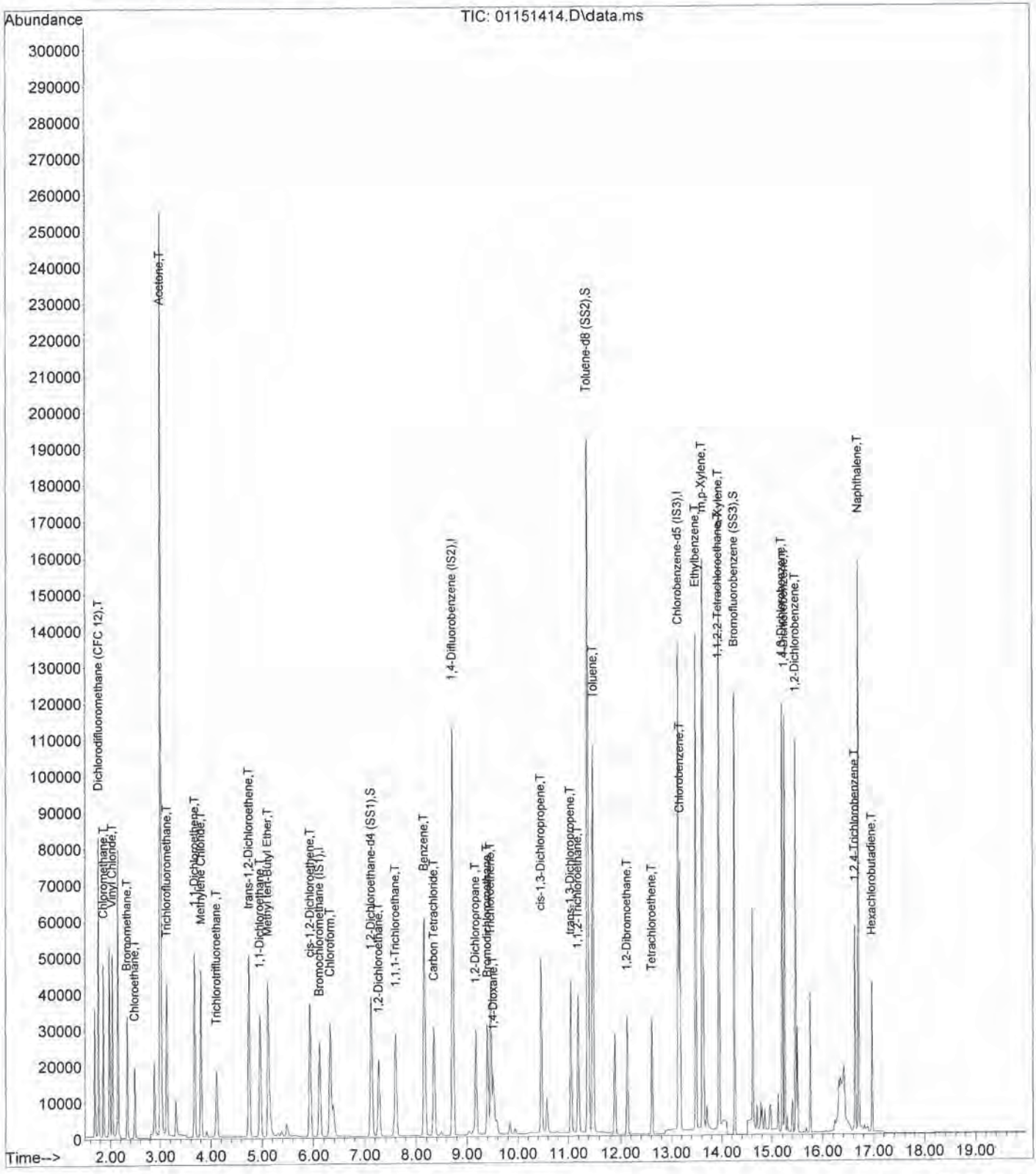
(#) = qualifier out of range (m) = manual integration (+) = signals summed

5/16/14

Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151414.D Vial: 16
Acq On : 15 Jan 2014 16:12 Operator: SC
Sample : 500pg SIM ICV Std Inst : MS19
Misc : S29-12101301/S29-01031407 (2/1)

Quant Time: Jan 15 17:08:03 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Quantitation Report (QT Reviewed)

Data File : I:\MS19\DATA\2014_01\15\01151414.D Vial: 16
Acq On : 15 Jan 2014 16:12 Operator: SC
Sample : 500pg SIM ICV Std Inst : MS19
Misc : S29-12101301/S29-01031407 (2/1)

Quant Time: Jan 15 17:08:03 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.12	130	36190	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.72	114	202682	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	34522	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	66773	1020.15	pg		0.00
Spiked Amount 1000.000			Recovery = 102.01%				
30) Toluene-d8 (SS2)	11.38	98	216395	997.25	pg		0.00
Spiked Amount 1000.000			Recovery = 99.72%				
40) Bromofluorobenzene (SS3)	14.25	174	72705	1029.15	pg		0.00
Spiked Amount 1000.000			Recovery = 102.92%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.76	85	57173	497.51	pg		100
3) Chloromethane	1.86	52	13794	459.17	pg		100
4) Vinyl Chloride	2.03	62	43019	485.64	pg		100
5) Bromomethane	2.33	94	22373	494.02	pg		100
6) Chloroethane	2.49	64	19909	491.54	pg		100
7) Acetone	3.00	58	106113	3206.79	pg		98
8) Trichlorofluoromethane	3.13	101	42704	476.64	pg		99
9) 1,1-Dichloroethene	3.68	96	26680	511.20	pg		100
10) Methylene Chloride	3.81	84	28063	484.68	pg		100
11) Trichlorotrifluoroethane	4.11	151	23427	523.23	pg		100
12) trans-1,2-Dichloroethene	4.74	96	28508	514.74	pg		100
13) 1,1-Dichloroethane	4.95	63	51538	514.67	pg		99
14) Methyl tert-Butyl Ether	5.11	73	92598	518.88	pg		100
15) cis-1,2-Dichloroethene	5.94	96	29738	521.95	pg		100
16) Chloroform	6.32	83	49070	512.40	pg		100
18) 1,2-Dichloroethane	7.27	62	39541	515.31	pg		100
19) 1,1,1-Trichloroethane	7.60	97	44580	501.40	pg		100
20) Benzene	8.16	78	113904	522.18	pg		100
21) Carbon Tetrachloride	8.35	117	37704	510.88	pg		100
23) 1,2-Dichloropropane	9.17	63	29555	507.39	pg		100
24) Bromodichloromethane	9.40	83	39884	523.50	pg		100
25) Trichloroethene	9.47	130	28556	495.40	pg		100
26) 1,4-Dioxane	9.51	88	24412	525.99	pg		99
27) cis-1,3-Dichloropropene	10.47	75	49915	541.53	pg		100
28) trans-1,3-Dichloropropene	11.05	75	43532	513.00	pg		100
29) 1,1,2-Trichloroethane	11.19	83	23466	506.83	pg		100
31) Toluene	11.49	91	117684	500.99	pg		100
32) 1,2-Dibromoethane	12.13	107	30320	517.20	pg		100
33) Tetrachloroethene	12.61	166	29051	465.75	pg	#	100
35) Chlorobenzene	13.17	112	76067	548.72	pg		100
36) Ethylbenzene	13.49	91	136189	548.29	pg		100
37) m,p-Xylene	13.62	91	217345	1036.53	pg		100
38) o-Xylene	13.95	106	50282	517.87	pg		93
39) 1,1,2,2-Tetrachloroethane	13.94	83	49563	507.30	pg		100
41) 1,3-Dichlorobenzene	15.20	146	61892	541.79	pg		100
42) 1,4-Dichlorobenzene	15.24	146	62680	535.94	pg		100
43) 1,2-Dichlorobenzene	15.47	146	59542	544.79	pg		100
44) 1,2,4-Trichlorobenzene	16.64	182	41227	534.29	pg		100
45) Naphthalene	16.70	128	145847	506.00	pg		100
46) Hexachlorobutadiene	16.97	225	24668	541.25	pg		100

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

2/16/14

INITIAL CALIBRATION VERIFICATION CHECK SHEET - MS19

Data File Name:	01151414.D
Data File Path:	I:\MS19\DATA\2014_01\15\
Operator:	SC
Instrument Name:	MS19
Sample Name:	500pg SIM ICV Std
Misc Info:	S29-12101301/S29-01031407 (2/1)
Date Acquired:	1/15/14 16:12
Acq. Method File:	TO15SIM.M

#	Compound Name	Ret. Time	Amount Spiked (pg)	Amount Found (pg)	Percent Recovery	Lower Limit	Upper Limit	Flag
2)	Dichlorodifluoromethane (CFC 12)	1.76	510.0	497.5	97.6	70	130	*
3)	Chloromethane	1.86	495.0	459.2	92.8	70	130	*
4)	Vinyl Chloride	2.03	500.0	485.6	97.1	70	130	*
5)	Bromomethane	2.33	500.0	494.0	98.8	70	130	*
6)	Chloroethane	2.49	505.0	491.5	97.3	70	130	*
7)	Acetone	3.00	2690.0	3206.8	119.2	70	130	*
8)	Trichlorofluoromethane	3.13	495.0	476.6	96.3	70	130	*
9)	1,1-Dichloroethene	3.68	535.0	511.2	95.6	70	130	*
10)	Methylene Chloride	3.81	540.0	484.7	89.8	70	130	*
11)	Trichlorotrifluoroethane	4.11	535.0	523.2	97.8	70	130	*
12)	trans-1,2-Dichloroethene	4.74	530.0	514.7	97.1	70	130	*
13)	1,1-Dichloroethane	4.95	520.0	514.7	99.0	70	130	*
14)	Methyl tert-Butyl Ether	5.11	530.0	518.9	97.9	70	130	*
15)	cis-1,2-Dichloroethene	5.94	535.0	521.9	97.6	70	130	*
16)	Chloroform	6.32	535.0	512.4	95.8	70	130	*
18)	1,2-Dichloroethane	7.27	525.0	515.3	98.2	70	130	*
19)	1,1,1-Trichloroethane	7.60	515.0	501.4	97.4	70	130	*
20)	Benzene	8.16	550.0	522.2	94.9	70	130	*
21)	Carbon Tetrachloride	8.35	525.0	510.9	97.3	70	130	*
23)	1,2-Dichloropropane	9.17	530.0	507.4	95.7	70	130	*
24)	Bromodichloromethane	9.40	535.0	523.5	97.9	70	130	*
25)	Trichloroethene	9.47	520.0	495.4	95.3	70	130	*
26)	1,4-Dioxane	9.51	545.0	526.0	96.5	70	130	*
27)	cis-1,3-Dichloropropene	10.47	565.0	541.5	95.8	70	130	*
28)	trans-1,3-Dichloropropene	11.05	540.0	513.0	95.0	70	130	*
29)	1,1,2-Trichloroethane	11.19	525.0	506.8	96.5	70	130	*
31)	Toluene	11.49	525.0	501.0	95.4	70	130	*
32)	1,2-Dibromoethane	12.13	540.0	517.2	95.8	70	130	*
33)	Tetrachloroethene	12.61	490.0	465.8	95.1	70	130	*
35)	Chlorobenzene	13.17	540.0	548.7	101.6	70	130	*
36)	Ethylbenzene	13.49	530.0	548.3	103.5	70	130	*
37)	m,p-Xylene	13.62	1050.0	1036.5	98.7	70	130	*
38)	o-Xylene	13.95	515.0	517.9	100.6	70	130	*
39)	1,1,2,2-Tetrachloroethane	13.94	505.0	507.3	100.5	70	130	*
41)	1,3-Dichlorobenzene	15.20	555.0	541.8	97.6	70	130	*
42)	1,4-Dichlorobenzene	15.24	535.0	535.9	100.2	70	130	*
43)	1,2-Dichlorobenzene	15.47	545.0	544.8	100.0	70	130	*
44)	1,2,4-Trichlorobenzene	16.64	550.0	534.3	97.1	70	130	*
45)	Naphthalene	16.70	510.0	506.0	99.2	70	130	*
46)	Hexachlorobutadiene	16.97	545.0	541.2	99.3	70	130	*

Acetone limits 70 - 130 as advisory limits

1/16/14

Data File : I:\MS19\DATA\2014_02\04\02041419.D Vial: 16
Acq On : 4 Feb 2014 17:36 Operator: WA/LC
Sample : 500pg TO-15SIM CCV Std (125mL) Inst : MS19
Misc : S29-12101302/S29-02031405 (3/1)

Quant Time: Feb 05 06:54:27 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane (IS1)	1.000	1.000	0.0	76	0.00
2	T	Dichlorodifluoromethane (CF	3.175	3.280	-3.3	76	0.00
3	T	Chloromethane	0.830	0.817	1.6	77	0.00
4	T	Vinyl Chloride	2.448	2.562	-4.7	78	0.00
5	T	Bromomethane	1.251	1.329	-6.2	81	0.00
6	T	Chloroethane	1.119	1.167	-4.3	78	0.00
7	T	Acetone	0.914	0.991	-8.4	77	0.01
8	T	Trichlorofluoromethane	2.476	2.669	-7.8	79	0.01
9	T	1,1-Dichloroethene	1.442	1.447	-0.3	75	0.00
10	T	Methylene Chloride	1.600	1.605	-0.3	75	0.00
11	T	Trichlorotrifluoroethane	1.237	1.243	-0.5	75	0.00
12	T	trans-1,2-Dichloroethene	1.530	1.493	2.4	74	0.00
13	T	1,1-Dichloroethane	2.767	2.814	-1.7	75	0.00
14	T	Methyl tert-Butyl Ether	4.931	4.665	5.4	71	0.00
15	T	cis-1,2-Dichloroethene	1.574	1.550	1.5	74	0.00
16	T	Chloroform	2.646	2.668	-0.8	75	0.00
17	S	1,2-Dichloroethane-d4 (SS1)	1.809	1.828	-1.1	74	0.00
18	T	1,2-Dichloroethane	2.120	2.098	1.0	73	0.00
19	T	1,1,1-Trichloroethane	2.457	2.416	1.7	73	0.00
20	T	Benzene	6.027	5.716	5.2	74	0.00
21	T	Carbon Tetrachloride	2.039	2.008	1.5	73	0.00
22	I	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	74	0.00
23	T	1,2-Dichloropropane	0.287	0.291	-1.4	74	0.00
24	T	Bromodichloromethane	0.376	0.367	2.4	72	0.00
25	T	Trichloroethene	0.284	0.277	2.5	73	0.00
26	T	1,4-Dioxane	0.229	0.212	7.4	70	0.00
27	T	cis-1,3-Dichloropropene	0.455	0.422	7.3	69	0.00
28	T	trans-1,3-Dichloropropene	0.419	0.372	11.2	68	0.00
29	T	1,1,2-Trichloroethane	0.228	0.229	-0.4	75	0.00
30	S	Toluene-d8 (SS2)	1.071	1.061	0.9	73	0.00
31	T	Toluene	1.159	1.119	3.5	73	0.00
32	T	1,2-Dibromoethane	0.289	0.280	3.1	72	0.00
33	T	Tetrachloroethene	0.308	0.302	1.9	74	0.00
34	I	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	73	0.00
35	T	Chlorobenzene	4.016	4.045	-0.7	73	0.00
36	T	Ethylbenzene	7.195	7.166	0.4	71	0.00
37	T	m,p-Xylene	6.074	5.795	4.6	71	0.00
38	T	o-Xylene	2.813	2.750	2.2	71	0.00
39	T	1,1,2,2-Tetrachloroethane	2.830	2.884	-1.9	73	0.00
40	S	Bromofluorobenzene (SS3)	2.046	2.160	-5.6	75	0.00
41	T	1,3-Dichlorobenzene	3.309	3.173	4.1	71	0.00
42	T	1,4-Dichlorobenzene	3.388	3.241	4.3	72	0.00
43	T	1,2-Dichlorobenzene	3.166	3.069	3.1	71	0.00
44	T	1,2,4-Trichlorobenzene	2.235	1.861	16.7	65	0.00
45	T	Naphthalene	8.349	6.298	24.6	60	0.00
46	T	Hexachlorobutadiene	1.320	1.240	6.1	70	0.00

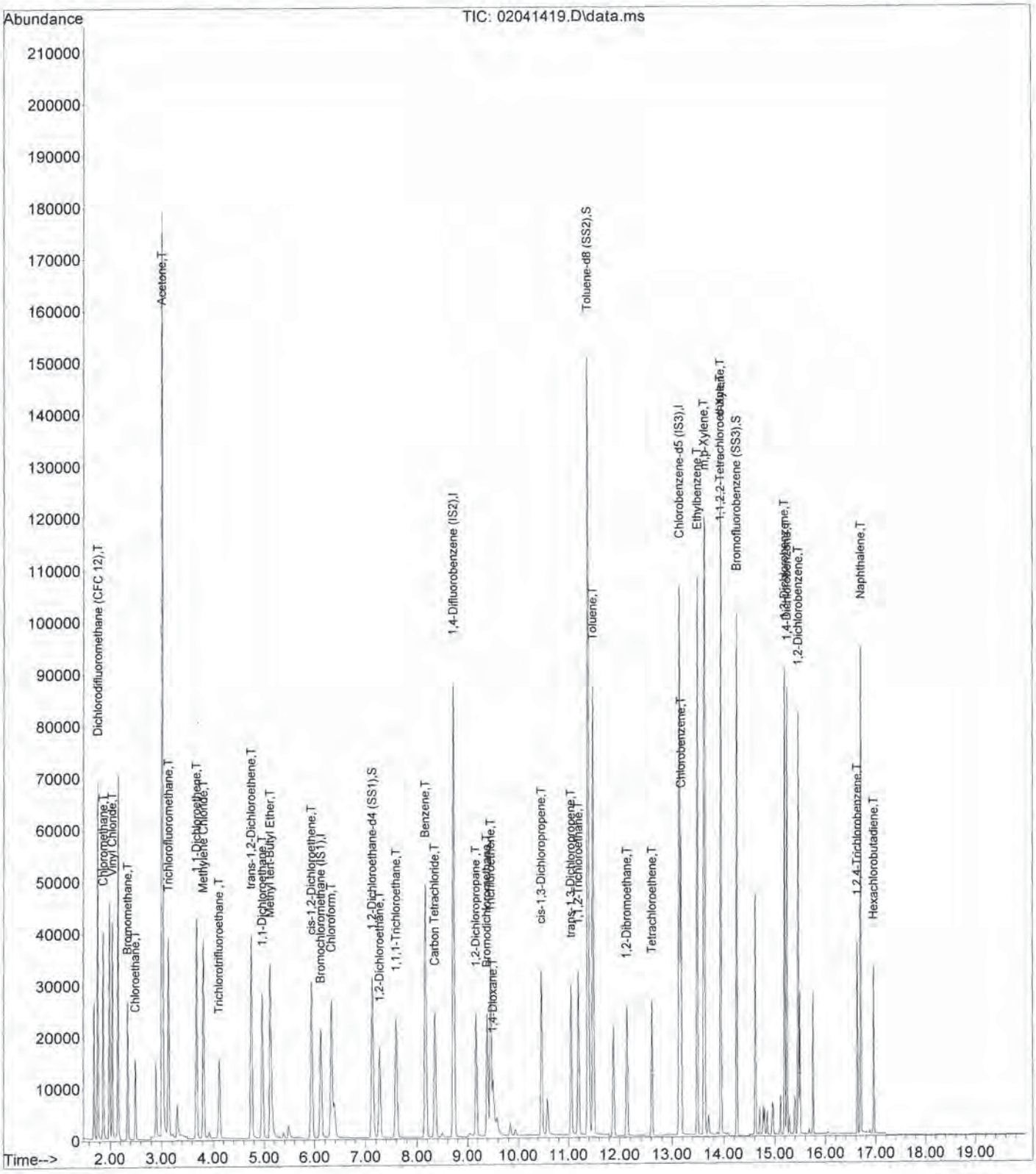
(#) = Out of Range SPCC's out = 0 CCC's out = 0

2/5/14 cc

X19011514.M Wed Feb 05 10:04:35 2014 2/5/14 Page: 1

Data File : I:\MS19\DATA\2014_02\04\02041419.D Vial: 16
Acq On : 4 Feb 2014 17:36 Operator: WA/LC
Sample : 500pg TO-15SIM CCV Std (125mL) Inst : MS19
Misc : S29-12101302/S29-02031405 (3/1)

Quant Time: Feb 05 06:54:27 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M



Data File : I:\MS19\DATA\2014_02\04\02041419.D Vial: 16
Acq On : 4 Feb 2014 17:36 Operator: WA/LC
Sample : 500pg TO-15SIM CCV Std (125mL) Inst : MS19
Misc : S29-12101302/S29-02031405 (3/1)

Quant Time: Feb 05 06:54:27 2014
Quant Method : I:\MS19\METHODS\X19011514.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Jan 15 17:06:21 2014
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	6.13	130	29282	1000.00	pg		0.00
22) 1,4-Difluorobenzene (IS2)	8.73	114	159826	1000.00	pg		0.00
34) Chlorobenzene-d5 (IS3)	13.14	54	27614	1000.00	pg		0.00
System Monitoring Compounds							
17) 1,2-Dichloroethane-d4 ...	7.13	65	53524	1010.65	pg		0.00
Spiked Amount 1000.000			Recovery = 101.07%				
30) Toluene-d8 (SS2)	11.39	98	169538	990.81	pg		0.00
Spiked Amount 1000.000			Recovery = 99.08%				
40) Bromofluorobenzene (SS3)	14.25	174	59645	1055.49	pg		0.00
Spiked Amount 1000.000			Recovery = 105.55%				
Target Compounds							Qvalue
2) Dichlorodifluoromethan...	1.76	85	48027	516.52	pg		100
3) Chloromethane	1.87	52	11487	472.58	pg		100
4) Vinyl Chloride	2.04	62	36388	507.69	pg		100
5) Bromomethane	2.35	94	18876	515.13	pg		100
6) Chloroethane	2.50	64	16574	505.74	pg		100
7) Acetone	3.01	58	76733	2865.97	pg		98
8) Trichlorofluoromethane	3.14	101	38691	533.72	pg		99
9) 1,1-Dichloroethene	3.69	96	22450	531.63	pg		99
10) Methylene Chloride	3.81	84	23740	506.74	pg		98
11) Trichlorotrifluoroethane	4.12	151	19660	542.69	pg		100
12) trans-1,2-Dichloroethene	4.75	96	22726	507.15	pg		99
13) 1,1-Dichloroethane	4.97	63	42847	528.83	pg		100
14) Methyl tert-Butyl Ether	5.12	73	71708	496.61	pg		100
15) cis-1,2-Dichloroethene	5.95	96	24516	531.80	pg		99
16) Chloroform	6.33	83	41402	534.32	pg		100
18) 1,2-Dichloroethane	7.28	62	32256	519.54	pg		100
19) 1,1,1-Trichloroethane	7.61	97	36432	506.42	pg		100
20) Benzene	8.17	78	92055	521.57	pg		100
21) Carbon Tetrachloride	8.35	117	30581	512.12	pg		100
23) 1,2-Dichloropropane	9.18	63	24648	536.61	pg		100
24) Bromodichloromethane	9.40	83	31383	522.38	pg		100
25) Trichloroethene	9.47	130	23043	506.95	pg		100
26) 1,4-Dioxane	9.52	88	18473	504.76	pg		89
27) cis-1,3-Dichloropropene	10.47	75	34419	473.54	pg		98
28) trans-1,3-Dichloropropene	11.06	75	30643	457.94	pg		100
29) 1,1,2-Trichloroethane	11.20	83	19431	532.21	pg		99
31) Toluene	11.49	91	94808	511.83	pg		99
32) 1,2-Dibromoethane	12.13	107	23934	517.75	pg		100
33) Tetrachloroethene	12.62	166	23630	480.43	pg	#	100
35) Chlorobenzene	13.18	112	60316	543.94	pg		100
36) Ethylbenzene	13.49	91	105863	532.82	pg		99
37) m,p-Xylene	13.62	91	168023	1001.77	pg		100
38) o-Xylene	13.95	106	39107	503.54	pg		99
39) 1,1,2,2-Tetrachloroethane	13.94	83	40215	514.59	pg		100
41) 1,3-Dichlorobenzene	15.20	146	48187	527.34	pg		100
42) 1,4-Dichlorobenzene	15.24	146	47440	507.11	pg		99
43) 1,2-Dichlorobenzene	15.47	146	45762	523.45	pg		100
44) 1,2,4-Trichlorobenzene	16.64	182	28004	453.72	pg		99
45) Naphthalene	16.70	128	88694	384.69	pg		100
46) Hexachlorobutadiene	16.96	225	18664	511.96	pg		100

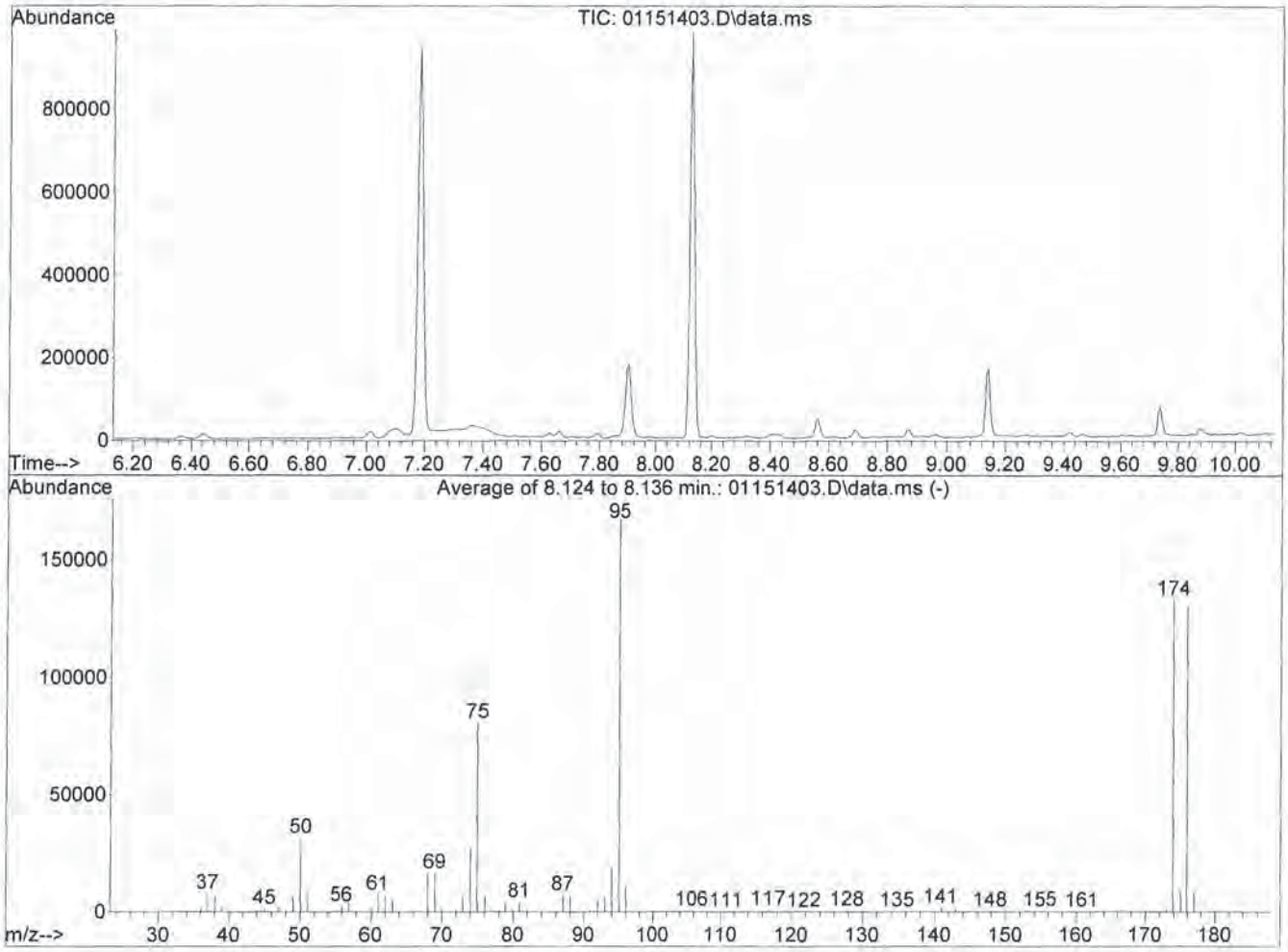
(#) = qualifier out of range (m) = manual integration (+) = signals summed

2/5/14 LC
SA 2/5/14

Data Path : I:\MS19\DATA\2014_01\15\
Data File : 01151403.D
Acq On : 15 Jan 2014 9:28
Operator : SC
Sample : BFB
Misc : S29-12101301
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\MS19\METHODS\X19011514.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jan 15 15:49:07 2014



AutoFind: Scans 902, 903, 904; Background Corrected with Scan 896

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.8	31515	PASS
75	95	30	66	48.3	80784	PASS
95	95	100	100	100.0	167424	PASS
96	95	5	9	6.6	10968	PASS
173	174	0.00	2	1.0	1312	PASS
174	95	50	120	79.6	133237	PASS
175	174	4	9	7.6	10132	PASS
176	174	93	101	98.0	130509	PASS
177	176	5	9	6.4	8338	PASS

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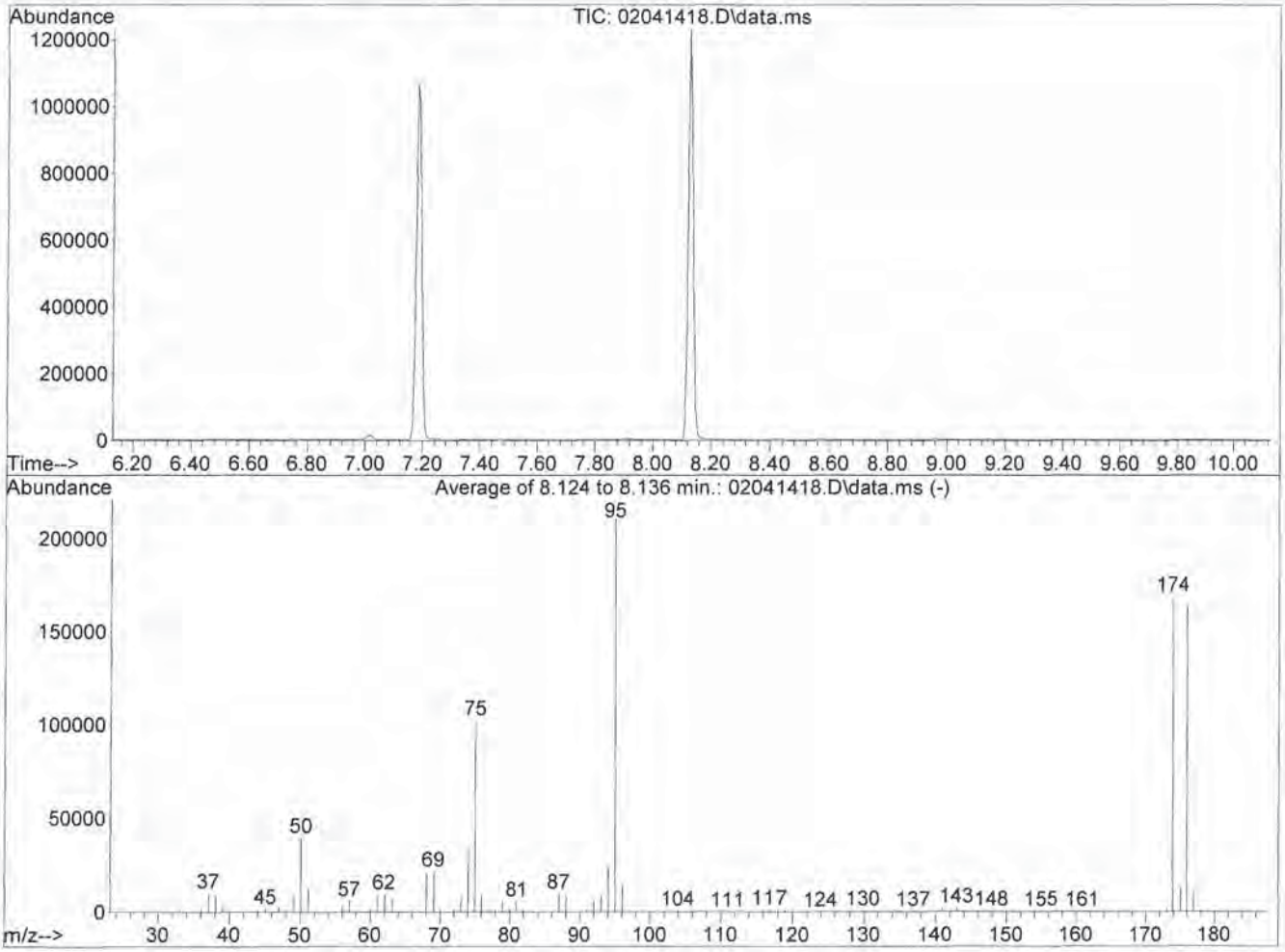
Data Path : I:\MS19\DATA\2014_02\04\
Data File : 02041418.D
Acq On : 4 Feb 2014 17:12
Operator : WA/LC
Sample : BFB
Misc : S29-12101301
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\MS19\METHODS\X19011514.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Jan 15 17:06:21 2014



AutoFind: Scans 902, 903, 904; Background Corrected with Scan 896

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.8	39643	PASS
75	95	30	66	48.7	102643	PASS
95	95	100	100	100.0	210709	PASS
96	95	5	9	6.6	13867	PASS
173	174	0.00	2	1.1	1890	PASS
174	95	50	120	80.3	169216	PASS
175	174	4	9	7.6	12859	PASS
176	174	93	101	96.8	163755	PASS
177	176	5	9	6.7	11053	PASS

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	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	1/15/14 8:18	01151401.D	Blank (0ml)	S29-12101301	SC	1	
2	1/15/14 8:48	01151402.D	Blank (200ml)	S29-12101301	SC	1	
3	1/15/14 9:28	01151403.D	BFB	S29-12101301	SC	1	*Pass*
4	1/15/14 10:16	01151404.D	10pg SIM ICAL Std	S29-12101301/S29-01061408 (2/14)	SC	14	
5	1/15/14 10:43	01151405.D	20pg SIM ICAL Std	S29-12101301/S29-01061408 (2/14)	SC	14	
6	1/15/14 11:11	01151406.D	50pg SIM ICAL Std	S29-12101301/S29-01061408 (2/14)	SC	14	
7	1/15/14 11:39	01151407.D	100pg SIM ICAL Std	S29-12101301/S29-01061408 (2/14)	SC	14	
8	1/15/14 12:18	01151408.D	500pg SIM ICAL Std	S29-12101301/S29-01021411 (1/31)	SC	15	
9	1/15/14 12:46	01151409.D	1000pg SIM ICAL Std	S29-12101301/S29-01021411 (1/31)	SC	15	
10	1/15/14 13:14	01151410.D	2500pg SIM ICAL Std	S29-12101301/S29-01021411 (1/31)	SC	15	
11	1/15/14 14:25	01151411.D	10000pg SIM ICAL Std	S29-12101301/S29-01021404 (1/31)	SC	13	
12	1/15/14 14:53	01151412.D	20000pg SIM ICAL Std	S29-12101301/S29-01021404 (1/31)	SC	13	
13	1/15/14 15:21	01151413.D	50000pg SIM ICAL Std	S29-12101301/S29-01021404 (1/31)	SC	13	
14	1/15/14 16:12	01151414.D	500pg SIM ICV Std	S29-12101301/S29-01031407 (2/1)	SC	16	*Pass*

Saved as X19011514.M; good from 10 pg ---> 50,000pg, except: Bromomethane: 20pg --> 50K pg; MeCl2: 50pg ---> 50K pg;

Naphthalene: 10pg --> 20K pg and m,p-Xylenes: 20pg ---> 40K pg.

13	2/3/14 15:06	02031413.D	P1400392-005 dil (100mL)		WA/LC	6	
14	2/3/14 15:34	02031414.D	P1400392-004 dil (100mL)		WA/LC	5	
15	2/3/14 16:26	02031415.D	P1400392-006 (1000mL)		WA/LC	7	
16	2/3/14 16:55	02031416.D	P1400392-007 (1000mL)		WA/LC	8	
17	2/3/14 17:25	02031417.D	P1400392-008 (1000mL)		WA/LC	2	
18	2/3/14 17:54	02031418.D	P1400392-009 (1000mL)		WA/LC	3	
19	2/3/14 18:23	02031419.D	P1400392-010 (1000mL)		WA/LC	5	
20	2/3/14 18:54	02031420.D	P1400392-011 (1000mL)		WA/LC	9	
21	2/3/14 19:22	02031421.D	P1400392-012 (1000mL)		WA/LC	10	
22	2/3/14 19:52	02031422.D	P1400392-012dup (1000mL)		WA/LC	10	
23	2/3/14 20:22	02031423.D	P1400392-013 (1000mL)		WA/LC	11	

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	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	2/4/14 7:08	02041401.D	BFB	S29-12101301	WA/LC	1	
2	2/4/14 7:31	02041402.D	500pg TO-15SIM CCV Std (125mL)	S29-12101302/S29-01021411 (1/31)	WA/LC	16	Pass
3	2/4/14 8:00	02041403.D	TO-15SIM Method Blank (1000mL)	S29-12101302	WA/LC	1	Pass
4	2/4/14 8:28	02041404.D	500pg TO-15SIM LCS Std (125mL)	S29-12101302/S29-01031407 (2/1)	WA/LC	15	Pass
5	2/4/14 8:56	02041405.D	500pg TO-15SIM LCSD Std (125mL)	S29-12101302/S29-01031407 (2/1)	WA/LC	15	Pass
6	2/4/14 9:57	02041406.D	Blank (100mL)	S29-12101302	WA/LC	1	
7	2/4/14 10:27	02041407.D	P1400420-001 (1000mL)		WA/LC	2	CF-7 Rerun
8	2/4/14 10:57	02041408.D	P1400420-002 (1000mL)		WA/LC	3	
9	2/4/14 11:25	02041409.D	P1400420-003 (1000mL)		WA/LC	4	
10	2/4/14 11:55	02041410.D	P1400420-004 (1000mL)		WA/LC	5	
11	2/4/14 12:24	02041411.D	P1400420-005 (1000mL)		WA/LC	6	
12	2/4/14 12:53	02041412.D	P1400420-006 (1000mL)		WA/LC	7	
13	2/4/14 13:23	02041413.D	P1400420-007 (1000mL)		WA/LC	8	
14	2/4/14 13:53	02041414.D	P1400420-008 (1000mL)		WA/LC	9	
15	2/4/14 14:24	02041415.D	P1400420-009 (1000mL)		WA/LC	10	
16	2/4/14 16:17	02041416.D	P1400420-009 dup (1000mL)		WA/LC	12	Pass as dup
17	2/4/14 16:45	02041417.D	Std check	S29-12101302/S29-02031405 (3/1)	WA/LC	16	
18	2/4/14 17:12	02041418.D	BFB	S29-12101301	WA/LC	1	Pass
19	2/4/14 17:36	02041419.D	500pg TO-15SIM CCV Std (125mL)	S29-12101302/S29-02031405 (3/1)	WA/LC	16	Pass
20	2/4/14 18:04	02041420.D	TO-15SIM Method Blank (1000mL)		WA/LC	1	Pass
21	2/4/14 18:32	02041421.D	500pg TO-15SIM LCS Std (125mL)	S29-12101302/S29-01031407 (2/1)	WA/LC	15	CF
22	2/4/14 19:00	02041422.D	500pg TO-15SIM LCSD Std (125mL)	S29-12101302/S29-01031407 (2/1)	WA/LC	15	CF
23	2/4/14 19:31	02041423.D	P1400420-010 (1000mL)		WA/LC	2	
24	2/4/14 19:58	02041424.D	P1400420-011 (1000mL)		WA/LC	3	
25	2/4/14 20:29	02041425.D	P1400420-012 (1000mL)		WA/LC	4	
26	2/4/14 20:59	02041426.D	P1400420-013 (1000mL)		WA/LC	5	
27	2/4/14 21:30	02041427.D	P1400420-014 (1000mL)		WA/LC	6	
28	2/4/14 21:58	02041428.D	P1400420-015 (1000mL)		WA/LC	7	
29	2/4/14 22:27	02041429.D	P140358-001 (1000mL)	P1400358-001	WA/LC	8	
30	2/4/14 22:57	02041430.D	P140358-002 (1000mL)	↓ -002	WA/LC	9	

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	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
31	2/4/14 23:26	02041431.D	P140358-003 (1000mL)	P1400358-003	WA/LC	10	
32	2/4/14 23:55	02041432.D	P140358-004 (1000mL)	↓ -004	WA/LC	11	
33	2/5/14 7:16	02041433.D	P1400420-012 dil (100mL)		WA/LC	4	
34	2/5/14 7:47	02041434.D	P140358-004 dup (1000mL)	P1400358-004 dup	WA/LC	11	Pass as dup
35	2/5/14 8:51	02041435.D	500pg TO-15SIM LCS Std (125mL)	S29-12101302/S29-02051401	WA/LC	15	Pass
36	2/5/14 9:19	02041436.D	500pg TO-15SIM LCSD Std (125mL)	S29-12101302/S29-02051401(3/6)	WA/LC	15	Pass
37	2/5/14 10:21	02041437.D	P1400420-016 (1000mL)		WA/LC	2	
38	2/5/14 10:51	02041438.D	P1400420-017 (1000mL)		WA/LC	3	
39	2/5/14 11:19	02041439.D	P1400420-018 (1000mL)		WA/LC	5	
40	2/5/14 11:49	02041440.D	P1400420-019 (1000mL)		WA/LC	6	
41	2/5/14 12:19	02041441.D	P1400420-020 (1000mL)		WA/LC	7	
42	2/5/14 12:48	02041442.D	P1400420-021 (1000mL)		WA/LC	8	
43	2/5/14 13:18	02041443.D	P1400420-001 (1000mL)		WA/LC	9	
44	2/5/14 13:49	02041444.D	P1400420-002 (1000mL)		WA/LC	10	

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